FP7 projects on textiles and cloting

# HEELLESS

Project title: Development of a heelless shoe to reduce injury during running

Start Date: 2008-09-01 End Date:2010-08-31

Most frequent returning words in objectives:

* ('market', 4)
* ('shoe', 3)
* ('force', 3)
* ('research', 3)
* ('application', 3)
* ('injuries', 2)
* ('HEELLESS', 2)
* ('novel', 2)
* ('impact', 2)

As healthy as it is to keep fit by running, the repetitive stresses and strains on joints cause a large percentage of the injuries experienced during this sport. HEELLESS aims to develop a novel type of running shoe that prevents joint injury and muscle strain by mitigating the impact force that results from impact force when the foot strikes the ground during running; notably the peak force when landing on the heel is smoothed out. Preliminary trials have proven the concept, but methodical research is needed to enable the SME consortium to further improve the shoe. Research of composite materials to be used for the application of a rigid upper sole will set a new precedent for the market of composite materials. The use of a natural fibre reinforced composite for the application of use in specialised athletic footwear is a novel approach with distinct recycleability advantages. Such composites have not yet been embarked upon, making this application highly innovative. The work anticipated is broken down into work packages for research and innovation related to material research, shoe development, biomechanical assessments, evaluations, as well dissemination, technology transfer and exploitation of results. The market for athletic footwear is substantial and grows with 4% per annum, with consumers becoming increasingly aware of safety factors and the prevention of injuries through specialised clothing. The exploitation outlook is great, not only addressing performance runners, but in particular also the fitness market. Multinational players on one hand and threats from cheap alternatives from low-wage countries on the other hand, however, make it a particular challenge for SMEs to tap these market opportunities. To have a chance, a superior performance and other use related properties (like safety, comfort) are a prerequisite, and precisely the expected result of HEELLESS.

Coordinator: PRO SUPPORT BV from:NL

participant: ZAKLAD PRODUKCYJNO HANDLOWO USLUGOWY

participant: VAN ROOIJEN DANIEL WILLIBRORDUS

participant: NASIKA PRODUCTS SA

participant: ROESSINGH RESEARCH AND DEVELOPMENT BV

participant: S.I. Zwartz B.V.

participant: G. DE WEERD HOLDING BV - GWH DE WEERDINNOVATIE ADVIES

participant: HEALUS LIMITED

participant: RADEMAKER SPORTS VOF

participant: STAFFORDSHIRE UNIVERSITY

participant: HOCHSCHULE MAGDEBURG-STENDAL

# FOIRCEV

Project title: Fire-hose Excellent Manufacturing by means of an Innovative Rubber Compounding-Extrusion-Vulcanization process

Start Date: 2008-11-01 End Date:2011-01-31

Most frequent returning words in objectives:

* ('rubber', 7)
* ('hoses', 4)
* ('manufacturing', 4)
* ('process', 4)
* ('cost', 3)
* ('hose', 3)
* ('surface', 3)
* ('rate', 3)
* ('rejection', 3)

Lay flat rubber fire hoses are a specialized product based on technology knowledge. They differentiate from lower cost alternatives in their durability, performance and their maintenance-free lifetime. Competition from low labor cost countries, presently based on lower cost alternatives, has already covered most of the building fire-fighting equipment market. European manufacturers’ technology allow them manufacture higher quality hoses so far, and this gives them the world leadership in production and exports. However, there is an important manufacturing weakness that endangers this leadership. The project will try to overcome the problems on the manufacturing of lay flat fire/industrial rubber hoses. In the manufacturing process, a NBR/PVC rubber compound is extruded through a textile jacket, and the covered (in and out) hose is vulcanized in a discontinuous process with water steam injected into the rubber hose. In the vulcanization step, blisters frequently appear on the surface of the rubber hose, leading to a very important rate of rejection. Impurities on the rubber compound, due to insufficient dispersion of the components or coming with the raw materials, could introduce surface defects on the rubber inner cover leading to the defects on the outer surface. The project will try to study, by using Case Based Reasoning (CBR), the effect of the raw materials and mixing parameters on the rejection rate to identify the cause of the problem, and new formulations will be designed. Some changes on the current discontinuous manufacturing process will also be implemented to lower the rejection rate. Current discontinuous process limits the maximum length of the hoses, and continuous vulcanization systems for this product will be designed and tested.

Coordinator: EUROPEAN RUBBER COMPOUNDS SA from:ES

participant: ASSOCIACAO NACIONAL DE BOMBEIROS PROFISSIONAIS

participant: MANDALS AS

participant: ELASTOMEROS RIOJANOS, S.A

participant: FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

participant: THE UK INTELLIGENT SYSTEMS RESEARCH INSTITUTE LIMITED

participant: AGENCIA ESTATAL CONSEJO SUPERIOR DEINVESTIGACIONES CIENTIFICAS

participant: SAPIN SOCIETA APPLICAZIONI INDUSTRIALI S.R.L.

participant: TECNOLOGIAS AVANZADAS INSPIRALIA SL

# FLEXIBILITY

Project title: Flexible Multifunctional Bendable Integrated Light-Weight Ultra-Thin Systems

Start Date: 2011-09-01 End Date:2015-08-31

Most frequent returning words in objectives:

* ('OLAE', 4)
* ('systems', 4)
* ('developed', 3)
* ('components', 3)
* ('solar', 3)
* ('audio', 3)
* ('integration', 3)
* ('area', 2)
* ('multifunctional', 2)

FLEXIBILTIY aims at significantly advancing the competitiveness of Europe in the area of multifunctional, ultra-lightweight, ultra-thin and bendable OLAE systems. The developed OLAE components include disposable and rechargeable batteries, solar cells, DC charging electronics, loudspeakers, audio amplifiers, analogue signal generators, motion and temperature sensors, RF receiver circuits, as well as a touch screen. By combination of these components, a variety of novel multifunctional OLAE systems is enabled. Based on a fully printed sound module, the following complex demonstrators are developed:\tTextile integrated audio module including broadcast radio and solar supply\tActive receiver tag for wireless streaming of acoustic data and advertising\tSecurity tag system with acoustic alarm, motion and/or temperature sensorsFor the realisation of these systems, the advantages of several flexible OLAE technologies are combined, while keeping cost issues in mind: e.g. a) R2R printing offering ultra-low costs per area for components requiring large areas (e.g. loudspeaker, high-power audio amplifiers and solar cells), 3-D integration, as well as the integration of heterogeneous devices on one single substrate; and b) compact (down to 10 micrometer gate length), super-fast (> 200 MHz transit frequency, mobilities > 10 cm2/Vs), low-loss IGZO thin-film technology to enable wireless communication systems. To make efficient circuit development in standard CAD tools possible, design-kits including scalable models and automated layout templates are developed. Interface and packaging issues are studied for full system integration on a common flexible foil enabling bending radii down to 1 cm. FLEXIBILITY combines the complementary competences of 3 large companies, 4 SMEs, 1 research institute and 3 universities. Involved countries are Austria, Finland, Germany, Italy, Greece and Switzerland.

Coordinator: TECHNISCHE UNIVERSITAET DRESDEN from:DE

participant: OPVIUS GMBH

participant: KONARKA AUSTRIA FORSCHUNGS UND ENTWICKLUNGS GMBH

participant: Teknologian tutkimuskeskus VTT Oy

participant: VARTA MICROBATTERY GMBH

participant: EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH

participant: TECHNISCHE UNIVERSITAET CHEMNITZ

participant: SMARTEX S.R.L.

participant: EXODUS ANONYMOS ETAIREIA PLIROFORIKIS

participant: SIEMENS AKTIENGESELLSCHAFT

participant: TEKNOLOGIAN TUTKIMUSKESKUS VTT

participant: Enfucell Oy

# INTERACTION

Project title: training and monitoring of daily-life physical INTERACTION with the environment after stroke

Start Date: 2011-11-01 End Date:2015-01-31

Most frequent returning words in objectives:

* ('environment', 5)
* ('interaction', 4)
* ('system', 4)
* ('monitoring', 3)
* ('stroke', 3)
* ('performance', 3)
* ('information', 3)
* ('forces', 3)
* ('body', 3)

Continuous daily-life monitoring of the functional activities of stroke survivors in their physical interaction with the environment is essential for optimal guidance of rehabilitation therapy by medical professionals and coaching of the patient. Such performance information cannot be obtained with present monitoring systems.It is the objective of the INTERACTION project to develop and validate an unobtrusive and modular system for monitoring daily life activities and for training of upper and lower extremity motor function in stroke subjects. The system will be unobtrusively integrated in clothing (e-textile), include fabric-based and distributed inertial sensing, and provide telemonitoring and adaptive on-body feedback capabilities. Telesupervision facilities will enable a clinical expert at a distance to evaluate performance effectively, coach the patient and influence training.Monitoring will be based on ambulatory sensing of muscle activation (EMG), interaction forces and body movements. The physical interaction with the environment during reaching and grasping will be assessed by relating interaction forces and movements. This provides information about power exchange between the human body and the environment, dynamics of the environment and task performance. Balancing the body will be assessed from ground reaction forces and relative foot placements. EMG provides information about neural control of movements, including abnormal synergies and spasticity. The assessment is made context aware by task identification and estimation of the dynamics of the environment from the sensed quantities.The system will first be validated in a lab setting, comparing the system against current clinical measures. It will subsequently be demonstrated during the actual daily life of stroke survivors.

Coordinator: UNIVERSITEIT TWENTE from:NL

participant: XSENS TECHNOLOGIES B.V.

participant: ROESSINGH RESEARCH AND DEVELOPMENT BV

participant: UNIVERSITA DI PISA

participant: UNIVERSITAT ZURICH

# MORPHOSIS

Project title: Morphing Locally and Globally Structures with Multiscale Intelligence by Mimicking Nature

Start Date: 2013-01-01 End Date:2018-12-31

Most frequent returning words in objectives:

* ('network', 5)
* ('research', 3)
* ('materials', 3)
* ('capabilities', 3)
* ('wings', 3)
* ('novel', 2)
* ('development', 2)
* ('local/global', 2)
* ('applications', 2)

The objective of the proposed research is to engineer novel multifunctional morphing materials drawing inspiration from biological systems that are known to possess distributed sensing capabilities which in turn guide their local and global morphing. This will be achieved through the development of novel multi-scale technologies (nano- to macro) and materials that, once integrated, will allow distributed local/global sensing and morphing capabilities that can be exploited for structural as well as for eminently flexible applications. The distributed local/global morphing and sensing will be delivered by fabricating at the microscale a non-invasive, light-weight, flexible and highly expandable active network with enhanced actuation capabilities and a neurological sensor network. The networks are then expanded to the macro-scale prior being integrated in a flexible material or in an innovative multi-stable shape memory carbon-fiber composite. The sensor network has to monitor environmental and loading conditions. These data are then used to control the deformation of the active network which can deliver local (roughness changes as in dolphins skin for instance for drag reduction) or global morphing (e.g. for deformable textiles as in insect wings) in flexible materials. The multi-stable carbon-fiber composite can be used in conjunction with these two functions so as to achieve advanced morphing in structural applications (e.g., birds wings vs. aircrafts wings). The composite, with a shape memory resin as hosting matrix, due to its rigidity and sensitivity to temperature variations, can snap from one configuration to the other. The speed of the purposefully-introduced snapping-through process will be tuned with the help of the integrated active network. This research has the potential to pave the way toward the development of new multidisciplinary research fields and could revolutionarize the design and production of future structures in a variety of fields.

Coordinator: UNIVERSITA DEGLI STUDI ROMA TRE from:IT

# NET-CHALLENGE

Project title: Innovative networks of SMEs for complex products manufacturing

Start Date: 2009-06-01 End Date:2012-02-29

Most frequent returning words in objectives:

* ('tools', 5)
* ('SMEs', 4)
* ('business', 4)
* ('networks', 4)
* ('processes', 4)
* ('market', 3)
* ('support', 3)
* ('project', 3)
* ('companies', 3)

European SMEs will have to adopt new business models and to establish dynamic and non-hierarchical networks to respond to market opportunities, assuring quick response, fast time to market, differentiated offerings and competitive prices. Sustainability for SMEs will be found in high-variety low-volume businesses, related with complex products manufacturing. However, there are currently no proven, effective methodologies, approaches or tools to support SMEs in creating, managing and dissolving this type of dynamic and non-hierarchical networks. Net-Challenge covers this gap with the design and development of effective methodologies, processes and ICT decision support tools. The project outcomes will be: - a methodology to help SMEs in the qualification, formation and operation of dynamic networks (able to quickly respond to market opportunities characterized by low volume, high variety and customer centred products); - reference collaboration processes for non-hierarchical networks, to be used in promoting and facilitating real collaborative business processes; - distributed decision support tools to help companies to manage, manufacturing and logistic processes, including: aggregate collaborative planning with dynamic capacity management and real-time order promising; real-time monitoring with event management and performance management; - real industrial demonstration of the new methods and tools in three business cases from the following industrial sectors: textile and apparel, footwear, and machine tools; - training materials to promote the project concepts and to train key users in pilot companies; - wide dissemination of the project results in industrial companies, technology suppliers and the scientific community; and preparation of their exploitation; - creation of links with standardization activities and relevant international research and business communities.

Coordinator: INESC TEC - INSTITUTO DE ENGENHARIA DE SISTEMAS E COMPUTADORES, TECNOLOGIA E CIENCIA from:PT

participant: SYNESIS-SOCIETA CONSORTILE A RESPONSABILITA LIMITATA

participant: ONA ELECTROEROSION, S.A.

participant: Italian Converter S.r.l.

participant: VAASAN YLIOPISTO

participant: CENTRO DE INTEGRACAO E INOVACAO DE PROCESSOS ASSOCIACAO DE I & D

participant: RPB - Têxteis e Vestuário, SA

participant: FUNDACION TECNALIA RESEARCH & INNOVATION

participant: RIOPELE FASHION SOLUTIONS SA

participant: TSINGHUA UNIVERSITY

participant: WAPICE OY

participant: CONSIGLIO NAZIONALE DELLE RICERCHE

participant: TIE NEDERLAND BV

participant: Riopele - Têxteis, SA

# PROCON

Project title: PROduction and CONsumption: Textile Economy and Urbanisation in Mediterranean Europe 1000-500 BCE

Start Date: 2013-04-01 End Date:2018-09-30

Most frequent returning words in objectives:

* ('textile', 6)
* ('production', 6)
* ('consumption', 5)
* ('textiles', 5)
* ('project', 4)
* ('economy', 3)
* ('research', 3)
* ('resources', 2)
* ('necessity', 2)

A textile is not simply a system of spun, twisted, or spliced fibres, but first and foremost a result of complex interactions between resources, technology, and society. Textile production and consumption is both ubiquitous and multi-faceted since, after food and shelter, textiles constitute the next most important necessity for people in all societies. Far from being a minor material, the production and consumption of textiles is at the heart of fundamental shifts in economy, trade and social relationships. In the ancient past, textile production was an economic necessity which has confronted all societies and carried particular importance in the growth of urbanism and state formation. The aim of the project PROCON is to investigate the role of textiles in the urbanisation and state formation of Mediterranean Europe (Greece, Italy, Spain) from 1000 to 500 BC and to demonstrate that textile production and consumption were a significant driving force of the economy and in the creation and perception of wealth. The focus is on the importance of the production and consumption of textiles for the development of city-states (as clothing, elite regalia, trade and exchange items, utilitarian textiles such as sails) and the implications of this for other aspects of the economy, such as the use of farm land, labour resources and the development of urban lifestyles. This interdisciplinary project is unique in that it takes developments in a relatively specialist research field (textile archaeology) and applies them towards modelling the dynamics behind a broader question of urbanisation in Mediterranean Europe. Using established and novel approaches, the project results will transform the landscape of Early Iron Age European research by providing new data sets, demonstrating textile production and consumption as major economic and social factors behind urbanism. In historical context, the PROCON project continues the European excellence in the field of textile research.

Coordinator: THE CHANCELLOR MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE from:UK

# FFD

Project title: Future Fashion Design\nReal-time, Accurate Fabric to Garment Virtual Prototyping in \nCollaborative Environments

Start Date: 2011-10-01 End Date:2014-09-30

Most frequent returning words in objectives:

* ('garment', 7)
* ('platform', 5)
* ('simulation', 4)
* ('fabric', 4)
* ('development', 3)
* ('project', 2)
* ('parallel', 2)
* ('accuracy', 2)
* ('yarn', 2)

The FFD project (targeting the Objective FoF-ICT-20111.7.4, focusing on target 7.4b and partly addressing 7.4c) aims to remove the main factors inhibiting the wide adoption of Virtual Prototyping (VP) by the Textile and Clothing companies (TCI), by drastically improving the speed of obtaining realistic garment simulations (development of massively parallel simulation techniques based on multi-core computing), the accuracy (simulation from yarn - to fabric - to garment, virtual garment close to real sample) and the functional integration aspects (Collaborative Prototyping offered as a SaaS platform). The new business model will offer drastic improvements in product development efficiency (reduced number of physical samples from 20% to 100%, time-to-market reduced by 3 weeks, collaboration between fabric and garment producers), services at low-cost (open, vendor independent and scalable platform), while opening new market opportunities to vendors of CAD and PDM/PLM systems. A just-right Consortium of 6 organisations: A leading European Institute (Fraunhofer-IGD) as Coordinator (will develop the massively parallel simulation engine), Assyst (apparel CAD) and ScotCad (fabric CAD) already offering state-of-the-art 3D VP solutions will work on improving simulation accuracy (from yarn to garment), ATC an ICT company with expertise in web integration based on the SOA model will develop a Collaborative Design and Prototyping platform (CDP), and two end-users (Piacenza- manufacturer of fine woollen fabrics and Consitex, the garment manufacturing member of the Ermenegildo Zegna Group) will integrate the innovative VP platform in their joint product development processes and will demonstrate/ evaluate its efficiency and impact. Various exploitation schemes will be adopted (new packaged VP fabric and garment solutions, integrated fabric-garment design and VP offer, joint exploitation of the Software as a Service CDP platform. The project duration is 36 months.

Coordinator: FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V. from:DE

participant: ATHENS TECHNOLOGY CENTER ANONYMI BIOMICHANIKI EMPORIKI KAI TECHNIKI ETAIREIA EFARMOGON YPSILIS TECHNOLOGIAS from:EL

participant: SCOTCAD TEXTILES LIMITED from:UK

participant: ASSYST GMBH from:DE

participant: CONSITEX SA from:CH

# PASTA

Project title: Integrating Platform for Advanced Smart Textile Applications

Start Date: 2010-10-01 End Date:2015-03-31

Most frequent returning words in objectives:

* ('fabric', 6)
* ('textile', 5)
* ('integration', 5)
* ('electronics', 3)
* ('modules', 3)
* ('technologies', 3)
* ('system', 3)
* ('PASTA', 2)
* ('packaging', 2)

The PASTA project will combine electronic packaging research and textile research to realize an innovative approach of smart textile. By introducing new concepts for electronic packaging and module interconnect, a seamless, more comfortable and more robust integration of electronics in textile will be possible. The main technological developments concentrate on a new concept for bare die integration into a yarn (by means of micromachining), a new interconnect technology based on mechanical crimping and the development of a stretchable interposer serving as a stress relief interface between the rigid component and the elastic fabric. Integration into the yarn will be used for small components and modules (&lt; 1 mm), so that they can be fully integrated and encapsulated and further used in weaving. Larger modules for crimp contacts and with stretchable interposers are mounted on top of fabric substrates. Mechanical simulations will support these technological developments. A dedicated work package on fabric technologies will focus on fabric modifications for accommodating the new electronic packages : conductive yarns and textile-based sensors will be integrated into the basic fabric. And finally, dedicated equipment and manufacturing platforms will be developed for smart textile fabrication with the PASTA technologies. The technologies will be assessed in a functional evaluation and reliability testing program.The proposed solutions for integration of electronics in textile cover a whole range of components, from ultra small LEDs to complex multichip modules. A system design task will tackle the power distribution and system partitioning aspects. This assures that a complete solution is available for integration of a distributed sensor/actuator system in fabric. The concept for the new electronics integration technology will be shown in 4 different demonstrators in the area of technical textiles, sports and leisure wear, home textiles and bed linen.

Coordinator: INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM from:BE

participant: CSEM CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA - RECHERCHE ET DEVELOPPEMENT

participant: CP AUTOMATION SA

participant: RICMAR TECHNOLOGY GMBH

participant: DECATHLON SA

participant: FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

participant: COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

participant: ASYRIL SA

participant: ETTLIN SPINNEREI UND WEBEREI PRODUKTIONS GMBH & CO KG

participant: FUNDICO BVBA

participant: CENTRE TECHNIQUE INDUSTRIEL DE LA PLASTURGIE ET DES COMPOSITES

participant: PEPPERMINT HOLDING GMBH

participant: HOLDING TEXTILE HERMES SAS

participant: SAECHSISCHES TEXTILFORSCHUNGSINSTITUT E .V.

participant: NIKE TECH MARIESTAD AB

participant: FOV FABRICS AB

# PSYCHE

Project title: Personalised monitoring SYstems for Care in mental HEalth

Start Date: 2010-01-01 End Date:2013-12-31

Most frequent returning words in objectives:

* ('patient', 6)
* ('monitoring', 5)
* ('system', 3)
* ('platform', 3)
* ('bipolar', 3)
* ('parameters', 3)
* ('analysis', 3)
* ('patients', 3)
* ('project', 2)

PSYCHE project will develop a personal, cost-effective, multi-parametric monitoring system based on textile and portable sensing platform for the long and short term acquisition of data.The patient diagnosed with bipolar disorder will be placed at the epicentre of its management, for treatment and prevention of depressive and manic episodes.The system will use wearable and portable devices for acquiring, monitoring and communicating physiological parameters, behavioural and mood correlated indexes (i.e. vital body signs, biochemical markers and voice analysis).The acquired data will be processed and analyzed in the established platform that takes into consideration the Electronic Health Records (EHR) of the patient, the parameters set up in the first stage between bipolar and non-bipolar individuals, as well as medical analysis in order to verify the diagnosis and help in prognosis of the illness.Finally communication and feedback to the patient will be performed through a direct contact with the patient and device, or by communication between physician and patient.Constant feedback and monitoring will be used to manage illness, to give patients support, to facilitate interaction between patient and physician as well as to alert professionals in case of patients relapse and depressive or manic episodes income.PSYCHE project will focus on the following objectives:i) Implementation of a sensing platform physiological and behavioural monitoring for patients with bipolar disordersii) Development of novel portable devices for the monitoring of biochemical markers, voice analysis and a behavioural index correlated to mental illnessiii) Brain functionality: in order to correlate central measures o with clinical assessment and the parameters measured by Psyche platformiv) Data mining and managing: The ultimate goal is to identify signal trends indicating detection and prediction of critical eventsv) The system will contain a patient and professional close loop

Coordinator: UNIVERSITA DI PISA from:IT

participant: INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE

participant: CSEM CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA - RECHERCHE ET DEVELOPPEMENT

participant: DUBLIN CITY UNIVERSITY

participant: UNIVERSITE DE GENEVE

participant: UNIVERSITE DE STRASBOURG

participant: FOREPHAR

participant: POLITECNICO DI MILANO

participant: FORENAP R&D SAS

participant: MEYTEC GmbH Informationssysteme

participant: SMARTEX S.R.L.

# MOBISERV

Project title: An Integrated Intelligent Home Environment For The Provision Of Health, Nutrition And Mobility Services To The Elderly

Start Date: 2009-12-01 End Date:2013-08-31

Most frequent returning words in objectives:

* ('project', 3)
* ('platform', 3)
* ('living', 2)
* ('MOBISERV', 2)
* ('system', 2)
* ('warnings', 2)
* ('health', 2)
* ('user', 2)
* ('conditions', 2)

Life expectancy increases, and the wish to prolong independent living remains strong. The objective of the MOBISERV project is to develop a proactive personal service robotics for supporting independent living. The project will develop a personalized system, orchestrating vital signs recording and analysis, warnings, and alerts to health and emergency assistance networks. Existing solutions are closed to external developers and address only few problems pertinent to the elderly. MOBISERV will deliver a robotic prototype of an open standard-based personal platform capable of sensing the user's personal environment and adapting to the user's patterns of behaviour. By early detection of threatening environmental and/or emerging medical conditions, harmful consequences will be mitigated by issuing warnings and providing guidance; in case adverse events cannot be evaded, alarms will be issued. The platform will be an integration of innovative components delivered by the project and of existing standards-compliant technologies. Innovative wireless (bio-) sensor-actuators, localisation and communication technologies, smart textiles and clothing and a wearable solution hosting monitoring equipment will be integrated into an existing robotic platform capable of self-learning and able to support elderly in indoor contexts. Tele-alarm applications will be developed to enhance health and integrated care services. A user-centred participatory design process will be adopted, with iterative design and evaluation. The system will be evaluated under real life conditions.

Coordinator: STICHTING SMART HOMES from:NL

participant: CSEM CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA - RECHERCHE ET DEVELOPPEMENT

participant: ARISTOTELIO PANEPISTIMIO THESSALONIKIS - EIDIKOS LOGARIASMOS KONDILION EREVNAS

participant: UNIVERSITY OF THE WEST OF ENGLAND, BRISTOL

participant: STICHTING ST ANNA ZORGGROEP

participant: SYSTEMA TEKNOLOTZIS ANONYMI ETAIREIA EFARMOGON ILEKTRONIKIS KAI PLIROFORIKIS

participant: ROBOSOFT Services Robots

participant: SMARTEX S.R.L.

# HeartCycle

Project title: Compliance and effectiveness in HF and CHD closed-loop management

Start Date: 2008-03-01 End Date:2013-08-31

Most frequent returning words in objectives:

* ('health', 6)
* ('treatment', 5)
* ('care', 5)
* ('cause', 3)
* ('patients', 3)
* ('support', 3)
* ('system', 3)
* ('patient', 3)
* ('loop', 3)

Each year Cardiovascular Disease (CVD) causes over 1.9 million deaths in the EU, causing direct health costs of €105 billion. Coronary Heart Disease (CHD), half of all CVD deaths, is the single most cause of death in Europe. Heart Failure (HF) – a CHD being the most frequent cause of hospitalization for people over 65 – has 10 million patients in the EU. Current treatment of HF entails recommendations from clinicians on medication, diet and lifestyle. Patients only receive feedback at doctors visits, or when facing symptoms. Daily monitoring, close follow up, and help on treatment routine is lacking. Non-adherence to the treatment regime is a major cause of suboptimal clinical benefit.HeartCycle will provide a closed-loop disease management solution to serve both HF and CHD patients, including hypertension, diabetes and arrhythmias as possible co-morbidities. This will be achieved by multi-parametric monitoring of vital signs, analysing the data and providing automated decision support, to derive therapy recommendations.The system will contain a patient loop interacting directly with the patient to support the daily treatment. It will show the health development, including treatment adherence and effectiveness. Being motivated, compliance will increase, and health will improve. The system will also contain a professional loop involving medical professionals, e.g. alerting to revisit the care plan. The patient loop is connected with hospital information systems, to ensure optimal and personalised care.Europe's health system is undergoing radical changes due to an aging population. It's moving from reactive towards preventative care, and from hospital care to care at home. Tomorrow's patients will become more empowered to take their health into their own hands. New ICT is required to enable this paradigm shift.HeartCycle, coordinated by Philips – leading in electronics and health care –, includes experts on textiles, ICT, decision support and user interaction.

Coordinator: PHILIPS ELECTRONICS NEDERLAND B.V. from:NL

participant: EMPIRICA GESELLSCHAFT FUER KOMMUNIKATIONS- UND TECHNOLOGIE FORSCHUNG MBH

participant: LINKOPINGS UNIVERSITET

participant: CSEM CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA - RECHERCHE ET DEVELOPPEMENT

participant: FACULDADE CIENCIAS E TECNOLOGIA DA UNIVERSIDADE DE COIMBRA

participant: INSTITUTO DE APLICACIONES DE LAS TECNOLOGIAS DE LA INFORMACION Y DE LAS COMUNICACIONES AVANZADAS - ITACA

participant: THE CHINESE UNIVERSITY OF HONG KONG

participant: RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

participant: ARISTOTELIO PANEPISTIMIO THESSALONIKIS - EIDIKOS LOGARIASMOS KONDILION EREVNAS

participant: PHILIPS TECHNOLOGIE GMBH

participant: CLOTHING PLUS OY

participant: SERVICIO MADRILENO DE SALUD

participant: HOSPITAL CLINICO SAN CARLOS DE MADRID INSALUD

participant: LOTHIAN HEALTH BOARD

participant: INSTITUT DE INVESTIGACIO EN CIENCIES DE LA SALUT GERMANS TRIAS I PUJOL

participant: UNIVERSIDADE DE COIMBRA

participant: MEDTRONIC IBERICA SA

participant: FUNDACION VODAFONE ESPANA

participant: UNIVERSITAETSKLINIKUM HEIDELBERG

participant: T-SYSTEMS ITC IBERIA SA

participant: DEUTSCHE SPORTHOCHSCHULE KOLN

participant: POLITECNICO DI MILANO

participant: UNIVERSITY OF HULL

participant: CLOTHING PLUS MBU OY

participant: UNIVERSIDAD POLITECNICA DE MADRID

# i3DPost

Project title: intelligent 3D content extraction and manipulation for film and games

Start Date: 2008-01-01 End Date:2010-12-31

Most frequent returning words in objectives:

* ('production', 7)
* ('video', 5)
* ('quality', 4)
* ('media', 4)
* ('view', 3)
* ('actor', 3)
* ('performance', 3)
* ('content', 2)
* ('models', 2)

i3Dpost will improve quality and reduce the cost of high-level media production by applying intelligent technologies to the extraction of structured 3D content models from video. This will enable the increasingly automatic manipulation and re-use of characters, with changes of viewpoint and lighting. The research will advance the state of the art in 3D video production, 3D motion estimation, post-production tools and media semantics. The result will be film quality 3D content in a structured form, with semantic tagging, which can be manipulated in a graphic production pipeline and used across different media platforms.<br/>Integration of multiple view 3D video analysis with on-set production will allow the creation of video quality actor and set models. Postproduction tools will be extended to robustly separate and manipulate scene elements. On-set capture of actor performance will be instrumented in a structured form for processing and rendering in a conventional graphics production pipeline whilst maintaining the visual quality of faces, body, and clothing movement. The representation of performance will enable the modification in postproduction of camera view, movement, and lighting to render novel content.<br/>Structured representation will facilitate the retargeting of actor performance to different platforms for production of highly realistic characters in games enabling a new generation of interactive entertainment. Multiple view 3D video analysis will result in extensions to the OFX plug-in standard. Users will be media industry professionals in film and TV production and postproduction, games development, and advertising.

Coordinator: THE FOUNDRY VISIONMONGERS LTD from:UK

participant: ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS

participant: THE PROVOST, FELLOWS, FOUNDATION SCHOLARS & THE OTHER MEMBERS OF BOARD OF THE COLLEGE OF THE HOLY & UNDIVIDED TRINITY OF QUEEN ELIZABETH NEAR DUBLIN

participant: BUF COMPAGNIE SA

participant: QUANTIC DREAM S.A.

# SimpleSkin

Project title: Cheap, textile based whole body sensor sensing system for interaction, physiological monitoring and activity recognition

Start Date: 2013-07-01 End Date:2016-06-30

Most frequent returning words in objectives:

* ('garments', 4)
* ('application', 4)
* ('smart', 3)
* ('hardware', 3)
* ('body', 3)
* ('sensor', 3)
* ('create', 3)
* ('approach', 2)
* ('production', 2)

We propose a fundamentally new approach for creating smart textiles and functional garments. The basic idea is to separate sensing textile production, garment manufacturing, the hardware platform, and the software implementation by well-defined abstractions and interfaces. A major innovation is the development of a mass-producible generic sensing fabric, which will allow capacitive, resistive or inductive modes, to measure movement, electrical body signals, activities, and change in body capacity. The sensor density and intelligent signal processing will compensate the simplicity of single sensors. Based on these fabrics 'sensing ready' garments can be produced, that are with respect to their properties, looks, production process and price virtually undistinguishable from today's standard garments. We expect that in the long term this will lead to functional clothes becoming the default, much like today smart, sensor-enabled phones have become the mainstream. The 'sensor ready' garments become part of a wearable computing system, by adding hardware, that allows self-organizing, dynamic and adaptive processing of input signals converting the specific garment into a general wearable sensor with a dedicated high-level sensing interface. By these means we create an abstraction layer and platform on which application developers can create wearable sensing application, than are independent of the actual hardware they run on. For example, this will allow an application developer to create a sports monitoring application, that includes body posture, movement, and heard rate, which can be deployed to any available 'sensing ready' shirt. This will empower a larger number of potential developers to contribute their creativity. The approach taken in SimpleSkin has great potential to build up the foundation for a new era in smart clothing. It aims at moving personal wearable monitoring from a niche topic into major industry with the potential of revolutionizing what we wear.

Coordinator: DEUTSCHES FORSCHUNGSZENTRUM FUR KUNSTLICHE INTELLIGENZ GMBH from:DE

participant: SEFAR AG

participant: HOEGSKOLAN I BORAS

participant: EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH

participant: UNIVERSITAET STUTTGART

participant: DEUTSCHE INSTITUTE FUR TEXTIL- UND FASERFORSCHUNG DENKENDORF

participant: TECHNISCHE UNIVERSITEIT EINDHOVEN

# VECTOR

Project title: Versatile Easy installable Connector incorporating new Technologies for accelerated fiber Optic network Roll outs in Europe

Start Date: 2012-10-01 End Date:2015-09-30

Most frequent returning words in objectives:

* ('connectivity', 4)
* ('VECTOR', 3)
* ('field', 3)
* ('system', 3)
* ('performance', 3)
* ('installation', 3)
* ('fiber', 2)
* ('Europe', 2)
* ('aims', 2)

VECTOR (Versatile Easy installable Connector incorporating new Technologies for accelerated fiber Optic network Roll outs in Europe) aims to develop and commercialize an innovative low-cost highly performing field installable connectivity system that will impact at a multi-million-euro scale the capital expenditure (CAPEX) and the operation expenditure (OPEX) of telecom fiber broadband networks and that will facilitate the achievement of the European 2020 objectives for broadband connectivity.The VECTOR connectivity system will comprise a ferrule-less connector granting ultra-high optical performance and a fully automated installation tool allowing for field installation by a general-skill technician.Disruptive fibre-handling techniques based on heat-shrinkable materials, advanced nano-textiles, and plasma-shaping will be developed and incorporated in the installation tool to ensure reliability, whereas high-tech gels and micro-mechanical alignment systems will be included in the connector to yield superior optical performance. Finally, micro-fabrication and replication techniques will be propose to ensure ease of volume production at low price. The use of connectors instead of permanent splices will grant flexible reconfigurability of the network.<br/>Overall, VECTOR aims to outperform the state-of the-art of ferrule-based connectors by optical performance, flexibility, reliability and cost. This will ultimately break the current paradigm of ferrule-based optical connectivity requiring extensive pre-engineering and highly specialized manpower for field deployment.In order to succeed in this ambitious goal, we created a consortium comprising the full portfolio of required technical knowledge, as well as the critical mass necessary to turn our connectivity system into a commercial reality that potentially can be deployed in the optical networks of whole Europe.

Coordinator: COMMSCOPE CONNECTIVITY BELGIUM from:BE

participant: CELOPLAS - PLASTICOS PARA A INDUSTRIA SA

participant: UNIVERSITEIT GENT

participant: VRIJE UNIVERSITEIT BRUSSEL

participant: TELEKOM DEUTSCHLAND GMBH

participant: DEMCON ADVANCED MECHATRONICS BV

# CloPeMa

Project title: Clothes Perception and Manipulation

Start Date: 2012-02-01 End Date:2015-01-31

Most frequent returning words in objectives:

* ('project', 3)
* ('state', 2)
* ('perception', 2)
* ('manipulation', 2)
* ('textiles', 2)
* ('environment', 2)
* ('hands', 2)
* ('CloPeMa', 2)
* ('experimental', 2)

This project aims to advance the state of the art in the autonomous perception and manipulation of all kinds of fabrics, textiles and garments.The novelty and uniqueness of this project is due chiefly to its generality. Various garments will be presented in a random pile on an arbitrary background and novel ways of manipulating them (sorting, folding, etc.) will be learned on demand in a real-life dynamic environment. The removal of previously indispensable deterministic assumptions about the modes of the textiles presentation and handling is expected to lead to greater robustness, reliability, and a wider field of applications.CloPeMa's main objective is closer integration of perception, action, learning, and reasoning. Perception means integrated haptic and visual sensing, recognition, and support for perception-action reactive cycle. Actions will be performed by a cooperating pair of robotic hands, part of the CloPeMa experimental testbed duplicated in three project partners. The hands will combine all state of the art solutions for manipulation of limp material: variable impedance actuation on a compliant hand mechanism architecture using smart materials and tactile sensorization with artificial skin on large areas.Goals and actions will be learned in a dynamic environment. All components will be subject to statistical learning, spatial reasoning, and high-level reasoning. Thus integrated, CloPeMa is aimed at functionalities that had hitherto proved elusive for systems using only some of these parts in isolation.Data and procedures to obtain them on the experimental testbed will be collected and made public. Results will be measured and analysed within three carefully defined demonstrator projects of increasing difficulty.The consortium includes expertise in all the component areas, as well as industrial involvement promising cross-fertilisation and applicability. Both basic exploratory research and implementations of its results are foreseen.

Coordinator: ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS from:EL

participant: NEOVISION SRO

participant: CESKE VYSOKE UCENI TECHNICKE V PRAZE

participant: UNIVERSITA DEGLI STUDI DI GENOVA

# i-Tex

Project title: Intelligent and luminous textiles

Start Date: 2011-10-01 End Date:2015-03-31

Most frequent returning words in objectives:

* ('manufacturing', 5)
* ('smart', 5)
* ('LEDs', 4)
* ('requirements', 4)
* ('area', 4)
* ('inorganic', 3)
* ('intelligent', 3)
* ('systems', 3)
* ('integration', 3)

Driven by advances in R&D and in inorganic light-emitting diodes (LEDs), the Lighting industry is expected to change substantially in the next five years. At the same time, a shift in the value chain from components (LEDs) towards intelligent lighting systems is expected. This technology trend is mirrored by similar market trends substantiated by end-users expectations for miniaturization of electronic devices and integration of intelligence in light emitting devices. Consumers will wish to have a more pervasive presence of intelligence (e.g. to communicate, to display information, and to process data). In order to lead in R&D as well as in manufacturing and market applications, the European Lighting industry has to fully harness the potential of the inorganic LEDs-based illumination by investing in new technologies that will allow for new types of lighting solutions via cost-competitive highly reliable manufacturing processes. These future energy efficient lighting solutions will not only drive and be driven by requirements of low total ownership costs (e.g. in B2B sales), but will also take into account new consumers' needs such as a more pervasive intelligence, novel design possibilities and novel user interfaces.<br/>i-Tex targets the Research, Development & Production feasibility of large area intelligent lighting systems based on smart coated textiles.<br/>Although numerous research projects have investigated smart textiles with LED integration, none of them has targeted the development of technology and system architecture for reliable large area illumination systems. The main reasons for this are 1) the high costs and complexity in manufacturing of such smart textiles, 2) demanding reliability requirements of general illumination requirements , and 3) the optical output needed for lighting applications.<br/>The i-Tex project proposes to overcome the above limitations by research and development of:\tnovel large area system architectures for electronic interconnections and thermal management of inorganic LEDs in coated textiles\tcost-competitive roll-to-roll (RTR) manufacturing processes for the heterogeneous integration of lights, sensors in coated textiles.\tnovel material classes (e.g. tunable pigments) for new appearances and high optical output.\tconcurrent reliability study and robustness approach over the entire value chain of the targeted products.<br/>By identifying a number of indoor and outdoor applications for intelligent functional, and decorative lighting, we will be able to define sets of clear product specifications. Based on these requirements we will simultaneously develop unique large area interconnections for LEDs and other electronics, identify the most appropriate coating technique and coating materials for RTR manufacturing, investigate smart textile optics, resulting in a smart system with high reliability and high optical output.

Coordinator: PHILIPS ELECTRONICS NEDERLAND B.V. from:NL

participant: SIOEN INDUSTRIES NV from:BE

participant: INSTITUT FRANCAIS DU TEXTILE ET DE L'HABILLEMENT from:FR

participant: FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V. from:DE

# OPEN GARMENTS

Project title: Consumer Open Innovation and Open Manufacturing Interaction for Individual Garments

Start Date: 2008-09-01 End Date:2011-08-31

Most frequent returning words in objectives:

* ('garments', 7)
* ('model', 4)
* ('Innovation', 4)
* ('concept', 4)
* ('tools', 4)
* ('design', 3)
* ('production', 3)
* ('business', 3)
* ('consumer', 2)

The overall objective of Open Garments is the Manufacturing Service Provider (MSP) Business Model enabling individual garments. This model will enable a new way of design, production and sales of consumer designed and configured garments, based on the provision of individualised services and products to customers and partners. This will lead to new product designs, to a much more customer satisfaction, and to an improvement of the stability and competitiveness of SMEs. Applying this the European Textile and Clothing Industry will be able to create and provide individual garments with a very high degree of customisation in terms of fit, fashion and function at a comparable price in typically 72 hours. The idea is to empower the consumer as designer, producer and retailer for individual garments by (1) taking the creativity and the willingness of consumers by means of web-based virtual communities of individuals, (2) adopting and integrating (mainly) existing digital technologies for design and production of individual garments in a framework of Open Innovation and (a new concept of) Open Manufacturing, and (3) turning this into a new MSP concept for SMEs with an appropriate business model and tools, which coordinates, supports and manages the Open Innovation community and the Open Manufacturing network. Targeted results are (1) the concept of Open Innovation for individual garments together with free tools and working virtual communities, (2) the concept of Open Manufacturing for flexible and quick manufacturing of individual garments, together with tools and working micro-plants in micro-enterprises, (3) adopted technologies for digital fabric printing and Rapid Manufacturing of accessories, and (4) a business model for the knowledge based MSP together with design and production tools and services for Open Innovation and Open Manufacturing. The MSP business model will be developed, implemented and tested in real industrial environments.

Coordinator: DEUTSCHE INSTITUTE FUR TEXTIL- UND FASERFORSCHUNG DENKENDORF from:DE

participant: UNIVERSITEIT HASSELT

participant: BOONDOGGLE (IRELAND) LIMITED

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO

participant: UC LIMBURG

participant: BOONDOGGLE B.V.

participant: VOF MAX JUWELIER & EDELSMEDERIJ

participant: ERGOSFT AG

participant: PEPPERMINT HOLDING GMBH

participant: FARTPOL II JAN SNIEGOCKI

participant: STE PLAT-FORME INDUSTRIELLE DE CONFECTION PLATICO SARL

participant: TXT E-SOLUTIONS SPA

participant: DOUËLOU NV

# INTIMIRE

Project title: INTUMESCENT MATERIALS WITH IMPROVED FIRE RETARDANT AND FLAME RESISTANT PROPERTIES FOR BUILDING and TRANSPORT APPLICATIONS

Start Date: 2010-04-01 End Date:2013-03-31

Most frequent returning words in objectives:

* ('products', 4)
* ('textile', 3)
* ('INTIMIRE', 2)
* ('fire', 2)
* ('retardant', 2)
* ('flame', 2)
* ('evolution', 2)
* ('norms', 2)
* ('proposal', 1)

This proposal INTIMIRE concerns the production of fire retardant and flame resistant polyester and polypropylene fibres, films and upholstery end products based on the intumescent flame retardancy concept. These products must give an answer to the evolution in requirements defined in upcoming European norms for upholstered furniture and railway transportation. They also must offer improved durability and thermomechanical properties. The INTIMIRE project primarily addresses problems that are facing European SME’s textile industries. They are connected with the evolution in the strict CE regulation and standard for fire retardant products. None of the textile products available today, achieves the following points: the criteria of new norms, the environment preservation and the requirement of consumer. In textile sector, the industry size is small or medium, and overall each SME’s is very specialised. As the challenge is high and common to all, it is a huge necessity to gather a large number of SME’s concerned. That is why the SME’s AG takes the leadership of such developments, and this will increase the potentiality of results applications among their members.

Coordinator: ECOLE NATIONALE SUPERIEURE ARTS INDUSTRIES TEXTILES from:FR

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: NICOLAUS WEBER GmbH and Co KG

participant: MECACORP

participant: INDUSTRIEVERBAND GARNE GEWEBE TECHNISCHE TEXTILIEN EV

participant: IQAP MASTERBATCH GROUP SL

participant: TEXCLUBTEC

participant: CLUBTEX ASSOCIATION

participant: Sander Weverij BVBA

participant: CENTRE DE RECHERCHE ET D'ETUDE SUR LES PROCEDES D'IGNIFUGATION DES MATERIAUX

participant: LUXILON INDUSTRIES NV

participant: ASSOCIATION UP-tex

participant: INTERNATIONAL CARBIDE TECHNOLOGY INCA AB

participant: DEVAN CHEMICALS NV

# SYSTEX

Project title: Coordination action for enhancing the breakthrough of intelligent textile systems (e-textiles and wearable Microsystems)

Start Date: 2008-05-01 End Date:2011-07-31

Most frequent returning words in objectives:

* ('textile', 3)
* ('systems', 3)
* ('electronics', 2)
* ('projects', 2)
* ('level', 2)
* ('materials', 2)
* ('intelligent', 2)
* ('generation', 1)
* ('products', 1)

Wearable electronics embedded in or transformed into textile systems are a new generation of products that contribute to economy as well as to society. SYSTEX wants to bring partners involved in European projects in this area together in order to group the results of numerous efforts that are currently going on. It wants to expand the platform to national level and to merge textiles and organic electronics. Inter-project agreements must enable a higher level of exchange of knowledge and materials between linked projects. Information on technical and non technical aspects of RTD and commercialization of intelligent textile systems will be collected and made available through a web based tool. Training materials will be collected as well as demonstrators that can be used for specialists as well as for a wider public. The project wants to become a single point of contact for all matters related to intelligent textile systems, linking existing initiatives and completing their activities.

Coordinator: UNIVERSITEIT GENT from:BE

participant: ANNE DE MOOR BVBA

participant: INSTITUT FRANCAIS DU TEXTILE ET DE L'HABILLEMENT

participant: COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

participant: INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM

participant: MULTITEL

participant: HOFMANN ISA

participant: STICHTING PLASTIC ELECTRONICS FOUNDATION

participant: UNIVERSITA DI PISA

participant: CONSIGLIO NAZIONALE DELLE RICERCHE

participant: PHILIPS ELECTRONICS NEDERLAND B.V.

# MASK

Project title: Materials and Advanced Sensor Knowledge Exchange

Start Date: 2011-06-03 End Date:2015-06-02

Most frequent returning words in objectives:

* ('research', 8)
* ('science', 3)
* ('need', 3)
* ('teams', 2)
* ('knowledge', 2)
* ('materials', 2)
* ('future', 2)
* ('energy', 2)
* ('devices', 2)

This exchange programme brings together well established research teams from three European and three Australian Universities with complementary skills and knowledge, who have a clearly demonstrable commitment to research networking, and management of complex research programmes involving multiple partners. These teams together have extensive research experience ranging across fundamental materials science, sensor R&D, device prototyping and separation science – research areas that are in themselves inherently multidisciplinary. Perhaps even more importantly, their research impacts significantly in applications critical to the future of society, such as energy generation and storage, advanced microfluidics, biomimetic sensing platforms, biomedical implants, distributed environmental sensing (air/water), smart textiles and personal health monitoring. The team leaders are convinced that we are currently on the cusp of a tremendous opportunity for science and engineering together to realise a world of new devices and services in these application domains, based on fundamental knowledge of new materials, and the rapidly emerging demand of market driven by aging populations, unsustainable healthcare costs, concern for the environment, and the need for new technologies to replace fossil fuel energy sources. Furthermore, it is clear that progress must be rapid, and this will require a new type of researcher, experienced across disciplines, techniques and equipment, and with a network of established personal contacts already in place. Our central goal is a build a body of such researchers who will contribute significantly to future research and innovation, and who will appreciate the need for strong alignment between basic and applied research, and the need for close links between academia and industry in order to ensure that ideas are effectively translated into innovative devices and services.

Coordinator: DUBLIN CITY UNIVERSITY from:IE

participant: ABO AKADEMI from:FI

# FASHION-ABLE

Project title: Development of new technologies for the flexible and eco-efficient production of customized healthy clothing, footwear and orthotics for consumers with highly individualised needs

Start Date: 2011-11-01 End Date:2014-10-31

Most frequent returning words in objectives:

* ('FASHION-ABLE', 3)
* ('products', 3)
* ('manufacturing', 3)
* ('project', 2)
* ('SMEs', 2)
* ('means', 2)
* ('health', 2)
* ('Product', 2)
* ('equipment', 2)

FASHION-ABLE project aims at providing the European innovative and customization-concerned SMEs with the technological means that will enable the agile and eco-efficient production of personalised products addressing the complex individualised needs of growing market niches out of the scope of mass-produced goods in terms of health and performance. FASHION-ABLE vision is to provide the innovative European SMEs concerned in customization with the technological means that will enable the conception, co-design and the sustainable manufacture of fully personalised products. The expected results of the project are: User framework defining and quantifying the relevant user attributes; new Collaborative Product Customization Services; New stretch-leather’s lean manufacturing processes and equipment; new 3D-spacer fabric’s flexible manufacturing process and machinery; new textile’s finishing operations and equipment; extended manufacturing order management structure and tools; Life-Cycle Analysis instruments; and inter-organisational Product Data Management tools. In particular, FASHION-ABLE action will implement and demonstrate in industrial contexts the new cross-sectoral technologies developed for three highly challenging target groups: fashionable footwear for diabetic feet, fashionable clothing for wheelchair users, high-performing textile compression bandages. The harmonized combination of these technologies will have a direct impact on health, comfort, safety and quality of life of the targeted populations: diabetics developing diabetic feet (30 million); physically disabled people requiring a wheelchair (5 million); and sufferers from acute periods of musculoskeletal disorders (40 million) which prevalence increases with age and weight. Furthermore, our cross-sectoral approach will allow extending and up-scaling functional customisation with little effort to future unexpected functionalities and to be transferred to other products and high demanding markets.

Coordinator: INSTITUTO DE BIOMECANICA DE VALENCIA from:ES

participant: CALZAMEDI S.L.

participant: ATHENS TECHNOLOGY CENTER ANONYMI BIOMICHANIKI EMPORIKI KAI TECHNIKI ETAIREIA EFARMOGON YPSILIS TECHNOLOGIAS

participant: SYNESIS-SOCIETA CONSORTILE A RESPONSABILITA LIMITATA

participant: PLATAFORMA REPRESENTATIVA ESTATAL DE DISCAPACITADOS FISICOS ASOCIACION

participant: Italian Converter S.r.l.

participant: OGOLNOPOLSKA FEDERACJA ORGANIZACJIOSOB NIESPRAWNYCH RUCHOWO ZWIAZEK STOWARZYSZEN

participant: CONSIGLIO NAZIONALE DELLE RICERCHE

participant: J.G. KNOPF'S SOHN GMBH & CO. KG

participant: DEUTSCHE INSTITUTE FUR TEXTIL- UND FASERFORSCHUNG DENKENDORF

participant: DOUËLOU NV

participant: EUROPEAN APPAREL AND TEXTILE CONFEDERATION

participant: BSN Medical GmbH

# ARTISAN

Project title: Energy-aware enterprise systems for low-carbon intelligent operations

Start Date: 2011-11-01 End Date:2014-04-30

Most frequent returning words in objectives:

* ('energy', 13)
* ('services', 5)
* ('ARTISAN', 4)
* ('consumption', 4)
* ('supply', 4)
* ('chain', 3)
* ('reductions', 2)
* ('technologies', 2)
* ('real-time', 2)

The ARTISAN project envisions significant reductions (at least 10%) in energy consumption and CO2 emissions of the European Textile Industry by integrating data-capturing technologies, process-based energy measurement and real-time optimization of operations.It will provide enterprise management systems with services for monitoring and operational decision making, available at each supply chain partner, and, additionally, trading services for energy and carbon permits forging collaboration across supply networks.Relying on a service-oriented architecture and data capturing through sensors and energy metering devices, expected achievements and technologies to be used of ARTISAN include:- an information infrastructure, enabled by AUTO ID, WSN or other hardware components, for efficient capture, storage and communication of energy consumption data;- energy performance indicator structures and services for the textile industry;- services monitoring, reporting and analyzing energy performance per process;- real-time optimization algorithms for planning and scheduling of supply chain processes and enterprise operations in terms of cost reductions and minimum consumption of energy;- tools for evaluating overall energy efficiency based on productivity assessment of processes and implicitly of products;- intra- and inter-organisational services for energy consumption forecast and trade of energy and CO2;- a layered architecture interconnecting the modules in a seamless way, enabling interoperability both internally and among supply chain partners.<br/>Field trials based on representative use-cases drawn from the European textile industry will demonstrate the functionality of the modules and the interconnections in a real context.Hence, each company is encouraged to become an ARTISAN in energy management, but mostly an ARTISAN in decisions based on energy and environmental indicators in both its day-to-day operations and business partnerships.

Coordinator: AGENZIA NAZIONALE PER LE NUOVE TECNOLOGIE, L'ENERGIA E LO SVILUPPO ECONOMICO SOSTENIBILE from:IT

participant: ATHENS TECHNOLOGY CENTER ANONYMI BIOMICHANIKI EMPORIKI KAI TECHNIKI ETAIREIA EFARMOGON YPSILIS TECHNOLOGIAS

participant: Marc Cain GmbH

participant: ATHENS UNIVERSITY OF ECONOMICS AND BUSINESS - RESEARCH CENTER

participant: DEUTSCHE INSTITUTE FUR TEXTIL- UND FASERFORSCHUNG DENKENDORF

participant: EUROPEAN APPAREL AND TEXTILE CONFEDERATION

participant: FRATELLI PIACENZA S.P.A.

participant: INTRASOFT INTERNATIONAL SA

# INFUCOMP

Project title: Simulation Based Solutions for Industrial Manufacture of Large Infusion Composite Parts

Start Date: 2009-10-01 End Date:2013-09-30

Most frequent returning words in objectives:

* ('simulation', 4)
* ('composites', 3)
* ('technologies', 3)
* ('infusion', 3)
* ('performance', 3)
* ('Liquid', 2)
* ('material', 2)
* ('Infusion', 2)
* ('scale', 2)

Today, advanced composites use either layers of plies impregnated with resin (pre-pregs) to form a laminate, or Liquid Composites Moulding (e.g. RTM) of dry textiles. Prepreg composites give superior mechanical properties due to toughened resins and high fibre content, but suffer from high material costs, limited shapeability, complex, expensive and time consuming manufacturing, and limited materials shelf life. Infusion technologies can overcome these limitations, but are not fully industrialised and rely on costly prototype testing due to the lack of simulation tools. Current infusion simulation technologies are approximate and really only suited to small scale components based on adaptations of Resin Transfer Moulding simulation; they are not accurate for large, thick and complex aerospace composites, where one sided tooling and vacuum membranes cause complex 3D heat/flow processes. The INFUCOMP project will develop the full simulation chain from preform design to manufacture (infusion), process/part optimisation and final part defects/mechanical performance prediction with a focus on the infusion step. The project covers all popular Liquid Resin Infusion (LRI) methods currently used in the Aerospace industry. Although focus is on aerospace applications, the work will be very relevant to other industries. The proposed technologies will allow economical manufacture of high performance, integrated, large scale composite structures; thus, positively contributing to their increased use. Benefits include lower cost, improved performance, greater payloads and fuel/emissions reductions. A team of two aircraft manufacturers, two tier one suppliers, a material manufacturer, university and industry researchers, and commercial software specialists; all with a recognised track record in this field have been selected from eight different CEC countries; one partner is an SME.

Coordinator: ESI GmbH from:DE

participant: SHORT BROTHERS PLC

participant: ISRAEL AEROSPACE INDUSTRIES LTD.

participant: INASCO HELLAS ETAIREIA EFARMOSMENON AERODIASTIMIKON EPISTIMON EE

participant: SWEREA SICOMP AB

participant: ESI GROUP

participant: ASSOCIATION POUR LA RECHERCHE ET LE DEVELOPPEMENT DES METHODES ET PROCESSUS INDUSTRIELS

participant: PIAGGIO AERO INDUSTRIES SPA

participant: UNIVERSITAET STUTTGART

participant: CRANFIELD UNIVERSITY

participant: KATHOLIEKE UNIVERSITEIT LEUVEN

participant: PANEPISTIMIO PATRON

participant: DAHER AEROSPACE SAS

# TEXTILE

Project title: An Iconology of the Textile in Art and Architecture

Start Date: 2009-09-01 End Date:2013-08-31

Most frequent returning words in objectives:

* ('history', 5)
* ('textile', 4)
* ('research', 3)
* ('project', 3)
* ('studies', 3)
* ('medium', 2)
* ('field', 2)
* ('subject', 2)
* ('areas', 2)

The fabrication of textiles is one of the oldest cultural technologies. The objective of the proposed interdisciplinary research project is to investigate the historical meanings and functions of the textile medium in art and architecture from the Middle Ages to the present. The exploration of this specific art medium should result in a historical theory or iconology of the textile. The project focussed on the textile discourse engages in a new, complex, and challenging field of research situated between art and architectural history and within cultural and visual studies, involving also other disciplines such as literary studies and social history. Moreover, it aims at connecting the two scientific cultures of the universities and museums, and it draws transdisciplinary expertise from contemporary art. The framework of the project can be described by seven interconnected subject areas which are dedicated to specific questions and which share categories of objects such as figurative tapestries, installation art, literary texts, or architectural materials. This requires a variety of instrumental methods ranging from gender studies to textual analysis, from iconography to anthropological approaches. Two postdoctoral researchers and one doctoral candidate will work on a topic related to one or more of the subject areas. The team s aim is to perform basic research in an innovative and contemporary field, independently of traditional institutional constraints, in order to contribute to the establishment of the history of textile art as an academic discipline and to the advancement of art and architectural history towards a general history of images, media, and artefacts.

Coordinator: UNIVERSITAT ZURICH from:CH

# PROSUMER.NET

Project title: European Consumer Goods Research Initiative - Networking European Technology Platforms addressing Design-based Consumer Goods Industries and Related Research and Technology Fields

Start Date: 2011-06-01 End Date:2013-05-31

Most frequent returning words in objectives:

* ('Platform', 5)
* ('Technology', 4)
* ('products', 3)
* ('fashion', 2)
* ('market', 2)
* ('consumer', 2)
* ('terms', 2)
* ('consumers', 2)
* ('creation', 2)

Health of people, safety of workers, sport performance, new cultures and lifestyles, customised fashion products will be drivers to promote European Consumer Goods on the global market, exploiting the European historical culture and knowledge on manufacturing processes and products as well as the proactive European consumer market, always looking for new frontiers in terms of comfort, satisfaction, well being and leisure of consumers.  
The above mentioned major target applications are strongly related with major ongoing societal trends such as ageing, mobility & activity, globalisation, sustainability, etc.  
Thus, there is today a unique opportunity for the future of the European consumer goods industry: the creation of a new generation of healthy, safe, fashion and lifestyle products, and related services, full of new functionalities which offer a concrete response to needs and desires of consumers of all ages, interests and walks of life in Europe and worldwide.  
Within such a perspective, present proposal addresses the creation of synergies, the identification of common elements, and the development of a programme of commonly-defined activities in terms of socio-economic foresight, research & technology roadmapping & strategy development between the European Technology Platform for the Future of Textiles and Clothing, the European Footwear Products & Processes Technology Platform, the European Platform for Sport & Innovation, the European Forestry-based Technology Platform, and the ManuFuture Technology Platform.

Coordinator: EUROPEAN APPAREL AND TEXTILE CONFEDERATION from:BE

participant: FEDERATION OF THE EUROPEAN SPORTING GOODS INDUSTRY

participant: Forest-Based Sector Technology Platform

participant: INSTITUT FRANCAIS DU TEXTILE ET DE L'HABILLEMENT

participant: INESC TEC - INSTITUTO DE ENGENHARIA DE SISTEMAS E COMPUTADORES, TECNOLOGIA E CIENCIA

participant: INSTITUTO TECNOLOGICO DEL CALZADO Y CONEXAS

participant: TREVISO TECNOLOGIA - AZIENDA SPECIALE PER L'INNOVAZIONE DELLA CAMERA DI COMMERCIO DI TREVISO

participant: CONSIGLIO NAZIONALE DELLE RICERCHE

participant: INSTITUTO DE BIOMECANICA DE VALENCIA

# COWET

Project title: Complex wetting phenomena

Start Date: 2014-01-01 End Date:2017-12-31

Most frequent returning words in objectives:

* ('processes', 8)
* ('liquids', 4)
* ('computational', 2)
* ('experimental', 2)
* ('solids', 2)
* ('include', 2)
* ('deposition', 2)
* ('development', 2)
* ('CoWet', 2)

Static and dynamic wetting of solid surfaces by liquids is a focus of numerous theoretical, computational and experimental investigations. Most of the research and training activities are focused on the wetting of simple solids by one-component liquids. However, a wide variety of industrial processes mostly include wetting/spreading of complex multiphase liquids over heterogeneous, structured or (nano)porous solids. The latter include deposition of active substances from foams and nanoemulsions on human hair and skin and deposition of functional nanoparticles on textile fibers and flexible polymer films. The mechanisms of those complex fluid-solid processes are to be understood. The development and optimization of the industrial processes and products is based on purely empirical trial and error methods.  
CoWet supra-disciplinary project is aimed at bridging the gap between the industrially relevant processes involving the complex fluid-solid processes, from one side, and the high resolution experiment, as well as physically sound modelling and direct computer simulations, from the other side. The high-resolution, high-speed experimental techniques, including confocal microscopy, atomic force microscopy and fluorescent correlation spectroscopy, will be used to reveal the nano- and microscopic phenomena governing the complex fluid-solid interactions in the course of wetting/spreading processes of complex liquids over complex substrates. The modern computational and modelling techniques will help to reveal, predict and optimize the industry-relevant processes.  
The young researchers will be trained to study the systems of practical importance rather than focusing on model systems only. They learn the cutting edge scientific methodology and application technology from an industrial perspective. CoWet fellows will form a powerful network of experts which will eventually result in ground-breaking development of new complex fluid-solid technological processes.

Coordinator: TECHNISCHE UNIVERSITAT DARMSTADT from:DE

participant: EVONIK NUTRITION & CARE GMBH

participant: ARISTOTELIO PANEPISTIMIO THESSALONIKIS

participant: UNIVERSITEIT TWENTE

participant: MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN EV

participant: EVONIK INDUSTRIES AG

participant: UNIVERSIDAD COMPLUTENSE DE MADRID

participant: LOUGHBOROUGH UNIVERSITY

participant: MICROPORE TECHNOLOGIES LTD

participant: THE HEBREW UNIVERSITY OF JERUSALEM

participant: UNIWERSYTET MARII CURIE-SKLODOWSKIEJ

# FLY-BAG2

Project title: Advanced technologies for bomb-proof cargo containers and blast containment units for the retrofitting of passenger airplanes

Start Date: 2012-08-01 End Date:2015-09-30

Most frequent returning words in objectives:

* ('project', 6)
* ('FLY-BAG', 3)
* ('solutions', 3)
* ('passenger', 2)
* ('airplanes', 2)
* ('luggage', 2)
* ('cargo', 2)
* ('onboard', 2)
* ('concepts', 2)

The threat of attacks to passenger airplanes with explosives hidden in luggage loaded in the cargo holds or taken onboard is dramatically evident from terrorist events in the last years.  
FLY-BAG2 aim is to develop innovative solutions based on novel lightweight materials and structural concepts for the mitigation of the effects of an onboard blast and improve aircraft survivability.  
Direct strengthening of the airplane structure is not a viable solution since it would clearly result in thicker skins and a weight penalty; moreover, the related costs could not be justified in the majority of the commercial routes. Instead, the proposed blast mitigation and retrofitting solutions will be developed to be easily implemented on existing aircrafts.  
The project builds upon the former FLY-BAG FP7 project which developed and demonstrated a blast-resistant textile-based luggage container for narrow-body passenger airplanes. The aim is now to exploit the knowledge gathered in the previous project to develop new devices for both cabin (addressing the Least Risk Bomb Location requirements) and cargo environments and to enlarge the experimental validation of the new concepts including full scale tests on retired aircrafts.  
Research aspects to be addressed include the correlation between explosive charge and location with baggage filling percent in the ULD, the effect of pressurisation, or the effects to the aircraft structures and the passengers.  
The partnership is composed by the core partners from the former FLY-BAG project enlarged by new organisations bringing relevant expertise on modelling and design of aeronautic structures. The consortium is also characterised by a significant geographical spread with 7 different European countries represented and by the involvement of 6 industrial SMEs, as a confirmation of the industrial character of the project, aiming at pragmatic solutions and industrial exploitation of the project results.

Coordinator: RINA CONSULTING SPA from:IT

participant: CARMEL CARGO NETWORK BV

participant: Meridiana Maintenance S.p.A.

participant: INASCO HELLAS ETAIREIA EFARMOSMENON AERODIASTIMIKON EPISTIMON EE

participant: CENTRO DI RICERCHE EUROPEO DI TECNOLOGIE DESIGN E MATERIALI

participant: EASC EV

participant: DoKaSch GmbH Air Cargo Equipment + Repair

participant: SAECHSISCHES TEXTILFORSCHUNGSINSTITUT E .V.

participant: BLASTECH

participant: APC COMPOSIT AB

participant: PANEPISTIMIO PATRON

participant: AERNNOVA ENGINEERING SOLUTIONS SA

# FIBRE

Project title: Textile Fibre in Italy Before Roman Empire

Start Date: 2009-10-01 End Date:2011-09-30

Most frequent returning words in objectives:

* ('fibre', 8)
* ('textile', 5)
* ('ancient', 5)
* ('project', 4)
* ('fibres', 4)
* ('development', 3)
* ('Italy', 3)
* ('agriculture', 3)
* ('investigation', 3)

The FIBRE project investigates the development and use of textile fibres in Italy from prehistory until the Roman period. Wool and flax fibres constitute a nexus between agriculture and textile craft, two of the oldest and socio-economically most important human technologies. Issues addressed through the investigation of archaeological fibre include ancient agriculture, husbandry, trade and economy, development of new strategies of fibre acquisition, diversification and spread of sheep breeds throughout Europe. Yet, ancient fibres have never been investigated in this complex context. Ancient Italy serves as this project’s point of departure since by Roman times it produced some of the best wool and linen but is the least investigated area in European fibre and textile archaeology. The FIBRE Project examines the various sources of information available for the investigation of ancient fibre, including archaeological textiles, archaeobotanical and archaeozoological assemblages, palaeoecological and geological record, as well as ancient literary and iconographic sources The objectives of the project are to elucidate endogenous development of textile fibres in Italy and their spread throughout Europe and the Mediterranean; to evaluate the old and to develop new fibre analytical methods and ways of interpreting obtained data; to integrate fibre studies into research of broader archaeological questions. The project aim is thus to demonstrate the potential of archaeological fibre for the investigation of ancient craft and agriculture, thereby having a major impact on archaeometric methodology, textile and fibre archaeology and European economic and agricultural history.

Coordinator: UNIVERSITY COLLEGE LONDON from:UK

# FITMAN

Project title: Future Internet Technologies for MANufacturing

Start Date: 2013-04-01 End Date:2015-09-30

Most frequent returning words in objectives:

* ('FITMAN', 10)
* ('Factories', 7)
* ('Trials', 6)
* ('Future', 4)
* ('Enablers', 4)
* ('project', 3)
* ('Smart', 3)
* ('Digital', 3)
* ('FI-WARE', 3)

According to the 2010 EC Competitiveness Report, Manufacturing is still the driving force of Europe's economy, contributing over € 6553 billion in GDP and providing more than 30 million jobs. It covers more than 25 different industrial sectors, largely dominated by SMEs, and generates annually over € 1535 billion (42%) worth of value added services.The mission of the FITMAN (Future Internet Technologies for MANufacturing industries) project is to provide the FI PPP with a set of industry-led use case trials in the Smart, Digital and Virtual Factories of the Future domains, in order to test and assess the suitability, openness and flexibility of FI-WARE Generic Enablers, this way contributing to the social-technological-economical-environmental-political sustainability of EU Manufacturing Industries.In order to accomplish the mission statement, the FITMAN project will deliver: A FITMAN Generic Platform for Manufacturing Industries, as a collection of several Generic Enablers Implementations belonging to most of the identified technological Chapters of FI-WARE project; A generic and flexible Trials Verification and Validation Framework, encompassing concepts, methods and tools for a technical and business assessment of the Trials An open-to-all FITMAN Phase III Package, to support FI-WARE PPP Phase III objective 1.8, Expansion of Use Cases, by providing access to FITMAN Reports and Prototypes for Phase III preparation and implementation Three FITMAN Specific Platforms for Smart, Digital and Virtual Factories, as a collection of several Specific Enablers Implementations belonging to the background of FITMAN beneficiaries and specifically derived from previous RTD projects in the Factories of the Future and Future Internet Enterprise Systems research Ten FITMAN Trials Platforms as instantiation of the selected Generic and Specific Enablers for ten industry-driven multi-sectorial Trials Ten FITMAN Trial Experimentations by deploying the FITMAN Trials Platforms in realistic Smart-Digital-Virtual Factories IT and business cases, as well as by assessing and evaluate evaluating the achieved results:i. Smart Factories Trials: TRW (LE) automotive supplier – Safe & Healthy Workplace, PIACENZA (SME) textile/clothing – Cloud Manufacturing, COMPLUS (SME) LED smart lighting – Collaborative Production, WHIRLPOOL (LE) white goods manufacturer – Mobile workforce.ii. Digital Factories Trials: VOLKSWAGEN (LE) automotive manufacturer – PLM ramp-up for reduced Time to Market , AGUSTAWESTLAND (LE) aeronautics manufacturer – Training services for blue collar workers, CONSULGAL (SME) construction – As-designed vs. As-built Interoperability, AIDIMA (SME) furniture – Mass Customised Production.iii. Virtual Factories Trials: APR (SME) plastic industry – Collaboration valorisation, TANet (SME) manufacturing resource management – Networked Business Innovation, COMPLUS (SME) LED smart lighting – Collaborative Production,GEOLOC (SME) Machinery for wood industry – Project-based Collaboration.

Coordinator: TXT E-SOLUTIONS SPA from:IT

participant: UNIVERSITE LUMIERE LYON 2

participant: ASOCIACION DE EMPRESAS TECNOLOGICAS INNOVALIA

participant: COVENTRY UNIVERSITY

participant: APPLICATIONS PLASTIQUES DU RHONE SAS

participant: STIFTUNG FZI FORSCHUNGSZENTRUM INFORMATIK AM KARLSRUHER INSTITUT FUR TECHNOLOGIE

participant: HOLONIX SRL-SPIN OFF DEL POLITECNICO DI MILANO

participant: BIBA - BREMER INSTITUT FUER PRODUKTION UND LOGISTIK GMBH

participant: Teknologian tutkimuskeskus VTT Oy

participant: NATIONAL TECHNICAL UNIVERSITY OF ATHENS - NTUA

participant: FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

participant: LABORATOIRE VIRTUEL EUROPEEN DANS LE DOMAINE DE L'INTEROPERABILITE DESENTREPRISES

participant: SEMATRONIX LIMITED

participant: INSTITUTO TECNOLOGICO METALMECANICO, MUEBLE, MADERA, EMBALAJE Y AFINES-AIDIMME

participant: ALTICE LABS SA

participant: UNINOVA-INSTITUTO DE DESENVOLVIMENTO DE NOVAS TECNOLOGIAS-ASSOCIACAO

participant: DEUTSCHES FORSCHUNGSZENTRUM FUR KUNSTLICHE INTELLIGENZ GMBH

participant: ATOS SPAIN SA

participant: COMPLUS AUTOMATION GMBH

participant: UNIVERSITE DE BORDEAUX I

participant: TECHNOLOGY APPLICATION NETWORK LIMITED

participant: CONSULGAL - CONSULTORES DE ENGENHARIA E GESTAO SA

participant: SOFTECO SISMAT SRL

participant: NEO GLS

participant: UNIVERSITE DE BORDEAUX

participant: UNIVERSITY OF SOUTHAMPTON

participant: AGUSTA S.P.A.

participant: POLITECNICO DI MILANO

participant: ATOS CONSULTING CANARIAS SA UNIPERSONAL

participant: UNIVERSITAT POLITECNICA DE VALENCIA

participant: ENGINEERING - INGEGNERIA INFORMATICA SPA

participant: DEUTSCHE INSTITUTE FUR TEXTIL- UND FASERFORSCHUNG DENKENDORF

participant: CONTROL 2K LIMITED

participant: UNIVERSITAET INNSBRUCK

participant: TRW AUTOMOTIVE ESPAÑA SL

participant: Whirlpool Europe srl

participant: FRATELLI PIACENZA S.P.A.

participant: VOLKSWAGEN AG

participant: TEKNOLOGIAN TUTKIMUSKESKUS VTT

participant: PRIVREDNO DRUSTVO ZA PRUZANJE USLUGA ISTRAZIVANJE I RAZVOJ NISSATECH INNOVATION CENTRE DOO

# BIOAGROTEX

Project title: Development of new agrotextiles from renewable resources and with a tailored biodegradability

Start Date: 2008-10-01 End Date:2012-09-30

Most frequent returning words in objectives:

* ('fibres', 5)
* ('products', 4)
* ('polymers', 3)
* ('applications', 3)
* ('market', 3)
* ('side', 2)
* ('agrotextiles', 2)
* ('offer', 2)
* ('combination', 2)

Increasing oil-prices, a growing threat of oil-shortages, Kyoto agreements on green house gases, environmental effects and climate changes, are all elements that contribute to the concern for the future of our oil based economy. Not only the search for biofuels but also for bio-based polymers and a more extensive use of the natural resources by upgrading the value of natural fibres and side products will be needed to cope with these problems. Techno-economic studies predict an important growth for the bio-based polymer industry in the coming decennia. This will only be possible if new high end applications are developed. Textiles and especially agrotextiles offer a very attractive end market. Volumes in this market area are high and fast growing. At present, products are mainly based on Polyolefin’s (> 200Ktonnes/annum in Europe). Bio-based polymers in combination with natural fibres and side products can offer a good alternative, if biodegradation can be modelled and adapted according the specific end applications. Intrinsic positive properties of the bio-based polymers such as low flammability and high light fastness can boost technological advantages, leading to major economic and technologic benefits in industrial implementation. The proposed project envisages the research and development of new 100% renewable agrotextiles, via combination of natural fibres, bio-based fibres and bio-based functional additives. This requests: • new and optimised extrusion processes into fibres, yarn, monofilament or tape • processing into knitted, woven or non-woven structures and new finishing process • tailor-made mechanical and functional characteristics • a controlled and predictable biodegradation adapted to the application envisaged • a proven performance for a number of test/demonstration cases. This type of project can take a large share of the agrotextile market (up to 50%) by creation of alternatives for oil-based products and new applications.

Coordinator: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE from:BE

participant: INOTEX SPOL SRO

participant: TECNARO GESELLSCHAFT ZUR INDUSTRIELLEN ANWENDUNG NACHWACHSENDER ROHSTOFFE MBH

participant: TRANSFURANS CHEMICALS BVBA

participant: DEVAN-PPT CHEMICALS LTD

participant: AGRITEC, vyzkum, slechteni a sluzby s.r.o.

participant: RODENBURG PRODUCTIE BV

participant: ECOLE NATIONALE SUPERIEURE ARTS INDUSTRIES TEXTILES

participant: CENTRO DI RICERCHE EUROPEO DI TECNOLOGIE DESIGN E MATERIALI

participant: RINA CONSULTING SPA

participant: LA ZELOISE NV

participant: BONAR TECHNICAL FABRICS NV

participant: DS TEXTILE PLATFORM NV

participant: MDB TEXINOV SAS

participant: ENYA BVBA

participant: DEUTSCHE INSTITUTE FUR TEXTIL- UND FASERFORSCHUNG DENKENDORF

# ESTOMAD

Project title: Energy Software Tools for Sustainable Machine Design

Start Date: 2010-02-01 End Date:2012-09-30

Most frequent returning words in objectives:

* ('machine', 8)
* ('energy', 5)
* ('methodology', 5)
* ('project', 3)
* ('production', 3)
* ('tools', 3)
* ('machines', 3)
* ('design', 3)
* ('ESTOMAD', 3)

This project addresses all production machine sectors (e.g. machine tools, agricultural machines, textile machines). Design approaches for these machines, which are currently performance and capacity driven, have to evolve to approaches where resource efficiency is optimized. To do so, energy efficiency has to be taken into account as a key parameter in the design process.<br/>The main goal of the ESTOMAD project is to develop a methodology and related ICT tools to model, simulate, analyze and optimize energy flows and losses throughout the whole machine. When optimising machine designs, interaction with suppliers is indispensable for getting up-to-date component data. Supporting this interaction is therefore a key aspect of the ESTOMAD goals. To guarantee quick take-up, the methodology will be embedded in an existing, widely used machine design software.<br/>Starting from a methodology specification, developments will be made towards multi-domain energy descriptions on different levels. In parallel, a framework will be developed for machine designers to interact with their supplier on energy considerations. Specific tests and measurements will be conducted on a number of benchmarks for verification purposes. Availability of these benchmarks allows for an extended dissemination of project results to the wide machine production sector. After embedding the ESTOMAD methodology on the existing software a number of demonstrators will be realized.<br/>The methodology will constitute a useful base for realizing regulations on energy consumption that are under development for many products, including production machinery (EUP directive).<br/>Realizing these goals requires a multi-disciplinary team with strong industrial involvement from various applications. The team is composed of two industry-oriented and one basic-research oriented research organization, one SME, three leading manufacturers active in different sectors and a provider of machine design software tools.

Coordinator: FLANDERS MAKE VZW from:BE

participant: LMS IMAGINE

participant: CONSIGLIO NAZIONALE DELLE RICERCHE

participant: JOBS AUTOMAZIONE S.p.A.

participant: KATHOLIEKE UNIVERSITEIT LEUVEN

participant: PICANOL NV

participant: EC ENGINEERING SP ZOO

# FIBRALSPEC

Project title: Fuctionalised Innovative Carbon Fibres Developed from Novel Precursors With Cost Efficiency and Tailored Properties

Start Date: 2014-01-01 End Date:2017-12-31

Most frequent returning words in objectives:

* ('carbon', 7)
* ('fiber', 5)
* ('fibres', 4)
* ('developed', 3)
* ('project', 3)
* ('technology', 3)
* ('efforts', 2)
* ('cost', 2)
* ('surface', 2)

Innovative processes with streamlining and improved control will be conducted in FIBRALSPEC, through Unit for Continuous PAN-based Carbon Fiber Pilot Production. Testing of laminates and prepregs production based the new developed carbon fibres followed by manufacturing of laminates/coupons and high-performance filament wound tubes are also foreseen (equipment for delivering precise volumes the matrix (resin) in high and low-capacity to impregnate the fibres and bundles will be developed). The project also efforts on functionalization will be mainly focused on cost reduction, mechanical and chemical property improvement. Novel CF precursors will be developed (silicon carbide, textile-grade PAN, polyolefins, and lignin); in parallel, the suitability of a new environmentally friendly pitch will be assessed, obtained from anthracene oil, for the preparation of isotropic carbon fibres. The project’s carbon fiber conversion technology will pyrolysis process to convert PAN precursor fiber into PAN-based carbon fiber and activated carbon fiber. Innovative surface treatment will improve the step of treatment of the carbon fiber surface being indispensable for productions in series. As for recycling and used of recycled CFs, new techniques will be used to provide commercially-relevant products that are manufactured from waste carbon fibres. Mathematical modeling will be conducted so as to determine properties of CFs and composites, together with cost modeling; life cycle assessment will assist in possible commercial risks that will be continuously estimated during the project and quantify/assess the environmental impact of the materials that will be used. Industrial partnership will ensure the impact of the research efforts, convincingly proving scalability towards industrial needs of two high demanding applications, namely medium technology – large scale (Rapid Deployment Secure Emergency Shelter (RDSES)) and high technology – small scale (supercapacitor).

Coordinator: NATIONAL TECHNICAL UNIVERSITY OF ATHENS - NTUA from:EL

participant: ANTHONY, PATRICK & MURTA-EXPORTACAO LDA

participant: THE UNIVERSITY OF BIRMINGHAM

participant: C.T.M. EQUIPMENT LIMITED

participant: YUZHNOYE DESIGN OFFICE NAMED AFTER MIKHAIL YANGEL

participant: EUROMOBILITA SRO

participant: POLITECNICO DI TORINO

participant: OPEN SOURCE MANAGEMENT LIMITED

participant: FRANTSEVICH INSTITUTE FOR PROBLEMS OF MATERIALS SCIENCE OF NATIONAL ACADEMY OF SCIENCE OF UKRAINE

participant: THALES SA

# SMARTNETS

Project title: SmartNets – The Transformation from Collaborative Knowledge Exploration Networks into Cross Sectoral and Service Oriented Integrated Value Systems

Start Date: 2011-04-01 End Date:2014-03-31

Most frequent returning words in objectives:

* ('network', 7)
* ('products', 5)
* ('services', 4)
* ('production', 4)
* ('value-adding', 3)
* ('collaboration', 3)
* ('partners', 3)
* ('knowledge', 3)
* ('development', 3)

High value-adding processes for knowledge-intensive products and services are facing growing complexity and ask therefore for close collaboration of industrial partners. Especially for companies which are acting across sectoral borders functional as well as technical interoperability has become tremendously important. Only by trustful collaboration between partners, required knowledge and competence can be acquired, shared and used to target at innovative products and services. However, even by including the right partners in the first phases of development, companies have to ensure that knowledge and experience generated in these early steps will be available throughout the whole product life cycle. This will guarantee an efficient and sustainable production of products and/or delivery of valuable services.  
Goal of the SmartNets project is to establish and to prove ‘Smart Networks’ as an holistic industrial model for sustainable and efficient production in cross-sectoral SME collaboration both in development and production of knowledge-intensive products and services. It will provide network members with the necessary concepts, methods and tools to guide them through organization-, ICT- and knowledge-related network adaptations which are typically required in the value-adding process from idea generation to product/service exploitation. The ‘smart’ transformation from development network to production or service-providing network will guarantee an efficient use of the resources knowledge, personnel and IT throughout the whole product life cycle.  
The results will be applied in and evaluated by value-adding SME-dominated networks, which have already been formed around product ideas at the beginning of the project. Target products are an innovative helmet (IT-GB network), a medical device (CZ-DE network) and interior textiles (BE network).

Coordinator: DEUTSCHE INSTITUTE FUR TEXTIL- UND FASERFORSCHUNG DENKENDORF from:DE

participant: W. ZIMMERMANN GMBH & CO KG

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: TRYONIC LIMITED

participant: Thurckon Srl

participant: RINA CONSULTING SPA

participant: FYZIKALNI USTAV AV CR V.V.I

participant: GRADO ZERO ESPACE SRL

participant: ELLA-CS sro

participant: LAMPE TEXTILES NV

participant: ITV DENKENDORF PRODUKTSERVICE GMBH

participant: INFOASSET AG

participant: DEVAN CHEMICALS NV

participant: MAGEBA Textilmaschinen GmbH & Co. KG

# TEXWIN

Project title: Textile Work Intelligence by hierarchical closed-loop control for product and process quality in the Textile Industry

Start Date: 2010-03-16 End Date:2013-03-15

Most frequent returning words in objectives:

* ('quot', 9)
* ('production', 7)
* ('factory', 6)
* ('processes', 4)
* ('process', 4)
* ('workshop', 3)
* ('times', 3)
* ('product', 3)
* ('quality', 3)

The objective of TexWIN is to increase productivity by up to 20% and reduce down-times of machines by one third of workshop factories; due to a reduction of stop times, set-up times and waiting times, increased flexibility and reliability of processes, and due to reduced sampling effort. The breakthrough is to exploit existing knowledge available in various factory internal and factory external sources by (1) combining and evaluating process state information as well as product and material characteristics and (2) deriving best production instructions. Additionally existing production knowledge and experiences from production operators will be preserved and made available by the CBR module. This will be enabled by the hierarchical control structure &quot;TexWIN-Concept&quot; consisting of an adaptive and modular system &quot;TexWIN-System&quot; and re-engineered &quot;TexWIN-Processes&quot; improving quality of products and processes of workshop factory operations. The “TexWIN-System&quot; integrates the two following units: (a) the factory controller for the improvement of the process schedule and event-based coordination of factory (inter-)operations and (b) the adaptive CBR-based production unit controller for identification of best process recipes/machine settings concerning product quality and production process set-up and execution efficiency. The modules will be integrated into a common communication framework, which will enable flexible interfacing and ontology-based information transformation. The &quot;TexWIN-Processes&quot; are adapted factory business processes which allow maximising the efficiency and quality effects and seamless integration into existing factories. TexWIN, which will be tested within in 5 textile and plastic mills, will be best suited for industries dealing basically with make-to-order production, small batches, high-quality product variants, workshop production, complex processes and non-homogeneous and/or natural materials.

Coordinator: DEUTSCHE INSTITUTE FUR TEXTIL- UND FASERFORSCHUNG DENKENDORF from:DE

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: ITEMA (Switzerland) A.G.

participant: Maschinenfabrik Rieter AG

participant: AGENZIA NAZIONALE PER LE NUOVE TECNOLOGIE, L'ENERGIA E LO SVILUPPO ECONOMICO SOSTENIBILE

participant: UNIVERSITAT POLITECNICA DE CATALUNYA

participant: Dyckhoff GmbH

participant: MILLIKEN EUROPE BVBA

participant: BELGIAN MONITORING SYSTEMS BVBA

participant: FRATELLI PIACENZA S.P.A.

participant: DOMINA SRL

participant: BOTTO GIUSEPPE E FIGLI SPA

# MICROFLEX

Project title: Micro fabrication production technology for MEMS on new emerging smart textiles/flexibles

Start Date: 2008-11-01 End Date:2012-10-31

Most frequent returning words in objectives:

* ('printing', 4)
* ('MEMS', 3)
* ('processes', 3)
* ('production', 3)
* ('materials', 2)
* ('smart', 2)
* ('fabrics/textiles', 2)
* ('functions', 2)
* ('technologies', 2)

This proposal concerns flexible materials in the form of high added value smart fabrics/textiles which are able to sense stimuli and react or adapt to them in a predetermined way. The challenge for the European textile industries is to add advanced functions to textiles and the recent progress of new technologies such as electronic inks provide an opportunity for a breakthrough by incorporating MEMS on flexible textiles/fabrics. The project will exploit microfabrication to produce, using custom printing processes, active functions cost efficiently. We propose to develop fundamental micro fabrication production technologies for MEMS on fabrics/textiles using flagship demonstrator applications. This will result in a cheap, easy to design, flexible, rapid, way to manufacture multifunction smart textiles/garments for a large set of multi-sectorial applications. The processes will be based on thick film printing and sacrificial etching for the MEMS structures. Subsequent inkjet printing will be used to deposit thinner structures on the thick film printed layers incorporating for example active nanoparticles to add further functionality. These printing processes have many benefits including low-cost, repeatability, flexibility, suitability for high throughput production, relatively inexpensive equipment, short development time and the capability of depositing a wide range of materials. All the novel printed inks will be electrically activated sensors and actuators and we will use standard electronic devices for power supply/storage, signal processing and communications offering low price and mass production. The project will undertake a number of initial demonstrators of the underlying basic technology. These will be based on: light emission, cooling/heating, anti-static effect, energy harvesting, micro-encapsulation and actuation. MICROFLEX is a perfect example of the transformation of a resource-intensive to a knowledge-intensive industry.

Coordinator: UNIVERSITY OF SOUTHAMPTON from:UK

participant: SAATI SPA

participant: PAUL BOYE TECHNOLOGIES

participant: ARDEJE SARL

participant: INSTITUT FRANCAIS DU TEXTILE ET DE L'HABILLEMENT

participant: OTTO-VON-GUERICKE-UNIVERSITAET MAGDEBURG

participant: INSTITUT JOZEF STEFAN

participant: MEGGITT AS

participant: ELASTA IND. NV

participant: Klopman International Srl

participant: ACONDICIONAMIENTO TARRASENSE ASSOCIACION

participant: DEUTSCHE INSTITUTE FUR TEXTIL- UND FASERFORSCHUNG DENKENDORF

# CORENET

Project title: Customer-oriented and eco-friendly networks for healthy fashionable goods

Start Date: 2010-06-01 End Date:2013-05-31

Most frequent returning words in objectives:

* ('consumer', 3)
* ('design', 3)
* ('collaborative', 3)
* ('value', 3)
* ('CoReNet', 2)
* ('quality', 2)
* ('order', 2)
* ('produce', 2)
* ('framework', 2)

The objective of CoReNet is to address consumer needs and expectations of wide range of European citizens as well as specific target groups - such as elderly, obese, disabled, or diabetic persons -by supplying small series of functional and fashionable clothes and footwear of high quality, affordable price and eco-compatibility. Therefore the European Textile, Clothing and Footwear Industry will be able to provide customised health fashionable goods for relevant social niches, so improving its market shares. In order to design, develop, produce and distribute the related small order quantities in a cost- and eco-efficient way a new framework  
and components for new collaborative networking will be developed, enabling to stay as long as digital and to produce on-demand. This includes: a) consumer integrated collaborative eco-oriented design, and configuration of ”healthy”; wearables using web-enabled virtualisation and ”green”; materials, b) a  
radical renewal of critical value creation steps by the adoption of Rapid Manufacturing technologies for optimised digital printing and laser engraving; and c) the overall integration and co-ordination of business processes  
and information exchange by a set of new (web)services for network design and ad-hoc (re-)configuration, for real-time planning, forecasting and replenishment, and for tracking and tracing of ecology and quality. Within COReNet framework, all partners of the value creating sectors will become able to co-ordinate value creation processes, with the end consumer as driving actor. CoReNet will be collaboratively tested and demonstrated within industrial plants, thus showing the full potential of the new sustainable collaborative cross-sector networking approach

Coordinator: TXT E-SOLUTIONS SPA from:IT

participant: STRATEGIES

participant: SYNESIS-SOCIETA CONSORTILE A RESPONSABILITA LIMITATA

participant: MANAS SPA

participant: TOMORROW OPTIONS MICROELECTRONICS S.A.

participant: INESC TEC - INSTITUTO DE ENGENHARIA DE SISTEMAS E COMPUTADORES, TECNOLOGIA E CIENCIA

participant: ERGOSFT AG

participant: PEPPERMINT HOLDING GMBH

participant: ASSYST GMBH

participant: CONSIGLIO NAZIONALE DELLE RICERCHE

participant: OFFICINA ORTOPEDICA MICHELOTTI SRL

participant: DEUTSCHE INSTITUTE FUR TEXTIL- UND FASERFORSCHUNG DENKENDORF

participant: DOUËLOU NV

# MODSIMTEX

Project title: Development of a rapid configuration system for textile production machinery based on the physical behaviour simulation of precision textile structures

Start Date: 2008-11-01 End Date:2012-04-30

Most frequent returning words in objectives:

* ('textile', 10)
* ('production', 6)
* ('machines', 3)
* ('product', 3)
* ('setup', 3)
* ('structures', 3)
* ('products', 2)
* ('characteristics', 2)
* ('textiles', 2)

The textile industry faces important challenges regarding the production of new advanced textile products. It is not possible to define the characteristics and parameters of a given textile structure due to the difficulty of measuring them. This situation makes very difficult to configure the machines involved in the production of such textiles; the typical practices consists in manufacturing samples and through trial and error adjust the processing operations until the desired characteristics are achieved in the final product. With this procedure it’s very expensive to match the designer’s idea with the final product. The production setup takes a long amount of time and efforts and increases the cost of the final product. This is especially critical when a company is trying to develop new technical textiles. The vast majority of the existing systems capable to simulate textile products are limited to the visual representation, without any kind of mechanical or physical evaluation of the properties of the textile structures. Of course, these tools don’t take into account the configuration of the production machinery, so they aren’t capable of help in the setup of production machinery. Unlike these conventional design systems, the core of this proposal is to develop a virtual simulation system of the physical-mechanical properties of the textile structures oriented to the fast setup of the machines involved in the whole textile chain manufacturing process (yarns, woven fabrics, knit fabrics, needle-punch non-woven, hydro-tangled non-woven, and composite structures). This virtual construction system will allow the prediction of the multifunctional textile performance before the actual textile is manufactured allowing the settings of the production machines to be either an input or an output of the computation thus reducing dramatically the effort and cost to produce small batches or develop a new advanced technological textile.

Coordinator: UNIVERSITAT POLITECNICA DE CATALUNYA from:ES

participant: HEIMBACH & CO KG

participant: SPOLSIN SPOL SRO

participant: TECHNICKA UNIVERZITA V LIBERCI

participant: SANTONI SPA

participant: SAECHSISCHES TEXTILFORSCHUNGSINSTITUT E .V.

participant: POLITECHNIKA LODZKA

participant: BELGIAN MONITORING SYSTEMS BVBA

participant: DEUTSCHE INSTITUTE FUR TEXTIL- UND FASERFORSCHUNG DENKENDORF

participant: GEBR. RODERS AG

participant: T.F.A. ALFA SRO

# CROSSTEXNET

Project title: TEXTILE AT THE CROSS ROADS OF NEW APPLICATIONS

Start Date: 2009-11-01 End Date:2013-04-30

Most frequent returning words in objectives:

* ('research', 8)
* ('CROSSTEXNET', 5)
* ('funding', 5)
* ('Europe', 4)
* ('textile', 4)
* ('joint', 4)
* ('project', 3)
* ('strategy', 3)
* ('policies', 3)

Fibre materials and textiles can be a material of choice for the future. The realisation of this potential depends on Europe’s ability to achieve a critical mass of investments in RTD and on our ability to transfer research into innovations. Here Europe faces great challenges and therefore, there is a need to bridge the good intentions of the European Technology Platforms, the Lead Market Initiative and the reality of Europe’s textile research with an instrument that provides new structures and new resources. The foreseen instrument is the herewith proposed ERA-NET project CROSSTEXNET.  
  
CROSSTEXNET draws together 18 research funding agencies on regional and national level in a co-operation project aiming at “making more and smarter funding available to European textile research, on a permanent basis, by exploiting the potentials of international co-ordination and programming of research programmes.”  
  
CROSSTEXNET is distinguished to be an operative initiative supplying resources for cooperation. Its ambition is to transfer policy and strategy oriented documents to the level of beneficiaries, hereby providing a tool for implementation of research policies and strategies.  
  
The dominance of regional funding and policies, while fostering a triple helix between public authorities, RTO’s and companies, also creates fragmentation and duplication of efforts. To this regards, CROSSTEXNET will be instrumental in overcoming fragmentation of policies and funding by helping policy makers to benefit from the experiences of the main textile regions of Europe and further to develop coherent R&D funding systems in a joint strategy. On the basis of synergies and added value of transnational cooperation, the project partners will achieve critical outputs as a joint research programme, based on a joint strategy and four joint calls.  
  
Finally, CROSSTEXNET will lead to an increased understanding of research and new mindset as a pre-requisite for innovation and growth in the textile industry.

Coordinator: Région Nord-Pas de Calais from:FR

participant: Ministerum fur Wirtschaft, Mittelstand und Energie Nordhein-Westfalen

participant: REGIONE TOSCANA

participant: Unitatea Executiva pentru Finantarea Invatamantului Superior, a Cercetarii, Dezvoltarii si Inovarii

participant: TURKIYE BILIMSEL VE TEKNOLOJIK ARASTIRMA KURUMU

participant: BPIFRANCE FINANCEMENT SA

participant: REGIONE LOMBARDIA

participant: VENETO INNOVAZIONE SPA

participant: AGENTSCHAP VOOR INNOVATIE DOOR WETENSCHAP EN TECHNOLOGIE

participant: VASTRA GOTALANDS LANS LANDSTING

participant: INNtex Innovation Netzwerk Textil e.V.

participant: ONTWIKKELINGSMAATSCHAPPIJ OOST NEDERLAND NV

participant: MINISTRSTVO ZA VISOKO SOLSTVO, ZNANOST IN TEHNOLOGIJO

participant: Hradec Kralove Region

participant: REGION D ALSACE

participant: Finpiemonte S.p.A

# WASH&LOAD

Project title: Enabling an innovative and affordable multi-functionality loading service for functional protective clothing that leverage on the textile service companies while increasing safety for the operators

Start Date: 2011-10-01 End Date:2014-09-30

Most frequent returning words in objectives:

* ('process', 6)
* ('level', 4)
* ('WASH', 3)
* ('LOAD', 3)
* ('laundry', 3)
* ('system', 3)
* ('clothing', 2)
* ('protective', 2)
* ('textiles', 2)

'The WASH&LOAD project aim is to scientifically characterise latest achievements in science and technology for the development of Guidelines and Pre-normative research aimed at supporting the more than 20,000 SMEs involved in the functional clothing value chain in implementing cost-effective practices for reloading protective functionalities in protective clothing and bed linen textiles during life cycle, going beyond scattered attempts so far. Addressing this challenge goes beyond the capability of a single SME and requires a collective R&D effort lead by SME groupings and associations at European and national level.  
The new WASH&LOAD laundry system is based on a monitoring system controls the concentration of chemicals in the bath during the re-functionalisation process ensuring that the correct level of functionalisation is provided while avoiding waste; the refuctionalized garment is checked again after the process to assess the functionality level and validate the process. These elements provide the combination of a new product/process/service system, drastically extending the business model of the laundry business. The WASH&LOAD concept of a validated refunctionalisation of textiles is based on the point that the functionalisation is always kept at the optimal level, by adding just the right amount of functional agents; in this way the effectiveness is preserved through the whole life cycle without using excessive quantities of chemicals, hence better breathability of the garment and a reduction of waste.  
A preliminary analysis of the current laundry process has been made, identifying the steps where changes are needed to carry out the refuctionalisation process/service. In order to include the “in the process” re-functionalisation in the current process, it will need just a slight modification of existing machines, thus ensuring a wide exploitation potential of the proposed approach.'

Coordinator: RINA CONSULTING SPA from:IT

participant: VERBAND DER NORD-OSTDEUTSCHEN TEXTIL- UND BEKLEIDUNGSINDUSTRIE EV

participant: WSP SYSTEMS BV

participant: RF-iT Solutions GmbH

participant: DEUTSCHER TEXTILREINIGUNGS-VERBANDDTV EV

participant: FRANZ SCHAFER ETIKETTEN GMBH

participant: TEXCLUBTEC

participant: UNIVERSITEIT TWENTE

participant: LAVANS BV

participant: VARO LOGISTIC QUALITY SERVICE SRL

participant: FEDERATIE TEXTIELBEHEER NEDERLAND

participant: SAECHSISCHES TEXTILFORSCHUNGSINSTITUT E .V.

participant: IRIS-SW

participant: TECHNOLOGISCH KENNISCENTRUM TEXTIELVERZORGING

participant: C.I.N.E.T. (COMITE INTERNATIONAL DEL'ENTRETIEN DU TEXTILE) VERENIGING

# TRANS-SAHARA

Project title: Trans-SAHARA: State Formation, Migration and Trade in the Central Sahara (1000 BC - AD 1500)

Start Date: 2011-07-01 End Date:2017-06-30

Most frequent returning words in objectives:

* ('period', 3)
* ('Mediterranean', 3)
* ('Sub-Saharan', 3)
* ('Sahara', 3)
* ('Trans-Saharan', 3)
* ('contact', 3)
* ('evidence', 2)
* ('Islamic', 2)
* ('zone', 2)

Scholarly preoccupations and much of the available evidence have tended to emphasise the Islamic era as the historic time period when the Mediterranean seaboard was firmly and regularly connected with the Sub-Saharan zone across the Sahara. Recent research in southern Libya suggests that there was a significantly higher level of Trans-Saharan trade and contact in the pre-Islamic period than hitherto recognised. The existence of an early state, contemporary with the Roman Empire, in the Central Sahara can be demonstrated from the archaeological remains of the Garamantes of the Libyan region of Fazzan. Their technological sophistication in terms of irrigated agriculture, urban settlements, mastery of pyrotechnical processes and manufacturing achievements in textiles and beadmaking are all quite remarkable. It is already clear that their population comprised a mixture of Sub-Saharan and Mediterranean African types and there is indisputable evidence that they traded with both the Mediterranean and Sub-Saharan zones. This has profound implications for understanding the nature and effects of human contact in the Trans-Saharan zone. The grant is sought to allow the research programme in Fazzan to be taken to the next level of analysis, enabling explicit comparisons and contrasts to be drawn with contemporary societies to north and south of the Sahara. Key themes to be explored include trade, human migration, technological processes and transfers, urbanisation and state formation. Equally crucial, the chronological scope of the project will be extended into the Islamic period, in order to understand how things differed then from the earlier phases of Trans-Saharan contact.

Coordinator: UNIVERSITY OF LEICESTER from:UK

# ULTRAPROMAT

Project title: Design and fabrication of ultraviolet (UV) protective materials inspired by nature

Start Date: 2014-11-01 End Date:2016-10-31

Most frequent returning words in objectives:

* ('materials', 11)
* ('properties', 6)
* ('damages', 2)
* ('research', 2)
* ('protect', 2)
* ('systems', 2)
* ('impact', 2)
* ('polymers', 2)
* ('multifunctional', 2)

'The UV component of sunlight is an environmental deleterious factor to human health. It also impacts the lifetime of materials by affecting their properties, aesthetic appearance and durability. An important concern in society is the increased rate of UV damages due to the depletion of the stratospheric ozone layer and higher levels of UV-B and UV-A at the surface of Earth. The overall research objective of ULTRAPROMAT is the design and fabrication of novel materials inspired by Nature that exhibit a superior capacity to protect biological systems and materials against the negative impact of UV exposure. The UV-absorbing properties of natural substances called mycosporines and mycosporine-like amino acids will be exploited. These molecules will be grafted on green polymers (cellulose, chitosan, starch and collagen) that hold unique physico-chemical, mechanical and/or biological properties to obtain multifunctional materials with exceptional properties and applications in multiple sectors, e.g. the biomedical, cosmetic, food packaging, composite materials, textile and coating industries.  
The expected outputs are: 1. A series of multifunctional biomaterials that protect living systems and outdoor materials from UV damages; 2. A completely green approach avoiding chemical treatments and using enzymes and natural polymers for generating new materials; 3. A fundamental understanding of the physicochemical interactions and properties of the materials prepared through multidisciplinary approaches; 4. A map of the biological properties and compatibility of some key materials to be exploited in the biomedical area; 5. Publications in high impact journals and presentations at international meetings; 6. A platform on which the Fellow can build an internationally recognised research group in the developing area of bioinspired materials derived from renewable resources; 7. The establishment of a channel for technology transfer of innovative concepts and materials to industry.'

Coordinator: KUNGLIGA TEKNISKA HOEGSKOLAN from:SE

# NASLA

Project title: Nanostructured anti-septical coatings

Start Date: 2010-11-01 End Date:2012-10-31

Most frequent returning words in objectives:

* ('SMEs', 3)
* ('EASReth', 3)
* ('Aero', 3)
* ('Sekur', 3)
* ('products', 3)
* ('Alce', 2)
* ('Calidad', 2)
* ('Di.Pro', 2)
* ('properties', 2)

The aim of this project is to provide four EU SMEs (Alce Calidad, EASReth, Di.Pro. and Aero Sekur) with a new silver/silica based coating material having anti-septical properties superior to those existing on the market: the coating is made of silica glass and of silver nanoclusters which are embedded in the silica glass. Silica provides excellent thermal and mechanical properties to the coating. The technique used to deposit this coating (RF sputtering) is suitable to almost every kind of substrate (polymers, metals, glasses, etc.). Results will have a clear and immediate exploitation potential to improve or develop new products currently commercialized by the four SMEs : biomedical implants for DiPro, agro/food industry equipments for Alce Calidad and EASReth and personnel protective systems for Aero Sekur. As soon as the anti-septic functionality can be provided to SMEs products, the following new products will be directly put on the market: Di.Pro: new anti-septical artificial anus ALCE and EASReth: new anti-septical coating on surfaces to be used in food handling and processing; Aero Sekur: new anti-septical textiles for Personal Protection Systems (PPS).

Coordinator: POLITECNICO DI TORINO from:IT

participant: ALCE CALIDAD S.L.

participant: KUNGLIGA TEKNISKA HOEGSKOLAN

participant: DIPRO MEDICAL DEVICES S.r.l.

participant: ARESCOSMO S.P.A.

participant: ENOSI AGROTIKON SYNETERISMON RETHYMNIS (Union of Agricultural Cooperatives of Rethymno)

# NANOPLAT

Project title: Development of a Platform for Deliberative Processes on Nanotechnology in the European Consumer Market

Start Date: 2008-03-01 End Date:2009-08-31

Most frequent returning words in objectives:

* ('platform', 4)
* ('deliberative', 4)
* ('consumer', 4)
* ('processes', 3)
* ('products', 3)
* ('stakeholders', 3)
* ('Europe', 3)
* ('dialogue', 3)
* ('market', 2)

The main idea behind this Support action is to develop a platform for deliberative processes on Nano-science and Nano-technology (NS&T) in the European consumer market. Nanotechnology products are now reaching the consumer markets within a large number of branches. During the last year, the number of consumer products using nanotechnology has more than doubled, from 212 to 475. Clothing and cosmetics top the inventory at 77 and 75 products, respectively. We will concentrate on deliberative processes concerning human and environmental safety, ethical and moral dilemmas, and perceptions of risks and responsibilities as revealed through a focus on the market interfaces across the value chain of consumer goods. Consumers, citizens and their organisations could be the most important stakeholders in the diffusion process of nano-products in Europe and beyond. The main goal is to evaluate and stimulate the deliberate dialogue, and give scientific support to the stakeholders responsible for this dialogue. We will • Evaluate selected deliberative processes in Europe, both at the EU and national level. These evaluations will have a general NS&T perspective, with special focus on consumption • Identify the needs and interest of relevant stakeholders along this value chain, especially focusing on producers, consumers, NGOs and the civil society. • Develop a deliberative and science based platform for a stakeholder dialogue in Europe and beyond in this area. The main elements of the platform are: o a) the content, o b) the participants, o c) the physical and technical solutions and arenas and - at last o d) the responsibility for a permanent platform. • Formulate Recommendation for research and political actions. The work packages of the project will more or less mirror this structure. We will combine desk research, qualitative interviews and workshops to meet the challenges of these objectives.

Coordinator: STATENS INSTITUTT FOR FORBRUKSFORSKNING from:NO

participant: THE UNIVERSITY OF MANCHESTER from:UK

participant: INSTITUT FUR OKOLOGISCHE WIRTSCHAFTSFORSCHUNG GmbH -IOW from:DE

participant: KOZEP-EUROPAI EGYETEM from:HU

participant: SABANCI UNIVERSITESI from:TR

participant: STRATEGIC DESIGN SCENARIOS SPRL from:BE

# ALFALFAEVOLUTION

Project title: Adaptation and evolution of wild alfalfa: a genomic approach

Start Date: 2014-05-01 End Date:2016-04-30

Most frequent returning words in objectives:

* ('sativa', 5)
* ('species', 4)
* ('populations', 4)
* ('Medicago', 3)
* ('alfalfa', 2)
* ('human', 2)
* ('gene', 2)
* ('flow', 2)
* ('forces', 2)

The Eurasian genus Medicago is best known for the perennial species M. sativa (alfalfa). Alfalfa is the world’s oldest, most important, and most intensively studied fodder crop. There is huge promise for extending the importance of alfalfa well beyond its present primary use as a feed for livestock. This species has potential uses in several domains such as: pharmaceuticals, biodegradable plastics, biofuels, textiles, and human nourishing. Medicago sativa is a polymorphic species with a variation pattern that has been complicated by hybridization and gene flow, mediated naturally or by human forces. We aim to develop a new population genomic approach to disentangle complex processes such as population divergences, migration and hybridisation/introgression among intraspecific diploid populations in a spatial and temporal framework. Specifically, this project aim to: (i) determine the genetic structure within Medicago sativa in order to characterize discrete wild genetic pools (populations) of this economically important plant species; (ii) investigate the relationships among the distinct M. sativa populations and taxa; (iii) identify geographical origin of M. sativa intraspecific taxa and the forces driving their spread; and (iv) investigate ecological adaptation in wild populations connected by gene flow in order to establish a basis for future breeding programmes.

Coordinator: GOETEBORGS UNIVERSITET from:SE

# SMARTmicroCAPS

Project title: Supramolecular Architectures in Microcapsules through Microdroplet Production

Start Date: 2012-02-01 End Date:2013-05-31

Most frequent returning words in objectives:

* ('SMARTuCAPS', 7)
* ('markets', 4)
* ('technology', 4)
* ('project', 3)
* ('market', 3)
* ('towards', 3)
* ('proposal', 2)
* ('ASPiRe', 2)
* ('pre-commercialization', 2)

The objectives of the SMARTuCAPS proposal is to build upon an unexpected outcome from an ASPiRe project and verify that the idea has both market potential and capacity to be moved towards pre-commercialization. SMARTuCAPS are hollow capsules that are assembled from a highly novel supramolecular building block approach that uses a high-throughput manufacturing platform. SMARTuCAPS overcome the limitations of other microencapsulation technologies by combining simple fabrication and quantitative loading of a wide variety of encapsulated materials with a modular building method that yields tailored products with unparalleled functionality. Preliminary research suggests that SMARTuCAPS have an opportunity to add value within markets that include electronic displays, diagnostics, paints and coatings, oil and gas additives, carbonless paper, textiles, food industry, fragrance, pharma & medicine. The commercialization strategy for SMARTuCAPS is to identify suitable markets that are experiencing strong growth to find companies that may be interested in licensing the technology. Market analysis will combine a preliminary brainstorming workshop and technology development with strategy professionals to identify a broad range of potential applications. The SMARTuCAPS will then be subjected to a more rigorous market study using external consultants to make recommendations on the best markets and the way forward to pre-commercialisation. Technical validation and research will then quantify the physical properties required and further develop the technology towards the identified markets. The project will be managed by a team that is suitably qualified to execute the proposed activities and an external steering committee that is highly experienced in proof of concept projects. The work outlined in the SMARTuCAPS proposal will lead from outputs of the ASPiRe project, investigate the potential market opportunity, and strengthen the technology towards achieving pre-commercialization.

Coordinator: THE CHANCELLOR MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE from:UK

# Powerweave

Project title: Development of Textiles for Electrical Energy Generation and Storage

Start Date: 2012-06-01 End Date:2015-11-30

Most frequent returning words in objectives:

* ('fibres', 4)
* ('textile', 4)
* ('energy', 3)
* ('storage', 3)
* ('materials', 3)
* ('work', 3)
* ('project', 2)
* ('fabric', 2)
* ('power', 2)

This project will develop a fabric to harvest and store electrical energy within its fibrous matrix, to fulfill a need for an easily deformable, storable and transportable power supply.  
  
This will be achieved through the development of PV fibres and energy storage fibres integrated with control electronics into a textile. This unique approach, moving on from the current state of the art using rigid cell or film based PV materials and batteries, will allow development of large-area deformable products, including agricultural shading, automotive soft-tops, building facades, rollable shades, curtains and roofing, aerospace fabrics, and outdoor goods.  
  
The key challenges are:  
• Formulation of PV and energy storage materials to be applied as flexible thin coatings on monofilament fibres. SME materials suppliers Cyanine (PV dyes) and PPC (polymer coatings) will work with universities, EPFL (PV) and Brunel (storage) who are leaders in these fields.  
• Development and application of fibre spinning and coating methods to make the two multi-layer fibre types, followed by generation of a textile combining the two. Fibre and fabric manufacturers Sefar, CeNTI (SME) and VDS weaving (SME) will work with textile and coating experts, Centexbel and TWI.  
• Integration of the two fibres, requiring end preparation to reveal conductors, interconnect and micro-circuitry, followed by attachment to a load device. Materials joining and smart textile experts, TWI, Cetemmsa and Ohmatex (SME) will work on this.  
• Demonstration activities which will involve a small-scale autonomous airship by Lindstrand (SME), and agricultural textiles by BTF, both strong innovators in their fields.  
  
The 6 innovative SMEs, 2 LEs and the RTOs with extensive links in solar power, microsystems and textiles industries, are well placed to quickly exploit the project developments and provide extensive exposure of the ideas into a wide variety of markets requiring a continuous, fully autonomous and truly flexible pow

Coordinator: TWI LIMITED from:UK

participant: SEFAR AG

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: CENTITVC - CENTRO DE NANOTECNOLOGIA E MATERIAIS TECNICOS FUNCIONAIS E INTELIGENTES ASSOCIACAO

participant: ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE

participant: CYANINE TECHNOLOGIES SRL

participant: FUNDACION CETEMMSA

participant: PIANETA SRL

participant: Ohmatex ApS

participant: Peerless Plastics & Coatings Ltd

participant: BONAR TECHNICAL FABRICS NV

participant: Lindstrand Technologies Ltd

participant: BRUNEL UNIVERSITY LONDON

participant: FUNDACIO EURECAT

# PUMA

Project title: Development of a non-invasive and portable tissue viability measurement and intelligent actuation system for the prevention and early detection of Pressure Ulcer risk at Tetraplegic SCI users

Start Date: 2012-11-01 End Date:2015-01-31

Most frequent returning words in objectives:

* ('tissue', 5)
* ('viability', 4)
* ('T-SCI', 3)
* ('Million', 2)
* ('pain', 2)
* ('control', 2)
* ('health', 2)
* ('reduction', 2)
* ('PUMA', 2)

Wheelchair users (over 5 Million) are prone to develop Pressure Ulcers (PU), especially Tetraplegic Spinal Cord Injury (T-SCI, 114.000) as they do not dispose of the natural mechanisms for prevention. T-SCI lack of pain perception, motor control, reduced tissue viability and alterations on the ANS affecting basal tissue status and response (hyperemia).  
Suffering a PU affects negatively health, needing additional surgical interventions or longer recovery times, constituting even a deadly threat due infections; derive in social exclusion due to odours and pain; and reduce the time being able to spend sitting limiting independent living, leading all to a reduction of Quality of Life.  
Treating PUs cost €20 Billions per year to the EU Public Health System. Although, PU prognosis is excellent at early stages being 95% preventable, current solutions are not being effective as they rely on pressure reduction instead of tissue viability, do not consider user state, characteristics and context, and do not optimal combine current strategies.  
PUMA project aims to develop a novel portable and non-invasive system to prevent and early detect the risk of PU and reverts its onset, based on the control and improvement of tissue viability. Based on Real-time PU risk assessment, a combination of dynamic repositioning systems and Functional Electrical Stimulation will be optimally integrated, preserving tissue viability as well as increasing the resistance to PU development.  
As a result, the SMEs will strengthen their competitive position facing foreign competition, achieving a cumulative benefits of €24 Million 5 years post-project. PUMA project will count with the collaboration of RTDs on biomechanics, smart textiles and mechatronics; and the support of prescribers, distributors, retailers, T-SCI sufferers and relatives and health care professionals defining needs and requirements as well as product validation, ensuring to fulfil the expectations of end-users and market stakeholders.

Coordinator: QIMOVA AS from:DK

participant: FUNDACION HOSPITAL NACIONAL DE PARAPLEJICOS

participant: BERKEL BIKE BVBERKELBIKE PROMEKEN

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: SENSING TEX S.L.

participant: OSAUHING EESTI INNOVATSIOONI INSTITUUT

participant: INSTITUTO DE BIOMECANICA DE VALENCIA

# MACH-to

Project title: Industrial validation of Nu-Wave new generation of sustainable and efficient textile machinery and development of a strategy to enter the market

Start Date: 2012-08-01 End Date:2014-09-30

Most frequent returning words in objectives:

* ('Retrofit', 7)
* ('textile', 5)
* ('project', 4)
* ('machines', 3)
* ('market', 3)
* ('energy', 3)
* ('users', 3)
* ('results', 2)
* ('scale', 2)

Nu-Wave (FP7project 218479 Jan2009-Dec2011), supported textile machinery SMEs in developing a new generation of high-performance machines for facing the crisis and compete in the market with low labour cost countries (specially Far East). The MACH-to project starts on the basis of Nu-Wave results and aims at filling the gap that still separates them from the market.  
The Nu-Wave demonstrators were highly appreciated by technicians, researchers and journalists, as shown by the several expression of interest collected in ITMA fair–Barcelona 2011, by the Nu-Wave booth (H5-D116). Given such resonating results, the MACH-to project wants to scale up a Retrofit Kit that includes low-weight, low friction, long lasting components, that can be customized on a large number of textile machines. The Retrofit Kit is a chance for easily refurbishing old production lines and supporting textile industry in increasing the productivity and decrease the energy consumption.  
MACH-to first goal is to customize the concepts developed within the Nu-Wave project onto a full scale industrial machine (already used by the end users of MACH-to) and evaluate the performances increased: this will demonstrate the up-scalability of the Retrofit Kit. MACH-to project will also accompany the Retrofit Kit into the market, through the implementation of a marketing and after sales strategy.  
The MACH-to objectives:  
• To design and realize a set of Retrofit Kits;  
• To perform an intensive test campaign;  
• To finalize a business model.  
The innovations developed within Nu-Wave have shown to be potentially interesting for a very large community of end users (textile producers). The output of MACH-to will be a Retrofit Kit, customized for an increasing number of textile machines, that allow end users to quickly and effectively replace the components responsible of energy waste and losses in general. The MACH-to Retrofit Kit will definitely bring several advantages to the customers in terms of: energy saving, production speed increase, less maintenance, noise and vibration reduction and extension of machine specification.

Coordinator: INVENT INNOVATIVE VERBUNDWERKSTOFFEREALISATION UND VERMARKTUNG NEUERTECHNOLOGIEN GMBH\* from:DE

participant: SELCOM SRL

participant: RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

participant: RINA CONSULTING SPA

participant: COMEZ GESTIONI S.p.A.

participant: NAVETA CZ SRO

participant: ALGE ELASTIC GMBH

participant: COMAT S.R.L.

# TEMP

Project title: Textile Excellence in EU-MED Partners

Start Date: 2009-12-01 End Date:2012-11-30

Most frequent returning words in objectives:

* ('research', 4)
* ('countries', 3)
* ('project', 2)
* ('enhance', 2)
* ('field', 2)
* ('activities', 2)
* ('organizations', 2)
* ('transfer', 2)
* ('knowledge', 2)

The project main goal is to enhance the S&T cooperation in the Textile & Clothing field between Portugal, Italy and Tunisia by reinforcing strategic partnerships in this 3 research entities and 3 Innovation Promotion Associations. This will be achieved by combined actions and activities, such as: - Exchange and mobilization of human and material resources between partnering organizations; - Knowledge transfer in the field of water management; environment performance; scientific laboratorial analysis; IPR; and other S&T expertise areas; - Disseminating scientific information and knowledge as so as the results of S&T research; - Implementation of RTD past project results and best practices in the textile and clothing industry of the MED country and convergence region; -Provide technical assistance and training aspects to enhance the knowledge transfer; - Definition of specific S&T priorities in partners regions, creating a research agenda for the period of 2010-2013, with the objective of launching research projects in the 7FP. - Create a Contact Platform with other scientific fields of mutual interest and benefit like the shoes sector, trying to improve contacts in all the fashion industry of the partnering countries. The expected impact of these activities will be a better integration of EU and MED countries; improve S&T capacities in the MPC (Mediterranean Partner Country) country and convergence region helping the reinforcement of the regional economic and social development; create fruitful links between partners organization and further RTD organizations in the partnering countries.

Coordinator: CENTRO TECNOLOGICO DAS INDUSTRIAS TEXTIL E DO VESTUARIO DE PORTUGAL from:PT

participant: AGENCE DE PROMOTION DE L'INDUSTRIE ET DE L'INNOVATION- API

participant: ASSOCIACAO TEXTIL E VESTUARIO DE PORTUGAL

participant: NEXT TECHNOLOGY TECNOTESSILE SOCIETA NAZIONALE DI RICERCA R L

participant: TREVISO TECNOLOGIA - AZIENDA SPECIALE PER L'INNOVAZIONE DELLA CAMERA DI COMMERCIO DI TREVISO

# NANOBIOTOUCH

Project title: Nano-resolved multi-scale investigations of human tactile sensations and tissue engineered nanobiosensors

Start Date: 2010-01-01 End Date:2013-12-31

Most frequent returning words in objectives:

* ('human', 4)
* ('touch', 3)
* ('tissue', 2)
* ('participants', 2)
* ('mechanics', 2)
* ('skin', 2)
* ('information', 2)
* ('processing', 2)
* ('project', 2)

The main scientific aims are to radically improve understanding of the human mechanotransduction system and tissue engineered nanobiosensors. This will be achieved through systematic integration of new developments from converging scientific areas by involving academic and industrial participants who are experts in cognitive sciences, microneurography, brain imaging, cell biology and mechanics, tissue engineering, skin physics (tribology and mechanics), microengineering, multi-scale multi-physics modelling, information processing, robotics, prosthetics and medical rehabilitation. The project will build on existing discriminative touch research in order to understand affective touch mediated by the human fingerpad. Sensors capable of detecting directional force and temperature will be developed since a combination of these modalities is critical to the affective component of the neurophysiological response evoked in taction. This next generation of sensors will include NEMS arrays and hybrid bio-NEMS systems. They will be integrated into a robotic finger with articulation controlled by neural network information processing that will allow artificial exploration of a surface to be achieved in ways that mimic human haptic behaviour and affective response. The impact of the project will include alleviating the effects of human touch and vision disabilities, improving the quality of life, security printing, brand protection, smart packaging, space exploration and also the evaluation of products such as textiles and skin creams using the instrumented robotic finger. The consortium includes industrial participants who will undertake specific technical exploitation activities in order to maximise the commercial impact of the research.

Coordinator: THE UNIVERSITY OF BIRMINGHAM from:UK

participant: COURAGE + KHAZAKA ELECTRONIC GMBH

participant: SWANSEA UNIVERSITY

participant: ROCKFIELD SOFTWARE LIMITED

participant: Optaglio s.r.o.

participant: UNIVERSITE CATHOLIQUE DE LOUVAIN

participant: SCUOLA SUPERIORE DI STUDI UNIVERSITARI E DI PERFEZIONAMENTO SANT'ANNA

participant: C3M DOO, CENTER ZA RACUNALNISTVO VMEHANIKI KONTINUUMA - MODELIRANJE IN TRZENJE

participant: SCUOLA UNIVERSITARIA PROFESSIONALEDELLA SVIZZERA ITALIANA

participant: UNILEVER U.K. CENTRAL RESOURCES LIMITED

participant: GOETEBORGS UNIVERSITET

# CEREXPRO

Project title: Ceramic Heat exchangers with enhanced materials properties

Start Date: 2009-04-01 End Date:2013-03-31

Most frequent returning words in objectives:

* ('heat', 9)
* ('recovery', 3)
* ('temperature', 3)
* ('materials', 3)
* ('size', 3)
* ('process', 3)
* ('textile', 3)
* ('silicon', 3)
* ('level', 2)

Heat recovery at a high temperature level is essential in industrial thermal processing. The use of ceramic materials yields higher temperatures and subsequently a higher efficiency. The present project aims to develop a new generation of ceramic heat exchangers for high temperature heat recovery with the target of significantly reducing the size and weight as well as also the price of such components by simplifying the manufacturing process and allowing a higher flexibility in the heat exchanger geometry. The use of precursors/template materials taken from the textile industries and a subsequent ceramic conversion is proposed as the main technological path for reaching the above objectives. Although this principal option is not new, there are no development efforts known, to utilize such a technological approach for industrial high temperature heat exchangers. The proposed route will lead to an increase in freedom of the geometric design at low costs for shaping. The development/refinement of the conversion process for such materials into a thermal-shock resistant gas-tight ceramic (e.g. silicon infiltrated silicon carbide) and the multi-objective optimization in terms of size, geometry, material and production costs is the major challenge of the proposed project. A complete ceramic heat exchanger component shaped by textile technologies is targeted. The combination/junction of existing robust ceramic components already applied in industrial furnaces, like silicon infiltrated SiC tubes, with compatible ceramic heat enhancement elements, built through the textile technology based manufacturing process, allows a robust construction in terms of application safety as an intermediate technology development step. At the same time a significant size reduction or increase of the heat recovery level can be achieved due to the higher heat transfer by the fine shaped and geometrically flexible heat enhancement elements.

Coordinator: TECHNISCHE UNIVERSITAET BERGAKADEMIE FREIBERG from:DE

participant: Erbicol SA

participant: INSTITUT FRANCAIS DU TEXTILE ET DE L'HABILLEMENT

participant: AICHELIN Ges.m.b.H

participant: VDMA-Gesellschaft f. Forschung und Innovation GmbH

participant: POLITECNICO DI TORINO

participant: SCUOLA UNIVERSITARIA PROFESSIONALEDELLA SVIZZERA ITALIANA

# DEPHOTEX

Project title: Development of Photovoltaic Textiles based on novel fibres

Start Date: 2008-11-01 End Date:2011-10-31

Most frequent returning words in objectives:

* ('energy', 8)
* ('solar', 7)
* ('cells', 7)
* ('photovoltaic', 7)
* ('research', 5)
* ('textile', 5)
* ('development', 5)
* ('project', 4)
* ('textiles', 3)

The goal of the project is to research and develop textile solar cells in order to get flexible photovoltaic textiles based on novel fibres allowing taking benefit from the solar radiation so as to turn it into energy. Photovoltaic solar energy is being widely studied as one of the sources of renewable energy with major application potential, being considered a real alternative to fossil fuels. Since the development of first photovoltaic cells, solar energy is being an object of continuous research focused on improving the energy efficiency as well as the structure of photovoltaic cells. Last innovations on photovoltaic technology have allowed obtaining flexible solar cells which offer a wide range of possibilities, mainly in wearable applications that need autonomous systems. The present project is in line with last developments and the target is to research on the development of flexible and textile solar cells to obtain photovoltaic textiles, which offer a range of useful applications in a variety of consumer application sectors: home textiles, sports, leisure, clothing, automotive industry… For instance, solar tents and parasols with the capability of energy generation. The project research is based on the development of novel fibres with conductive properties as substrate of the structure of flexible photovoltaic cells. From the development of a conductive textile substrate, the project will focus on the research and deposition of different layers that will compose the structure of a textile photovoltaic cell. These cells will be developed with organic and inorganic semiconductive materials. The main technological innovation is based on the development of a wearable and flexible energy source directly on textile products. Fabrics with the capability of generation of clean, usable and wearable energy thanks to their sun exposure, offer a great added value.

Coordinator: FUNDACION CETEMMSA from:ES

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: BAYERISCHES ZENTRUM FUR ANGEWANDTEENERGIEFORSCHUNG ZAE EV

participant: CENTITVC - CENTRO DE NANOTECNOLOGIA E MATERIAIS TECNICOS FUNCIONAIS E INTELIGENTES ASSOCIACAO

participant: CENTRO RICERCHE FIAT SCPA

participant: ASOCIACION DE LA INDUSTRIA NAVARRA

participant: VYSOKE UCENI TECHNICKE V BRNE

participant: GRADO ZERO ESPACE SRL

participant: GREATCELL SOLAR SA

participant: TEXTEIS PENEDO SA

participant: FUNDACION CENER-CIEMAT

participant: NANOCYL SA

participant: JULIUS-MAXIMILIANS UNIVERSITAET WUERZBURG

# LEGIOTEX

Project title: Continuous bactericide water filtration for the prevention of Legionella contamination in large public and industrial facilities

Start Date: 2008-09-01 End Date:2010-11-30

Most frequent returning words in objectives:

* ('equipment', 5)
* ('facilities', 5)
* ('LegioTex', 4)
* ('Legionella', 4)
* ('climate', 4)
* ('control', 4)
* ('conditions', 3)
* ('systems', 3)
* ('SMEs', 3)

The aim of LegioTex is to develop a filter capable to inhibit the growth and proliferation of the bacteria belonging to the Legionella Pneumophila Family (responsible of the Legionnaire´s disease) in climate control equipment for large public and industrial facilities. For this purpose, environmental-friendly bactericides will be fixed onto nonwoven textiles assuring a long lasting biocide effect and optimum mechanical properties. Legionella is present in all aqueous media. However it becomes a threat for human health when appropriate conditions for its growth and proliferation are met, which frequently happens in large in-doors facilities using systems for climate control: cooling systems, sanitary water distribution equipment (tanks, boilers, heaters and pipes) and other equipment subject to similar conditions. All large public facilities need climate control equipment. The same happens in industrial facilities, where apart from human comfort, specific conditions are needed to prevent malfunctioning processes. During period 2003-2004, a total of 9.166 cases of legionnaire's disease were reported by 35 countries in the European continent. The overall mortality rate was 8,2%, increasing to a 40% for immunocompromised patients (i.e. in hospitals). Within this scenery, increasing regulation for the installation, operation and maintenance of climate control equipment for large facilities in relation to Legionella has lead to the requirement for more effective bactericide systems. LegioTex will be an opportunity for SMEs in the sector to improve their competitive position by developing an innovative product able to prevent Legionella outbreaks, which complies with applicable normative and minimizes installation and maintenance costs. LegioTex will also be an opportunity for SMEs in the textile sector, allowing for a high-tech application of nonwoven fabrics, and SMEs in the textile chemicals sector, by developing an environmental-friendly biocide for LegioTex.

Coordinator: LOGROTEX SA from:ES

participant: TEKNOLOGISK INSTITUTT AS

participant: ELKEDE TECHNOLOGY AND DESIGN CENTRE SA

participant: TECNOLOGIAS AVANZADAS INSPIRALIA SL

participant: IDRODEPURAZIONE

participant: TESSITURA STELLINI SNC DI VALENTINOSTELLINI & C

participant: MINERVA BIOLABS GMBH

# SAFE@SEA

Project title: Protective clothing for improved safety and performance in the fisheries

Start Date: 2009-10-01 End Date:2012-09-30

Most frequent returning words in objectives:

* ('developed', 5)
* ('safety', 4)
* ('integration', 4)
* ('materials', 4)
* ('systems', 3)
* ('clothing', 3)
* ('solutions', 3)
* ('development', 3)
* ('objective', 2)

Safe@Sea addresses the strategic objective to reduce the risk of injury in complex systems through advanced personal protective equipment.  
The main objective of Safe@Sea is to develop a new generation of advanced personal protective clothing for the fishing industry that will lead to a significant increase in safety without reducing work performance.  
Fishing is among the most dangerous of all professions. The concept behind Safe@Sea is to increase safety by implementing improved solutions for buoyancy, tear and puncture resistance, head and hand protection, emergency warning and positioning systems. This will be achieved by the integration of state of the art materials and ICT systems and the development of new high performance materials. An ergonomic design will be developed to solve the contradictory requirements of functionality, comfort and safety.  
Specifications will be developed (WP2) that provide input to concept development and prototyping (WP3) in close interaction with development and integration of materials (WP4) and integration of ICT solutions (WP5). The developed solutions, ergonomic design and usability will be thoroughly validated and tested (WP6). Manufacturing concepts, a standardisation strategy and roadmap for product maturing and market introduction will be developed (WP7). Demonstration of the technology developed and precommercial activities such as presentations of prototypes on exhibitions and trade fairs will take place in WP9. This will be supplemented by exploitation and dissemination activities (WP 8) and project management (WP1).  
The consortium consists of Ohmatex ApS, FOV Fabrics AB, SISYFOS AS, Grado Zero Espace SRL, International Safety Products Limited who are leading European SMEs that develop specialised fabrics, clothing and electronics. Helly Hansen Pro AS will be responsible for the end product of fishermen clothing. The industry partners are complemented by strong scientific expertise in materials research and integration technologies at Stiftelsen SINTEF, Tampere University of Technology, Swerea IVF AB, Centre Scientifiqe & Technique de L’Industrie Textile Belge, and FUNDACION LEIA CENTRO DE DESARROLLO TECNOLOGICO. The International Maritime Health Association provides close links to a user network and expertise in safety issues. The consortium is highly complimentary and has the necessary skills and facilities to achieve the objectives of the project.

Coordinator: STIFTELSEN SINTEF from:NO

participant: SWEREA IVF AB

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: HANSEN PROTECTION AS

participant: HELLY HANSEN AS

participant: TTY-SAATIO

participant: FUNDACION TECNALIA RESEARCH & INNOVATION

participant: International Maritime Health Association

participant: GRADO ZERO ESPACE SRL

participant: Ohmatex ApS

participant: Oy B Huhta Ab

participant: International Safety Products Limited

participant: SISYFOS AS

# STAYCOOL

Project title: Lightweight, long endurance body cooling for fire fighters

Start Date: 2011-01-01 End Date:2012-12-31

Most frequent returning words in objectives:

* ('fire', 12)
* ('fighters', 5)
* ('StayCool', 5)
* ('heat', 4)
* ('system', 4)
* ('risk', 3)
* ('time', 3)
* ('manufacture', 3)
* ('fight', 2)

There are about 500 000 professional fire fighters in the European Union (EU). When called to fight fires they can be exposed to high levels of heat stress, which results in decreased physical performance and even heat exhaustion. If a fire fighter succumbs to heat exhaustion he requires rescuing and this then exposes other fire fighters and the public to increased risk. In order to reduce the risk of heat stress, the firefighters are limited to the time they can be at the fire which increases the number of fire fighters needed to fight a fire and this reduces efficiency and introduces complication into the communications between the crews fighting the fire. The StayCool project will develop and prototype a novel system for cooling the body that is light weight, has low energy consumption and so can be worn for prolonged periods of time. Wearing the StayCool system will reduce the wearers core temperature and allow fire fighters to stay at the fire for greater periods of time and so improve the efficiency of fighting the fire, extinguishing the fire quicker and so reduce risk of loss of life and damage to property. The StayCool partnership is ideally placed to develop and exploit this technology having expertise in protective clothing design and manufacture, physiological and human factors testing, mathematical and thermodynamic modeling, access to rapid prototyping and manufacture facilities and the ability to design for manufacture to ensure the StayCool system can be fully exploited. The StayCool system is primarily aimed at a launch market for fire fighters but there e are a number of applications where humans need to work in high ambient temperatures. Additional markets for this technology and associated products include industrial plant operators, miners, underground maintenance, nuclear decommissioning, general policing in hot climates, policing in protective equipment and for use in extreme sports.

Coordinator: NORTH WEST TEXTILES NETWORK LIMITED from:UK

participant: EVA COMMERCE LTD

participant: QINETIQ LIMITED

participant: CENTRO TESSILE COTONIERO E ABBIGLIAMENTO SPA

participant: MAKATEC GMBH

participant: TECNOLOGIAS AVANZADAS INSPIRALIA SL

# SHOPINSTANTSHOE

Project title: Development of a cost-effective footwear based on shape memory materials to provide an instant fitting personalization service at the retail shop for enhancing user’s comfort

Start Date: 2009-12-01 End Date:2012-02-29

Most frequent returning words in objectives:

* ('footwear', 9)
* ('women', 4)
* ('fitting', 4)
* ('shape', 4)
* ('memory', 4)
* ('foot', 3)
* ('morphometry', 2)
* ('comfort', 2)
* ('materials', 2)

Foot diseases are recognised as a wide societal problem and the large majority of people affected are women. The hallux valgus (commonly known as bunion) is the most frequent foot deformation affecting one every five women in adult age. This pathology along with others such as hammertoes, claw toes, metatarsalgies and ingrown nails take place at the forefoot and are mainly caused by the prolonged use of inadequate footwear (due to the mismatch between foot morphometry and footwear). Women fashionable footwear aesthetic constraints demand a more accurate fitting to guarantee footwear functionality and comfort. But differences in human foot morphometry between subjects make really difficult providing an appropriate fitting to each single user, and make women footwear especially uncomfortable and unhealthy. In addition to this, the European footwear industry must identify, assimilate and exploit new technologies to remain competitive as well as develop new concepts, targeting higher added value applications in high tech areas such as materials and composites. For these reasons, the main objective of this proposal is the development of a novel, ergonomic, customizable and fashionable women footwear upper and an innovative service providing customers with personalization of the shoe fitting at the retail shop. Furthermore new biomechanical and fitting customization criteria will be developed in order to improve the comfort of footwear as well as a new leather-based composite material including shape memory alloys. To achieve these objectives three research works will be carried out focused on biomechanics and materials & composites fields. As exploitable results of the project a shape memory alloy filament, a shape memory smart textile, a shape memory leather composite, a new personalization shop tool and a new customizable footwear upper.

Coordinator: INSTITUTO DE BIOMECANICA DE VALENCIA from:ES

participant: CALZAMEDI S.L.

participant: NIMESIS TECHNOLOGY

participant: INDUSTRIAS DEL CURTIDO S.A.

participant: THE UK MATERIALS TECHNOLOGY RESEARCH INSTITUTE LIMITED

participant: CALZADOS ANATOMICOS CALANA S.L

participant: MDB TEXINOV SAS

# LION-TEX

Project title: Innovative Industrial Process for printing Lenticular Images Directly on Textiles with Jetting Technology for safety (protective clothing) application

Start Date: 2010-10-01 End Date:2012-09-30

Most frequent returning words in objectives:

* ('workers', 5)
* ('visibility', 5)
* ('personnel', 3)
* ('lenticular', 3)
* ('vehicle', 2)
* ('crews', 2)
* ('parking', 2)
* ('traffic', 2)
* ('equipment', 2)

In Europe 16 Million workers operate in low visibility environments, including roadway construction personnel and vehicle operators, utility workers, survey crews, emergency responders, railway workers and accident site investigators, school crossing guards, parking and toll gate personnel, airport ground crews and law enforcement personnel directing traffic, parking service attendants, workers in warehouses with equipment traffic, shopping cart retrievers, sidewalk maintenance workers, and delivery vehicle drivers, to name a few. Statistics report that every year 6000 are injured by vehicles or human operated equipment, because of a lack of visibility, specially in night time operations. To address this issue and minimise accidents, the EU launched directives 89/656/EEC and 89/686/EEC, which oblige employers to make available high visibility clothes to their employees. State-of-the-Art solutions consist in applying reflective material stripes onto the garment surface. Lion-tex suggests an innovative product for high visibility garments, which exploits the lenticular effect. In the project three objectives are defined: first of all to develop a portfolio of innovative 3D lenticular effects, that will be exploited on 3D surfaces (like textiles) instead of flat substrates; second objective is to develop an industrial plotter for textiles that allows, all at once, the printing of interlaced images made of reflective and fluorescent ink and the deposition of resins through a jetting device for constructing the lenticular layer; finally a new set of high visibility garments will be prototyped, demonstrating not only the higher efficiency of this product in protection, but also the lower cost, with respect to the state of the art, for a stronger SMEs competitiveness.

Coordinator: RINA CONSULTING SPA from:IT

participant: N. BENASEDO SPA

participant: INSTYTUT OPTYKI STOSOWANEJ

participant: VOGUE SERVICES SA

participant: RIDAN SP ZOO

# PROSPIE

Project title: Protective Responsive Outer Shell for People in Industrial Environments

Start Date: 2009-12-01 End Date:2012-11-30

Most frequent returning words in objectives:

* ('work', 7)
* ('wear', 4)
* ('workers', 4)
* ('project', 3)
* ('system', 3)
* ('worker', 3)
* ('safety', 3)
* ('Prospie', 2)
* ('generation', 2)

In the Prospie project a new generation of work wear will be developed and produced. Special features of the work wear will be a dynamic cooling system in order to prevent workers from hyperthermia, smart interfaces for measuring essential physical parameters of workers and their work place and the data processing resulting in the swift identification of (potential) dangerous situations. The data processing will be based on algorithms which take personal aspects of the worker into consideration. When critical limits are exeeded, the worker will be alerted by (tactile) actuators. In case there is no reaction, rescue workers will be alerted. The personal safety system provided by the work wear will become an integrated part of industrial safety systems. In the project much attention will be paid to the safety of the worker, the comfort of the work wear(thermo-physiological and ergonomic) , the reliability of the smart functions, the production technology, care and maintenance, training of users and potential buyers (public procurement) and standardization issues concerning this new generation of PPE. The Prospie-project will support the EU in realizing the goals set in the EU-leadmarket initiative on protective clothing and strenghten the position of the EU-textile and clothing industry. Most important however is the expected reduction of work related accidents through the early warning system in potential dangerous situations, resulting in a substantial reduction of accidents related absence from work, disturbance in production processes and the increased productivity of workers in (hot) industrial environments. It is expected that the results of the Prospie project can be transferred to other sectors like first responders (fire men police, para-medicals), sports and healthcare for elderly and patients in nursing houses

Coordinator: NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO from:NL

participant: PALEMONO KERAMIKA AB

participant: I.CO.P. SPA

participant: HUManikin GmbH

participant: JSC PAKAITA

participant: BEL-CONFECT SA

participant: Henk Vanhoutte Consulting

participant: RINA CONSULTING SPA

participant: ErgonSim Inh. Dusan Fiala

participant: LOUGHBOROUGH UNIVERSITY

participant: IFAK SYSTEM GMBH

participant: Merford Cabins B.V.

participant: FORITAS

participant: EIDGENOSSISCHE MATERIALPRUFUNGS- UND FORSCHUNGSANSTALT

participant: Capzo International BV

# NU-WAVE

Project title: Leveraging on new knowledge and latest advances in science & technology to allow large communities of EU textile machinery SMEs to innovate their products & keep EU leadership in added value textiles

Start Date: 2009-01-01 End Date:2011-12-31

Most frequent returning words in objectives:

* ('textile', 8)
* ('machines', 6)
* ('manufacturing', 3)
* ('Textile', 3)
* ('Europe', 2)
* ('become', 2)
* ('manufacturers', 2)
* ('SMEs', 2)
* ('result', 2)

Although Europe keeps the world-wide leadership in the textile market, Far East has become a major manufacturing area. This situation opened new perspectives in fast growing markets for the European manufacturers of textile machines, 95% of which are SMEs. However, as today textile machines mainly consist of established electro-mechanical systems the advantages were only of short duration. An intensive effort of the manufacturers of textile machines in Asian countries in introducing the production of cheaper textile machines comparable in output but incomparable in price has started. As a result, Far-East has become the first applicant in the world as far as the number of patents on new machines and equipment for textile manufacturing is concerned, almost filling the gap with Europe. This represents a major threat for European textile machinery SMEs, their competitiveness and knowledge base. To address this challenge in 2006 MANUTEX has been jointly launched by the European Technology Platform for Manufacturing (Manufuture) and the European Textile Technology Platform in order to realise closer collaboration in pre-competitive research and development at European level between the Textile and related Machinery Industries. In such a scenario, the NU-WAVE project represents an ambitious R&amp;D programme between the European Textile Association EURATEX and VDMA/ACIMIT as National SME AGs representing 60% of textile machine manufacturing in EU-27, grouping the main stakeholders in the above mentioned MANUTEX initiative and key RTD players in the relevant knowledge areas. Advanced web-services provided by SME AGs will result from the project to support in the design of a new generation of flexible and high-performance machines.

Coordinator: RINA CONSULTING SPA from:IT

participant: INDUSTRIEVERBAND GARNE GEWEBE TECHNISCHE TEXTILIEN EV

participant: RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

participant: VERBAND DEUTSCHER MASCHINEN- UND ANLAGENBAU (VDMA)

participant: ASSOCIAZIONE COSTRUTTORI ITALIANI DI MACCHINARIO PER L'INDUSTRIA TESSILE\*ACIMIT

participant: Forschungskuratorium Textil e.V.

participant: GIUSSANI S.R.L.

participant: COMEZ GESTIONI S.p.A.

participant: INVENT INNOVATIVE VERBUNDWERKSTOFFEREALISATION UND VERMARKTUNG NEUERTECHNOLOGIEN GMBH\*

participant: ASOCIACE TEXTILNIHO-ODEVNIHO KOZEDELNEHO PRUMYSLU

participant: NAVETA CZ SRO

participant: EUROPEAN APPAREL AND TEXTILE CONFEDERATION

# HARKEN

Project title: Heart and respiration in-car embedded nonintrusive sensors

Start Date: 2012-06-01 End Date:2014-05-31

Most frequent returning words in objectives:

* ('fatigue', 5)
* ('safety', 3)
* ('materials', 3)
* ('create', 3)
* ('problem', 2)
* ('detectors', 2)
* ('project', 2)
* ('SMEs', 2)
* ('vehicle', 2)

'Road accidents are a major safety problem in developed countries, and fatigue is one of the critical factors. In-vehicle fatigue detectors can reduce this problem, saving 4,000 lives and preventing tens of thousand injuries every year in the EU, which in economical terms would imply annual savings of €7 Billion. For this reason, automotive OEM and TIER 1 are striving to achieve good solutions for automatic fatigue detection, but current approaches have strong limitations, because they lack the direct information about drivers’ physiological variables, which are critical for a successful evaluation of their state.  
This project gathers a consortium of SMEs that produce vehicle components (seat cover textiles and safety belts), smart materials, and sensors for biomonitoring, who will create a product to address that need. They will join their experience to create a nonintrusive sensor system of heart and respiration with smart materials, embedded in the seat cover and the safety belt of a car. This device will detect the effect of heart and respiration activity, filter and cancel the noise and artefacts expected in a moving vehicle, and calculate the relevant parameters, which will be delivered in a readable format to integrate it in a fatigue detector. The achievement of this objective will require to perform a research to develop new sensing materials, and create a signal processing unit to filter and process the data.  
This project will provide the SMEs with new, high technology products to sell in their sectors, and will help them to enter or improve their position in the automotive market, with a new device that will enable the creation of reliable fatigue detectors.'

Coordinator: BORGSTENA GROUP PORTUGAL LDA from:PT

participant: THE UNIVERSITY OF MANCHESTER

participant: SENSING TEX S.L.

participant: OSAUHING EESTI INNOVATSIOONI INSTITUUT

participant: INSTITUTO DE BIOMECANICA DE VALENCIA

participant: FICOMIRRORS SA

participant: PLUX - WIRELESS BIOSIGNALS S.A.

# PHOCAM

Project title: Photopolymer based customized additive manufacturing technologies

Start Date: 2010-06-01 End Date:2013-05-31

Most frequent returning words in objectives:

* ('light', 4)
* ('project', 3)
* ('chain', 3)
* ('process', 3)
* ('manufacturing', 2)
* ('parts', 2)
* ('quality', 2)
* ('field', 2)
* ('time', 2)

Lithography based additive manufacturing technologies (AMT) are capable of fabricating parts with excellent surface quality, good feature resolution and precision. With recent developments in the field of ultra-short-pulse lasers and light engines based on light emitting diodes, robust and economical light sources have become available. This project aims at developing integrated lithography-based additive manufacturing systems which will, for the first time, facilitate the processing of photopolymer-based materials for the factory of the future. The focus of the project is to unite industrial know-how in the field of supply chain management, software development, photopolymers and ceramics, high-performance light-sources, system integration and end-users in order to provide a fully integrated process chain at the end of the project. The consortium will rely on two core-technologies: (1) Digital light processing (DLP) based processes will be used to process ceramic-filled photopolymers, leading to fully dense ceramic parts at the end of the process chain. (2) Two photon polymerization (2PP) will be used to fabricate high-resolution structures with features in the range of 100-200nm. Both processes will be tuned to reduce system cost, and significantly increase throughput and reliability at the same time. Goal is to deliver &apos;first-time-right&apos; strategies for the involved end-users. This necessitates the development of supply chains with integrated quality sensors. Targeted applications include thread guides for textile machinery, ceramic moulds for the fabrication of high-performance turbine blades and microstructures for computer tomography equipment.

Coordinator: TECHNISCHE UNIVERSITAET WIEN from:AT

participant: IN-VISION DIGITAL IMAGING OPTICS GMBH

participant: DESKARTES OY

participant: EMIL BROLL GMBH & CO

participant: LZH LASER ZENTRUM HANNOVER E.V.

participant: SIEMENS AKTIENGESELLSCHAFT

# BUILDING UP

Project title: Multi-stakeholder, Cross-sectorial, Collaborative long term Research & Innovation Road Map to overcome Technological and Non-technological barriers towards more energy-efficient buildings & districts

Start Date: 2011-05-01 End Date:2012-10-31

Most frequent returning words in objectives:

* ('Platform', 5)
* ('initiatives', 3)
* ('Technology', 3)
* ('ETPs', 2)
* ('term', 2)
* ('research', 2)
* ('Textile', 2)
* ('relevant', 2)
* ('public', 2)

The strategic objective of BUILDING UP project is to create an effective coordination of ETPs and major initiatives whose SRAs and activities address energy efficiency in the built environment from an NMP perspective, to identify and review the needs in terms of long term research and innovation. To achieve this, six ETPs, namely ECTP (European Construction Technology Platform), Suschem (Sustainable Chemicals), EUMAT (European Advanced Material Platform), Textile ETP (European Technology Platform for the Future of Textile and Clothing), ESTEP (European Steel Platform), FTP (Forest Technology Platform), including their national platforms, have joined forces with other relevant initiatives such as the ERANET ERACOBUILD in order to build a collaboration framework which, pioneered in this CSA under the NMP theme, will be an effective demonstrator to draw guidelines and policy recommendations for the engagement of the public and private sectors in the area of Energy Efficient buildings, preparing the ground for any future implementation beyond 2013 through relevant European and National public and private (industrial) research initiatives. Indeed the main differentiator of this Coordination Action versus the running EeB PPP is that we are targeting a much long term scenario well beyond 2013, outside the scope of the European Economic Recovery Plan.  
Addressing COMMON NEEDS AND CHALLENGES will pave the way towards the development of radically new products and services enabled by NMP technologies while ensuring that all the necessary bottlenecks and gaps at technological, non-technological and programme level are properly addressed for enhanced sustainability, competitiveness and employment, the key socio-economic challenges for a knowledge based and “eco-innovative” society in the 21st century.

Coordinator: CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT from:FR

participant: STEINBEIS INNOVATION GGMBH

participant: OSTERREICHISCHE GESELLSCHAFT FUR UMWELT UND TECHNIK

participant: Forest-Based Sector Technology Platform

participant: INSTYTUT TECHNIKI BUDOWLANEJ

participant: RINA CONSULTING SPA

participant: TATA STEEL UK LIMITED

participant: EUROPEAN CONSTRUCTION, BUILT ENVIRONMENT AND ENERGY EFFICIENT BUILDINGS TECHNOLOGY PLATFORM

participant: EUROPEAN APPAREL AND TEXTILE CONFEDERATION

participant: CRANFIELD UNIVERSITY

# WIOD

Project title: World Input-Output Database: Construction and Applications

Start Date: 2009-05-01 End Date:2012-04-30

Most frequent returning words in objectives:

* ('database', 5)
* ('policy', 4)
* ('project', 4)
* ('data', 4)
* ('trade', 3)
* ('tables', 3)
* ('internationalization', 3)
* ('applications', 3)
* ('products', 2)

How has the increase in Chinese exports of textile products affected the employment of low skilled workers in German retail trade? What would be the effects of a change in the European Union’s agricultural policy on global CO2 emissions? Economic and environmental policies are designed at a detailed level of industries and products, while production is characterized by an interdependent structure. Due to globalization, these interdependencies cross borders and the inclusion of trade is more than ever essential. Analyzing policy issues therefore requires an all-encompassing database. Its construction is at the heart of this project and the following three aspects are crucial. • Input-output (IO) tables provide a description of the interdependent production structure. Taking the reach of internationalization into full consideration requires a worldwide set of national IO tables (covering at least 80% of world GDP) that are fully linked through bilateral trade data. • Taking the dynamics of internationalization into account requires a time series (1995-2006) of such linked IO tables, in current and constant international prices. • Taking the effects of internationalization into consideration requires that other relevant information is appended. These so-called satellite accounts include labor data for different skill types, investment flows, and environmental and resources data. The first part of the project constructs such a unique database. The second part of the project applies the database to analyze the international interaction of socio-economic and environmental objectives from a policy perspective. These are applications that use the database by directly employing IO and econometric techniques, and applications that use large-scale models that employ the database. The project builds on several previous, EU-sponsored projects and is carried out by Europe’s leading experts in IO theory, data construction, interindustry models, and policy applications.

Coordinator: RIJKSUNIVERSITEIT GRONINGEN from:NL

participant: CENTRALE RECHERCHE SA

participant: HOCHSCHULE KONSTANZ TECHNIK WIRTSCHAFT UND GESTALTUNG

participant: THE CONFERENCE BOARD INC

participant: ZENTRUM FUER EUROPAEISCHE WIRTSCHAFTSFORSCHUNG GmbH

participant: MINISTERIE VAN ECONOMISCHE ZAKEN EN KLIMAAT

participant: WIENER INSTITUT FUR INTERNATIONALE WIRTSCHAFTSVERGLEICHE

participant: INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS

participant: OSTERREICHISCHES INSTITUT FUR WIRTSCHAFTSFORSCHUNG VEREIN

# PASSAGE

Project title: PASSAGE

Start Date: 2008-12-01 End Date:2011-11-30

Most frequent returning words in objectives:

* ('know-how', 5)
* ('SMEs', 3)
* ('manage', 2)
* ('platform', 2)
* ('competence', 2)
* ('method', 2)
* ('guidelines', 2)
* ('shortages', 2)
* ('methodology', 2)

The PASSAGE project aims to develop a “Capability Management Platform” providing Textile and clothing industrial associations with a set of validated products and services enabling their affiliated SMEs to efficiently manage the existing know-how and skills together with new competences taking the technological evolution into consideration. The objective of the platform is to make knowledge-based web-services available to the SMEs, taking a holistic view on the whole supply chain, to diagnose, forecast and manage know-how and competence needs. Such a platform will offer a method, tools and related guidelines dedicated to the diagnostic of future critical know-how shortages and the definition of preventive actions to face them based on an anticipative human resource management methodology including: - An integrated methodology and related product-service for anticipating new/future know-how required to master technological evolutions. - A method and related guidelines dedicated to the diagnostic of the critical know-how detained by SMEs in a given Region/Job/Work position/Competence and enabling the anticipation of possible competence shortages (illness, retirement…).

Coordinator: TEXCLUBTEC from:IT

participant: ATHENS TECHNOLOGY CENTER ANONYMI BIOMICHANIKI EMPORIKI KAI TECHNIKI ETAIREIA EFARMOGON YPSILIS TECHNOLOGIAS

participant: MASSELOS SA

participant: SOL-TEC SOLUZIONI TECNOLOGICHE

participant: INSTITUT FRANCAIS DU TEXTILE ET DE L'HABILLEMENT

participant: Sarl Textile du Maine

participant: GROUPEMENT DES INDUSTRIES DE LA REGION CHOLETAISE

participant: ETAIREIA TECHNOLOGIKIS ANAPTIXIS KL OSTOUFANTOURGIAS ENDYSIS KAI INON A E

participant: SYNDESMOS EPICHEIRISEON PLEKTIKIS-ETOIMOU ENDYMATOS KAI SYNAFON KLADONELLADOS - (HELLENIC FASHION INDUSTRY ASSOCIATION)

participant: ASOCIATIA PATRONILOR SI MESERIASILOR CLUJ

participant: RALIANT SRL

participant: CHAMBER OF COMMERCE AND INDUSTRY VRATSA SDRUZHENIE

participant: Fashion Agency Mirage LTD (Modna Agenciq Miraj ODD)

# SANOWORK

Project title: Safe Nano Worker Exposure Scenarios

Start Date: 2012-03-01 End Date:2015-02-28

Most frequent returning words in objectives:

* ('exposure', 10)
* ('risk', 6)
* ('strategies', 4)
* ('assessment', 3)
* ('order', 3)
* ('strategy', 3)
* ('Sanowork', 2)
* ('scenario', 2)
* ('nanomaterials', 2)

The main goal of Sanowork project is to identify a safe occupational exposure scenario by exposure  
assessment in real conditions and at all stages of nanomaterials (NM) production, use and disposal.  
In order to address this and more specifically the issues introduced by NMP.2011.1.3-2 call, we intend to:  
1. contain hazard and worker exposure potential by developing exposure mitigation strategy based on  
‘‘Prevention through Design’’ approach.  
2. implement a rigorous exposure assessment in the workplace in order to evaluate the effectiveness of existing and proposed exposure reduction strategies.  
3. perform risk analysis off line and on site in order to identify substance product properties and operational condition that ensure a safer worker exposure scenario.  
4. Assess COST/ EFFICIENCY of the proposed strategies on the basis of risk analysis results, materials/properties efficiency, risk transfer to insurance underwriter community.  
The Sanowork proposed risk remediation strategy will be applied to nanomaterial properties. The following  
“representative” pool of NM and nanoproducts have been selected: TiO2 and Ag (ceramic or textile  
photocatalytic/antibacterial surfaces); CNTs (polymeric nanocomposites); organic/inorganic nanofibers  
(nanostructured membranes for water depuration system). The strategy is addressed to mitigate risk by  
decreasing adverse health hazard and emission potential of nanomaterials, setting back processes of transport  
to the point of entry.  
A sound balance between exposure and health hazards data, before and after the introduction of existing and  
proposed risk remediation strategies, will allow to evaluate the effectiveness of existing and proposed exposure reduction strategies. The cooperation with industrial key partners such as Plasmachem, Elmarco, GEA Niro, Colorobbia,Bayer will guarantee an accurate exposure assessment in the workplace.

Coordinator: CONSIGLIO NAZIONALE DELLE RICERCHE from:IT

participant: UNIVERSITA DEGLI STUDI DI PARMA

participant: INSTITUT NATIONAL DE L ENVIRONNEMENT ET DES RISQUES INERIS

participant: ISTITUTO NAZIONALE ASSICURAZIONE INFORTUNI SUL LAVORO INAIL

participant: BAYER TECHNOLOGY SERVICES GMBH

participant: ELMARCO SRO

participant: INSTITUTE OF OCCUPATIONAL MEDICINE

participant: UNIVERSITY OF LIMERICK

participant: PLASMACHEM PRODUKTIONS- UND HANDEL GMBH

participant: UNIVERSITA DI PISA

participant: COLOROBBIA ITALIA SPA

participant: ACONDICIONAMIENTO TARRASENSE ASSOCIACION

# I-PROTECT

Project title: Intelligent PPE system for personnel in high risk and complex environments

Start Date: 2009-10-01 End Date:2013-09-30

Most frequent returning words in objectives:

* ('project', 5)
* ('system', 3)
* ('temperature', 2)
* ('injuries', 2)
* ('target', 2)
* ('integrate', 2)
* ('materials', 2)
* ('safety', 2)
* ('development', 2)

The main objective of the 4-year project is to develop intelligent personal protective equipment (PPE) system that will ensure active protection and information support for personnel in high risk and complex environments, in particular chemical rescue teams, firefighters and mine rescuers, who are exposed to fire, explosions, high temperature, dangerous substances, limited visibility, high humidity and limitation of breathable air. These high-level risks are reflected in a significant number of injuries and fatalities reported in the target sectors. The S&amp;T objectives of the project are: - to integrate, within the new PPE system, state-of-the-art materials, active textiles, optical fibre sensors, gas and temperature detectors, ICT - to develop new materials (based on nanotechnology) and integrate them into PPE elements in order to enhance multi-functionality and adaptability; - to assure ergonomic design of new PPE and validate its functionality, safety, comfort and performance level by usability tests in real working conditions. The project is divided into 4 phases: 1) Conceptualization; 2) Technical development and integration, 3) Verification and validation; and 4) Dissemination and exploitation. The consortium consists of 16 partners from 6 countries: 5 RTDs, 8 SMEs, 2 industrial companies and 1 non-profit organisation. Three partners representing target groups participate in the whole project to guarantee full adaptation of the PPE system to users&apos; needs. The project will have an impact on: the reduction of occupational injuries and disease in the EU (the population of end-users estimated at 3-5 mln.); European regulations (PPE Directive) and harmonised EN standards; European leadership in PPE-related research and innovation; the growth of European PPE market and the development of ERA in the area of industrial safety.

Coordinator: CENTRALNY INSTYTUT OCHRONY PRACY - PANSTWOWY INSTYTUT BADAWCZY from:PL

participant: FUNDACION TECNALIA RESEARCH & INNOVATION

participant: INSTYTUT TECHNIKI GORNICZEJ KOMAG

participant: Orneule Oy

participant: SAFIBRA SRO

participant: CENTRALNA STACJA RATOWNICTWA GORNICZEGO

participant: VEREINIGUNG ZUR FORDERUNG DES DEUTSCHEN BRANDSCHUTZES

participant: POLSKI KONCERN NAFTOWY ORLEN SA

participant: ARESCOSMO S.P.A.

participant: INSTITUTO DE BIOMECANICA DE VALENCIA

participant: BUNDESANSTALT FUER MATERIALFORSCHUNG UND -PRUEFUNG

participant: COLOROBBIA ITALIA SPA

participant: Coalesenses GmbH

participant: neoVision Slawomir Zwolenik

participant: SPERIAN RESPIRATORY PROTECTION FRANCE

# HEISTT

Project title: High Efficiency In Situ Treatment Technology for Contaminated Groundwater

Start Date: 2010-10-01 End Date:2013-09-30

Most frequent returning words in objectives:

* ('chemicals', 3)
* ('HEISTT', 2)
* ('installation', 2)
* ('treatment', 2)
* ('remediation', 2)
* ('process', 2)
* ('geotextile', 2)
* ('release', 2)
* ('compounds', 2)

The proposed HEISTT solution is the rapid installation of groundwater treatment chemicals as an insitu subsurface remediation technique, brought about by the use of ultrasonic assisted injection technology to create a closely spaced grid of single treatment small diameter wells to a depth of 20m. As part of the boreholing process, remediation chemicals will be introduced in to the ground contained within a geotextile sock. Diffusion of the chemicals (oxygen release compounds, hydrogen release compounds, zero-valent iron or chemical oxidants) occurs through the permeable geotextile material. Injection target cycle time will be = 5 mins from hole to hole at 1m spacing. The spacing of these boreholes will be decided by the concentration of contaminant and the required rate of clean-up. This whole system will be passive, i.e. requiring no energy to function after installation or operator maintenance. A range of equipment options are envisaged, from simple attachments for existing excavation plant � which will be the primary focus of HEISTT , enabling rapid take up of the process by SMEs due to the affordability of retrofit - through to dedicated bespoke machinery.

Coordinator: TURKIYE BILIMSEL VE TEKNOLOJIK ARASTIRMA KURUMU from:TR

participant: Dawson Construction Plant Ltd

participant: TECHNOSAM SRL

participant: AFITEX SAS

participant: Maves LTD

participant: Regenesis UK Ltd

participant: THE UK HEALTH & ENVIRONMENT RESEARCH INSTITUTE

participant: THE EUROPEAN COMMITTEE OF ENVIRONMENTAL TECHNOLOGY SUPPLIERS ASSOCIATION AISBL

participant: Conseil Européen de l'Industrie Chimique

participant: I.D.E.A. SRL Tecnologie Ambientali

participant: Contaminated Land: Applications In Real Environments

# NOTEREFIGA

Project title: Novel Temperature Regulating Fibres and Garments

Start Date: 2009-01-01 End Date:2012-12-31

Most frequent returning words in objectives:

* ('fibres', 5)
* ('temperature', 4)
* ('textile', 4)
* ('thermal', 4)
* ('project', 3)
* ('products', 3)
* ('heat', 3)
* ('clothing', 3)
* ('novel', 2)

The objective of the project is to develop novel temperature regulating fibres and innovative textile products for thermal management, selected by the SME segment of the textile industry in Europe. The temperature regulating effect is achieved by novel methods of incorporating large amounts of phase changing materials (PCM) in textile fibres. When the body temperature increases, the PCM melts and absorbs the heat from the body in the form of latent heat. Then, when the temperature drops, the PCM crystallizes and the stored heat is released again. Clothes with built-in thermo-regulating properties provide maintained thermal comfort in difficult thermal environment and physical activity situations, without putting on or taking off clothes. Such smart clothing would reduce discomfort caused by accumulation of sweat/moisture in the clothing, and also shivering during varying activity levels and ambient conditions. The innovative concepts to be developed will outperform presently available materials for thermal management in garments. The concept is based on two main ideas. One idea is based on processing concepts that rely on compounding/mixing steps to provide suitable rheological properties of complex mixtures of polymers and PCMs followed by bi-component melt spinning to fibres with a core/sheath structure confining the PCM to the core. New bio-based (PLA) and conventional synthetic polymers for fibres (PP, PET, PA) are here addressed. The second idea is based on a new concept for incorporating PCMs in wet spun cellulose fibres based on direct addition of free PCM to a cellulose solution. A large and intense part of the project will be devoted to product related research, lead by the SMEs in the project. In particular, specific, value-added products are targeted within underwear, sports, leisure and home textiles. The work will aid in the transformation of the European textile and clothing industry from commodities into specific, value-added high-tech products.

Coordinator: SWEREA IVF AB from:SE

participant: DEVOLD OF NORWAY AS

participant: ULLFROTTE AB

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: STIFTELSEN SINTEF

participant: THURINGISCHES INSTITUT FUR TEXTIL-UND KUNSTSTOFF-FORSCHUNG RUDOLSTADTEV

participant: TTY-SAATIO

participant: SMART FIBER AG

participant: INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE PENTRU TEXTILE SI PIELARIE

participant: LUXILON INDUSTRIES NV

participant: GOTECH SRL

participant: ADDCOMP HOLLAND BV

participant: PREDILNICA LITIJA DOO

participant: FOV FABRICS AB

# MICRO-DRESS

Project title: Customised Wearable Functionality and Eco-Materials – Extending the limits of Apparel Mass customisation

Start Date: 2010-09-01 End Date:2013-08-31

Most frequent returning words in objectives:

* ('garment', 4)
* ('chain', 4)
* ('model', 3)
* ('Development', 3)
* ('eco-certification', 3)
* ('supply', 3)
* ('project', 2)
* ('customisation', 2)
* ('micro-factories', 2)

The Micro-Dress project aims to extend the limits of feasible garment customisation for men’s, and ladies’ garments, to include for the first time user-configurable wearable functionality, as well as user-selectable degree of material eco-friendliness. The challenges related to both added value aspects will be researched in order to prove these concepts within a pragmatic framework based on two distinct business/supply chain models: i) Extension of existing mass customisation model of an International Brand (Ermenegildo Zegna), ii) Expansion of an innovative mass-customisation model (micro-factories), targeting innovative SMEs. The Objectives are: - Development and deployment of direct-write rapid manufacturing techniques for the production of portable garment integrated microelectronics components. - Derivation of eco-efficiency and eco-logistics related prediction algorithms and web-tools enabling user configurable eco-certification, based on materials and processes information along the supply chain (yarn to garment). - Development of a new biosensor-based screening test which can revolutionise the process of consumer health related garment components screening (fabrics, accessories, etc). - Development of an e-supply chain management platform to model the sourcing of e-devices and the concept of configurable eco-certification along the two supply chains (vertical brand chain, supply network of micro-factories). The platform will be built on the principle of Software as a Service, to maximise it’s exploitation potential. The results will be demonstrated by two pilots, one focussing on the user configurable eco-certification, the second on the customisable attachment of safety e-devices. The project brings together a multidisciplinary Consortium of 9 partners, of which 5 are SMEs, two are prominent EU Institutes and two are leading Textile and Clothing Groups.

Coordinator: ATHENS TECHNOLOGY CENTER ANONYMI BIOMICHANIKI EMPORIKI KAI TECHNIKI ETAIREIA EFARMOGON YPSILIS TECHNOLOGIAS from:EL

participant: ARDEJE SARL

participant: INSTITUT FRANCAIS DU TEXTILE ET DE L'HABILLEMENT

participant: IN.CO INDUSTRIA CONFEZIONI SPA

participant: DEUTSCHES FORSCHUNGSZENTRUM FUR KUNSTLICHE INTELLIGENZ GMBH

participant: Lanificio di Tollegno S.p.A.

participant: UNICATUM GmbH

participant: MODERN TESTING SERVICES (GERMANY) GMBH

participant: TEKNOLOGIAN TUTKIMUSKESKUS VTT

# PLASTIVAL

Project title: RTD-based Cluster iniciative to target future challenges of the Valencia plastic processing industry

Start Date: 2009-01-01 End Date:2010-12-31

Most frequent returning words in objectives:

* ('industry', 8)
* ('plastic', 7)
* ('processing', 6)
* ('cluster', 4)
* ('creation', 3)
* ('actors', 3)
* ('challenges', 2)
* ('development', 2)
* ('Region', 2)

The plastic processing industry faces many challenges, although the use of plastics grows with new opportunities and applications To take advantage, SMEs have to innovate and diversify their business offer. Clusters assist this process by joining technical centres to monitor technological development, and suppliers of equipment and materials to improve competitiveness. The plastic processing industry in the Valencian Region supplies to a large number of industries such as the toy, footwear and textile sectors who face the same issues; fierce competition forces these industries to invest heavily to develop new and innovative products and processes, compete on an international level and with more high-tech companies. The creation of a research driven cluster would enable dialogue between different actors, transfer good practice and common strategy development. Besides, the plastic processing industry requires little initial capital, is labour-intensive and is not tied to a particular location unlike the plastic production industry. It is an industry to develop and stabilise economies and create local jobs. The Valencia regional government has announced full support and willingness to coordinate the creation of the cluster. The objective of the project is to unite the main regional actors of the plastic processing industry to develop specific actions which will drive to the creation of a RTD-based cluster, to target and face the future challenges of the Valencian plastic processing industry. Specific objectives are: - To elaborate a regional RTD roadmap for the years 2008-2012 - To identify potential specific RTD projects, taking into account environmental aspects related to the reduction of CO2 emissions - To create the operational framework for the cluster - To guarantee its financial sustainability This will provide the starting point for a sustainable collaboration between the different actors of the plastic processing industry in the Valencian Region.

Coordinator: INSTITUTO VALENCIANO DE LA COMPETITIVIDAD EMPRESARIAL from:ES

participant: UNIVERSIDAD DE ALICANTE

participant: SABIC Innovative Plastics Ibérica, S.A

participant: AIMPLAS - ASOCIACION DE INVESTIGACION DE MATERIALES PLASTICOS Y CONEXAS

participant: ASOCIACION DE INVESTIGACION DE LA INDUSTRIA DEL JUGUETE, CONEXAS Y AFINES

participant: CERVIC S.A.

participant: ASOCIACION VALENCIANA DE EMPRESARIOS DE PLASTICOS - AVEP

participant: UNIVERSITAT POLITECNICA DE VALENCIA

participant: ASOCIACION DE INVESTIGACION DE LAS INDUSTRIAS METALMECANICAS, AFINES Y CONEXAS

participant: Avenida Plastics, S.A

# SUSY

Project title: Surfacing System for Ship Recovery

Start Date: 2009-09-01 End Date:2013-02-28

Most frequent returning words in objectives:

* ('rescue', 5)
* ('technology', 5)
* ('systems', 5)
* ('system', 4)
* ('ships', 4)
* ('process', 4)
* ('pressure', 4)
* ('SUSY', 3)
* ('scenarios', 3)

The propagation of spillages is one of the biggest environmental problems after a ship disaster. Instead of cleaning the dirty areas the SUSY system will avoid the spillages by stabilizing vessels immediately after an accident. The main goal of the project is the development of well known submarine rescue technology into systems usable for merchant ships in emergency situations. The systems for submarines are based on satellite booster technology with liquid or solid fuel to blow water out of the ballast tanks in very short time to provide additional buoyancy to stop e.g. an uncontrolled diving process.  
Combining this technology with air pressure systems and balloon technology to create a multi purpose modular system for ship rescue purposes is the SuSY project target. Therefore the booster technology combined with pressure air technologies has to be adapted to the salvage procedure requirements. In combination with new balloon textiles a secure vessel stabilisation process as well as the salvage process will be supported.  
Different application scenarios / concepts can be envisaged: (1) preventive installation of rescue systems on ships with hazardous cargo, (2) equipment for coast guard and rescue squads to quickly stabilize capsized ships and (3) equipment for teams to lift sunken ships.  
The technical challenges for SUSY where research is needed to develop the envisaged systems are  
-developing a hydro-dynamical and a thermo-dynamical model as basis for a controlled process for the different possible scenarios  
-developing a safety and secure buoyancy generating system based on liquid, solid fuel and air pressure,  
-find the right material to cope with the pressure the temperature and the dynamic loads of a rescue scenario  
-define a life-cycle cost model to assure the design of a low cost modular system  
-simulate the different scenarios to provide input for the design optimisation  
Finally SUSY will build a prototype to proof the concept in real sea tests.

Coordinator: BMT GROUP LTD from:UK

participant: NATIONAL TECHNICAL UNIVERSITY OF ATHENS - NTUA

participant: HELLENIC CENTRE FOR MARINE RESEARCH

participant: BUREAU VERITAS - REGISTRE INTERNATIONAL DE CLASSIFICATION DE NAVIRES ET D'AERONEFS

participant: NAVAL GROUP

participant: DSB DEUTSCHE SCHLAUCHBOOT

participant: BALANCE TECHNOLOGY CONSULTING GMBH

participant: AIRBUS DS GMBH

# COTTONBLEACH

Project title: Improved Novel Eco-Friendly Bleaching System for Cotton Using Enzyme and Ultrasound Processes

Start Date: 2010-01-01 End Date:2012-12-31

Most frequent returning words in objectives:

* ('bleaching', 7)
* ('technology', 6)
* ('textile', 4)
* ('CottonBleach', 3)
* ('textiles', 2)
* ('toxic', 2)
* ('cost', 2)
* ('development', 2)
* ('cotton', 2)

Cotton textiles --the main natural-fibre textile used worldwide-- undergo a toxic and costly bleaching process that weighs heavily on the quality, cost and environmental impact of textile manufacture. CottonBleach proposes the development of an improved cotton bleaching technology, more respectful with the textiles and the environment, to improve the competitive edge of European textile SMEs. Current bleaching methods use hydrogen peroxide (H2O2) and sodium hypochlorite (NaClO, aka bleach), resulting in fabric damage, formation of toxic by-products and large amounts of water and energy to remove these chemicals. The proposed CottonBleach technology offers a non-toxic Totally Chlorine Free (TCF) bleaching technology using a combination of sequential enzymatic techniques enhanced through the use of ultrasound technology. This innovative technology will maintain the natural strength of the cotton fibre, providing significantly improved bleaching effectiveness with minimal fibre damage. The scientific objective of CottonBleach is to further investigate the use of ultrasound-enhanced enzymatic bleaching on an industrial scale of development, as manifested by recently published economic analysis which consider the use of enzymes as “cost effective for textile mills to adopt”. This proposal also fulfils the objectives of FP7 collective research in that it will expand the knowledge base of large communities of SMEs and develop innovative technology that has potential applications in the broader bleaching industry.

Coordinator: TECHNISCHE UNIVERSITAET GRAZ from:AT

participant: ASSOCIACAO TEXTIL E VESTUARIO DE PORTUGAL

participant: ACATEL - ACABAMENTOS TEXTEIS S.A.

participant: ASOCIACION INDUSTRIAL TEXTIL DE PROCESO ALGODONERO

participant: FISA IBERICA SL

participant: ASOCIACE TEXTILNIHO-ODEVNIHO KOZEDELNEHO PRUMYSLU

participant: ATEKNEA SOLUTIONS CATALONIA, SA

participant: ASSOCIACAO UNIVERSIDADE EMPRESA PARA DESENVOLVIMENTO TECMINHO

participant: UTC Umweltlabor GMBH

# ACCEPT

Project title: ADVANCED CO2 CLEANING AS AN ECOLOGICAL PROCESS TECHNOLOGY

Start Date: 2008-09-01 End Date:2010-11-30

Most frequent returning words in objectives:

* ('cleaning', 8)
* ('solvents', 4)
* ('hygienic', 4)
* ('fine', 3)
* ('parts', 3)
* ('soils', 3)
* ('materials', 3)
* ('research', 3)
* ('textiles', 2)

The cleaning of pliable (textiles and leathers) and hard surfaces (medical devices, medical implants and fine metal parts) requires solvents to remove dirt and soils before the materials can be (re-)used in their final applications. These solvents can be organic solvents (halogena-ted and non-halogenated hydrocarbons) for a-polar soils or water with chemicals for polar soils. Each type of liquid has environmental and hygienic drawbacks. The cleaning and hygienic efficiency of these is not sufficient as small amounts of residual cleaning agents and/or soil impair the quality of the cleaned surface. The (non) halogenated hydrocarbon and aqueous systems can be replaced by liquid carbon dioxide (LCO2) as a clean, hygienic and environmentally sound solvent. LCO2 has shortcomings and needs improvement of its cleaning performance and quantification of its disinfecting/sterilisation potential. Project ACCEPT investigates the use of LCO2 with respect to cleaning effectiveness and hygiene ability on pliable and hard surfaces (textiles, leathers, medical devices, implants and fine metal parts). The research continues earlier laboratory and pilot research, but will expand this to full scale industrial sized LCO2 cleaning units. In order to remove surface residuals, a CO2-precision cleaning step is required for fine parts. The earlier research will be extended to other hygienically demanding materials to be cleaned. The project further improves LCO2 for cleaning and hygienic quality of these materials. This will lead to replacement of (non) halogenated hydrocarbon solvents such as hazardous perc and toxic trichloroethene. The LCO2 is non-toxic, non-flammable, has disinfecting/sterilising properties, is produced as an off-gas in almost pure form in the oil refining and ammonia production, causes no ground-water contamination, and is very sustainable and environmental friendly

Coordinator: Chemische Fabrik Kreussler & Co GmbH from:DE

participant: PROMIKRON BV

participant: KYMI RENS IS - LARS PORSMOSE

participant: SMP GMBH - PRUEFEN VALIDIEREN FORSCHEN

participant: FRED BUTLER SWEDEN AKTIEBOLAG

participant: INSTRUCLEAN GMBH

participant: WFK FORSCHUNGSINSTITUT FUR REINIGUNGSTECHNOLOGIE AN DER FACHHOCHSCHULENIEDERRHEIN EV

participant: HYBETA GMBH

participant: ETIQUETTE FORMAL HIRE LIMITED

participant: UNIVERZA V MARIBORU

participant: AMSONIC AG

# NAPOLYNET

Project title: Setting up research intensive clusters across the EU on characterization of polymer nanostructures

Start Date: 2008-04-01 End Date:2011-03-31

Most frequent returning words in objectives:

* ('polymer', 7)
* ('characterization', 6)
* ('project', 3)
* ('materials', 3)
* ('nanostructures', 3)
* ('activities', 3)
* ('NaPolyNet', 2)
* ('partners', 2)
* ('field', 2)

NaPolyNet is a 36-month project involving 16 partners from 10 European countries. The objectives are: 1. to network at regional, national and international level with experts on the characterization of polymer nanostructured materials in the field of packaging, textiles and membranes, bridging the gap between scientific and engineering approaches for the improved understanding of the structure-performance correlation in polymer devices; 2. to facilitate transnational access to important and unique equipment and to train young scientists and SMEs technologists; 3. to harmonize the work necessary for new standards in the field of characterization of polymer nanostructures for packaging, textiles and membranes. NaPolyNet will also focus on latest findings for managing the safety implications of polymer nanostructure along the life-cycle of those products. The activities are grouped into 7 work-packages (WP): After setting up the procedures for managing the project (WP1), the team will map the competences in the different fields of characterization of polymer nanostructures and will set up an European Open Laboratory (EOL) open to outside the consortium partners (WP2) incorporating the best and novel characterization methodologies and expertises. The EOL will be the base of the demonstration activities planned in WP3 and for the activities reported in WP4 that aims at making soon available experimental and theoretical strategies and routines in developing stage at the EOL location. This will allow average trained users of equipment for thermal, structural, morphological, mechanical characterization to produce reliable data on nanostructured materials and correctly interpret them. An International Workshop is planned on processing-structure-dynamics and properties of polymer nanostructures (WP5) in order to further support development and design of intrinsically safe nanomaterials. WP6 is completely dedicated to harmonize the work for preparation of new standards for polymeric nanomaterials characterization. WP7 aims at disseminating, knowledge-transfer and reporting with the purpose of giving the project a significant impact beyond the consortium participants and contributing to overcome barriers to the industrial application of polymer nanostructured materials especially in SMEs.

Coordinator: CONSIGLIO NAZIONALE DELLE RICERCHE from:IT

participant: SOPRALAB SAS

participant: INSTITUTUL DE CHIMIE MACROMOLECULARA PETRU PONI

participant: INOTEX SPOL SRO

participant: GVS S.P.A.

participant: THE UNIVERSITY OF READING

participant: NATIONAL TECHNICAL UNIVERSITY OF ATHENS - NTUA

participant: NANOBIOMATTERS SL

participant: UNIVERSITA DEGLI STUDI DI NAPOLI FEDERICO II.

participant: DIN DEUTSCHES INSTITUT FUER NORMUNG E.V.

participant: CENTRAL LABORATORY OF PHYSICO-CHEMICAL MECHANICS AT BULGARIAN ACADEMY OF SCIENCES

participant: ST MARY'S UNIVERSITY COLLEGE TWICKENHAM

participant: SCITE BV

participant: UNIVERZITA KARLOVA

participant: UNIVERSITAET ROSTOCK

# SERVIVE

Project title: SERVice Oriented Intelligent Value Adding nEtwork for Clothing-SMEs embarking in Mass-Customisation

Start Date: 2008-09-01 End Date:2011-08-31

Most frequent returning words in objectives:

* ('concept', 5)
* ('production', 4)
* ('services', 3)
* ('configuration', 3)
* ('items', 2)
* ('networked', 2)
* ('preferences', 2)
* ('customer', 2)
* ('consumers', 2)

SERVIVE net proposes the enlargement of the assortment of customizable clothing items currently on offer, the enhancement of all co-design aspects (functionality and fun) and the development and testing of a new production model based on decentralized networked SME cells.The Servive net will not only seamlessly link critical Mass-Customisation (MC) enabling services, but more important it will adapt these services to the specific needs and preferences of well-defined target customer groups. It will also enable all necessary interactions of customers with value-chain actors in transparent ways, thus enabling and encouraging the active participation of end consumers in the configuration of the customised items. The selected product configuration will in turn influence the production scenario (see the extended Micro-Factory concept below). Central to this scenario is the concept of Virtual Customer Advisor (VCA), which, depending on the profile of the customer will recommend the optimum product configuration, based either on style preferences (Style Advisor), functional requirements (e.g. for protective clothing/ sportswear) or body morphology and physical disability or problem figure related issues. On the upstream part of the chain, the Servive net will introduce the innovative organisational concept of the Networked Micro-Factory, directly linked to the concept of User-centred Production Configuration. The MF concept promotes the idea of decentralized production close to retailers and consumers (proximity advantage). MFs can range from networked small size but high-tech MC production sites, to sites equipped with automatic knitting machines, or even semi-automatic 3D assembly centres (single-ply cutter \ sewing robots). Knowledge-based web services will relate to style expertise, human body expertise and data, material and specific manufacturing knowledge.

Coordinator: ATHENS TECHNOLOGY CENTER ANONYMI BIOMICHANIKI EMPORIKI KAI TECHNIKI ETAIREIA EFARMOGON YPSILIS TECHNOLOGIAS from:EL

participant: Matteo Dosso GmbH & Co. KG

participant: CUSTOMAX BV

participant: INSTITUT FRANCAIS DU TEXTILE ET DE L'HABILLEMENT

participant: UNIVERSITE DE GENEVE

participant: SILVA & SISTELO-FABRICO E VENDA DECONFECCOES SA

participant: DEMETRA SAS DI CARLO GIUSEPPE BIANCHINI E C. SAS

participant: RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

participant: DIGITAL HUMANS SARL

participant: HOHENSTEIN INSTITUT FUR TEXTILINNOVATION EV BONNIGHEIM

participant: THE UNIVERSITY OF THE ARTS LONDON

participant: TEAM COLOURS LIMITED

participant: ADIDAS AG

participant: LOTT CHRISTIAN EDGAR - UNICATUM

participant: "NATIONAL CENTER FOR SCIENTIFIC RESEARCH ""DEMOKRITOS"""

participant: THE NOTTINGHAM TRENT UNIVERSITY

# PROCOTEX

Project title: Products of coated textiles

Start Date: 2010-08-01 End Date:2012-07-31

Most frequent returning words in objectives:

* ('research', 4)
* ('technologies', 4)
* ('products', 4)
* ('researchers', 3)
* ('build', 2)
* ('PROCOTEX', 2)
* ('consortium', 2)
* ('partners', 2)
* ('South', 2)

In our world today we require the ability deal fairly with global challenges. This can be achieved by opening up of research systems and a free movement of researchers and technologies to accelerate collaboration and to build up strong partnerships. These requirements are also the aim of the 2 years lasting PROCOTEX project. By building up and strengthening an international research network in smart textiles, innovative products based on the consortium´s common technology platform will be developed. Above that PROCOTEX targets on the valorization of these products. Within the consortium, which is made up by 3 partners coming from Belgium, Greece and South Africa, different surface modification technologies as well as expertise in electrospinning are available. These technologies will be spread among the partners by defining 3 different teams of researchers. Each team consists of 4 researchers, 2 being from South Africa, 2 being from the European countries. The available technologies build the basis for the development of 3 prototype products, on each one a team will focus: (1) textile fibre with transistor properties as on-off switch for textile sensors (2) sensor for nitric oxide (NO) detection (3) air filter for dedicated filtration of NOx. In order to be successful the work plan foresees a coherent set of actions within the different workpackages which is mutually transferred by research trainings, courses and workshops. Knowledge and research skills available within the consortium are complimentary and ensure the contribution of each partner to the joint development of the products.

Coordinator: UNIVERSITEIT GENT from:BE

# NANOMOF

Project title: Nanoporous Metal-Organic Frameworks for production

Start Date: 2009-06-01 End Date:2013-05-31

Most frequent returning words in objectives:

* ('MOFs', 7)
* ('products', 5)
* ('gases', 4)
* ('materials', 3)
* ('processes', 3)
* ('integration', 3)
* ('discovery', 2)
* ('impact', 2)
* ('pollution', 2)

The discovery of porous hybrid materials constructed from inorganic nodes and organic multifunctional linkers has established a new area of inorganic-organic hybrids (Metal-Organic Frameworks, MOFs) with extraordinary performance as compared to traditional porous solids such as zeolites and activated carbon. “NanoMOF” will focus beyond discovery and integrate MOFs into products with industrial impact within a strong cooperation of established MOF research institutions and industrial end users. The extraordinary properties of MOFs are expected to lead to a significant ecologic and economic impact in three areas: 1) Clean air, pollution, and toxicity risks of gaseous chemicals are environmental concerns with specific materials needs for selective adsorption in porous materials and advanced filter systems. Industrial feed gases and exhaust gases require a high purity to ensure durable processes and avoid pollution. The integration of MOFs into textile products will be used to develop air permeable personal protective clothing. For industrial and house-hold fuel cell reformer units novel MOF-based sulphur removal systems will be developed. 2) Safe delivery of highly toxic electronic grade gases (etching gases, dopants) is crucial for tool operation in semiconductor and solar industry. 3) Catalysis is an ecologically relevant and economically attractive technology. The replacement of liquid acids by solid state catalysts avoids the production of toxic liquid waste. MOF catalysts for (trans)esterification processes are designed for the conversion of fatty acids and triglycerides into valuable products for the oleochemical industry. The integration of MOFs into industrial relevant processes and products is supported by advanced modelling, simulation and process monitoring techniques. The project aims for a higher integration of MOFs into products with a high added value in order to propel Europe into an internationally leading position in the industrial use of MOFs.

Coordinator: FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V. from:DE

participant: NORAFIN INDUSTRIES (GERMANY) GMBH

participant: STIFTELSEN SINTEF

participant: Blücher GmbH

participant: UNIVERSIDAD DE GRANADA

participant: OUVRY SAS

participant: NORAFIN GMBH IN LIQUIDATION

participant: TDL SENSORS LTD

participant: BEN-GURION UNIVERSITY OF THE NEGEV

participant: SOCIETA ITALIANA ACETILENE E DERIVATI SPA

participant: UNIVERSITA DEGLI STUDI DI TORINO

participant: OLEON NV

participant: hollomet Gesellschaft mit beschrankter Haftung

participant: INNOVATEXT TEXTILIPARI MUSZAKI FEJLESZTO ES VIZSGALO INTEZET RT

participant: CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS

participant: KATHOLIEKE UNIVERSITEIT LEUVEN

participant: JOHNSON MATTHEY PLC

# PROSYS-LASER

Project title: Intelligent personal protective clothing for the use with high-power hand-held laser processing devices

Start Date: 2009-12-01 End Date:2012-11-30

Most frequent returning words in objectives:

* ('laser', 10)
* ('passive', 3)
* ('market', 3)
* ('project', 3)
* ('developments', 3)
* ('technology', 3)
* ('textiles', 3)
* ('industry', 3)
* ('hand-held', 2)

Prosys-Laser is dedicated to develop highly innovative “passive” and “active” laser protective clothing for the use with hand-held laser processing devices (HLD), which are not available on the market today. Major project objectives are: a) Open new markets for high performance PPE and its testing, especially enforcing participating SME to widen their product range and directly benefit from project developments and prototypes. b) Sustain the growth of laser technology by providing means for the safe use of innovative developments such as hand-held laser devices for material processing and high power lasers with high brightness. c) Minimize health risks for operators of HLDs and consequently reduce the number of related accidents. d) Initiate and contribute to standardizing process regarding laser PPE and its testing procedures. The project combines successfully innovative laser technology with high performance textile technology. This is also reflected in the consortium containing 9 SME, which represents a goal-orientated combination of different competences and skills. Key developments are: a) Passive functional multi-layer technical textiles, providing a high level of passive laser resistance. b) Active functional multi-layer textiles incorporating sensors which detect laser exposure and, by means of a safety control, deactivate the laser beam automatically. c) Test methods and testing set-ups to qualify passive and active functional technical textiles and tailored PPE (e.g. gloves), respectively. Major impacts can be expected on the Lead Market Initiative: a) Create new high-performance PPE products for highly innovative laser industry and reach the goal of approx. 50% increase in PPE industry revenues in Europe. b) Increase HLD use and therefore EU productivity regarding the HLD market by more than 50%. c) Reduce accidents and society costs. d) Strengthen the market by standardization activities. e) Enhance a high-tech, knowledge-based industry driven by SME.

Coordinator: LZH LASER ZENTRUM HANNOVER E.V. from:DE

participant: CIM-MES PROJEKT SP ZOO

participant: TTI TECHNISCHE TEXTILIEN INTERNATIONAL GMBH

participant: CSEM CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA - RECHERCHE ET DEVELOPPEMENT

participant: JUTEC Hitzeschutz & Isoliertechnik GmbH

participant: GRADO ZERO ESPACE SRL

participant: SAECHSISCHES TEXTILFORSCHUNGSINSTITUT E .V.

participant: Trans Textil GmbH

participant: LASER on demand GmbH

participant: SMARTEX S.R.L.

participant: Clean-Lasersysteme GmbH

participant: PROLAS GMBH

participant: PROMAT N.V.

# NANOBOND

Project title: Integration of emerging soft nanotechnology into the functionalisation of textiles

Start Date: 2009-09-01 End Date:2012-08-31

Most frequent returning words in objectives:

* ('development', 3)
* ('contamination', 2)
* ('articles', 2)
* ('textiles', 2)
* ('performance', 2)
* ('health', 2)
* ('release', 2)
* ('properties', 2)
* ('consumer', 2)

One key area of the European textile industry is the technical development of products and processes for reducing contamination and the removal of stains of all kinds from manufactured articles, including textiles. To a large part this is necessary for keeping up performance and function, often for health reasons, although sometimes this is for purely aesthetic effects. Thus, easy-to-clean, soil release and antimicrobial properties are linked aspects that are of great importance such: health and avoidance of cross-contamination in medical textiles; improvement in comfort and freshness in consumer apparel; reduction of spoilage or wastage during storage and transport; increase useful lifetime of articles. These benefits further contribute to the overall goal of sustainable product development, to save energy and to protect our water resources. As alternative to commonly used biocidal chemicals, we propose a new surface modification concept that can control surface microbial contamination, particularly the development of bacterial colonies and biofilms. Taking into account the needs of customers and environmental protection, the NanoBond Project aims to develop a new antimicrobial “soft nanotechnology” that comprises: •Adaptability to a wide range of consumer and industrial applications. •A responsive technology that adapts to the particular requirement for anti-microbial effect without “swamping” the environment with the un-restrained release of chemical antimicrobial agents, which is typical of other antimicrobial technologies. •Highly-tailored solutions by altering the characteristics of the polymeric nano-film. The NanoBond Project will exploit the “soft nanotechnology” to create nano-structured and functional surfaces that can impart multiple beneficial properties, or can act as a scaffold for the further incorporation of other performance finishes. •Durability and effectiveness for the life of the goods. •Easy application and low application levels.

Coordinator: DEVAN CHEMICALS NV from:BE

participant: INTERSOCKS TOVARNA NOGAVIC D.O.O

participant: SWEETHOME

participant: DEVAN-PPT CHEMICALS LTD

participant: DWI LEIBNIZ-INSTITUT FUR INTERAKTIVE MATERIALIEN EV

participant: EOTVOS LORAND TUDOMANYEGYETEM

participant: DCS DESIGNS LTD

participant: Jade BV

# SUSTA-SMART

Project title: Supporting Standardisation for Smart Textiles

Start Date: 2012-10-01 End Date:2014-03-31

Most frequent returning words in objectives:

* ('standardisation', 10)
* ('projects', 5)
* ('textiles', 4)
* ('FP6/FP', 3)
* ('relevant', 3)
* ('actors', 3)
* ('smart', 2)
* ('infrastructure', 2)
* ('needs', 2)

Several European FP6/FP7 smart textiles projects resulted in a variety of high market potential developments. Representative NMP projects are SAFE@SEA–advanced personal protective clothing; POLYTECT–smart textile materials for reinforcing and monitoring infrastructure and DEPHOTEX–flexible photovoltaic textiles. SUSTA-SMART will start from the standardisation needs encountered in these projects, which had each at least one SUSTA-SMART partner involved, as well as those from a carefully selected group of other FP6/FP7 projects. Given the wide range of potential applications, the efforts will be restricted to three focus domains: Personal Protective Equipment (PPE), construction and infrastructure and consumer goods.  
Although first steps have been taken, the interaction between research and standardisation can still be improved tremendously. SUSTA-SMART opts for a systematic three step approach to forward standardisation:  
•Mapping both the relevant standardisation actors and the standardisation issues of the FP6/FP7 projects. For the latter, a standardisation strategy audit procedure will be worked out.  
•Synthesising and prioritising of the needs, based on a broad consensus, leading to a standardisation roadmap.  
•Compilation of dedicated standardisation input documents (including New Work Item Proposals) and presenting them to relevant standardisation committees. Of special interest will be CEN TC 248 WG31 – Smart textiles, the convenor of which will also serve as the coordinator of SUSTA-SMART. Also liaising with other relevant actors (including in North-American ones) is foreseen.  
Standardisation is a key issue for further exploitation and commercialisation of smart textiles, especially for PPE and construction as it supports legal provision in those areas. By teaming up with a group of external partners (14 companies and 4 standardisation actors supplied a support letter) SUSTA-SMART is convinced it collected sufficient critical mass to reach its ambitious goals.

Coordinator: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE from:BE

participant: FEDERATION OF THE EUROPEAN SPORTING GOODS INDUSTRY

participant: INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM

participant: RINA CONSULTING SPA

participant: ASSOKNOWLEDGE SERVIZI SRL

participant: FUNDACION CETEMMSA

participant: CTT Group

participant: EUROPEAN SAFETY FEDERATION AISBL

# BIOTIC

Project title: Biotechnical functionalization of (bio)polymeric textile surfaces

Start Date: 2008-04-01 End Date:2010-03-31

Most frequent returning words in objectives:

* ('materials', 7)
* ('textile', 6)
* ('research', 6)
* ('functionalities', 5)
* ('knowledge', 3)
* ('properties', 3)
* ('biotechnology', 3)
* ('industry', 2)
* ('products', 2)

The European textile industry, which is in transformation from labour intensive products to knowledge intensive products, has a great demand for innovative high-tech materials with special properties and added functionalities, like smart and biomedical textiles. Today’s scientific challenge is to make the enormous potential of biotechnology for production and synthesis of textile materials with advanced functionalities an opportunity for the European industry. The general aim of the research is to functionalise textile materials using modern biotechnology. The research will result in new, specific knowledge and technologies to create biotechnologically modified textile materials with unique properties. The application of functional textile (bio)polymers is typically in the field of medical, safety, care and signalling/detection but also in less obvious application areas such as e.g. tissue engineering and separation technology. Application of biotechnology is not just limited to biological materials; enzymes are able to modify synthetic materials as well. The research will be based on a concerted multi-disciplinary approach, resulting in a drastic increase of knowledge, thereby creating the possibility to produce biotechnologically functionalised materials with unique surface properties and functionalities. The research will focus on enzymatic grafting of functional groups on textile fibres, and specific enzymatic surface modification to obtain functional nano-structured surfaces. Control of enzymatic action at correct time and length scales is a prerequisite to achieve the desired functionalities. Therefore sophisticated technologies and processes will be explored in order to design novel production processes for textiles that exhibit the desired functionalities. The research will build upon expertise available at the department of Textiles at Ghent University and at biotechnological research groups at Ghent University, VIB and other European universities.

Coordinator: UNIVERSITEIT GENT from:BE

# THREADS

Project title: Textile and Hair proteomics: Reexamination of European wool from Archaeological Deposits

Start Date: 2009-09-01 End Date:2012-08-31

Most frequent returning words in objectives:

* ('wool', 12)
* ('medieval', 3)
* ('fibre', 3)
* ('fibres', 3)
* ('proteome', 3)
* ('historians', 2)
* ('archaeologists', 2)
* ('trade', 2)
* ('textile', 2)

Economists, historians, archaeologists and conservators have been fascinated by the wool trade and the development of the woollen textile industry during the medieval period, as documented by the large literature on the topic. The importance of the wool trade is reflected in the fact that wool producers and textile centres were located in different areas of Europe, and that wool influenced not only the economic history but also the political shape of Europe. For a long time, and until the emergence of the merino wool from Spain, the finest wools were exported from England. Changes in the types and qualities of wool available at different periods in different regions have been plotted both by archaeologists working on the excavated textiles and by historians researching documentary sources. Archaeologists have been using the distribution of fibre diameters to classify medieval wool into fleece types, but this analysis can barely describe the 50 or more wool grades found in historical records. This analysis is made even more complicated by the processing of wool and by the archaeological context that affect the physical and chemical properties of the fibres. The purpose of the proposal is to develop new proteomics based tools to study ancient wools. Proteomics attempts both qualitative and quantitative comparisons of the protein composition of the wool fibres themselves. We want to (i) assess the potential of proteomics to discriminate ancient wool fibres, (ii) assess the extent to which use history and burial governs changes in the fibre proteome, (iii) examine the impact of processing and dyeing on the fibre proteome (and the effect that these processes may have on diagenesis), and (iv) compare the proteome of wool from waterlogged environments and metal corrosion products. We have access to extensive records of textiles from both major centres and from regional markets, resulting in large collections of preserved fragments from urban deposits and medieval burials.

Coordinator: UNIVERSITY OF YORK from:UK

# FORBIOPLAST

Project title: Forest Resource Sustainability through Bio-Based-Composite Development

Start Date: 2008-07-01 End Date:2012-06-30

Most frequent returning words in objectives:

* ('production', 6)
* ('fibres', 5)
* ('forest', 3)
* ('composites', 3)
* ('activity', 3)
* ('wood', 3)
* ('materials', 2)
* ('resources', 2)
* ('costs', 2)

The forest biomass represents an abundant, renewable, no-food competition and low cost resource that can play an alternative role to petro-resources. In spite of positive experimental results industrial production and marketing of materials derived from renewable resources are rarely achieved because of high processing costs and low properties of final products usually targeted to single use sectors devoted to very low costs polymer. Aims of the present proposal are the differentiate utilizations of forest raw resources or by-products of forest connected industry for the production of eco-compatible foams and composites suitable for many practical applications with particular attention at the packaging, agriculture and automotive sectors. One topic of the research activity will be focused on the use of wood and paper mill by-products (bark, chips, sawdust, and black liquor) as raw materials for the production of polyurethane foams by an innovative sustainable synthetic process with reduced energy consumption. Wood fibres can be used as natural fillers to replace synthetic and glass fibres in composites production. Loading of wood fibres is limited by difficult compatibility with hydrophobic polymers. Research activity will be devoted to the production of composites based on wood fibres with biodegradable polymeric matrices (polylactic acid, polycaprolactone, polyhydroxyalkanoates, materbi, etc) and with polypropylene. A high fibres loading content will be achieved by increasing polymeric matrices toughness. Forest waste valorisation will be achieved by microbiological process. Materials production will be valuated by life cycle assessment and final products will be tested for biodegradation and composting. Composites will be as well evaluated for applications in agriculture, packaging and automotive (textile, panels, interior components). Research activity will be developed in strict cooperation with industries with particular reference to the end users.

Coordinator: UNIVERSITA DI PISA from:IT

participant: PEMU MUANYAGIPARI ZARTKORUEN MUKODORESZVENYTARSASAG

participant: CENTRO RICERCHE FIAT SCPA

participant: RODAX IMPEX SRL

participant: BUDAPESTI MUSZAKI ES GAZDASAGTUDOMANYI EGYETEM

participant: RITOLS

participant: WIEDEMANN GMBH

participant: TSATSOS GEORGIOS

participant: NEOCHIMIKI ANONYMOS BIOMICHANIKI KAI EMPORIKI ETAIREIA

participant: UNIVERSITATEA DE STIINTE AGRONOMICE SI MEDICINA VETERINARA DIN BUCURESTI

participant: UNIVERSIDAD DE ALMERIA

participant: FUNDACION CARTIF

participant: INCERPLAST SA

participant: NORCONSERV AS

participant: LATVIJAS VALSTS KOKSNES KIMIJAS INSTITUTS

# EMBROIDERY

Project title: Development of energy efficient / lightweight composite parts and tooling based on Tailored Fibre Placement technology / self heating technology

Start Date: 2011-01-01 End Date:2012-12-31

Most frequent returning words in objectives:

* ('fibre', 5)
* ('technologies', 3)
* ('heating', 3)
* ('production', 2)
* ('manufacturing', 2)
* ('components', 2)
* ('material', 2)
* ('order', 2)
* ('capabilities', 2)

Composite materials are being used extensively in many industrial applications with higher production needs than the yielded by current technologies. New developments such as textile preforming combined with liquid moulding technologies will support this tendency. Nevertheless, there are still some drawbacks. More repeatable and automated processes are required and tools must be developed to assist in both design and manufacturing phases. In the case of big sized components, generally produced by infusion, productivity is limited by the long heating/cooling cycles required to cure the laminate. Another major limitation is the long time required to lay up the disposable vacuum bag and the associated ancillary material. In order to achieve higher production capabilities together with improved performance, the development of a resistive heating layer based on embeddable carbon fibre performs manufactured by Tailored Fibre Placement Technology, is proposed. This self heating layer will be able to be embedded both in rigid and elastomeric tooling in order to fulfil the heating requirements of the out of autoclave manufacturing technologies. In addition, TFP provides an outstanding capability, the fibre steering potential, which means that in the preform, the fibre orientation at each point can be oriented according to the stress field of the component, exploiting the full capabilities of the reinforcing fibre and optimising the material usage. In practice this potential is not exploited yet due to the lack of a commercial software which takes into account the fibre steering feature. Therefore, a second focus of this project will be put on developing computer algorithms which account for steering potential. The final objective is the implementation of such algorithms into a commercial software for composites analysis. The quantified main objectives are 40 % reduction in the required energy for curing composite components and 20% reduction in cycle times.

Coordinator: FUNDACION TECNALIA RESEARCH & INNOVATION from:ES

participant: MANDIOLA COMPOSITES, S.L.

participant: Tajima GmbH

participant: QPOINT COMPOSITE GmbH

participant: GMI AERO SAS

participant: AVANA INDUSTRIES KFT

participant: INGENIERIA Y DESARROLLOS EN COMPOSITE S.L.

participant: UNIVERSITAET STUTTGART

# NATEX

Project title: Aligned Natural Fibres and Textiles for Use in Structural Composite Applications

Start Date: 2008-11-01 End Date:2012-04-30

Most frequent returning words in objectives:

* ('fibres', 7)
* ('properties', 4)
* ('polymers', 2)
* ('applications', 2)
* ('textiles', 2)
* ('produce', 2)
* ('thermoplastics', 2)
* ('thermosets', 2)
* ('treatments', 2)

Biocomposites manufactured from natural materials such as fibres and bioderived polymers offer a sustainable alternative to traditional ones, but at present they are not available for use in structural applications. NATEX will develop aligned textiles from natural fibres suitable for use as high strength reinforcing fabrics to produce structural composite parts using bio and oil based thermoplastic and thermoset resins. This will include the use of orientated woven natural fibres in bioderived thermoplastics and thermosets, to produce high-tech products with high added value from entirely renewable resources. The main innovations will be: • New chemical/enzymatic treatments to tailor the fibre surface chemistry and to modify its cell wall polymers, to obtain the desired interface properties when combined with the polymer matrix •New chemical/natural treatments for the yarn during the wrapping process, new method for low twist yarns production, film stacking and commingling development for natural fibres, to increase the mechanical properties of the yarns •Development of new weaving techniques to improve impregnation and to obtain innovative 3D textiles •Resin viscosity control using thermal conductive additives, increasing their compatibility with natural fibres by using coupling agents and surfactant additives Besides, a large range of resin processing methods will be adapted to suit them to the characteristics of the modified fibres: Vacuum Bagging, Vacuum Consolidation, Compression Moulding, Continuous Compression Moulding, Infusion and Resin Transfer Moulding. Basic research on joining technologies as hot welding over natural fibre composites will be also performed. As result, aligned natural fibres with improved properties will be combined with thermoplastics and thermosets, increasing the mechanical properties of biocomposites and introducing them in structural applications in different sectors: transport, energy, agricultural machinery and shipbuilding

Coordinator: AIMPLAS - ASOCIACION DE INVESTIGACION DE MATERIALES PLASTICOS Y CONEXAS from:ES

participant: INSTITUT FUER VERBUNDWERKSTOFFE GMBH

participant: INSTYTUT WLOKIEN NATURALNYCH I ROSLIN ZIELARSKICH

participant: JOHN L. BRIERLEY LTD

participant: ASFIBE SA

participant: ABENSI ENERGIA S.L

participant: TRANSFURANS CHEMICALS BVBA

participant: EUROPEAN PLASTICS CONVERTERS

participant: MAREK RADWANSKI EKOTEX

participant: AALTO KORKEAKOULUSAATIO SR

participant: PIEL SA

participant: AGCO SA

participant: NETCOMPOSITES LIMITED

participant: HEMCORE LIMITED

participant: DANMARKS TEKNISKE UNIVERSITET

participant: BAFA BADISCHE NATURFASERAUFBEREITUNG GMBH

participant: CHEMOWERK GMBH

participant: TEKNOLOGIAN TUTKIMUSKESKUS VTT

# DECOCOAT

Project title: Development of ECOlogical friendly and flexible production processes for textile COATings based on innovative polyolefine polymer formulations

Start Date: 2010-01-01 End Date:2011-12-31

Most frequent returning words in objectives:

* ('textile', 5)
* ('polymers', 4)
* ('industry', 3)
* ('articles', 3)
* ('textiles', 3)
* ('pressure', 2)
* ('plasticisers', 2)
* ('developed', 2)
* ('offering', 2)

The European textile industry is confronted with a constant increase of ecological awareness. For instance, soft PVC is coming under ecological pressure. The polymer not only has high halogen content, but also requires the use of plasticisers. Some of these (e.g. specific phthalates) are toxic and can alter the expression of gender characteristics and are leading to a lowered fertility. Some of these chemicals are already banned from selected textile applications (e.g. baby’s clothing) via legislation or eco-labels such as Ökotex. Consumer organisation and ecologists are raising the pressure further to limit the use of these products.   
As a result voices are raised to ban soft PVC containing textile articles further. This is not only to be considered as a thread but also as an opportunity for the textile industry and the SMEs involved. Indeed, if appropriate eco-friendly alternatives are developed, offering in addition technological advantages, a new route for innovative and high-end textile articles comes available.   
  
The present project, Decocoat, is focussing on development of PO based functional polymers for the textiles industry. Recent developments within the PO production generate new sets of polymers, belonging to the most environmental friendly of all synthetic polymers. Thanks to the integrated functionalities and the (block)copolymer composition, a large range of mechanical properties and softnesses can be reached without the use of plasticisers. Within the project implementation of these novel polymers on textiles will be explored; using application routes offering the highest flexibility and requiring minimum new invest. The novel developed textiles will offer an ecologic alternative for the soft PVC coated or printed articles.

Coordinator: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE from:BE

participant: ESTAMPADOS PRATO SL

participant: TEKNOLOGISK INSTITUTT AS

participant: SCHMITS INTERNATIONAL B.V.

participant: ASOCIACION DE INVESTIGACION DE LA INDUSTRIA TEXTIL

participant: LUXILON INDUSTRIES NV

participant: REGATTA AS

participant: FOV FABRICS AB

# PHASEPLIT

Project title: Two-phase Acid/Gas Anaerobic Reactor for Industrial Wastewater of Food & Drink SME industries

Start Date: 2014-09-01 End Date:2016-11-30

Most frequent returning words in objectives:

* ('wastewater', 7)
* ('anaerobic', 5)
* ('PhasepliT', 4)
* ('Food', 3)
* ('treatment', 3)
* ('reactor', 3)
* ('industries', 2)
* ('biogas', 2)
* ('reactors', 2)

More than 99% of European Food & Drink companies are small and medium enterprises. Industrial food production generates a lot of polluting wastewater. the Urban Waste Water Directive has set strict regulations to the quality of waste water discharged from these industries to the environment. But treating wastewater is expensive. The smaller the company is, the more expensive it is to treat 1m3 of wastewater. Anaerobic treatment is an eco-efficient solution: biogas can be transformed at the Food & Drink industries in electricity and heat. Current anaerobic reactors available in the market are good but they are extremely expensive for SMEs. PhasepliT is an SME-size anaerobic wastewater reactor achieving a reduction of capital investment costs by 50% and operational costs by 30% to generate enough renewable energy from biogas to cover the reactor’s consumption and generate a surplus for the SME. Phaseplit will separate the anaerobic treatment in two-phases: acidogenic and metanogenic. 100% of current wastewater anaerobic alternatives are single-phase. This is the first time two-phase acid/gas separation will be used for wastewater treatment. We have estimated a 1.5% penetration (4,500 reactors) in the 99% SME-based Food and Drink sector by our decentralised two-phase anaerobic wastewater reactor. The potential economic impact of PhasepliT is estimated to be EUR 823 million in five years post project and after a time to market of 24 months. PhasepliT will also have a potential application in spill-over markets (chemical, pharmaceutical, textile). PhasepliT is expected to have the very significant contribution to European Objectives of EUR 329 million, by reducing organic pollution in fresh waters and contributing to the 20% of renewable energy in 2020 European objective.

Coordinator: AGUA, ENERGIA Y MEDIOAMBIENTE SERVICIOS INTEGRALES SL from:ES

participant: SARL Distillerie Bel

participant: PRODEVAL SAS

participant: SOCIETATEA DE INGINERIE SISTEME SA

participant: INDUSTRIAL MOREYPI SA

participant: TECNOLOGIAS AVANZADAS INSPIRALIA SL

participant: INSTITUTO DE BIOLOGIA EXPERIMENTAL E TECNOLOGICA

# ETFE-MFM

Project title: Development and demonstration of flexible multifunctional ETFE module for architectural façade lighting

Start Date: 2013-12-01 End Date:2017-11-30

Most frequent returning words in objectives:

* ('devices', 6)
* ('ETFE', 5)
* ('module', 5)
* ('ETFE-MFM', 4)
* ('façade', 4)
* ('building', 4)
* ('architecture', 3)
* ('energy', 3)
* ('development', 2)

The overall objective of the ETFE-MFM Proposal is the development, evaluation and demonstration of a flexible multifunctional ETFE module for architectural façade lighting. The aim of this proposal is to provide a PV module with embedded additional functionalities designed to be used in ETFE textile architecture for BIPV applications.  
  
ETFE-MFM concept is based on the integration of different technologies creating a self-contained building element formed by: ETFE architecture, photovoltaic (PV) technology, illumination devices and flexible integrated circuits (IC). This new concept of multifunctional PV module will be able to work as a stand-alone or grid connected system. The solar energy supplied to the lighting devices will open new architectural façade lighting possibilities due to saving cost in the high energetic demand requested by this type of devices.  
  
The basic idea behind the development of ETFE-MFM is to enhance the use of building integrated photovoltaic (BIPV) elements in construction industry, as well as to provide new architectural façade lighting possibilities. The ETFE-MFM basic principles represent relevant innovative elements which are based on the combination of:  
  
- A novel attractive textile architecture based on ETFE as building material. The physical characteristics of ETFE allow construction cost savings by reducing greatly the weight of the structure whilst providing the same or even higher level of stability.  
  
- PV device, which acts as an electrical generator and shading during daylight, and supply the energy requested by the façade lighting devices at night, reducing the overall energy costs of the building.  
  
- Illumination devices, based on LED-RGB and OLED technologies, embedded on the module.  
  
- Flexible IC, which acts as individual module control of the PV device, providing the maximum power point (MPP) of the cells, as well as the control of the LED devices through wireless technology.

Coordinator: FUNDACION ITMA from:ES

participant: SOLARION AG

participant: FUNDACION CENER-CIEMAT

participant: TAIYO EUROPE GMBH

participant: ACCIONA CONSTRUCCION SA

# TEXSET

Project title: Textiles in Southern Etruria. Textile Technology in Central Tyrrheanian Italy from Late Prehistory to the Roman Republican Period

Start Date: 2014-03-01 End Date:2016-02-29

Most frequent returning words in objectives:

* ('textile', 8)
* ('century', 3)
* ('period', 3)
* ('methods', 3)
* ('study', 3)
* ('research', 3)
* ('tools', 3)
* ('project', 2)
* ('development', 2)

The TexSEt project will investigate the emergence and development of textile technologies and the use of textile fibres in Central-Western Italy from Late Prehistory (Final Bronze Age – 10th century BC) until the Roman Republican period (1st century BC), with a particular focus on the Etruscan period (8th-4th century BC).  
Ancient textile production and fibres will be examined in this long perspective using all materials, methods and sources of information available for a up to date and innovative archaeological exploration. The study includes preserved archaeological textiles, textile implements and their contextualization, as well as ancient iconographic and literary sources. The research will integrate further methods: experimental archaeology combined with an ethnographic approach and the new analytical methods for textile analyses developed in recent years.  
I will bring together archaeology, history, iconography, and ethnography to explore what constituted a pre-Etruscan and Etruscan textile tools kit and the range of fabric qualities and explore if and what changing elements are recognizable in the archaeological record.  
An integrated study of archaeological textiles will enhance our understanding of the long period of evolution, based on the selection and development of processing technologies, before arriving at the standardisation in technology and production of the Roman Empire.  
A key issue of my research will be focused on dissemination and museological aspects. My ambition is to “translate” the obtained scientific results in new ways to exhibit specific objects such as textile tools at the prestigious institution of the National Etruscan Museum of Villa Giulia in Rome.  
The final goal of my IEF project is to combine an innovative archaeological study with museological research aimed at new concepts of how to exhibit textile remains and tools in a museum context. It finds no parallel in the field of Italian or European studies.

Coordinator: KOBENHAVNS UNIVERSITET from:DK

# BIOXCAT

Project title: Bioinspired Catalysts for Commercial Applications

Start Date: 2014-05-01 End Date:2015-07-31

Most frequent returning words in objectives:

* ('catalysts', 7)
* ('applications', 4)
* ('project', 3)
* ('compounds', 3)
* ('market', 3)
* ('oxidation', 2)
* ('molecules', 2)
* ('include', 2)
* ('commercialization', 2)

Research developed in the ERC-funded project BIDECASEOX ERC-239910 has led to the discovery of particularly active catalysts with potential broad applicability in various commercial fields. These catalysts mediate challenging oxidation transformations under sustainable conditions, and constitute necessary alternatives to toxic, expensive and large waste-producing traditional stoichiometric oxidants widely employed nowadays. These catalysts are expected to rise a broad interest in organic synthesis both in fine and bulk chemistry, as well as in technological applications involving oxidative degradation of organic molecules. The latter include oxidation of cellulosic and other colour polysaccharide molecules, with applications in wood pulp treatment, paper bleaching and development of detergents for textiles. The PoC project aims to make these catalysts available to industry and investors to ensure a successful commercialization of the compounds. With the aim of accelerating the market access of these catalysts, the present Proof of Concept (PoC) project, named BIOXCAT, will target to study the feasibility of bringing these compounds into a pre-commercial stage. This will be achieved by scaling-up current mg-scale production methods to establish economically optimized kilogram scale procedures, and by validation of their use in model reactions of technological applications. None of this activies is included in the ERC grant. PoC activity will also include an analysis of intellectual property protection needs within the field of application, as well as initiating any patent filling procedure required to provide an adequate protection of the different applications for the catalysts. A market study will also be conducted to identify specific potential uses of these compounds, and a review of potential commercialization partners to enable exploitation of the catalysts into the market.

Coordinator: UNIVERSITAT DE GIRONA from:ES

# TEXTILESTUDIES

Project title: Textile Studies: questions and issues between knowledge and knowhow

Start Date: 2014-08-01 End Date:2016-07-31

Most frequent returning words in objectives:

* ('Textile', 5)
* ('Studies', 5)
* ('research', 4)
* ('project', 3)
* ('methods', 3)
* ('practices', 3)
* ('knowledge', 3)
* ('field', 3)
* ('processes', 2)

'This research project explores the modern reconstruction processes of archaeological textiles and focuses on the intersection between Natural Sciences, Humanities, experimental methods and technical skilled practices. Taking an anthropological and an ethnographic approach, the project aims to highlight the topical concepts of “knowledge” and “know-how” as specific as well as complementary knowing processes and contributes to define the interdisciplinarity at work in the field of Textile Studies. The mobilization of several disciplines and methods leads to the establishment of a hybrid field of study that can be understood by taking into consideration the practices of knowledge, more than knowledge itself. How do the different methods at work, the specific research reference systems in the disciplines involved, and the knowing practices generated in the study of ancient archaeological textiles contribute to defining their objects and to creating a research field that is both unified and composite? How are the theoretical tools and technical skills available to the “experts” in all areas of Textile Studies coordinated and interconnected? Where and how is it possible to grasp their interaction, and ultimately to question it, first in its specificity and then within its broader epistemological implications? The ethnographic inquiry with the textile experts of the Danish National Research Foundation’s Center for Textile Research CTR (University of Copenhagen and National Museum of Denmark) and on their research programs will provide a description of Textile Studies 'in the making'. The objectives of this project are on four main axes: 1) Textile Studies, 2) Science and Technology Studies, 3) History and Anthropology of Knowledge, 4) Theoretical and Experimental Archaeology.'

Coordinator: KOBENHAVNS UNIVERSITET from:DK

# ITEM-E-CONTEXT

Project title: Identities and Transformation in the Eastern Mediterranean: Evolution and Continuity of Textile Tools in the Late Bronze Age (LBA) and Early Iron Age (EIA); 13th - 10th c. B.C.E

Start Date: 2014-06-01 End Date:2016-09-28

Most frequent returning words in objectives:

* ('objects', 4)
* ('markers', 3)
* ('B.C.E', 2)
* ('Mediterranean', 2)
* ('exchange', 2)
* ('people', 2)
* ('identities', 2)
* ('Bronze', 1)
* ('period', 1)

The Late Bronze Age (1550 – 1250 B.C.E.) of the eastern Mediterranean was a period of intense exchange of goods, ideas, and men. Movements of people, from trading trips to massive migrations, are well attested in this area between the 13th and the 10th c. B.C.E. However, from an archaeological point of view, identifying people’s identities or defining ethnic extension within territories is not easy and require the use of cultural markers. Such markers are generally sought for within the most utilitarian objects such as cooking pots, who most likely preserve the cultural heritage of its owner.  
I propose here to focus on textile tools because they are amongst the most reliable markers since they are culturally specific: as demonstrated by Barber, the use of a high or low spindle-whorl on a spindle directly relates to groups identities, and therefore to their larger geographic origins, each group being convinced that its spinning method is the best.  
Of interest for our question is the apparition of almost identical ivory spinning objects in different cultural milieu of the eastern Mediterranean, from the Levant to the Aegean, regions using different spinning methods. A comparative study of these objects focusing on their contexts of consumption will reveal the use of these objects and show if they correspond to the effective presence of near easterners, if they could have been used in a different manner or if they were solely exchange for the value of their constitutive material.

Coordinator: KOBENHAVNS UNIVERSITET from:DK

# RETHINKTEX

Project title: Rethinking Textiles

Start Date: 2014-07-01 End Date:2016-06-30

Most frequent returning words in objectives:

* ('history', 5)
* ('Industrial', 3)
* ('Revolution', 3)
* ('Textiles', 2)
* ('University', 2)
* ('change', 2)
* ('collaboration', 1)
* ('Barbara', 1)
* ('Hahn', 1)

Rethinking Textiles is a two-year collaboration between Dr Barbara Hahn of Texas Tech University and Prof Regina Lee Blaszczyk at the University of Leeds to launch an effort to recontextualize the history of the British Industrial Revolution. The British mechanization of textile production is a crucial case for understanding the relationship between technological change and economic growth, but with few exceptions, the topic has long been dominated by economic historians concerned to explain change at the macroeconomic level. Rethinking Textiles is an example of micro-history, enriching the story of the Industrial Revolution with greater specificity about particular people, technologies, and products. It places the Industrial Revolution in an exciting new context, drawing on the history of technology, the history of consumption, and the history of design to develop a new narrative history of British industrialization as a global phenomenon shaped by cultural, social, and material variables with remarkable parallels to the Digital Age.

Coordinator: UNIVERSITY OF LEEDS from:UK

# MAGNUM BONUM

Project title: Modelling of human body and protective textiles for estimation of skin sensorial comfort and life risk of fire-fighters working in extreme external conditions

Start Date: 2014-05-01 End Date:2017-08-26

Most frequent returning words in objectives:

* ('human', 6)
* ('project', 5)
* ('comfort', 5)
* ('research', 4)
* ('conditions', 3)
* ('finite', 2)
* ('element', 2)
* ('model', 2)
* ('body', 2)

The objective of this IOF project is the application of finite element method (FEM) to model a digital human body (Avatar) while wearing virtual protective textiles (PTs) in order to estimate human skin sensorial comfort and life risk conditions in varied extreme external conditions, like heat, flames.  
  
The methodological context focuses on: 1) achievement of realistic human simulation (RHS) in Abaqus programme and estimation of human tissue compliance and stretch resulting from contact with PTs as well as heat stress conditions; 2) estimation of divergences between the results of laboratory wear comfort and burning tests on manikins and finite element model simulation of human torso covered by PTs.  
  
The proposed IOF project will contribute to advancement in non standard measuring techniques for investigating the interaction between human body and textiles. It will also seek to tease out the mechanisms of comfort equilibrium, skin sensorial wear comfort and prediction of comfort basing and life risk of fire-fighters, which is the novelty.  
  
The project entails a sizable training-through-research component that coexists with research plan as well as enables me to strength my international position as a scientist and to establish an independent position, which have been taken into account while designing my Personal Career Development Plan.  
  
The European host in this project is Ghent University (Belgium) and the third country host is North Carolina State University (USA). The choice of both universities is based on unique combination of top-drawer research units in tangible research domains which together sustain the ideal environment for carrying out the proposed research project.

Coordinator: UNIVERSITEIT GENT from:BE

# SMARTPRO

Project title: "Lightweight, flexible and smart protective clothing for law enforcement personnel"

Start Date: 2014-04-01 End Date:2017-09-30

Most frequent returning words in objectives:

* ('body', 6)
* ('armour', 4)
* ('protective', 3)
* ('protection', 3)
* ('project', 2)
* ('smart', 2)
* ('gear', 2)
* ('armours', 2)
* ('wearer', 2)

'The concept of the proposed project lies in the development of lightweight and flexible protective clothing, incorporating smart functionalities and designated for law enforcement authorities.  
Up to now, research on the protective gear of this group concentrated on the ballistic properties of the body armour. However, in spite of the improvements, modern body armours still have some of the same drawbacks as the old ones, as they are mostly heavy, bulky and rigid. Therefore they limit the wearer’s mobility and agility and are impractical for use on joints, arms, legs, etc. Moreover, body armours have traditionally been designed to protect the wearer against ballistic threats and, thus, they provide only a limited level of protection against knives, sharp blades or sharp-tipped weapons. Recent studies, however, reveal that stab and puncture have become a main cause of police officers' injuries. Therefore, there is an obvious need to develop materials that combine stab and ballistic protection, while retaining their flexibility and low weight.  
In this context, the proposed project aims to develop optimized ballistic textiles (both woven and spacer knitted fabrics) and apply innovative surface treatments (e.g. shear thickening fluids, ceramic coatings) to improve their performance on an areal density basis. Thus, fewer fabric layers will be required, which is expected to result in increased flexibility and reduced weight of the armour. Main parameters to consider also include physiological comfort and ergonomic design.  
Additionally, smart functions, including positioning systems, will be integrated to further increase the efficiency of the body armour, eventually leading to reduced casualties.  
Finally, while a main limitation is that existing protective gear is usually limited to the body armour, innovative solutions are herein proposed for the protection of vulnerable body parts other than the torso.'

Coordinator: ANONYMI ETAIREIA VIOMICHANIKIS EREVNAS, TECHNOLOGIKIS ANAPTYXIS KAI ERGASTIRIAKON DOKIMON, PISTOPIISIS KAI PIOTITAS from:EL

participant: SOLIANI EMC SRL

participant: DEPARTAMENT D'AGRICULTURA, RAMADERIA, PESCA I ALIMENTACIO

participant: E. CIMA SA

participant: KOSTAS SIAMIDIS AE

participant: RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

participant: NEXT TECHNOLOGY TECNOTESSILE SOCIETA NAZIONALE DI RICERCA R L

participant: FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS

participant: ACONDICIONAMIENTO TARRASENSE ASSOCIACION

# TRUCK-SAFE

Project title: Development of an Automated System for Safely Securing Cargo on Haulage Trucks Using High Tensile Multi-layer Fabric

Start Date: 2014-01-01 End Date:2015-12-31

Most frequent returning words in objectives:

* ('cargo', 6)
* ('system', 6)
* ('market', 3)
* ('fabric', 3)
* ('tension', 3)
* ('units', 2)
* ('sales', 2)
* ('alarm', 2)
* ('provide', 2)

The Truck-Safe project focuses on improving cargo securing on HGVs as there are potentially 147 deaths and economic loss of €6.8 billion occurred as a result of avoidable insecure cargo securing in EU alone. The European market will have a production demand of 330,000 trailer units, Truck-Safe consortium is looking to achieve a minimum 3% market penetration which gives total predicted sales of about 9,500 units for year five post-project, resulting for SMEPs €128m additional sales and €50m additional profit.  
  
Truck-Safe will be uniquely placed in the market of cargo securing solutions, having following set of differentiations:  
-be fully automated reducing lashing times by 60 minutes and minimizing likelihood of human error  
-integration of alarm functions will provide detection system and automatically adjust load stress  
-incorporation of fibres into interwoven textile fabric matrix to improve resistance to environment  
-integrated sensor systems within the automatic tensioning device to keep cargo under tension  
-development of energy storage unit for truck-free usage of the system  
-fully automated self-ratcheting system with automatic return system and automatic pulling of fabric  
-on-board alarm to alert the driver in case of reduced tension on the cargo or over tension in the cargo securing straps.  
  
In order to provide these benefits, we will develop:  
-Multi-layer fabric  
-Automated self ratcheting system  
-Integrated sensor system,  
and integrate, optimize and validate the prototype.

Coordinator: NWE NETWORK ENGINEERING OY AB from:FI

participant: Teknologian tutkimuskeskus VTT Oy

participant: JOLODA (INTERNATIONAL) LTD

participant: AB NARPES TRA & METALL - OY NARPIONPUU JA METALLI

participant: OSAUHING EESTI INNOVATSIOONI INSTITUUT

participant: INDUSTRIAS PONSA S.A.

participant: AXLOAD AB

participant: MALERAS MEKANISKA AB

# INGECT

Project title: An innovative environmentally friendly gelcoating technology for composites for marine and wind-Turbine applications to reduce VOC emissions, processing time and cost

Start Date: 2011-12-01 End Date:2013-11-30

Most frequent returning words in objectives:

* ('emissions', 6)
* ('styrene', 5)
* ('technology', 4)
* ('gelcoats', 2)
* ('effects', 2)
* ('production', 2)
* ('parts', 2)
* ('in-mould', 2)
* ('process', 2)

Gel coats are applied to fibre-reinforced composite materials for aesthetic or protection purposes. Styrene is an essential part of these gelcoats, with ~25% of this released during possessing. These styrene emissions cause irritation and neurological effects as well as possibly being carcinogen. One of the biggest negative effects of styrene is the perceived odour both by the workforce and neighbourhoods. As a result styrene emissions are limited under the Solvent Emissions Directive.  
Although the adoption of closed mould technologies for the production of composite parts have gone a long way to reducing styrene emissions during manufacture, gelcoating must still be undertaken under open-mould conditions as no viable in-mould gelcoating technology is commercially available.  
We are developing an innovative in-mould gel-coating process, requiring minimal equipment modification (and therefore low capital expenditure) based on the innovative application of low-viscocity gelcoats and a spacer fabric. The proof-of-concept work undertaken to date has this technology has the potential to achieve significant benefits beyond the current state of the art to produce parts that are fit for purpose whilst reducing styrene emissions to <5ppm.  
  
The overall aim of the InGeCt project is to develop technical textiles and gel-coat formulations in combination with process design and optimisation that will enable significant reductions in VOC emissions whilst reducing production times by 18.5% and manufacturing cost by 10.5%. Our technology will therefore be very attractive to composites processors, giving significant economic and societal benefits to consumers and manufacturers. The SME consortium target a significant penetration of the EU market within a 5 year period, achieving direct annual sales of over €100 million. The technology will make a significant contribution to reducing VOC emissions, enabling EU SMEs to meet their immediate and forthcoming legislative requirements.

Coordinator: UNIVERSITY OF PLYMOUTH ENTERPRISE LTD from:UK

participant: DE IJSSEL COATINGS BV

participant: KMT NORD APS

participant: TESSITURA VALDOLONA SRL

participant: YKI, YTKEMISKA INSTITUTET AB

participant: RISE RESEARCH INSTITUTES OF SWEDEN AB

participant: CENTRO TESSILE COTONIERO E ABBIGLIAMENTO SPA

participant: ALAN HARPER COMPOSITES LTD

participant: ALAN HARPER COMPOSITES

# ECOLASTANE

Project title: A novel technology for producing bio-based synthetic textile fibres from biomass-derived furanic monomers

Start Date: 2013-03-01 End Date:2016-02-29

Most frequent returning words in objectives:

* ('fibres', 5)
* ('Industry', 3)
* ('Textile', 3)
* ('industry', 3)
* ('textile', 3)
* ('polyester', 3)
* ('elastane', 3)
* ('petrochemical', 3)
* ('EcoLASTANE', 3)

European Chemicals Industry supplies European Textile & Clothing industry with textile fibres, 75% of which are synthetic (polyester, elastane, nylon). The European Biomass Industry needs to gain market share to the petrochemical industry as supplier of sustainable biomaterials to the Chemicals Industry. More than 99.9% of the world synthetic fibers are made of non-renewable petrochemical resources. As proclaimed by EURATEX, the access to raw materials (especially cotton, man-made fibres and chemicals) is becoming an “extremely urgent problem for the EU Textiles & Clothing industry”. The steep growth of emerging economies (China, Indi, Brazil) is leading to scarcity and price fluctuations, translated into Textile companies facing huge cost increases.  
EcoLASTANE will develop a high quality, 70%-100% bio-based synthetic textile fibres (bio-based elastane and polyester) by optimising an industrial technology that starting from lignocellulosic feedstocks (wood, crop residues, etc) produces 100% bio-based chemicals (furfural, HMF, THF and FDCA). EcoLASTANE will optimise the synthesis of furfural in Europe by increasing yield, reducing costs, recovering solvents and acetic acid, valorising cellulose for the production of HMF (bio-based monomer with a huge potential still not brought to industrial scale) and producing an in-plant burnable bio-char from lignin to generate heat. From furfural we will optimise the synthesis of 100% bio-based THF, a starting material accounting for 70% of the mass of an elastane elastic fibre. From HMF we will develop a new 100% bio-based polyester textile fibre.  
Textile products containing EcoLASTANE fibres will have a differentiated, high added value based on: inexpensive price, identical chemical structure (and thus manufacturing and weaving behaviour) to current petrochemical alternatives, bio-based content and eco-efficient production. Our fibres will not need any change of today’s technologies for producing synthetic filaments.

Coordinator: ASOCIACION MURCIANA INDUSTRIAS QUIMICAS from:ES

participant: ASSOCIATION TECHTERA

participant: ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS

participant: CORDERIE MEYER-SANSBOEUF

participant: CZ BIOM - CESKE SDRUZENI PRO BIOMASU

participant: NUTRAFUR SA

participant: RAIDLIGHT - VERTICAL SAS

participant: TECNOLOGIAS AVANZADAS INSPIRALIA SL

# EcoWater

Project title: Meso-level eco-efficiency indicators to assess technologies and their uptake in water use sectors

Start Date: 2011-11-01 End Date:2014-12-31

Most frequent returning words in objectives:

* ('systems', 5)
* ('water', 5)
* ('Case', 5)
* ('Studies', 5)
* ('address', 4)
* ('eco-efficiency', 4)
* ('technology', 3)
* ('uptake', 3)
* ('production', 3)

EcoWater will address the development of meso-level eco-efficiency indicators for technology assessment through a systems' approach. The effort will focus on enhancing the understanding of the interrelations of innovative technology uptake in water use systems, and their economic and environmental impacts. Research will address the selection of indicators appropriate for assessing system-wide eco-efficiency improvements, the integration of existing tools and assessment methods in a coherent modelling environment, and the analysis and characterisation of existing structures and policies. The development of an analytical framework is foreseen, to support: (i) Systemic environmental impact assessments, (ii) Economic assessments, (iii) Analysis of value chains and actor interactions, and (iv) Technology implementation and uptake scenarios. Eight Case Studies will be developed, in different systems and sectors of high economic relevance and environmental impact, addressing water use in agricultural, urban and industrial sectors. Two Case Studies will focus on shifts from rainfed to irrigated agriculture and innovations that can reduce water and energy footprints and production inputs. Two Case Studies will address sustainable and economically efficient water supply and wastewater management in urban areas. Four Case Studies will concern meso-level eco-efficiency improvements from innovative technologies in water systems for the textile industry, for energy production, for dairy production and in the automotive industry. The main outputs include a validated and tested methodological framework, an integrated toolbox for systems' eco-efficiency analysis, and policy recommendations for technology uptake and implementation. For ensuring wide dissemination and applicability, the project foresees activities to address different target audiences and to develop operational science-industry-policy links at the level of Case Studies and at wider EU and international scale.

Coordinator: NATIONAL TECHNICAL UNIVERSITY OF ATHENS - NTUA from:EL

participant: IVL SVENSKA MILJOEINSTITUTET AB

participant: FACHHOCHSCHULE NORDWESTSCHWEIZ

participant: MITA SAS DI SPAGARINO MICHELE E CO

participant: DHI

participant: STICHTING DELTARES

participant: UNIVERSITET PO ARCHITEKTURA STROITELSTVO I GEODEZIJA

participant: UNIVERSIDADE DO PORTO

participant: CENTRO INTERNAZIONALE DI ALTISTUDI AGRONOMICI MEDITERRANEI

# DOCA

Project title: Detection of Oil in Compressed Air (DOCA)

Start Date: 2012-09-01 End Date:2014-12-31

Most frequent returning words in objectives:

* ('sensor', 8)
* ('development', 8)
* ('system', 5)
* ('project', 4)
* ('contaminants', 3)
* ('online', 3)
* ('industries', 3)
* ('aims', 2)
* ('industry', 2)

The project aims to solve a major problem plaguing the industry regarding the detection of oil contaminants in high purity compressed air. It aims to develop an online sensor that will detect oil contaminants in all its forms (liquid, aerosol and vapor) with an extremely high sensitivity in accordance with ISO-8573 Class 1 standards. The lack of any reliable, highly sensitive, online sensor system has forced critical industries to rely on manual sampling and laboratory analysis which is labour intensive, inefficient, and cannot guarantee the conformance of the compressed air system to mandatory or industry adopted regulatory norms. The sensor system will benefit a large category of industries that require high purity compressed air including, hospitals, pharmaceutical, automotive, chemical, textiles, electronics, clean rooms and other related industries. The ability to detect contaminants online, will significantly enhance the capabilities of these companies to guarantee the quality of their products and eliminate a number of risks and civil liabilities that are associated with non-conformance.  
  
To achieve the project results, a consortium of 3 competent SMEs with an interest in the area of sensor development partnered with 3 leading research partners for the development of this project proposal. The major requirement for the sensor element is extremely high sensitivity, repeatability, robustness to interference, and stable calibration. It was decided after much deliberation that optical spectroscopy is the most promising technology for the development of such a sensor. We have dedicated 3 work packages (WP4, 5, and 6) for the development of 3 key components that are vital for the development of the sensor - namely development of the sampling system, development of the optical spectroscopy unit and development of electronics and software. The entire project will deliver a marketable sensor system in 2 years.

Coordinator: DANSK FUNDAMENTAL METROLOGI from:DK

participant: UNIVERSIDADE DO MINHO

participant: CMS MEDIZINISCHE ANLAGEN UND SYSTEME GMBH

participant: VSL B.V.

participant: PAJ Systemteknik JESSEN POUL ARNE

participant: CASTLE GROUP LIMITED

# TIIWS

Project title: Thin multilayered PVDF based piezo co-polymer for Textile Integrated Intelligent Wearable Self-sustained monitoring and safety applications in garment and footwear

Start Date: 2011-07-01 End Date:2013-10-31

Most frequent returning words in objectives:

* ('products', 9)
* ('Project', 5)
* ('TIIWS', 3)
* ('garments', 2)
* ('footwear', 2)
* ('value-chain', 2)
* ('integration', 2)
* ('systems', 2)
* ('smart', 2)

Main objective of the Project is to integrate advanced polymers with piezoelectrical and electrostrictive properties in textiles, in order to develop advanced products, garments and footwear, to be applied for safety, sensing and monitoring applications. Project is based on the experience of the Partners involved in a comprehensive value-chain. S/T Objectives are related to the Polymer adaptation, poling and integration with textile substrates, application into garment and footwear systems and their validation in real products.  
The TIIWS Project attempts to introduce intelligence in everyday products, according to a well-established research and new product development trend. The approach is to exploit functional materials that can be fused in invisible way within the products, which act as sensors while absolving their functions (garments and shoes). The innovation associated with TIIWS Project runs in the direction of overcoming the lack in integration of the sensing elements into smart products, their lasting and the quality of response to stimuli.  
The progress introduced within TIIWS Project is such that the exclusive technologies developed and available within the hi-tech SME PIELLE with the external support of the material supplier SOLVAY SOLEXIS S.p.A. is furthered into products providing concrete advancement to the whole partnership of the SMEs covering the whole manufacturing value-chain. The products and associated business generated are relevant for the strong impact at European level in smart products, and to develop knowledge relevant to implement the concepts into advanced systems and products in diverse technical fields.

Coordinator: RINA CONSULTING SPA from:IT

participant: PIELLEITALIA SRL

participant: LUSI UNION SILUSI SRL

participant: INSTITUTO TECNOLOGICO DEL CALZADO Y CONEXAS

# BETITEX

Project title: Development of sustainable textiles against bugs

Start Date: 2013-11-01 End Date:2016-10-31

Most frequent returning words in objectives:

* ('bedbugs', 7)
* ('ticks', 6)
* ('textiles', 3)
* ('protection', 3)
* ('diseases', 3)
* ('Europe', 3)
* ('insecticide', 3)
* ('biocides', 3)
* ('project', 2)

The aim of this project is to create textiles capable of providing the user with protection in front of bugs such as ticks and bedbugs.  
On the one hand, ticks are important vectors of human and animal diseases, besides causing hurts and irritant bites. Currently, these diseases are more usual than past years, mainly due to: climate change and so continuously new pathogens transmitted by ticks. Ticks can be found mostly in East Europe and Central Europe.  
Regarding to bedbugs, a wide range of explanations have been proposed for the increase, including climate change, increased human movement, changes in insecticide use patterns, and reduced insecticide susceptibility of the bedbugs. Current evidence indicates that bedbugs are making a comeback in Europe.  
Although ticks and bedbugs are present in different environments, they have a similar behaviour, they can be attacked by the same kind of biocides and both of them are carriers of diseases and can cause irritating bites.  
Nowadays the most used method is using a repellent-spray. These sprays contain biocides responsible of providing with protection to the user. There are a lot of biocides that can generate repellence and/or that can work as an insecticide. However, not all of them are accepted by the European Biocides Directive (98/8/EC) due to their toxicity and their environmental impact.  
With this project, the current problems and lacks of obtaining protection against bugs (ticks and bedbugs) will be solved.  
As a result, the associations of the consortium can take advantage of the R&D tasks carried out by the Technological Centres and so, offering to the SMEs solutions for getting protective textiles for ticks and bedbugs attack mainly focused on two sectors: PPEs (outside workers) and home/linen textiles (indoor fabrics).

Coordinator: GREMI TEXTIL DE TERRASSA from:ES

participant: INOTEX SPOL SRO

participant: SILK&PROGRESS SPOL RO

participant: FUNDACION TECNALIA RESEARCH & INNOVATION

participant: IQAP MASTERBATCH GROUP SL

participant: TEXCLUBTEC

participant: GEM INNOV SAS

participant: LA INDUSTRIAL ALGODONERA SA

participant: ACONDICIONAMIENTO TARRASENSE ASSOCIACION

participant: CLUTEX - KLASTR TECHNICKE TEXTILIE

participant: ASOCIACION DE EMPRESARIOS TEXTILES DE LA REGION VALENCIANA

# MyWear

Project title: Customized Green, Safe, Healthy and Smart Work and Sports Wear

Start Date: 2011-12-01 End Date:2014-11-30

Most frequent returning words in objectives:

* ('developed', 4)
* ('wear', 3)
* ('products', 3)
* ('project', 2)
* ('smart', 2)
* ('work', 2)
* ('sport', 2)
* ('data', 2)
* ('solutions', 2)

The MY Wear project will develop a new generation of customised, green, safe, healthy and smart work wear and sport wear products for elderly, obese, diabetics and disabled. Therefore a specific reference framework will be set up based on an innovative data integration platform gathering consumers data, during both products orders and usage, for customisation and extended services providing comfort, safety and health related functionalities to the addressed target groups. Moreover, high tech solutions for the production processes of both smart textiles and customised footwear will be developed in the MY Wear project. Particularly a textile intrinsic communication layer will be designed and developed to provide garments and shoes sensing and monitoring capabilities. Furthermore, adaptive footwear production processes will be developed, based on advanced CAD-CAM tools and flexible robot cells and sole injection solutions, for the manufacturing of personalised shoes. New high performing and recyclable components for safe and healthy sport and work wear will be developed, as well as LCA and eco-design tools for the development of green consumer products.

Coordinator: BASE PROTECTION SRL from:IT

participant: SYNESIS-SOCIETA CONSORTILE A RESPONSABILITA LIMITATA

participant: P&R TEXTEIS SA

participant: KLOECKNER DESMA Schuhmaschinen GmbH

participant: CENTRO TECNOLOGICO DAS INDUSTRIAS TEXTIL E DO VESTUARIO DE PORTUGAL

participant: LONGHI SA

participant: CONSIGLIO NAZIONALE DELLE RICERCHE

participant: Ohmatex ApS

participant: ROPARDO SRL

# ECOMETEX

Project title: Ecodesign methodology for recyclable textile coverings used in the  
European construction and transport industry

Start Date: 2012-05-01 End Date:2015-04-30

Most frequent returning words in objectives:

* ('methodology', 6)
* ('coverings', 4)
* ('product', 4)
* ('Ecodesign', 3)
* ('textile', 3)
* ('material', 3)
* ('design', 2)
* ('comprises', 2)
* ('life', 2)

The overall aim of EcoMeTex is to develop a tailored Ecodesign methodology for optimising the design of textile coverings with regard to eco-efficiency and cost-effectiveness. This comprises an analysis of the entire life cycle identify significant environmental and economic impacts and hence potential for improvement guaranteeing high product quality, as well as high product safety. Life Cycle Assessment (LCA) allows to identify the crucial weak points in the life cycle and to assess improvement strategies to achieve an environmentally sensitive product design. LCA informs designers and developers concerning the implications of their choices on the environmental impacts and is therefore a decision-making tool. The innovative methodology faces the challenge to solve the paradox of textiles coverings: on the one hand the bonding of the multi layers has to be solid; on the other hand the multi layers have to be easy to dismantle for recycling. Applying this methodology a closed loop system of resources is realised, enabling material recycling. Re-design comprises not only optimisation of currently used material sets or manufacturing and distribution processes but also product and process innovations: It covers the development of innovative material adaptations as well as new approaches within the manufacturing process, recovery and reuse stage itself. The feasibility of the re-design concepts will be proven by producing prototypes of eco-designed textile floor coverings from the construction sector. The work will be completed by describing the methodology in a Code of Pratice which will be implemented in a customised, practical and intuitive software tool. The Ecodesign methodology will provide additionally a communication scheme for external communication based upon LCA results too. The transferability of the Ecodesign methodology for textile coverings to other sectors will be analysed using the example of luggage cover representing the transport sector.

Coordinator: RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN from:DE

participant: INTERFACE EUROPEAN MANUFACTURING BV

participant: KLIEVERIK HELI BV

participant: SIOEN INDUSTRIES NV

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: ECODESIGN COMPANY ENGINEERING & MANAGEMENT CONSULTANCY GMBH

participant: INTERFACE NEDERLAND BV

participant: ANKER-Teppichboden Gebr. Schoeller GmbH + Co.KG

participant: OERLIKON TEXITLE GMBH & CO. KG

participant: AQUAFIL SPA

participant: INTERFACE EUROPE LTD

participant: BONAR BV

participant: EUROPEAN CARPET AND RUG ASSOCIATION AISBL

participant: TFI - INSTITUT FUR BODENSYSTEME ANDER RWTH AACHEN EV

participant: GNEUSS GMBH

# AtexDeDust

Project title: Atex Deduster for small particles

Start Date: 2011-11-01 End Date:2013-10-31

Most frequent returning words in objectives:

* ('filter', 5)
* ('systems', 3)
* ('production', 3)
* ('design', 2)
* ('cleaning', 2)
* ('atmospheres', 2)
* ('mobile', 2)
* ('instrumentation', 2)
* ('size', 2)

AtexDeDust is a partnership of European SMEs that have identified a promising new design and functionality for air cleaning systems in industrial scale. The proposal addresses dust/air systems according to the ATEX Directive for systems with hazard of explosive atmospheres as well as standard applications in a wide range of production lines. Especially we focus on smart, mobile instrumentation to meet the demands of modern production management. This new technology will guarantee safe air pollution control inside production estates and in the output to environment for a wide size of particulate in air and gases. It overcomes the risks of potential explosive atmospheres of dust concentration inside the housing during the periodic regeneration process of the filter elements. Though it allows mobile instrumentation in smarter size, supply with common electric and electronic components and a better filtration performance compared to the state of the art.  
One main feature to reach this objectives is the use of a improved textile filter material with mani-fold air permeability. This succeed in a diminishing of the pressure loss about the filter layer thereby reducing energy consumption . Combining new approaches in air flow pattern, in filter design, in new cleaning method to dislodge the dust cake from filters and in sophisticated filter material, it will increase the performance of the filtration system.

Coordinator: NOVUS VERFAHRENSTECHNIK GMBH & CO.KG from:DE

participant: TECHNISCHE UNIVERSITAET WIEN from:AT

participant: ENVIFILTER AS from:DK

participant: PAWEL BABRAJ BAMET from:PL

# BABYCARESLEEP

Project title: Development of a non-invasive baby sleep monitoring and intelligent control system for the prevention of unexpected death in previously healthy babies and early detection of risky situations

Start Date: 2013-11-01 End Date:2016-01-31

Most frequent returning words in objectives:

* ('system', 5)
* ('sleep', 4)
* ('SIDS', 3)
* ('year', 3)
* ('infants', 3)
* ('textiles', 3)
* ('life', 2)
* ('Europe', 2)
* ('disease', 2)

Sudden Infant Death Syndrome (SIDS) is the highest cause of death in the post‐neonatal period (between 2nd and 6th month of life). Only in Europe, each year 2 400 infants still die of SIDS, an unexpected disease happening to infants who die in their sleep with no evidence of accidental asphysia, inflicted injury or organic disease; being a multifactorial syndrome mainly related to overheating, prolonged apnea, gastroesophageal reflux or inadequate bedding system and posture. In addition, SIDS is ten times more frequent within preterm newborns, around 385 000 babies per year are born preterm in Europe.  
  
BabyCareSleep project aims to develop a novel non-invasive intelligent monitoring system to prevent unexpected deaths in previously healthy infants and to detect risky situations in an early stage. Integrated in the cot through biosensing textiles, matrices of sensors will detect the most relevant biological parameters that will enable the detection of potential risky situation and performing preventive actions. The preventive system will stimulate sufficiently the baby’s brain (generate a sleep arousal) avoiding infant's hypoxia and resuming breathing activity and will be so gentle to not awake the baby from sleep.  
  
As a result, the SMEs will strength their competitive position facing foreign competition, achieving cumulative benefits during the four year of post-project commercialization over €10 million. In addition, our proposed system will help to avoid dramatic situations in families and at the same time will give confidence to parents by a non-invasive and cot-integrated monitoring and warning system that will improve their quality of life.  
  
BabyCareSleep project will count with all the involved SME through the supply chain (textiles, electronic & communication, mattresses and a paediatrician sleep clinic); with RTDs of biomechanics, smart textiles and intelligent control systems; and with the support of a association for paediatric research.

Coordinator: COLCHONES DELAX SL from:ES

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: THE UK INTELLIGENT SYSTEMS RESEARCH INSTITUTE LIMITED

participant: Cogent Technology Ltd

participant: INSTITUTO DE BIOMECANICA DE VALENCIA

participant: ASOCIACION PARA ESTUDIOS DE INVESTIGACION EN PEDIATRIA

participant: VDS WEAVING NV

# TAGS

Project title: Textiles for Ageing Society

Start Date: 2012-01-01 End Date:2015-12-31

Most frequent returning words in objectives:

* ('institutions', 4)
* ('products', 3)
* ('care', 3)
* ('needs', 2)
* ('clothing', 2)
* ('textile', 2)
* ('quality', 2)
* ('manufacturers', 2)
* ('and/or', 2)

The elderly have specific needs for clothing and other textile products, for personal hygiene or medical reasons. Improvements in these products will significantly increase their quality of life and improve the effectiveness of medical and social care services. The optimum way to achieve significant advances is through a concerted and coordinated effort by innovators, manufacturers and end-users to address the multiple concerns related to product and/or process development, including: translation of often subjective assessments into quantitative measures of quality, availability of new technologies, and the feasibility of incorporating new technologies in the manufacturing chain.  
  
The aim of the “TAGS” consortium is to bring together the elderly, social and medical care institutions, research institutions, technology transfer institutions and manufacturers to identify: specific requirements of the elderly and care institutions; latest developments in materials science and technology that will help meet these requirements; and strategies to incorporate developments in the manufacturing chain. The goal is to improve or innovate products and/or processes to meet the specific clothing and textile needs of a growing sector of the European population.

Coordinator: UNIVERSITAET INNSBRUCK from:AT

participant: VORARLBERGER KRANKENHAUS-BETRIEBSGESELLSCHAFT MIT BESCHRANKTER HAFTUNG

participant: ANZIANI E NON SOLO SOCIETA COOPERATIVA SOCIALE

participant: THURINGISCHES INSTITUT FUR TEXTIL-UND KUNSTSTOFF-FORSCHUNG RUDOLSTADTEV

participant: DEMOCENTER -SIPE CENTRO SERVIZI PERL'INNOVAZIONE E IL TRASFERIMENTO TECNOLOGICO SCRL

participant: FONDAZIONE DEMOCENTER-SIPE

participant: VEREIN ZUR FOERDERUNG DER FORSCHUNG UND ENTWICKLUNG IN DER TEXTILWIRTSCHAFT

participant: CONNEXIA - GESELLSCHAFT FUR GESUNDHEIT UND PFLEGE GMBH

participant: TESSITURA FLORIDA SRL

participant: NONWOVENS INNOVATION AND RESEARCH INSTITUTE LIMITED

participant: STAFF JERSEY SRL

# NO BUG

Project title: Novel release system and Bio-based Utilities for insect repellent textiles and Garments

Start Date: 2009-10-15 End Date:2013-10-14

Most frequent returning words in objectives:

* ('release', 4)
* ('textiles', 2)
* ('problems', 2)
* ('repellents', 2)
* ('systems', 2)
* ('project', 2)
* ('Novel', 2)
* ('biorepellents', 2)
* ('multilayer', 2)

In several applications of professional textiles and clothes mosquito repellency is an important issue. Two major problems arise: repellents currently in use are harmful, resistance to conventional repellents increases, and the lifetime of release systems is too short. Solving these two problems are the main goals of the NO BUG project. Novel biorepellents will be considered and evaluated as well as two release systems (multilayer coating and textile bioaggregates) in order to repel mosquitoes causing malaria or dengue. Novel release concepts are multilayer coatings and in situ release of the active compounds. Targeted prototypes are textiles for health workers and bed nets (mosquitoes). The project will study what are the best conditions of use of the biorepellents and how to integrate them in the textile products. Testing, exploitation and dissemination will be an active part of the work.

Coordinator: UNIVERSITEIT GENT from:BE

participant: UTEXBEL NV

participant: BodyKnit v.o.f.

participant: PAUL BOYE TECHNOLOGIES

participant: CENTRE NATIONAL POUR LA RECHERCHE SCIENTIFIQUE ET TECHNIQUE

participant: UNIVERSITAETSKLINIKUM BONN

participant: HOL-TEX GMBH

participant: JEAN CLAUDE GNONLONFOUN

participant: BODY WEAR RUHAIPARI KFT

participant: Research Foundation in Tropical Diseases and Environment

participant: S.C Ro CHALLENGES S.R.L

participant: WAGENINGEN UNIVERSITY

# ISABELLE

Project title: Integrated SAfety Benefit Estimation tooL for 2-wheeLErs

Start Date: 2012-06-01 End Date:2017-11-11

Most frequent returning words in objectives:

* ('2wheelers', 6)
* ('vehicles', 4)
* ('safety', 4)
* ('accidents', 3)
* ('motorcycles', 3)
* ('injury', 3)
* ('protective', 3)
* ('development', 3)
* ('motorcycle', 3)

'The traffic accidents, with 2wheelers like bicycles, motorcycles and mopeds, represent 23% of total road fatalities in EU. Even though until now there is no clear understanding of the mechanisms of injury of such vehicles. The lack of knowledge and uncertainties of the complex dynamics of 2wheelers accidents is limiting the advancement of protective equipment for them. This is a reason that most of the efforts for development of protective equipment were focused only on helmets and protective clothing and not on devices that would prevent the riders’ impacts with other vehicles or the environment i.e. for the development of motorcycle airbags rather contradictory results came out for their safety benefit attributed from the authors to the overestimation of neck-injuries from the dummy used in the crash-tests. Further electric 2wheelers and new types of innovative ultra-light electric vehicles that offer sustainable urban mobility are developed or already introduced in the market with similar concerns for their safety as the traditional 2wheelers. These types of vehicles are expected to increase their fleet due to their advantages in urban mobility, increasing also their proportion in traffic injuries if their safety concerns are not addressed.The goal of this project is to develop deeper understanding of the injury mechanisms of motorcycle accidents and a new framework for the assessment of safety of all 2wheelers. This project will be realized with focus on motorcycles but the developed methodology, and tools will be applicable to all other 2wheelers.The major expected results of this project are: (a) an ambulatory motion capture system, (b) new knowledge on motorcyclist’s kinematics, (b) development of a biofidelic numerical active human model, (c) better understanding of the motorcycle accident’s injury, (d) the creation of a database of simulations. The simulation database will be developed for motorcycles but it will be applicable to all other 2wheelers.'

Coordinator: ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS from:EL

# EASY-IMP

Project title: Collaborative Development of Intelligent Wearable Meta-Products in the Cloud

Start Date: 2013-09-01 End Date:2016-08-31

Most frequent returning words in objectives:

* ('production', 5)
* ('intelligent', 5)
* ('design', 4)
* ('sensors', 4)
* ('EASY', 3)
* ('product', 2)
* ('integrates', 2)
* ('products', 2)
* ('components', 2)

A (Meta-) product is now a customer driven customisable entity that integrates sensory/computing units, which are in turn connected to the cloud, leading to a paradigm shift from mass production to intelligent, over-the-web configurable products. Product design and production is however becoming highly complex and requires interdisciplinary expertise. The goal of EASY is to develop new methodologies, tools and ready-to-use components for designing and producing intelligent wearable products as Meta-Products. We propose a Cloud Computing enabled framework for the Collaborative Design and Development of Personalised Products/Services, combining embedded sensors and mobile devices with facilities for joint open development of enabling downloadable applications. The Meta-Products consist of intelligent wearables (clothing, footwear, accessories) equipped with embedded networks of sensors. Sensorial data will be communicated to smart phones via Bluetooth or Wifi. The required functionality will be configured by the end-users; the design, selection of components, sourcing of materials and sensors, virtual prototyping, as well as production planning and services integration is a collaborative process of all involved companies, designers, sensor producers, software developers and application experts. This infrastructure will enable all interested 3rd parties to offer new services to smart phone and EASY wearable users, resulting to an open platform of literally infinite applications in many target market. The EASY approach will be validated in three different industrial scenarios, i.e. rehabilitation, sport and games. The EASY-Consortium integrates competences on production methodology, system design and modeling, product lifecycle management, simulation and virtual reality, intelligent sensors, mobile-cloud systems, intelligent cloth design and production.

Coordinator: DEUTSCHES FORSCHUNGSZENTRUM FUR KUNSTLICHE INTELLIGENZ GMBH from:DE

participant: ATHENS TECHNOLOGY CENTER ANONYMI BIOMICHANIKI EMPORIKI KAI TECHNIKI ETAIREIA EFARMOGON YPSILIS TECHNOLOGIAS

participant: UNIVERSITE LUMIERE LYON 2

participant: SMART SOLUTIONS TECHNOLOGIES S.L

participant: FEDERATION OF THE EUROPEAN SPORTING GOODS INDUSTRY

participant: HYPERCLIQ IKE

participant: ATOS SPAIN SA

participant: INSTITUTO DE BIOMECANICA DE VALENCIA

participant: INTERACTIVE WEAR AG

participant: UNIVERZITETNI REHABILITACIJSKI INSTITUT REPUBLIKE SLOVENIJE-SOCA

participant: TIMOCCO LTD

# SUSTAFFOR

Project title: Bridging effectiveness and sustainability in afforestation / reforestation in a climate change context: new technologies for improving soil features and plant performance

Start Date: 2013-10-01 End Date:2015-12-31

Most frequent returning words in objectives:

* ('soil', 5)
* ('afforestation', 4)
* ('reforestation', 4)
* ('techniques', 4)
* ('Spain', 4)
* ('novel', 3)
* ('fibers', 3)
* ('sciences', 3)
* ('SUSTAFFOR', 2)

The aim of SUSTAFFOR (Bridging effectiveness and sustainability in afforestation / reforestation in a climate change context: new technologies for improving soil features and plant performance) is to conceive, produce, develop and on-field validate novel techniques aiming at improving afforestation / reforestation projects from an environmental, technical and economic point of view, as well as to explore the synergies between them.  
  
These novel techniques are:  
1. MULCHING TECHNIQUES, aiming at reducing the need for weeding and soil water evaporation:  
1.1. A flexible plate based on a mixture of bio-plastics in a matrix of a woven structure of vegetable fibers.  
1.2. A mat based on plant proteins and non-woven vegetable fibers.  
1.3. Different biodegradable mats made of woven and non-woven textiles based on natural fibers, strengthened with bio-resins.  
1.4. A reusable mat built with recycled rubber (worn-out tires and conveyor belts).  
2. SOIL CONDITIONERS, aiming at retaining and releasing water available for plants while improving soil structure and fertility. A mix of new generation hydro-absorbent polymers combined with fertilizer and growth precursors.  
  
All of them are built in Europe, made exclusively with local materials mainly coming from waste, and are either 100% biodegradable or re-usable inert material.  
SUSTAFFOR Partnership is:  
- 4 SMEs producing novel techniques: DTC, La Zeloise, Ecorub (Belgium) and Terracottem International (Spain)  
- 2 SMEs specialized on commercialization of reforestation and afforestation techniques: Terrezu (Spain, project coordinator) and Ceres (Poland)  
- 4 RTDs with different specializations: Forest Sciences Center of Catalonia (Spain, scientific and technical conception and design of afforestation and reforestation and soil sciences); IC2MP - Environmental and Material Chemistry Institute of Poitiers (France, soil sciences); Belgian Textile Research Centre (Belgium, materials sciences and mechanical tests) and Edma Innova (Spain, electronic and scientific equipment)

Coordinator: CONSORCI CENTRE DE CIENCIA I TECNOLOGIA FORESTAL DE CATALUNYA from:ES

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: ECORUB BVBA

participant: EDMA INNOVA SL

participant: TERREZU SL

participant: TERRACOTTEM INTERNACIONAL SL

participant: D.T.C. BVBA

participant: CERES INTERNATIONAL SP ZOO

participant: LA ZELOISE NV

# ENVIRONBOS

Project title: Isolation, Characterization and screening of environmental applications of Bio-Organic substances obtained from urban biomasses (EnvironBOS)

Start Date: 2011-06-01 End Date:2014-09-30

Most frequent returning words in objectives:

* ('research', 4)
* ('program', 3)
* ('wastes', 2)
* ('residues', 2)
* ('lines', 2)
* ('solar', 2)
* ('waste', 2)
* ('materials', 2)
* ('groups', 2)

The organic fraction of urban wastes can represent a rich source of bio-organic substances (BOS) easily available from urban facilities performing aerobic or anaerobic biodegradation of biomass residues; they may provide a large variety of BOS fitting a wide range of uses. The aim of the project is to explore the valorization of these residues by their use in the detoxification of other aqueous wastes. In particular, three research lines are of our interest:  
1- Determination of the photophysical and photochemical properties of BOS and main reactive species that are able to generate.  
2- Use of BOS as solar photocatalysts, possible participation in the self cleaning of the effluents and other related strategies for waste minimization.  
3- Use as templates for the synthesis of materials for environmental purposes, such as mesoporous titanium dioxide or nanoparticles of Ag, Si or Au.  
Four multidisciplinary groups from Argentina (Laboratorio de Especies Altamente Reactivas, from Universidad Nacional La Plata), with research lines focused on environmental chemistry and materials science, Brazil (Instituto de Química; Universidade de Sao Paulo) with research interests in laboratory and pilot waste treatment and development of industrial simulation procedures, Italy (University of Torino) with research interests in photochemistry, environmental and analytical chemistry as well as material science and Spain (Grupo Procesos de Oxidación Avanzada, Universidad Politécnica de Valencia), that investigates in solar photocatalysis, photophysics and textile engineering, will collaborate to carry out this group. A training program focused on early researchers and a diffusion program for the obtained results will also be implemented. With this background a exchange program to benefit the synergies between the groups is planed, as explained in detail at section B.

Coordinator: UNIVERSITAT POLITECNICA DE VALENCIA from:ES

# Emperor

Project title: The Emperor's New Clothes. Power Dressing in the Roman Empire from Augustus to Honorius

Start Date: 2013-09-01 End Date:2015-08-31

Most frequent returning words in objectives:

* ('Roman', 4)
* ('emperor', 4)
* ('representation', 4)
* ('emperors', 4)
* ('project', 3)
* ('status', 3)
* ('princeps', 2)
* ('clothes', 2)
* ('position', 2)

'This project will explore changes in the costume of the Roman emperor, his family and his court. My hypothesis is that we can track the development of an imperial wardrobe, which follows the gradual acceptance and consolidation of autocracy, from the plain woolen toga of the ideal princeps to the luxurious purple silks of the monarch. In terms of status representation, the early Roman emperors walked a tight rope between conforming to the supposed frugality and uniformity of their ancestors and being the rulers of the Roman world. For historical reasons they had to avoid allusions to monarchy and behave as 'first among equals' in their interaction with their senatorial peers. Changes in status display through clothes therefore mirror, I argue, the changing perception of the position of the emperor within the social hierarchy. This project will cover the time from the first princeps, Augustus, to the emperor Honorius (1st century BCE-5th century CE). In particular it will focus on the representation of 'good' vs. 'bad' emperors as the discourses surrounding them are highly ideologically charged. This will help to define the turning point(s) when the discourses changed and permitted 'good' emperors to wear precious clothes. This, I believe, indicates that the position of the emperor at the top of the social hierarchy was now openly acknowledged and their corresponding status representation considered appropriate. My aim is to highlight the continuities and breaks as well as the idiosyncrasies that occurred during this process. I will take into account written sources (literature, legal texts, inscriptions, papyri) as well as archaeological ones (textile finds and depictions of the emperors and their close relations, e. g. in form of statues, reliefs, coins, consular diptychs and mosaics). This project will shed new light on the political and institutional history of the Roman Empire through the study of imperial dress and representation.'

Coordinator: KOBENHAVNS UNIVERSITET from:DK

# S(P)EEDKITS

Project title: Rapid deployable kits as seeds for self-recovery

Start Date: 2012-03-01 End Date:2016-02-29

Most frequent returning words in objectives:

* ('materials', 4)
* ('weight', 3)
* ('kits', 3)
* ('project', 3)
* ('Cross', 2)
* ('emergency', 2)
* ('units', 2)
* ('disaster', 2)
* ('sanitation', 2)

Humanitarian organisations like the Red Cross have sleeping emergency response units (ERU), which start acting immediately after disaster strikes. Each ERU has a specific function, e.g. medical care, sanitation, energy provision, or water supply.  
Current equipment solutions will be scanned and bottlenecks with respect to large volumes and/or heavy weight will be identified. Then, novel materials and concepts will be developed to drastically reduce the volume and weight for transportation.  
Examples of targeted innovations: lightweight but durable and thermally isolating tent materials, novel concepts for energy supply (biogas from sanitation), textile to line pit latrines, light weight textiles to store and distribute water and smart packaging of materials (matryoshka doll principle, i.e. smaller units in medium ones in larger ones, the smallest transportable by single persons).  
Settlement kit modules will be developed that can be used for debris recuperation and re-use of damaged facilities. This is crucial as the recent trend in emergency aid is to stimulate as early as possible the self-repair. These kits can be inserted in an affected area (affected city, improvised camp, rural region) to regain as quickly as possible a ‘temporary’ economic and social life.  
For reaching the ambitious goals, the project team consists of carefully selected partners. The project will be guided by a humanitarian actor (Red Cross). Further, key partners, experts in material and structural engineering, industrial design and architecture, are added for the design of shelters and their materials and for packaging and logistics.  
This project will provide kits that can be pre-positioned and mobilized very quickly and easily, that are modular and adaptable, low cost, high-tech in their conception but low-tech in use. These anticipated kits can literally improve the lives of millions of peoples the first hours, days and weeks after a major disaster and this for years to come.

Coordinator: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE from:BE

participant: SIOEN INDUSTRIES NV

participant: HET NEDERLANDSE RODE KRUIS

participant: FEDERATION INTERNATIONALE DES SOCIETES DE LA CROIX-ROUGE ET DU CROISSANT-ROUGE - SHELTER RESEARCH UNIT ASBL

participant: VRIJE UNIVERSITEIT BRUSSEL

participant: STIFTELSEN FLYKTNINGERADET

participant: STICHTING PRACTICA

participant: MILLSON BV

participant: AIDE INTERNATIONALE DE LA CROIX-ROUGE LUXEMBOURGEOISE ASBL

participant: RINA CONSULTING SPA

participant: IBBK FACHGRUPPE BIOGAS GMBH

participant: STICHTING WASTE

participant: ARTSEN ZONDER GRENZEN (MEDECINS SANS FRONTIERES NEDERLAND) VERENIGING

participant: POLITECNICO DI MILANO

participant: TECHNISCHE UNIVERSITEIT EINDHOVEN

# KIDSIZE

Project title: Development of a new extended product-service to overcome size assignment and fitting barriers for children fashion on-line market addressing customer needs

Start Date: 2013-10-01 End Date:2016-03-31

Most frequent returning words in objectives:

* ('childrenswear', 4)
* ('online', 3)
* ('size', 3)
* ('children', 3)
* ('body', 3)
* ('years', 3)
* ('consumer', 2)
* ('industry', 2)
* ('e-Commerce', 2)

E-commerce has become a focal point of expansion and growth for the consumer goods industry. This rapidly expanding trend provides an opportunity for childrenswear manufacturers to introduce new commercialization channels, enabling to reach a global audience by selling their products directly to customers and being able to open 24 hours a day, seven days a week. However, the childrenswear sector is not fully taking advantage of e-Commerce, where only 5-7% of all childrenswear is being sold online, compared to clothing in general with 10% or 50% of all computers or 61% of all books. Online apparel retailers have a 40% return rate, the highest return rate in e-commerce, being bad fit the main barrier for the online market, causing 75% of these returns.  
  
It is therefore that KIDSIZE project will develop an added value service to overcome size assignment and fitting barrier, facilitating the adequate selection of size when buying both online and in normal shops without the presence of the children. KIDSIZE system will enable to capture the 3D children body shape at home with easy to use, low cost and wide available consumer technology. The optimal size will be proposed according to body shape and growing patterns, being supported by a 3D European children database, covering child measures from 2 to 12 years and pediatric body measures for babies under 2 years, while visualizing fitting. This system, will lead to an increase of the European childrenswear industry competitiveness, withstanding both LLC competition in brick and mortar stores as well as foreign competition on the e-Commerce market.  
  
Our consortium is formed by 4 AG´s: CFE, ASEPRI, NOVA CHILD and FINATEX, 3 RTD Performers IBV, ISRI and OZONGO, specialized in anthropometrics, ICT and e-commerce respectively and 2 SMEs TUCTUC and MYLLYMUKSUT  
Direct exploitation of the results of the project will provide the SME community an expected cost-savings/benefits of €130,5 Million in 5 years after the end of the projec

Coordinator: EUROPEAN CHILDRENS FASHION ASSOCIATION from:ES

participant: STAR TEXTIL SA

participant: BRAVOTEX II - PRODUCAO E COMERCIALIZACAO TEXTIL SA

participant: THE UK INTELLIGENT SYSTEMS RESEARCH INSTITUTE LIMITED

participant: ASSOCIATION POUR LE PILOTAGE DES PROJETS RECHERCHE-ENTREPRISE DU POLE ENFANT

participant: ASOCIACION ESPANOLA DE PRODUCTOS PARA INFANCIA

participant: INSTITUTO DE BIOMECANICA DE VALENCIA

participant: GROUPE SALMON ARC EN CIEL

participant: PRIMER PUESTO SL

# RADCARPET

Project title: Radiant heating wall-to-wall carpet for energy efficiency space heating of existing non-residential buildings

Start Date: 2013-10-01 End Date:2015-09-30

Most frequent returning words in objectives:

* ('energy', 10)
* ('buildings', 9)
* ('carpet', 4)
* ('consumption', 3)
* ('RADCARPET', 3)
* ('heating', 3)
* ('thermal', 3)
* ('tuft', 3)
* ('conductive', 3)

Energy efficiency is using less energy while maintaining an equivalent service. EU set a target for 2020 of saving 20% of primary energy consumption. Nearly 40% of the energy is consumed by buildings. Large efforts are being invested in future low energy buildings, but the reality is that existing buildings represent 99% of the stock. The EPBD recast sets minimum requirements for existing buildings: Member States must set targets for the transformation of existing buildings into near zero energy buildings by 2014 (consuming 40-60 kWh/m2). Thus the current average energy consumption (150 -300 kWh/m2) will need to be reduced by <75%. Few innovative technical systems in the market are directed and optimised for the efficient use of energy in existing buildings. Therefore RADCARPET will be a radiant heating wall-to-wall carpet covering the floor surface of non-residential buildings (offices, hotels and educational buildings) that will work as a space heating system. The radiant heat from the RADCARPETED floor is naturally energy-efficient and will save up to 75% of thermal energy (in comparison to radiators and HVAC) an still produce an improve thermal comfort. RADCARPET will be tuft carpet including a thermal conductive tuft made of novel fibers, intermediate non-woven electro-thermal heating fabric made of novel conductive textile fibres, an insulating secondary backing, and a SMART control system. Being a carpet, it will be a non-intrusive, simple and inexpensive solution for building renovation to reduce energy consumption, thus overcoming the obstacles for existing building refurbishment (expensive, lengthy works, inconvenient). The economic impact of RADCARPET in 11 EU countries is 107€ million in 5years post project. Our consortium is composed of R-STAT (French conductive fiber producer, coordinator), MAXI (German non-woven manufacturer), TISCA (Swiss tuft carpet manufacturer) and CASACLIMA (Italian end user agency certification of building energy efficiency).

Coordinator: R STAT SAS from:FR

participant: AGENZIA CASA CLIMA SRL

participant: TIARA-TEPPICHBODEN AG

participant: AGENZIA PER L'ENERGIA ALTO ADIGE -CASACLIMA

participant: TECNOLOGIAS AVANZADAS INSPIRALIA SL

participant: MAXITEX GMBH

# REEMAIN

Project title: Resource and Energy Efficient Manufacturing

Start Date: 2013-10-01 End Date:2017-09-30

Most frequent returning words in objectives:

* ('energy', 9)
* ('REEMAIN', 6)
* ('resource', 4)
* ('production', 3)
* ('manufacturing', 3)
* ('project', 3)
* ('knowledge', 2)
* ('simulation', 2)
* ('planning', 2)

REEMAIN combines cutting edge knowledge and experience from production processes, professional energy simulation, energy and resource planning, and renewable energy and storage to develop and demonstrate a methodology and platform for the boost, of efficiency resources.  
  
Based on the knowledge of who are the energy consumers in manufacturing REEMAIN offers 3 solutions. 1) Innovation in technologies for better use of renewables. 2) Predictive simulation models for production. 3) Factory energy and resource planning tools.  
  
The project will try to validate all the solutions in the Fraunhofer IWU “Research Factory”. After that, REEMAIN demonstration activities will take place in 3 different strategic EU factories: Bossa textiles, Gullon biscuits and SCM foundry. Through these factories, REEMAIN will demonstrate to industries which account for more than 50% of CO2 emissions and more than 20% consumption of electricity in industry. These industries represent a balance between carbon-embodied production and energy intensive sectors.  
  
REEMAIN will pursue four high impact exploitation avenues. 1) We will link to existing Standards and eco-factory labeling concepts. 2) We will lead an “MTP project extension” 3) We will participate in the creation of CEN workshops, CEN technical committees or standards. 4) we will communicate REeMAIN project results to target.  
  
Within this framework, REEMAIN then moves toward zero carbon manufacturing and Energy Efficiency 2.0 through the intelligent employment of renewable energy technologies and resource saving strategies that consider energy purchase, generation, conversion, distribution, utilization, control, storage, re-use in a holistic and integrated way.  
  
Our vision is that Europe REEMAINs the world leader in sustainability through energy and resource efficient manufacturing.

Coordinator: FUNDACION CARTIF from:ES

participant: GALLETAS GULLON SA

participant: YOURIS.COM

participant: ASOCIACION ESPANOLA DE NORMALIZACION

participant: SCM GROUP SPA

participant: BOSSA TICARET VE SANAYI ISLETMELERITURK ANONIM SIRKETI

participant: FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

participant: DR. JAKOB ENERGY RESEARCH GMBH & CO. KG

participant: DE MONTFORT UNIVERSITY

participant: EST ENERJI SISTEM TEKNOLOJILERI SANAYI IC VE DIS TICARET LIMITED SIRKET

participant: ACCADEMIA EUROPEA DI BOLZANO

participant: ULI JAKOB

participant: SOLERA GMBH

participant: SCM FONDERIE SRL

participant: R2M SOLUTION SRL

participant: INTEGRATED ENVIRONMENTAL SOLUTIONS LIMITED

participant: Centro di Ricerca e Innovazione tecnologica srl

# PILOTMANU

Project title: Pilot manufacturing line for production of highly innovative materials

Start Date: 2013-10-01 End Date:2017-09-30

Most frequent returning words in objectives:

* ('materials', 5)
* ('pilot', 4)
* ('facility', 2)
* ('powder', 2)
* ('manufacturing', 2)
* ('line', 2)
* ('results', 2)
* ('SMEs', 2)
* ('technology', 2)

The vision of PilotManu is the upscale of the current mechanical alloying technological facility into a powder manufacturing pilot line by further developing existing IPR-covered results owned by the SMEs in the consortium related to mechanical alloying technology and to innovative powder materials for different applications.  
The baseline technology that will be upscaled from a technological facility status into pilot scale, is the High Energy Ball Milling machine, able to deliver innovative materials for new product lines developed by SMEs and industrial partnership that will lead the technological upscale.  
The project will demonstrate the technological and economical viability of the pilot line by implementing advanced materials into coatings, abrasive tool and additive manufacturing applications.  
Additional application sectors will be represented in the business cases by analyzing the cost/benefits of using the following new materials: Mg hydrides for hydrogen storage, thermoelectrics for energy harvesting, flame retardant textile and polymer nanocomposite for rapid prototyping.  
The potential impact brought by the new HEBM pilot production will be transversal also in all those technological sectors demanding high performance and outstanding material properties not achievable by conventional products. These huge un-exploited knowledge reservoir related to materials produced via HEBM or Mechanical Alloying will be unlocked by the Pilot Manu production system able to bring these results into the market.

Coordinator: MBN NANOMATERIALIA SPA from:IT

participant: ARTIDOKSAN HIZLI IMALAT TEKNOLOJILERI SANAYI VE TICARET AS

participant: FUNDACION IMDEA MATERIALES

participant: MATRES SCRL

participant: IMPACT-INNOVATIONS-GMBH

participant: Centre for Process Innovation Limited

participant: Manudirect s.r.l.

participant: INSTYTUT OBROBKI PLASTYCZNEJ

participant: PUTZIER OBERFLACHENTECHNIK GMBH

# 2BFUNTEX

Project title: BOOSTING COLLABORATION BETWEEN RESEARCH CENTRES AND INDUSTRY TO ENHANCE RAPID INDUSTRIAL UPTAKE OF INNOVATIVE FUNCTIONAL TEXTILE STRUCTURES AND TEXTILE RELATED MATERIALS IN A MONDIAL MARKET

Start Date: 2012-01-01 End Date:2015-12-31

Most frequent returning words in objectives:

* ('textile', 6)
* ('materials', 6)
* ('research', 6)
* ('universities', 3)
* ('SMEs', 3)
* ('worldwide', 3)
* ('exploit', 2)
* ('structures', 2)
* ('field', 2)

2BFUNTEX will exploit the untapped potential in functional textile structures and textile related materials. It will bring together all innovation actors in the field fostering a multidisciplinary approach between universities, research institutes, SMEs (in textile 95% of the companies are SMEs) and sector associations. The 2BFUNTEX team will identify technological gaps and will eliminate barriers resulting in a faster industrial uptake of added value functional materials with new functionalities and improved performance and resulting in creation of new business worldwide.  
Technological needs will be mapped, new joint international research disciplines will be identified and multi¬disciplinary lab teams will be created between universities, research institutes and SME research departments. International cooperation will be favoured to exploit the worldwide market expansion potential. Industry will be involved at all stages of the process and will be able to adapt production methods, management and distribution in an early stage. The inventory will enlarge the team of important textile universities and renowned materials research centres and will identify new collaborations. Synergy will be reinforced and created which will enable to identify and develop new functional materials.  
Training material for research and industry purposes regarding functional materials will be elaborated and implemented European and worldwide. This material will be designed also for sector organisations to train technical people in their SMEs. It will allow a common language regarding functional textile structures and textile related materials, and will increase the number of well-trained people in this field.  
2BFUNTEX will organise and participate in conferences, workshops and brokerage events. Along with a website with an extensive database comprising all information gained throughout the inventory phase, collaboration will be boosted and rapid industrial uptake catalysed and enhanced.

Coordinator: UNIVERSITEIT GENT from:BE

participant: KIEV NATIONAL UNIVERSITY OF TECHNOLOGIES AND DESIGN

participant: ITKIB ITA EGITIM ARASTIRMA VE DANISMANLIK LIMITED SIRKETI

participant: VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.

participant: INOTEX SPOL SRO

participant: AIT AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH

participant: FUNDACION TEKNIKER

participant: Teknologian tutkimuskeskus VTT Oy

participant: UKRAINIAN CHAMBER OF COMMERCE AND INDUSTRY

participant: TEKNOLOGISK INSTITUT

participant: UNIVERSITEIT TWENTE

participant: ISTANBUL TEKNIK UNIVERSITESI

participant: AUTEX VZW

participant: OZTEK TEKSTIL TERBIYE TESISLERI SANAYI VE TICARET AS

participant: CONSIGLIO NAZIONALE DELLE RICERCHE

participant: POLITECHNIKA WARSZAWSKA

participant: EGE UNIVERSITY

participant: NORTH WEST TEXTILES NETWORK LIMITED

participant: SAECHSISCHES TEXTILFORSCHUNGSINSTITUT E .V.

participant: ASSOCIATION UP-tex

participant: TECHNITEX FARADAY LIMITED

participant: UNIVERSITATEA TEHNICA GHEORGHE ASACHI DIN IASI

participant: KAUNO TECHNOLOGIJOS UNIVERSITETAS

participant: SVUM AS

participant: TEKNOLOGIAN TUTKIMUSKESKUS VTT

participant: FUTURE IN TEXTILES ASSOCIATION

# MULTITEXCO

Project title: High Performance Smart Multifunctional Technical Textiles for the Construction Sector

Start Date: 2013-10-01 End Date:2016-09-30

Most frequent returning words in objectives:

* ('construction', 6)
* ('textiles', 5)
* ('materials', 4)
* ('sector', 4)
* ('structures', 3)
* ('design', 3)
* ('developed', 2)
* ('research', 2)
* ('projects', 2)

In the last decade, advanced textiles materials have been developed as a result of a number of research and innovation projects addressing in particular the construction sector, which represent one of the biggest markets for textile products. Examples of advanced textiles for the construction sector comprise fabrics used for the rehabilitation of buildings, providing both strengthening and monitoring functions, geotextiles for the stabilisation and monitoring of soil structures such as railway, roadway embankments or coastal protection structures, high performance technical textiles for tensile structures used for covering large areas such as stadiums or exhibition areas, and textiles used in advanced roofing systems.  
However, despite of the above benefits, many building practitioners are unfamiliar with the behaviour and the characteristics of these materials. The lack of information about the use and the properties of these materials from the design and construction community limits their capability of achieving the highest possible standards in quality assurance and control construction projects.  
For these high performance materials the current design code or regulation may or may not be applicable: in general new codes or specifications or guidelines for their use or testing procedures are required to be developed for the purpose of design, construction and testing purpose.  
The overall objective of the MULTITEXCO project is to scientifically and technologically characterise the latest achievements in technical textile sector for the development of Guideline and Pre-normative research enabling future standards at EU level aiming at supporting the SMEs involved in the construction sector to fully exploit the new generation of multifunctional technical textiles.

Coordinator: TEXCLUBTEC from:IT

participant: VEREINIGUNG DER PRUEFINGENIEURE FUER BAUSTATIK LANDESVEREINIGUNG BADEN-WUERTTEMBERG EV

participant: Maco Technology srl

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: SELCOM SRL

participant: UNITEX VZW

participant: ASOCIACION DE EMPRESARIOS DE LA CONSTRUCCION, PROMOCION Y AFINES DE LA RIOJA

participant: CLUBTEX ASSOCIATION

participant: CATI SANAYICI VE IS ADAMLARI DERNEGI

participant: RINA CONSULTING SPA

participant: ARIMEKS MUHENDISLIK MIMARLIK INSAAT SANAYI VE DIS TICARET LIMITED SIRKETI

participant: KARLSRUHER INSTITUT FUER TECHNOLOGIE

participant: CLUTEX - KLASTR TECHNICKE TEXTILIE

# Diaspora

Project title: West and East: Textile technologies and identities in the 1st millennium B.C. South Italy and Cyprus

Start Date: 2012-05-01 End Date:2014-04-30

Most frequent returning words in objectives:

* ('textile', 5)
* ('tools', 4)
* ('Textile', 2)
* ('record', 2)
* ('provide', 2)
* ('technologies', 2)
* ('information', 1)
* ('levels', 1)
* ('shape', 1)

Textile tools in the archaeological record provide significant yet so far unacknowledged information at three levels: (1) their shape and decorations highlight interaction between different cultural communities, (2) their findspots testify to the individuals' personal, occupational or gendered space in households and graves, and (3) textile tools' functional features illuminate the type of textiles that were once manufactured and thus visualise what has today been lost in the archaeological record. Textile tools are thus my key to the exploration of textile technologies and cultural identities in Iron Age contexts in South Italy and Cyprus, regions that have a mixed cultural heritage with Greek and Phoenician influx. The project utilises new textile tool analyses based on systematic experimental archaeology and introduces social agency theory for the first time in a textile context; this analysis of the textile producers and their tools will provide new knowledge to the discussion of socio-cultural dynamics and technologies in culturally mixed areas.

Coordinator: KOBENHAVNS UNIVERSITET from:DK

# INSYSM

Project title: Intelligent Systems for Structures Strengthening and Monitoring

Start Date: 2010-09-01 End Date:2014-08-31

Most frequent returning words in objectives:

* ('industry', 4)
* ('areas', 3)
* ('work', 3)
* ('cities', 2)
* ('infrastructure', 2)
* ('floods', 2)
* ('earthquakes', 2)
* ('change', 2)
* ('buildings', 2)

According to recent analyses, more than 29% of European citizens are concentrated in 500 largest cities of the continent. Most of these cities are now subjected, or will be in the near future, to significant modification of their urban texture, brought about by the exploitation of new areas and by redevelopment of old industrial sites or the construction of big and pervasive infrastructure. Urban areas modernization and natural calamities (floods, earthquakes, etc) bring the change of the work conditions of urban infrastructure – in many cases historical buildings. The consequence of this change is the necessity of strengthening. It was observed, that traditional methods for strengthening of buildings subjected to complex load layout are not always acting in most effective way, opposite, sometimes they caused hazardous situations. That was one of the main reasons why scientists and industry started to seek more flexible and problem oriented solutions. New strengthening systems came from other branches of industry - FRP (Fiber Reinforced Polymer), SRP (Steel RP) and TMR (Textile Reinforced Masonry) based on high performance fibers. Additionally, experience in other areas of industry (e.g. textiles, clothing etc.) indicates that some of strengthening fibers may also be monitoring sensors. INSYSM project creates innovative strengthening and sensing technologies based on the textile industry experiences. Strengthening equipped with monitoring system enables very powerful advantages. During all of the work phases collected measurements can picture performance of a whole structure, which can be used for continuous observation of the building and shall allow to master the strengthening solutions due to building real life work, also during accidental situations like floods, earthquakes etc.

Coordinator: POLITECHNIKA SLASKA from:PL

participant: FIDIA SRL

participant: FISIPE -FIBRAS SINTETICAS DE PORTUGAL SA

participant: EURO-PROJEKT BARTOSIK TOMASZ

# FLEXSENS

Project title: FlexSens: Chemical Sensors for the 21st Century

Start Date: 2011-09-01 End Date:2015-08-31

Most frequent returning words in objectives:

* ('sensors', 4)
* ('FlexSens', 3)
* ('objects', 3)
* ('life', 3)
* ('nanotubes', 3)
* ('work', 2)
* ('areas', 2)
* ('electronics', 2)
* ('textiles', 2)

FlexSens aims to develop extremely versatile sensing strategies that can be used for the widespread generation of chemical information. The flexibility of the platform, then, refers to its ability to adapt to different environments, conditions and users. The work intends to bridge the gap between current technological developments in areas such as flexible electronics, smart textiles, wireless sensing networks, etc., and recent progress in sensors for analytical chemistry. Under guiding principles of a minimized human intervention, widespread availability and reduced costs, FlexSens will create autonomous or extremely simple tools to perform routine determinations that will not require direct intervention of an expert. Two main research lines will be explored:  
1) Life embedded objects  
2) Low cost disposable sensors.  
In the first one, the project will explore the incorporation of sensors in objects used in our everyday life, especially textiles. In the second one, extremely cheap, disposable paper printed sensors will be generated. The enabling technology will be a combination of recent progress in carbon nanotubes potentiometric sensing and printed electronics using carbon nanotubes inks. The end goal of FlexSens is to provide a battery of analytical approaches that can converge with existing and emerging social and technological trends to help in the solution of urgent social needs in many diverse areas, such as healthcare, environmental analysis, food production, etc.  
Carbon nanotubes will be immobilized in different surfaces -paper, cotton, rubbers- and properly functinoalized to create electrodes to be used in a potentiometric sensing scheme. The ways to generate the working and reference electrodes, their incorporation into everyday life objects and their final assessment in real life applications will be aim of this work.

Coordinator: UNIVERSITAT ROVIRA I VIRGILI from:ES

# LMW

Project title: Living In a Material World

Start Date: 2011-05-01 End Date:2011-11-30

Most frequent returning words in objectives:

* ('research', 4)
* ('stage', 2)
* ('Yorkshire', 2)
* ('Huddersfield', 2)
* ('public', 2)
* ('materials', 2)
* ('researchers', 2)
* ('opportunity', 2)
* ('night', 2)

'Living in a Material World (LMW) will stage the first Researchers Night in the Yorkshire region of the UK to celebrate and showcase the exciting variety and blend of research taking place at the University of Huddersfield and our European Partners involved in Materials Science. LMW will create a platform for public interaction through an exciting array of events in which materials research is made visible and tangible and researchers from many different disciplines are afforded the opportunity to present interesting, and relevant science demonstrations in the context of a major event for the town and surrounding area of Huddersfield,Yorkshire. The night will embrace a diverse range of researchers from textiles, chemistry, pharmaceuticals, computing engineering, health sciences and professionals within industry who are actively engaged in materials research. LMW is an ambitious but achievable programme based around one of the most successful of the new Universities in the UK. LMW will stage a night to remember and provide a unique opportunity for young and older members of the public to see bright research talent putting on and sharing in a fantastic mix of education and entertainment for all to see and learn.'

Coordinator: THE UNIVERSITY OF HUDDERSFIELD from:UK

# SESW

Project title: Spinning in the Era of the Spinning Wheel 1400-1800

Start Date: 2010-06-01 End Date:2015-05-31

Most frequent returning words in objectives:

* ('England', 2)
* ('hand', 2)
* ('women', 2)
* ('history', 2)
* ('subject', 2)
* ('approaches', 2)
* ('introduction', 1)
* ('wheel', 1)
* ('Middle', 1)

From the introduction of the spinning wheel to England during the later Middle Ages to its eclipse by the powered spinning machine early in the nineteenth century, hand-spun yarn was vital to the success of the textile industries that dominated English manufacturing. Indeed, hand spinning of wool, flax and ultimately cotton became the principal income-generating activity pursued by women. For many of those women, it was also an essential means of furnishing their own families with textiles. Yet the history of spinning in the period has never been the subject of a major study in its own right. Spinning in the Era of the Spinning Wheel aims to rectify this anomaly. Its objective is to provide a comprehensive history of hand spinning in England between 1400 and 1800 that approaches the subject from the whole range of relevant perspectives, treating it as a practice that was at one and the same time material, technological, economic, commercial, legal, cultural, gendered, and global. This will involve an approach that is multi-disciplinary, embracing historical, literary, legal, technological and scientific approaches.

Coordinator: THE UNIVERSITY OF HERTFORDSHIRE HIGHER EDUCATION CORPORATION from:UK

# ANAGENNISI

Project title: Innovative Reuse of All Tyre Components in Concrete

Start Date: 2014-01-01 End Date:2017-06-30

Most frequent returning words in objectives:

* ('concrete', 11)
* ('tyre', 6)
* ('Development', 6)
* ('applications', 5)
* ('steel', 4)
* ('fibres', 4)
* ('elements', 4)
* ('reinforcement', 3)
* ('materials', 3)

An estimated one billion tyres are discarded each year. Post-Consumer tyre arisings for EU countries (2010) are 3.4M tonnes per year. At the moment nearly 50% of all recycled tyres/components still end up as fuel, in low grade applications or in landfill.  
  
All tyre constituents (rubber, high strength steel cord and wire, high strength textile reinforcement) are high quality materials and deserve to be reused for their relevant properties.  
  
Construction is the highest user of materials with concrete being the most popular structural material. Concrete is inherently brittle in compression (unless suitably confined) and weak in tension and, hence, it is normally reinforced with steel bars or fibres. The authors believe that highly confined rubberised concrete can lead to highly deformable concrete elements and structures and that tyre steel and textile fibres can be used as concrete reinforcement to control shrinkage cracking.  
  
Hence, the aim of this proposal is to develop innovative solutions to reuse all tyre components in high value innovative concrete applications with reduced environmental impact.  
  
To achieve this aim, the proposed project will have to overcome scientific and technological challenges in:  
• Development of novel confined rubberised concrete materials and reinforcement  
• Development of high deformability RC elements suitable for integral bridge elements and base isolation systems for vibrations and seismic applications  
• Development of concrete mixes using recycled steel fibres for use in various applications such as slabs on grade, suspended slabs, precast concrete elements and pumpable self compacting concrete or screed  
• Development of concrete mixes using recycled tyre polymer fibres for crack control  
• Development of novel concrete applications using combinations of the different tyre by-products  
• Undertaking demonstrations projects using the developed materials/applications  
• Development and implementation of standardised LCA/LCCA protocols

Coordinator: THE UNIVERSITY OF SHEFFIELD from:UK

participant: TECHNOLOGIKO PANEPISTIMIO KYPROU

participant: GRADMONT DOO ZA GRADEVINARSTVO INZENJERING PROMET I USLUGE GRADACAC

participant: IMPERIAL COLLEGE OF SCIENCE TECHNOLOGY AND MEDICINE

participant: TWINCON LIMITED

participant: GUMIIMPEX GUMI RECIKLAZA I PROIZVODNJA DD

participant: ZYP INGENERIA GEOMATICA SL

participant: EUROPEAN TYRE RECYCLERS ASSOCIATION

participant: COMSA SAU

participant: ADRIATICA RICICLAGGIO E AMBIENTE ABRUZZO SRL

participant: ARKADA DRUSTVO ZA IZGRADNJU, PROIZVODNJU, FINANCIRANJE, TRGOVINU, INZENJERING I PROJEKTIRANJE S OGRANICENOM ODGOVORNOSCU

participant: DULEX DOO, PROIZVODNJA, TRGOVINA IUSLUGE

participant: UNIVERSITATEA TEHNICA GHEORGHE ASACHI DIN IASI

participant: FHECOR INGENIEROS CONSULTORES SA

participant: ZEBRA GENERAL CONSTRUCTIONS LTD

participant: WERKOS DOO ZA INZENJERING U GRADITELJSTVU

# TRADE

Project title: Europe's Asian Centuries: Trading Eurasia 1600-1830

Start Date: 2010-09-01 End Date:2014-08-31

Most frequent returning words in objectives:

* ('Europe', 8)
* ('trade', 5)
* ('history', 5)
* ('India', 4)
* ('project', 3)
* ('material', 3)
* ('world', 3)
* ('Asia', 3)
* ('goods', 3)

The project brings global perspectives and interdisciplinary methods to bear on histories of industrialization, consumer and material culture. It investigates the key connector that transformed the early modern world: the long-distance trade between Asia and Europe in material goods and culture. That trade stimulated Europe s consumer and industrial revolutions, re-orientating the Asian trading world to European priorities. The twenty-first century sees a new Asian ascendancy: Europe has lost those manufacturing catalysts of textiles, ceramics and metal goods back to Asia. This project seeks to understand Europe s new challenge of Asia by charting the history of that first global shift between the pre-modern and modern worlds. Europe s pursuit of quality goods in the 17th and 18th Centuries turned a pre-modern encounter with precious and exotic ornaments into a modern globally-organized trade in Asian export ware. But ironically the result was Europe s industrialization and China s and India s displacement as the world s manufacturer. The project compares Europe s trade with India in high quality textiles with its trade with China in porcelain using the records of Europe s East India companies and major museum collections of export-ware objects. The PI will research the English East India Company together with a PhD student, and lead three postdoctoral fellows in comparative case studies on other European companies, especially the Dutch, the French and Scandinavian companies. The research is groundbreaking in bringing the study of traded products, material cultures and consumption into economic and global history, and in making economic history relevant to wider cultural history. It has the vision of a history over a long time period and wide European and Asian comparisons and connections.

Coordinator: THE UNIVERSITY OF WARWICK from:UK

# LEEToRB

Project title: Lightweight, Energy-Efficient Tooling for the Manufacturing of Rotor Blades

Start Date: 2013-05-01 End Date:2015-10-31

Most frequent returning words in objectives:

* ('tool', 10)
* ('tools', 5)
* ('process', 4)
* ('heating', 4)
* ('temperature', 4)
* ('self-heating', 2)
* ('energy', 2)
* ('cycle', 2)
* ('cavity', 2)

This proposal argues that the main objectives of the undertaking, light-weight and energy-efficient tools, can be achieved by the creation of self-heating composite tools which are appli-cable in an RTM process. The aim is to establish a set of full-sized rotor blade tools for a low-cost and energy efficient RTM cycle. This contains two tools (upper and lower mold) for preforming, consecutively referred to as “preforming tool” and two molds that form the impregnation and curing cavity, consecutively referred to as “RTM tool”.  
  
Considering the RTM tool, the self-heating property is to be achieved with heating elements that are integrated into the composite structure near the cavity surface. The carbon textile heat-ing elements are flexibly distributed in reference to the mould surface in such a manner, that temperature gradients over the entire tool can be created.  
During the project alternative systems which offer the equivalent potentials for heating like electrically heat able coatings will be considered and evaluated. Enhanced local heating device capable of high and homogeneous temperature for tool manufacturing will be investigated.  
Integration and enhancement of process simulation tools in the design process for the RTM tool will provide feedback on setup variants in terms of temperature and material property distri-bution like glass transition temperature and degree of cure, as well as the resulting part’s shape “as built”, and thereby will help to establish a RTM tool design including the advanced heating concept “first right”. Curing simulation is the tool of choice to analyse the thermal response of the tool part setup including the energy release due to the crosslinking reaction of the resin and is vital for virtual process and tool optimization.  
  
To verify the achievements concerning environmental impact a gate to gate life cycle assessment will be performed.

Coordinator: TECHNISCHE UNIVERSITAET MUENCHEN from:DE

participant: QPOINT COMPOSITE GmbH

# AT~SEA

Project title: ADVANCED TEXTILES FOR OPEN SEA BIOMASS CULTIVATION

Start Date: 2012-04-01 End Date:2015-07-31

Most frequent returning words in objectives:

* ('energy', 7)
* ('textile', 6)
* ('biomass', 6)
* ('project', 5)
* ('cultivation', 5)
* ('development', 4)
* ('textiles', 4)
* ('AT~SEA', 3)
* ('macroalgae', 3)

AT~SEA is a 3-year European project within FP7 (NMP work programme). The project aims at the development of advanced technical textiles in order to demonstrate the technical and economical feasibility of open sea cultivation of macroalgae (seaweed).  
The project targets the development of novel textile materials for 3 different elements of the aquatic biomass cultivation farms:  
• Advanced 3D multilayer textile substrates for seaweed cultivation  
• Advanced textile based cables and connections for positioning and anchoring of the 3D multilayer textile substrate  
• Advanced coated textiles for flexible and light-weight floatation tubes, as well as for storage and transportation tanks  
By reaching these goals, AT~SEA targets at the development of innovative offshore textile products. Further, it wants to stimulate bio-energy production from seaweed by enabling open sea large scale cultivation and harvesting.  
The choice for macroalgae based aquatic biomass cultivation in AT~SEA is based on the following reasoning: 1) 70% of the earth’s surface is ocean, thus there is a huge potential for biomass growth, 2) macroalgae grow much faster than conventional crops on land, 3) by producing the biomass at sea we avoid the discussions about land food crops being used as fuel/energy source. This is the so-called food-energy nexus.  
It is an important challenge as today the total worldwide energy consumption is ca. 480 exajoules (EJ, 480 × E18 J). Approximately 90% is derived from the combustion of fossil fuels. Fossil fuels, i.e. coal, oil and natural gas, are limited in supply and will one day be depleted. As a result the quest for renewable energies started decades ago. These are energies generated from natural resources such as sunlight, wind, tides, etc. but also from industrial or urban waste and biomass. Induced by numerous studies and energy conferences, the 27 member states of the EU decided in 2007 that 20% of our energy should come from renewable sources by 2020 (Lisbon Treaty). Biomass energy, being the oldest source of renewable energy, is generally acknowledged as one of the most promising. The technology is based on converting biomass material (plants and animal waste) into energy (i.e. heat, electricity and/or chemicals, like methane gas, butanol, etc.).  
The project consortium is well-balanced and consists of 11 partners from 8 countries (6 SME’s, 4 RTD’s and 1 LE). In order to facilitate a successful project, the consortium covers a broad range of required competences, i.e. textiles, biology and biotechnology, offshore engineering, and renewable energy. Since the focus is on the development of textiles, 6 out of 11 partners stem from the textile sector.

Coordinator: SIOEN INDUSTRIES NV from:BE

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: THE SCOTTISH ASSOCIATION FOR MARINESCIENCE LBG

participant: SINTEF OCEAN AS

participant: EUROFILET SARL

participant: OCEANFUEL LTD

participant: HORTIMARE BV

participant: STICHTING ENERGIEONDERZOEK CENTRUM NEDERLAND

participant: TECNOLOGIA REDERA SL

participant: BEXCO NV

# NAMETECH

Project title: Development of intensified water treatment concepts by integrating nano- and membrane technologies

Start Date: 2009-06-01 End Date:2012-05-31

Most frequent returning words in objectives:

* ('membrane', 9)
* ('nanoparticles', 6)
* ('membranes', 4)
* ('project', 3)
* ('scale', 3)
* ('nanotechnology', 2)
* ('filtration', 2)
* ('water', 2)
* ('focus', 2)

The Nametech project harnesses benefits of nanotechnology to bring about improvements in membrane filtration for advanced water treatment. The general objective is to strengthen the European membrane market by making nanotechnology available to large scale European membrane manufacturers. A unique feature of the project is the knowledge transfer between the experienced membrane manufacturer Norit and the coating expert and new-comer to the membrane field Agfa Gevaert. The S&T focus is on the use of nano-structured materials to alter the physical and chemical properties of polymeric ultrafiltration membranes and thereby improving the filtration performance at macroscale installations. The project aims at adapting commercial nanoparticles such as TiO2 and Ag for the modification of UF membranes to reduce fouling, and thus improve its permeability (i.e. Technology Path 1). In Technology Path 2 and 3, the potential of using active nanoparticles, such as bionano-catalysts, in combination with membranes is examined to remove micropollutants such as chlorinated compounds, nitroaromatic compounds or redox active metals, thus improving the water quality. A specific novelty is the development of an integrated permeate channel concept, whereby the nanoparticles are embedded in 3D textiles, functioning as membrane support and permeate channel. The nanoparticles will be deposited on the membrane surface or embedded in the membrane (mixed matrix). The S&T challenges regarding the modification of the nanoparticles, the deposition of the nanoparticles on membrane surface as well as the production of nano-activated membranes (NAMs) will be addressed in WP 1, 2 and 3. The newly developed NAMs will be tested at laboratory scale (WP 4) before selecting the most promising concept for testing at pilot scale (WP 5). The activities will be complemented by a toxicological study and the application of LCA to assess the environmental impacts (WP 6). The high industrial involvement puts a strong focus on the exploitation strategies and handling IPR issues (WP 7).

Coordinator: VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V. from:BE

participant: THE UNIVERSITY OF MANCHESTER

participant: AQUATEST AS

participant: NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO

participant: FACHHOCHSCHULE NORDWESTSCHWEIZ

participant: RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

participant: TECHNICKA UNIVERZITA V LIBERCI

participant: SUEZ GROUPE

participant: CONSORZIO VENEZIA RICERCHE

participant: AGFA-GEVAERT N.V.

# Ultrafast\_RAZipol

Project title: Ultrafast Lasers with Radial and Azimuthal Polarizations for High-efficiency Micro-machining Applications

Start Date: 2013-11-01 End Date:2017-04-30

Most frequent returning words in objectives:

* ('laser', 7)
* ('pulse', 7)
* ('ultrafast', 5)
* ('processing', 4)
* ('power', 4)
* ('MOPA', 4)
* ('range', 4)
* ('applications', 4)
* ('nozzles', 3)

High-precision laser micro-machining has delivered a important impact in daily life, hence its benefits and usefulness can easily be taken for granted. For example in the manufacture of smart phones, i-tablets, etc, high-precision laser micro-machining is essential to produce some of the key features we use in these devices. In the car industry it is has been shown that diesel nozzles produced with ultrafast lasers lead to significantly reduced air pollution in comparison to nozzles produced with conventional fabrication techniques. Spinning nozzles used widely in the textile industry are also produced using ultrafast lasers. The main goal of RAZipol is to demonstrate laser material processing at unprecedented levels of productivity (leading to drilling process times below 4 s of high aspect ratio [40:1] holes compared to current times of 25 s) and precision material processing (structure dimension below 1 µm) using beams with novel radial and azimuthal polarization. The challenge is not only to achieve high productivity at moderate levels of precision or highest quality at low speeds, but to reach both targets at the same time. Therefore an adequate ultrafast laser source with a very high average power and well-adapted beam parameters, including pulse duration, pulse energy, intensity profile, and polarization, is needed. Additionally, the laser beam has to be applied to the work-piece in a well-defined application-specific manner. Finally, advanced processing strategies are required to obtain optimum results at high productivity. The ultrafast laser source planned for RAZipol project combines several quite unique features. Its modular 3-stage master oscillator power amplifier (MOPA) concept offers a high degree of flexibility to generate a broad range of pulse durations, pulse energies and repetition rates. The MOPA combines an ultrafast oscillator together with a Single Crystal Fiber as 1st amplification stage and a thin-disk multipass amplifier as final amplification stage. Although the potential range of material processing applications for this laser source is extremely broad, within the project, we will focus on two demonstration applications. The first application will be based on a fast scanner system which facilitates the production of complex structures like a 'lab on a chip' on large wafers (8' diameter). For this application, the MOPA system providing up to 500 W average power will be set up for repetition rates in the 20-40 MHz range with pulse duration of approximately 1 ps. The second application will be trepanning drilling of deep, high aspect holes with tight tolerances. In this case, the MOPA system providing up to 200 W average power will be set up for generating high pulse energies (≤ 1 mJ) at pulse duration of about 5 ps. Hence it is believed that RAZipol will have a great impact on the industrial fabrication since it targets cost-efficient solutions for a broad range of applications as well as fast and high-volume applications.

Coordinator: UNIVERSITAET STUTTGART from:DE

participant: SCHWEISSTECHNISCHE LEHR- UND VERSUCHSANSTALT SLV MECKLENBURG-VORPOMMERN

participant: FIBERCRYST SAS

participant: GFH GMBH

participant: NEXT SCAN TECHNOLOGY BVBA

participant: UNIVERSITE PARIS-SUD

participant: LUMENTUM SWITZERLAND AG

participant: CLASS 4 LASER PROFESSIONALS AG

participant: KITE INNOVATION (EUROPE) LIMITED

participant: CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS

# BIO-MIMETIC

Project title: New bio-inspired processes and products from renewable feedstocks

Start Date: 2012-07-01 End Date:2015-06-30

Most frequent returning words in objectives:

* ('process', 5)
* ('produce', 3)
* ('polymers', 3)
* ('project', 2)
* ('IFAM', 2)
* ('BIO-MIMETIC', 2)
* ('transformation', 2)
* ('SMEs', 2)
* ('biomass', 2)

Within the FP7 PEOPLE project (Blue4Glue), Fraunhofer Institute (IFAM) and Procter and  
Gamble discovered a (PPO based) enzymatic process used by marine-organisms, which  
“produce” polymers in a much simpler way (less process steps) than industry does in classical  
chemistry. BIO-MIMETIC aims to transfer this new scientific knowledge into a blueprint for a  
novel (pre-)industrial enzymatic-based bio-polymerization process. It involves research partners  
(IFAM and UNITOV) with experience in enzymatic transformation and bio-based synthetic  
polymers, as well as expert SMEs such as Dyadic (enzymes), CIMV (biomass transformation  
into bio-chemistry) and CULGI (computational modeling of bio-chemical processes) to develop  
the process that firstly transforms biomass (lignin) into new bio-based polymers (pseudo  
peptides). These will used to create respectively: 1) Bioconjugated copolymers, that will be  
tested in detergents (by P&G) 2) Bio-cross-linked adhesive gels, to be experimented in antiageing  
cosmetics and in bio-textiles preparation (by an SME cosmetic producer MAVI).  
Potential environmental benefits are over 124 kton/yr less toxic solvents to produce chemicals,  
over 1 Billion kWh of energy savings (room temperature process) and a drastically reduced CO2  
footprint i.e. replace 8000 Mtons of petrochemical based deposition aides and in the future  
substitute a large amount of phenol and phenolic derivatives, which are used to produce chemical  
intermediates for a myriad of applications. BIO-MIMETIC will carry out LCA and LCC (cost)  
assessments over the value chain as input to business plan and will use a new SME LCA tool  
(cCALC) to develop an LCA showcase, which will come available for SMEs. The cCALC tool  
and showcase will be freely downloadable as part of the exploitation plan targeted at the market  
uptake of project results in the emerging European market of bio-based products, projected to  
grow towards 250 billion Euro by 2020.

Coordinator: PROCTER & GAMBLE TECHNICAL CENTRES LIMITED from:UK

participant: UNIVERSITA DEGLI STUDI DI ROMA TORVERGATA

participant: THE UNIVERSITY OF MANCHESTER

participant: CULGI BV

participant: PROCTER & GAMBLE EUROCOR N.V.

participant: FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

participant: CIAOTECH Srl

participant: MAVI SUD SRL

participant: COMPAGNIE INDUSTRIELLE DE LA MATIERE VEGETAL CIM V

participant: PROCTER & GAMBLE SERVICES COMPANY NV

# IF REACT

Project title: Improved First Responder Ensembles Against CBRN Terrorism

Start Date: 2012-01-01 End Date:2014-12-31

Most frequent returning words in objectives:

* ('protection', 6)
* ('system', 6)
* ('responders', 5)
* ('needs', 5)
* ('project', 5)
* ('REACT', 4)
* ('protective', 4)
* ('focus', 4)
* ('CBRN', 3)

IF REACT answers to the call SEC‐2011.4.4‐1 CBRN individual Protective Clothing where the task is “to develop innovative protective clothing for first responders and/or for the public in case of a CBRN crisis.”  
IF REACT takes both the danger of terrorist attacks using CBRN‐means and releases other than attack, such as pandemic outbreaks, accidents and other incidents involving dangerous substances, into account in order to achieve its main goal of developing innovative protective clothing for first responders.  
Following a qualitative and quantitative evaluation of existing equipment, IF REACT has chosen to  
focus on the most emergent threats and to fulfil the needs of the end users who are in greatest need  
of innovative protection. Therefore:  
1. The project will focus on protection against Chemical, Biological and Radiological threats and  
hazards, it will not handle Nuclear threats or hazards;  
2. The project will focus on civil first responders and will not address military needs while being open for further dual uses if needed;  
3. The project will develop solutions for a number of professional responders, according to the typology developed by CEN Workshop Agreement 43, (Document CWA 16106). This project will focus on initial responders, professional CBRN professionals and emergency services including medical personnel.  
The goals of the IF REACT project are as follows:  
• Develop a tool that allows end users and procurement staff to select the best PPE system for  
the mission of the first responder and the expected threat.  
• Develop a PPE system that:  
o will address the real protection needs of the typical users, both with regards to the level of protection as well as its total capacity;  
o Provides adequate protection, while keeping the burden of the system as low as possible;  
o The proposed protective systems will include solutions for hand and foot protection that take safety, ergonomic, and logistic aspects of the typical user group into consideration;  
• The protective system will provide added functionality regarding the C4I needs of the typical  
wearer. Typical First Responder tactical needs as communication, (indoor) localisation & situational awareness, will be enabled by affordable, robust and easy to use technology. Wearability, graceful degradation and logistics will dictate innovative approaches on the material as well as on the system level;  
• The suit will be configured as a platform that carries the energy and the connections to the  
components of the sensor subsystem. The sensors itself will be housed in the suit as well as in the respirator, depending on their function. The configuration of the system will enable other  
/ new energy cells and sensors to be connected whenever required.  
• This platform will be interfaced with the external infrastructure to get extra capabilities/situation awareness without constraints and cost on the suit itself.

Coordinator: UNIVERSITE PARIS XII VAL DE MARNE from:FR

participant: Prometech BV

participant: Blücher GmbH

participant: IB Consultancy BV

participant: BERTIN TECHNOLOGIES SAS

participant: FALCON COMMUNICATIONS LIMITED

participant: AIRBUS DEFENCE AND SPACE SAS

participant: NBC-SYS SAS

participant: HOTZONE SOLUTIONS BENELUX BV

participant: STATNI USTAV JADERNE, CHEMICKE A BIOLOGICKE OCHRANY vvi

participant: Drzavna uprava za zastitu i spasavanje

# SONO

Project title: A pilot line of antibacterial and antifungal medical textiles based on a sonochemical process

Start Date: 2009-10-01 End Date:2013-09-30

Most frequent returning words in objectives:

* ('infections', 5)
* ('process', 4)
* ('nanoparticles', 4)
* ('patient', 3)
* ('pilot', 3)
* ('line', 3)
* ('hospital', 2)
* ('days', 2)
* ('patients', 2)

Hospital-acquired (nosocomial) infections are a major financial issue in the European healthcare system. The financial impact of these infections counteract medical advances and expensive medical treatments by increasing the length of hospital stay by at least 8 days on average per affected patient, hence adding more than 10 millions patient days in hospitals in Europe per year. The statistics on patient safety in the EU show alarming tendencies : - 1 in 10 patients are affected by hospital-acquired infections - 3 million deaths are caused by hospital-acquired infections An active infection control program of patients and personnel and hygiene measures, have proven to significantly reduce both the number of infections and hospitalisation costs . The SONO project directly addresses the above problems by developing a pilot line for the production of medical antibacterial textiles. The pilot line will be based on the scale-up of a sonochemical process developed and patented at BIU laboratories. The pilot line will use a sonochemical technique to produce and deposit inorganic, antimicrobial nanoparticles on medical textiles, e.g. hospital sheets, medical coats and bandages. Sonicators are used industrially for heavy and light duty cleaning, for water disinfection and for sewage treatment. It is also used in the food industry for emulsification and drying. The proposed concept based on one step sonochemical process to produce nanoparticles and impregnate them as antibacterial factors on textile is novel and does not exist on an industrial scale. The concept has already been proven (and patented ) on a lab scale where sonochemistry was applied to impregnate nanoparticles in a single-step process. It was demonstrated that due to the special properties of the sonochemical method the antibacterial nanoparticles are adsorbed permanently on the fibres even after 70 “laundry cycles”. The sonochemical impregnation process is a one-step procedure in which the nanopa

Coordinator: BAR ILAN UNIVERSITY from:IL

participant: S.C. DAVO STAR IMPEX SRL

participant: COVENTRY UNIVERSITY

participant: TORRAS VALENTI S.A.

participant: MULTIPROFILE HOSPITAL FOR ACTIVE TREATMENT AND EMERGENCY MEDECINE PIROGOV

participant: ASOCIACION DE INVESTIGACION DE LA INDUSTRIA TEXTIL

participant: AFCON HOLDINGS LTD

participant: WESSEX INSTITUTE OF TECHNOLOGY

participant: KITOZYME SA

participant: OSM-DAN LTD.

participant: Viatech

participant: PIELASZEK RESEARCH

participant: INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE PENTRU TEXTILE SI PIELARIE

participant: UNIVERSITAT POLITECNICA DE CATALUNYA

participant: Klopman International Srl

participant: CEDRAT TECHNOLOGIES SA

# PLASMAPOR

Project title: "Plasma penetration into porous materials for biomedical, textile and filtration applications."

Start Date: 2012-06-01 End Date:2017-05-31

Most frequent returning words in objectives:

* ('plasma', 8)
* ('penetration', 4)
* ('structures', 4)
* ('materials', 4)
* ('field', 3)
* ('group', 2)
* ('project', 2)
* ('surface', 2)
* ('modification', 2)

'My group will explore the undeveloped field of penetration of non-thermal plasma into porous structures. Porous materials are an exciting class of materials with a wide range of applications. However, given the narrow dimensions of the porous network, modifying in a homogeneous way an entire porous material is a challenging task.  
  
This project is based on the use of non-thermal atmospheric pressure plasmas for an effective internal surface modification of 3D porous structures. To make plasma technology reach this desired level of controlled penetration into porous structures, a far better understanding of the penetration of chemical active species into porous structures is required. Therefore, my project envisages a thorough study of the interactions between a non-thermal plasma and a second phase, the second phase being a porous substrate. Through diagnostics of the process-relevant plasma parameters and a quantitative analysis of the plasma-induced effects, the knowledge on the physics and chemistry of such hybrid plasma systems will be enhanced and, in most cases, newly founded.  
  
My group will start exploring this exciting field by focussing on three cornerstone research lines. Firstly, I will develop new plasma reactor concepts enabling effective plasma penetration. Secondly, these newly developed plasma reactors will be employed for the internal surface modification of porous biodegradable polyester scaffolds used in tissue engineering. Thirdly, besides the development of biomedical implants, the possibilities for the design of functional porous textiles and advanced filter materials will also be explored. Realisation of these three cornerstones would result in a major breakthrough in their specific field which makes this proposal inherently a relatively high risk/very high gain proposal.  
  
I therefore strongly believe that my research program will open a whole new window of opportunities for porous materials with a large impact on science and society.'

Coordinator: UNIVERSITEIT GENT from:BE

# LCA TO GO

Project title: Boosting Life Cycle Assessment Use in European Small and Medium-sized Enterprises: Serving Needs of Innovative Key Sectors with Smart Methods and Tools

Start Date: 2011-01-01 End Date:2014-12-31

Most frequent returning words in objectives:

* ('SMEs', 7)
* ('sectors', 5)
* ('project', 3)
* ('data', 3)
* ('smart', 2)
* ('textiles', 2)
* ('manufacturers', 2)
* ('case', 2)
* ('Product', 2)

'LCA to go' develops sectoral methods and tools for bio-based plastics, industrial machinery, electronics, renewable energy, sensors and smart textiles. These sectors have been chosen, as the manufacturers show a high interest in making clear the environmental benefits of their products to customers ('Green industries') and in prioritizing so they can reduce their environmental impacts. This is particularly the case for SMEs. Free webtools ('apps') will serve dedicated needs of these sectors, addressing the specifics of the technologies and implementing parameterised models, such as calculators for energy-break-even-point of photovoltaics, Product Carbon Footprints (PCF) based on technology parameters of printed circuit boards, and Key Environmental Performance Indicators (KEPIs) for smart textiles. Selected Product Category Rules will be developed to provide a robust LCA guidance for SMEs. Practically, the project website will provide an exchange of scientifically validated data templates, to assist SMEs to pass the right questions to their suppliers. Carbon Footprints are a perfect entry point for SMEs to LCA strategies. Thus, implementation of an SME-compatible PCF methodology is a key element of the project. The approaches will be tested in 7 sectoral case studies, involving suppliers, end-product manufacturers and engineering companies. Inter-linkages between the sectors (on a technical and data level) will be thoroughly addressed. A broad dissemination campaign includes a mentoring programme for 100 SMEs, which will act as showcases for others, boosting use of LCA approaches among European SMEs at large. RTD and dissemination activities will be complemented by policy recommendations and liaison with standardisation activities. The web-tools, being compatible with ILCD data and other external sources, will be made available as open source software, to be adapted to other sectors. The project will have a direct impact on sectors representing nearly 500,000 SMEs.'

Coordinator: FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V. from:DE

participant: ELDOS SP ZOO

participant: Carl Diver Advanced Manufacturing Consulting Limited

participant: INSTITUTO TECNOLOGICO DEL EMBALAJE, TRANSPORTE Y LOGISTICA

participant: TECHNISCHE UNIVERSITAET WIEN

participant: SIRRIS HET COLLECTIEF CENTRUM VAN DE TECHNOLOGISCHE INDUSTRIE

participant: SIMPPLE SLU

participant: MULTIMEDIA COMPUTER SYSTEM LTD

participant: INDUSTRIAL TECHNOLOGY RESEARCH INSTITUTE INCORPORATED

participant: ASOCIACION DE INDUSTRIAS DE LAS TECNOLOGIAS ELECTRONICAS Y DE LA INFORMACION DEL PAIS VASCO GAIA

participant: VALSAY S.L.

participant: CARDIFF METROPOLITAN UNIVERSITY

participant: TAIPRO ENGINEERING SA

participant: Future Shape GmbH

participant: United Microelectronics Corporation LTD

participant: INSTYTUT TELE- I RADIOTECHNICZNY

participant: TECHNISCHE UNIVERSITEIT DELFT

# TENDON REGENERATION

Project title: Targeting Functional Tendon Regeneration Using a Loaded Biomimetic Scaffold. An Integrated Pan-European Approach

Start Date: 2010-09-01 End Date:2014-08-31

Most frequent returning words in objectives:

* ('technologies', 4)
* ('tendons', 3)
* ('project', 3)
* ('developed', 2)
* ('objectives', 2)
* ('fabricate', 2)
* ('properties', 2)
* ('studies', 2)
* ('future', 2)

This industry-academia proposal addresses the development of technology which will enable understanding of regeneration of injured or degenerated tendons. Biomimetic fibrous composites will be designed and developed that will mimic the structure of native tendons. The project objectives are to fabricate an optimally stabilised and effectively functionalised three-dimensional collagen-resilin composite scaffold to match the properties of native tendons. Evaluation of the optimally stabilised and effectively functionalised biomimetic constructs will be conducted in vitro (cell studies, structural and mechanical properties) and in vivo (small and large animal studies). Using textile technologies, we aim to fabricate fibre extrusions that will allow future commercialisation of the three-dimensional biomimetic construct. In meeting the scientific and technological objectives of the IAPP Programme, an inter-sectorial academic industry multidisciplinary approach will be taken which maximises the potential offered by contemporary technologies This IAPP Programme will foster increased scientific dialogue between academics, industry and clinicians. One of the key benefits will be the transfer of key scientific and experimental knowledge between the institutions enabling the consortium to widen the scope of their work, beyond what is available within their own institution and merge the available technologies. This programme will provide training of both seconded and recruited staff, both in the host and parent institutions. This training will include experimental, communication and project management skills. Platform technologies developed during the lifetime of this project will result in future joint applications by partners in the consortium to the FP7 Health and FP7 NMP programmes.

Coordinator: NATIONAL UNIVERSITY OF IRELAND GALWAY from:IE

participant: CollPlant Ltd.

participant: THE UNIVERSITY OF BOLTON

participant: VORNIA LIMITED

participant: NORTH WEST TEXTILES NETWORK LIMITED

# XXL-REFRESH

Project title: Bringing a modular technology for fresh water sea-transportation to full scale

Start Date: 2013-09-01 End Date:2015-12-31

Most frequent returning words in objectives:

* ('REFRESH', 4)
* ('waterbag', 4)
* ('project', 3)
* ('transportation', 3)
* ('water', 3)
* ('manufacturing', 3)
* ('XXL-REFRESH', 2)
* ('modular', 2)
* ('innovation', 2)

XXL-REFRESH is built upon the results obtained by the REFRESH project (GA 262494), in which the project team demonstrated the feasibility of transportation of large quantities of fresh water by the sea using modular flexible barges. The key innovation introduced by REFRESH is the use of open modular textile containers connected by extra-strong watertight zips and the use of an online monitoring system for the control of the container deformations during service using wireless communication system.  
REFRESH culminated at the beginning of November 2012 with the successful transportation trial of 200 cubic metres freshwater payload with a 16 nautical miles sea voyage in the gulf of Souda, Crete. The next steps required to bring the innovation into the market comprise the manufacturing of a full-scale waterbag with a payload of 2.000 cubic metres and the conduction of demonstration voyages at different locations within Europe and outside. Technical activities covered by XXL-REFRESH include the design optimisation of the full-scale waterbag, implementing what learned during the trials in Crete, and the scaling up of the manufacturing processes for the manufacturing of one full-scale waterbag. Demonstration trials are included in the programme at two different locations in the Mediterranean Sea and outside, since the need for cost efficient and reliable technologies for fresh water transportation is global. Dissemination and exploitation activities are also included.  
The consortium includes five partners from the former REFRESH project complemented by two new partners in charge of confectioning the full-scale waterbag and performing the water transport service.

Coordinator: INDUSTRIAL SEDO SL from:ES

participant: TECNODIMENSION HINCHABLE SL

participant: AIMPLAS - ASOCIACION DE INVESTIGACION DE MATERIALES PLASTICOS Y CONEXAS

participant: TURGUTREIS DENIZCILIK SANAYI VE TICARET AS

participant: SAFIBRA SRO

participant: RINA CONSULTING SPA

# ASTEX

Project title: Assyrian Textiles: A Study on the Terminology and the Material Culture of the Textiles in the Neo-Assyrian Empire

Start Date: 2013-04-26 End Date:2015-04-25

Most frequent returning words in objectives:

* ('textile', 5)
* ('textiles', 5)
* ('research', 4)
* ('terminology', 3)
* ('studies', 3)
* ('ancient', 3)
* ('evidence', 3)
* ('project', 2)
* ('Textile', 2)

The project, framed in the research programme Textile Terminologies 1000 BC to AD 1000 of the Centre for Textile Research, will catalogue and investigate the textile terminology in use in the Neo-Assyrian period (first millennium BC). The research is intended to give the scholars of both Oriental studies and of ancient textile studies a comprehensive study on the Assyrian textiles seen as historical sources to understand the organization of economy, the culture, and the society of the first world empire in history, thus challenging the dialogue of specialists of different historical periods and areas of the Ancient World about the textile terminology and the role of textiles in the development of economies and societies as well as in shaping realities through aesthetical and ideological conceptualization. In the past twenty years, the publication of a major part of the Assyrian texts in updated scientific editions provided a comprehensive evidence of a large set of lexical data concerning various types of goods. An accurate explanation of the semantics of many designations of material culture, however, is still a desideratum. This research is aimed at bridging this gap in the studies on the Akkadian textile terminology of the first millennium BC, publishing a still missing complete study of the Neo-Assyrian textiles. More importantly, it will be based on an interdisciplinary approach on the topic. Textiles represent important historical sources for the understanding of a given civilization. Accordingly, their designations in ancient texts must be analysed in a closer comparison with the representations of textile products in the visual art and in the archaeological evidence. Moreover, this project will also explore the possibility to use ethnographical evidence about production, decoration, and aesthetics of textiles in traditional communities of Middle Eastern countries in historical research on ancient textiles.

Coordinator: KOBENHAVNS UNIVERSITET from:DK

# HIVOCOMP

Project title: Advanced materials enabling HIgh-VOlume road transport applications of lightweight structural COMPosite parts

Start Date: 2010-10-01 End Date:2014-09-30

Most frequent returning words in objectives:

* ('applications', 6)
* ('materials', 5)
* ('material', 5)
* ('innovations', 4)
* ('composites', 3)
* ('project', 3)
* ('high-performance', 2)
* ('sectors', 2)
* ('show', 2)

The rapidly growing use of high-performance composites in high-end sectors such as aerospace, show that these materials are already commercially viable as long as production volumes are limited and applications not primarily cost-driven. In order to achieve a step-change in the application of high-performance composites in larger-volume applications, HIVOCOMP focuses on achieving radical advances in two materials systems that show unique promise for cost effective, higher-volume production of high performance carbon fibre reinforced parts. These are: 1) advanced polyurethane (PU) thermoset matrix materials offering increased mechanical performance and reduced cycle times compared to epoxy, and 2) thermoplastic PP- and PA6-based self-reinforced polymer composites incorporating continuous carbon fibre reinforcements with lower process times and far higher toughness than current thermoplastic and thermoset solutions. The project will analyse and develop these matrix materials, their combination with advanced textile preforms, and optimise material properties for advanced processing technologies, joining technologies (adhesives / welding) and the incorporation and self-diagnosis (sensing) materials. The focus on breakthrough material innovations are complemented by enabling work covering material testing, chemical and micro-mechanical modelling and simulation tool development, as well as LCA, cost and recycling analysis, and prototyping of typical applications, assuring that the proposed material innovations can be successfully translated into high-impact industrial applications. The project drives the material innovations with the road vehicle sector in mind, but has clearly identified spin-off applications in other sectors. The project foresees a step-wise implementation in future products introduced into larger-volume transport applications starting with validated demonstration parts in 2013, and so ensuring a large-scale societal impact of the innovations achieved.

Coordinator: KATHOLIEKE UNIVERSITEIT LEUVEN from:BE

participant: CENTRO RICERCHE FIAT SCPA

participant: PROPEX FABRICS GMBH

participant: FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

participant: TECHNISCHE UNIVERSITAET MUENCHEN

participant: ESI GROUP

participant: In line with Article 21(4) of Regulation 1268/2012 (Rules of application of the Financial Regulation) the name and contact details of the beneficiary will be published at a later stage.

participant: ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE

participant: UNIVERSITY OF LEEDS

participant: DAIMLER AG

participant: AIRBORNE COMPOSITES SL

participant: HUNTSMAN (EUROPE) BVBA

participant: UNIVERSITA DEGLI STUDI DI PERUGIA

participant: BAX INNOVATION CONSULTING SL

participant: VOLKSWAGEN AG

# TEXTHA

Project title: Textile Terminology of Hittite Anatolia

Start Date: 2013-09-02 End Date:2015-12-08

Most frequent returning words in objectives:

* ('Hittite', 7)
* ('textile', 6)
* ('sources', 3)
* ('textiles', 3)
* ('ancient', 3)
* ('research', 2)
* ('project', 2)
* ('analysis', 2)
* ('terminology', 2)

This research project will provide an accurate and updated analysis of the Hittite textile terminology. This will be achieved through a precise examination of the preserved epigraphic sources.  
In order to pursue this analysis, the research project needs as a necessary first step the creation of a complete corpus of all epigraphic sources of the “Hittite textiles”, the first of its kind.  
The methodological approach will be based on a meticulous lexical and etymological investigation on verbal - noun paradigms referring to textiles in the Hittite world and professional titles.  
The primary objective is to create a comprehensive and useful dictionary of textile terminology of Hittite Anatolia.  
I will integrate my own academic background skills in Hittite language and philology with my host institution’s expertise in the fields of experimental archaeology of ancient textile remains and tools.  
Thus, I will combine the information provided by specialists of the Centre for Textile Research with the data which I will collect by analysing the Hittite textual documentation; not only administrative and economic texts, but also all those Hittite written sources that potentially describe the palace management of textile production, the accounts of weaving workshops (including terms for crafting and tools), the luxury goods as finished products (not only cloth, but also clothes and furnishings) and the textile items used in symbolic contexts. The comparative methodological approach is justified by the fact that ancient textiles rarely survive, not only in Anatolia, but also all over the ancient Near East and Mediterranean area, with the notable exception of Egypt. Fortunately the Scandinavian area provides many Bronze Age finds that have been already accurately analysed by Danish and Swedish specialists in recent years. Their technological competence will be very useful to me in order to better define textile terms attested in the written documentation.

Coordinator: KOBENHAVNS UNIVERSITET from:DK

# FAIERA

Project title: FOSTERING AIMEN RESEARCH POTENTIAL IN LASER TECHNOLOGY FOR MATERIALS PROCESSING

Start Date: 2013-09-01 End Date:2016-08-31

Most frequent returning words in objectives:

* ('AIMEN', 8)
* ('laser', 4)
* ('Laser', 3)
* ('research', 3)
* ('activities', 3)
* ('Project', 2)
* ('capacity', 2)
* ('Strategic', 2)
* ('Research', 2)

The Project “FOSTERING AIMEN RESEARCH POTENTIAL IN LASER TECHNOLOGY FOR MATERIAL MICROPROCESSING”, project acronym FAIERA, aims to upgrade RTD capacity of the Laser Processing Centre of AIMEN in the following Strategic Research Fields:  
 SRF1. Generation of multifunctional surfaces.  
 SRF2. Generation of biocompatible surfaces.  
 SRF3. Surface functionalization of textiles and fiber based composites.  
 SRF4. Laser induced structures for high efficiency semiconductor devices.  
AIMEN is already developing important research activities in the area of laser materials processing and is involved in different R&D projects in these fields. However, to reach its full potential for research and technological innovation, further development is needed. AIMEN has defined a plan which involves a coherent set of specific objectives and relevant actions in order to accomplish the strategic objective, utilize the strengths, and elude the threats as follows:  
 Establish strategic partnerships with experienced organizations in the scientifical and technological fields related to the Strategic Research Fields.  
 Increase human potential of AIMEN in laser microprocessing.  
 Increase technological potential of AIMEN in laser microprocessing and its applications.  
 Perform networking and collaborative activities with research centres of excellence.  
 Enhance AIMEN scientific visibility and international reputation through dissemination activities.  
 Elaboration of a strategic Plan for Intellectual Property management and protection and Innovation capacity building (IPI Plan).  
In the last decade, the technological requirements of traditional industry have evolved towards knowledge-based processes, high product differentiation, highly efficient processes and new materials. Besides, the market perspectives of AIMEN have been expanded to larger territories (Latin America) and industrial sectors (biomedical, aerospace, etc.). Laser is being a key enabling technology for accessing all these sectors.  
Regional stakeholders will participate through their inclusion in the Project Advisory Board, so that laser microprocessing could be one of the enabling technologies for the smart specialization in Galicia.

Coordinator: ASOCIACION DE INVESTIGACION METALURGICA DEL NOROESTE from:ES

# Legiotex-Demo

Project title: DEMONSTRATION INSTALLATION OF A LEGIONELLA PREVENTIVE BACTERICIDE WATER FILTRATION FOR LARGE PUBLIC AND INDUSTRIAL FACILITIES

Start Date: 2011-09-01 End Date:2013-08-31

Most frequent returning words in objectives:

* ('water', 3)
* ('filter', 3)
* ('project', 2)
* ('equipment', 2)
* ('climate', 2)
* ('control', 2)
* ('distribution', 2)
* ('systems', 2)
* ('public', 2)

The LEGIOTEX-DEMO project will primarily impact on the market for water-based equipment for indoors climate control and water distribution systems within large public and industrial facilities. Legiotex Demo is based on the results of the Legiotex proposal. The general objective of the project was the development of a water filter (LegioTex®WATER) capable to inhibit the growth and proliferation of the bacteria belonging to the Legionella Pneumophila family in water-based climate control equipment and sanitary water distribution systems in risk of becoming a source for legionnaire's disease outbreaks in large public and industrial facilities. For developing the aimed filter, environmental-friendly bactericides were appropriately fixed onto nonwoven textiles, assuring a long lasting biocide effect and optimum mechanical properties. The filter was mounted onto a disposal cartridge for its quick replacement, and this within a metal housing to be easily installed in different equipments, to have an optimum fluid-dynamic behaviour and successful commercialization. The aim of LEGIOTEX-DEMO is to install the product prototype for the prevention of Legionella contamination in a demonstration installation of a representative facility in risk of becoming a source of legionnaire´s disease (a potentially fatal pneumonia-like infection) to corroborate the efficacy of the developed prototype.

Coordinator: LOGROTEX SA from:ES

participant: IDRODEPURAZIONE from:IT

# GREEN-TOOLING

Project title: Industrialisation of self heated composite tooling based on Tailored Fibre Placement Technology

Start Date: 2013-09-01 End Date:2015-08-31

Most frequent returning words in objectives:

* ('manufacturing', 5)
* ('process', 4)
* ('applications', 3)
* ('energy', 3)
* ('Membranes', 3)
* ('materials', 2)
* ('developments', 2)
* ('technologies', 2)
* ('cycle', 2)

'Composite materials are starting to be used extensively in many industrial applications. This is the case for example of the transport (automotive, rail and aeronautic), marine, wind energy and construction industries. New developments such as textile preforming combined with liquid moulding technologies together with recent automation developments will support this tendency.  
Although it seems that composite manufacturing technologies are already mature, actually they are not. The main bottle neck of composite materials lies in the productivity. Long cycle time associated to thermosetting resins is hindering a higher penetration in high volume sectors. And long cycle times are associated with the high energy consumption required to keep the whole mould mass at the curing temperature throughout the curing process (usually 2 to 6 hours plus heating and cooling).  
GREEN-TOOLING addresses these issues by developing an advanced system for improving the heating step associated to most composite manufacturing processes. The main objective of the project is to develop self heated tooling (moulds and membranes) for the composites manufacturing industry in a robust and automated process. The thermal energy will be provided by a resistive layer, manufactured by Tailored Fibre Placement (TFP) technology, which will be embedded inside the mould or the membrane during its manufacturing process. The following applications will be demonstrated:  
- Membranes for aeronautic repair  
- Membranes for preforming  
- Membranes for infusion  
- Rigid tooling for RTM process  
Currently, the companies involved in GREEN TOOLING proposal, together with other RTDs and SMEs, are about to complete EMBROIDERY Collaborative Project (FP7, 262355). This project is devoted to the industrialisation and the search of new applications for the Tailored Fibre Placement (TFP) technology. One of the work packages of EMBROIDERY deals with the development of self heated moulds and membranes for composite manufacturing'

Coordinator: GMI AERO SAS from:FR

participant: MANDIOLA COMPOSITES, S.L.

participant: QPOINT COMPOSITE GmbH

participant: FUNDACION TECNALIA RESEARCH & INNOVATION

# ALL4RESTgo2MARKET

Project title: Validation and commercialization of improved solutions for rest systems from ALL4REST project (ALL4RESTgo2MARKET)

Start Date: 2013-08-01 End Date:2015-07-31

Most frequent returning words in objectives:

* ('solutions', 6)
* ('developed', 3)
* ('project', 3)
* ('manufacturing', 3)
* ('ALL4REST', 2)
* ('comfort', 2)
* ('promising', 2)
* ('end-products', 2)
* ('processes', 2)

The integrated solutions developed in previous project ALL4REST (focused to achieve tactile/thermal comfort improvement establishing quantitative/qualitative evaluation of comfort or sleep quality) were mainly based in research and use of new biofibres and integration of thermoregulating systems, but also in use of new hotmelt adhesives, heatable textiles and microencapsulated scents for aromatherapy. Most promising results and solutions achieved could be developed in terms of several end-products with potentially good acceptation by consumers and easy-to-scale manufacturing processes. These selected solutions to be validated/implemented within ALL4RESTgo2MARKET are: a) mattresses with thermoregulation performance, b) pyjamas manufactured with biofibre-based knitted fabrics giving soft touch/better hand (also skin benefits) than conventional materials, and c) bedclothes manufactured with biofibre-based yarns looking for enhanced touch/comfort or finished with PCMs. Since most promising solutions related above have been carried out/manufactured successfully only at small scale and over a limited range of process’ parameters, the companies need to produce full solutions to develop all the manufacturing process, to provide a ‘full-pack’ of resting elements to end-users and a large variety of textile-based materials in order to develop the scaled-up processes (mattress fabrication, knitting/weaving and fabric finishing) demonstrating that manufacturing processes/concept can be extended to a variety of end-products, costumers and markets. Experimental data of ALL4REST best solutions have to be verified on preindustrial samples developed within ALL4RESTgo2MARKET project. This verification will allow providing useful data to develop/validate a business plan and associated marketing strategy for the involved SMEs. With these assumptions, they will be able to commercially develop, exploit and supply their costumers (and end-users) after this Demonstration project.

Coordinator: COLCHONES EUROPA S.L. from:ES

participant: TECHNOMAR GMBH

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: FINIPUR NV

participant: Ramon Espi SL

participant: ASOCIACION DE INVESTIGACION DE LA INDUSTRIA TEXTIL

participant: AZNAR TEXTIL S.L.

# THE RISE

Project title: Travels, transmissions and transformations in the 3rd and 2nd millennium BC in northern Europe: the rise of  
Bronze Age societies

Start Date: 2011-06-01 End Date:2016-05-31

Most frequent returning words in objectives:

* ('Europe', 3)
* ('identities', 3)
* ('project', 3)
* ('mobility', 3)
* ('millennium', 2)
* ('Bronze', 2)
* ('millennia', 2)
* ('methodologies', 2)
* ('human', 2)

Research problem: The 3rd and 2nd millennium was a period that saw major social and cultural transformations in Europe, from migrations and the introduction of metal (the Bronze Age) to new cultural identities and languages. As these two millennia were formative for Europe’s later history, these are hotly debated issues. However, they can now be resolved, at least in part, by the application of new science-based methodologies and the development of new interpretative frameworks.  
  
Aims and methodologies: The project does so by adopting an interdisciplinary methodological approach that combines science and culture. Isotope tracing in combination with recent advances in ancient DNA is employed to test human origins and movements during the two millennia, as well as the origin of wool and textiles. Lead isotope is adopted to trace the origin of copper. Based on this the project will document and explain the forging of new identities and new types of interaction during the 3rd and 2nd millennium BC in temperate northern Europe, but with implications for western Eurasia.  
  
Progress and originality: Accomplishment of front-line research results by combining archaeology with new developments in the natural sciences to produce new knowledge about the mobility of people, animals, things, ideas and technologies. This will allow a critical comparison of different types of evidence on mobility from DNA to strontium isotope analyses, and will lead to improved knowledge about the ways in which European regional cultures and identities were formed in the Bronze Age through interaction. Finally, the project will potentially change our understanding and thinking about human mobility as a key factor in cultural and social change.

Coordinator: GOETEBORGS UNIVERSITET from:SE

# DemoShopInstantShoe

Project title: Demonstration of a cost-effective footwear based on shape memory materials to provide an instant fitting personalization service at the retail shop for enhancing user’s comfort

Start Date: 2013-07-01 End Date:2015-04-30

Most frequent returning words in objectives:

* ('project', 4)
* ('footwear', 3)
* ('service', 3)
* ('product-service', 3)
* ('ShopInstantShoe', 2)
* ('women', 2)
* ('personalization', 2)
* ('shop', 2)
* ('in-shop', 2)

The DemoShopInstantShoe (DemoSIS) is a direct follow on from the very successful ShopInstantShoe FP7-SME-2008-1 project, that came to promising conclusions in February 2012. ShopInstantShoe (SIS) aimed at developing a customizable and fashionable women footwear upper and an innovative service providing customers with personalization of the shoe fitting at retail shop.  
SIS results revealed positive feedback from end users who assigned high value and expressed high interest on the proposed customizable shoes and in-shop personalization. Since the new product-service has been successfully created and validated at small scale, there is a strong case to demonstrate that the process and concept can be extended and able to overcome the barriers that are currently stopping the solution to be commercialized. The challenges to face in the project are:  
(1) To scale-up the range of upper materials to creating new smart textile based composites that facilitate to cover a wider footwear market segment.  
(2) To extend the footwear women models able to be personalized in order to fulfil the target needs and increasing the commercial scope of the product-service.  
(3) To develop the industrialization of the product manufacturing system.  
(4) To upgrade the novel customization process to a pre-commercial service, adapting the required customization shop tool to retail channel needs.  
(5) To validate the new improvements expected, including temporary in-shop pilot testing to reach the standard specification for the product-service, as well as outlining the most profitable business exploitation through further analysis.  
The new consortium is composed of four original partners from SIS project (Calzamedi, Texinov, Nimesis and IBV) and two retailing distributors (OrtoTwins and TechnoBoots). The outcomes produced will allow the consortium to execute suitable marketing actions, enhancing SMEs to commercially exploit and service the market after project ends.

Coordinator: CALZAMEDI S.L. from:ES

participant: NIMESIS TECHNOLOGY

participant: INSTITUTO DE BIOMECANICA DE VALENCIA

participant: ORTOPEDIAS TWINS - COMERCIO E IMPORTACAO MATERIAL ORTOPEDICO LDA

participant: MDB TEXINOV SAS

# MADMAX

Project title: Advanced Material Textile for Reinforced Structures for Complex Lightweight Applications

Start Date: 2013-08-01 End Date:2016-07-31

Most frequent returning words in objectives:

* ('composites', 5)
* ('materials', 4)
* ('Development', 4)
* ('order', 3)
* ('project', 2)
* ('cluster', 2)
* ('material', 2)
* ('process', 2)
* ('standards', 2)

The objective of this project is to regroup a cluster of private and academic laboratories supported by key manufacturers from both aeronautic, automotive and railway sectors in order to investigate the possibility to benchmark specific composites :  
• from the aeronautics. Depending on the application targeted, the cluster will be able to take advantage of the mutual return on experiment in order to identify the safety requirements for the new materials and detect the most suitable range of composite material.  
• From automotive process: able to produce the composite parts in order to develop the final structure at acceptable cost, keeping rentability of composite industry.  
• From Railways process : for the standards and norms, which are harmonized at the European level  
  
The scientific focus of the MADMAX project is the joint effort concentrating on those scientific and technical items with interdisciplinary topics: material science, interactive materials, simulation, composites and sensoring for :  
- Development of high performance functionalized materials to 3D complex preforms  
- Development of automonous system to monitor the composites structures, incorporation of sensors inside the preforms  
- Development of standards to qualify the composites and the durability  
- Development of model for fundamental understanding of the structure/property relationship with advanced simulation tools  
The ultimate goals is to insure the the development of highly innovative textile processes and high performance flexible materials with significant improvement of mechanical behavior and integrated functions, e.g. structural health monitoring and self-healing for composites structures.

Coordinator: UNIVERSITE DE VALENCIENNES ET DU HAINAUT-CAMBRESIS from:FR

participant: SOLIANI EMC SRL

participant: INDUSTRIEVERBAND GARNE GEWEBE TECHNISCHE TEXTILIEN EV

participant: FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

participant: NEXT TECHNOLOGY TECNOTESSILE SOCIETA NAZIONALE DI RICERCA R L

participant: ECOLE NATIONALE SUPERIEURE ARTS INDUSTRIES TEXTILES

participant: ESI GROUP

participant: TEXCLUBTEC

participant: ECOLE CENTRALE DE NANTES

participant: ASSOCIATION POUR LA RECHERCHE ET LE DEVELOPPEMENT DES METHODES ET PROCESSUS INDUSTRIELS

participant: ASSOCIATION UP-tex

participant: KRINGLAN COMPOSITES AG

participant: MIPNET INDUSTRIES

participant: SCUOLA UNIVERSITARIA PROFESSIONALEDELLA SVIZZERA ITALIANA

participant: RAILENIUM

participant: STRATIFORME INDUSTRIES SAS

# BIOFIBROCAR

Project title: MELT SPUN FIBRES BASED ON COMPOSTABLE BIOPOLYMERS   
FOR APPLICATION IN AUTOMOTIVE INTERIORS

Start Date: 2013-01-01 End Date:2015-06-30

Most frequent returning words in objectives:

* ('textile', 4)
* ('fibres', 4)
* ('vehicle', 2)
* ('industry', 2)
* ('objective', 1)
* ('research', 1)
* ('project', 1)
* ('manufacture', 1)
* ('substrates', 1)

'The main objective of the research project is to manufacture textile substrates (woven or non-woven) for vehicle interiors from renewable resource-based synthetic fibres from Polylactic Acid derivatives that can be used as a substitute for the polyester fibres that are currently used. These biofibres must fulfil the same requirements that the fibres used at the moment including thermal resistance.  
The growing importance of environmental aspects in recent years, coupled with greater public awareness, is driving the development of new yarns and textile structures from within the textile industry.  
The possibility of using fibres from renewable resources and which are also easily biodegradable will be useful for the vehicle interior textile industry, both from the point of view of the strict new recycling regulations that these products must meet and the properties offered by this type of fibre.'

Coordinator: ASOCIACION DE INVESTIGACION DE LA INDUSTRIA TEXTIL from:ES

participant: AVANZARE INNOVACION TECNOLOGICA SL

participant: RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

participant: AIMPLAS - ASOCIACION DE INVESTIGACION DE MATERIALES PLASTICOS Y CONEXAS

participant: PERCHADOS TEXTILES SA

participant: CANATURA INNOVA GMBH

participant: SAECHSISCHES TEXTILFORSCHUNGSINSTITUT E .V.

participant: ADDCOMP HOLLAND BV

# GREEK TEXTILE TOOLS

Project title: Continuity and changes in textile production in Early Bronze Age Greece

Start Date: 2013-08-01 End Date:2017-06-02

Most frequent returning words in objectives:

* ('textile', 11)
* ('production', 5)
* ('Greece', 5)
* ('development', 4)
* ('tools', 4)
* ('project', 3)
* ('techniques', 3)
* ('impact', 3)
* ('Europe', 2)

This project will provide new insights into the development and importance of textile production techniques in Greece in the Early Bronze Age (EBA). During this period basic cultural features of the later Minoan and Mycenaean civilisations were determined, yet the impact of textile production in this process has never been investigated. Despite the fact that EBA Greece developed significant links with Europe and the Eastern Mediterranean, their impact on textile production and technical development throughout the 3rd Millennium BC is yet to be studied. A systematic analysis of textile tools, their first appearance and distribution patterns will be the project’s point of departure. Full sets of EBA textile tools will be tested experimentally at the Centre of Textile Research in Copenhagen and evaluated with an international team of textile researchers in order to understand the manufacturing techniques and to identify the types of threads used (animal vs. plant). My objectives are 1. to examine the rate of development of textile techniques; 2. to elucidate the role of textiles in the long debated cultural change at the end of the EBA; 3. to integrate theoretical and practical studies on textile tools in order to develop new ways of interpreting  
archaeological data; 4. to address social and economic issues by analysing contextual evidence from settlements with implications to functional zones and the status of textile production. This project will be carried out through collaboration with numerous sites and research institutions in Greece, Germany and Denmark. The expected major accomplishments will be 1. a far greater understanding of the development of textile production in EBA Greece and the impact of its contacts with Europe and the Eastern Mediterranean; 2. the evaluation of analytical methods and experiments to understand the function of the textile tools and 3. the integration of these new results into a more robust archaeological reconstruction of EBA Greece.

Coordinator: KOBENHAVNS UNIVERSITET from:DK

# LANIR

Project title: Label Free Nanoscopy Using Infra Red

Start Date: 2012-04-01 End Date:2015-09-30

Most frequent returning words in objectives:

* ('cancer', 4)
* ('processes', 3)
* ('resolution', 3)
* ('microscopy', 3)
* ('disease', 2)
* ('patients', 2)
* ('Europe', 2)
* ('causes', 2)
* ('lung', 2)

Every year, Alzheimer's disease (AD) affects about 800,000 new patients in Europe and directly causes 50% of dependency of aged persons. Currently there is no test to diagnose this disease. There is a great need to improve outcomes for patients with lung cancer which causes between 15-28% of all cancer deaths in Europe.  
  
Chemical and structural imaging with nanoresolution under ambient conditions can significantly advance our understanding of biological processes at the sub-cellular level and provide understanding of early stage AD and lung cancer, improve the efficacy of therapeutic drugs and evaluate the real impact of nanomaterials to health and safety.  
In production processes the ability to image defects with nanometre resolution is critical for robust quality control of ‘industrially important’ products e.g. organic photovoltaic devices, antimicrobial textiles and functional coatings on biomedical implants.  
Nanoscale imaging available today does not permit in situ sub-cellular analysis and integrated metrology. This restricts our ability to optimise nanomaterials processes. Vibrational spectroscopy based imaging tools such as Infra-Red microscopy can provide a solution. Lateral resolutions of such techniques are currently limited to the micrometre range due to diffraction-limits.  
  
This project proposes a novel imaging tool Infra Red Nanoscope (IRN) that will break away from this diffraction limit. IRN will significantly improve the lateral resolution of IR microscopy on a table-top set up from the current state-of-the-art of 100 micron to 70 nm. It will also perform 3D imaging at a resolution of 500 nm, which is currently not possible in IR microscopy. A detailed methodology and instrumentation plan exists to implement a ready to commercialise table-top, nanoresolution, IRN. The instrument offers easy operation, flexibility and label free imaging of structure and chemistry that will stimulate new research in cancer treatments and early stage diagnostics of AD.

Coordinator: UNIVERSITY OF LIMERICK from:IE

participant: LABORATOIRE D'EVALUTION DES MATERIELS IMPLANTABLES SA

participant: SYNCHROTRON SOLEIL SOCIETE CIVILE

participant: MULTITEL

participant: PLASMACHEM PRODUKTIONS- UND HANDEL GMBH

participant: FONDAZIONE ISTITUTO ITALIANO DI TECNOLOGIA

participant: LASERSPEC

participant: G.N.R. SRL

participant: UNIVERSITATEA POLITEHNICA DIN BUCURESTI

participant: UNIVERSITA DEGLI STUDI DI GENOVA

# SMILES

Project title: Sustainable Measures for Industrial Laundry Expansion Strategies: SMART LAUNDRY-2015

Start Date: 2008-09-01 End Date:2011-11-30

Most frequent returning words in objectives:

* ('energy', 7)
* ('reduction', 5)
* ('sector', 4)
* ('year', 4)
* ('water', 4)
* ('technologies', 4)
* ('project', 4)
* ('laundry', 3)
* ('SMEs', 3)

The EU-27 industrial laundry sector, with 11.000 establishments (more than 90% SMEs), washes 2,7 billion kg of soiled textiles per year (wet weight) employing 168.000 workers and utilizing 42 million m3 of wash water and 60 PJ of energy per year. It generates similar quantities of waste water, to be treated, and substantial CO2 emissions (3,8 million tons CO2/year). The annual turnover of the sector is 5,1 billion euro, which can be doubled if all disposable textile articles were replaced by environmentally friendly reusable items. Focused and coordinated research to develop and improve innovative technologies can greatly enhance the performance of the sector. The conventional laundry processes are characterized by large enthalpy destructions and resource inefficiencies. It is the purpose of the project to design the SMART LAUNDRY-2015 through research, further development and adaptation of 16 key technologies (combined for green sites or individual for existing plant augmentation). These include water reduction, energy savings, green fuel substitutions for CO2 reductions, new energy systems and improved sequencing of the processes, greater textile hyiene. Full implementation of the SMART LAUNDRY-2015 will reduce the annual water consumptions by at least 10,4 million m3 (30%), the energy consumptions by 27,5 PJ (45%) and the overall CO2 emissions by 2,3 million tons CO2 per year (60% reduction) at 100% market penetration in the year 2015. Improved laundry services with the 16 key technologies and practices will enhance reusable textiles and reduce the throwaways and disposables by 20%. The 16 key technologies will be investigated at pilot scale level and subsequently integrated in a unified design. A parallel benchmarking and innovation monitoring will validate both the actual energy demand and the potential of energy savings of the future innovations. Future economic gains from SMILES are projected at 1020 million EUR in the next 10 years. An important component of project SMILES is the educational effort and training of key staff members and hand-on workers to assist in the introduction of the Smart Laundry-2015. The project also encompasses the writing, production and dissemination of key materials by a special website (smartlaundry2015.com) to national associations and to all SMEs in the sector. Finally the resource reductions are assured by an automated energy management system controlling and monitoring input and output savings. SMILES has 6 WPs: WP1 Water reduction, WP2 Energy/CO2 reduction, WP3 Chemicals reduction, WP4 Quality improvement/Risk analysis, WP5 Integration/Transfer and WP6 Project management. The project has a well-planned management structure for the cooperation between 5 SME-AGs, 2 SMEs and 8 RTDs from 7 EU countries.

Coordinator: Federatie van de Belgische Textielverzorging from:BE

participant: PROMIKRON BV

participant: Schieke Consultancy BVBA

participant: BD VASK AS

participant: VOF STOMERIJ ZEEKANT

participant: OBRTNO-PODJETNISKA ZBORNICA SLOVENIJE

participant: ACT BV

participant: CENTRE TECHNIQUE DE LA TEINTURE ET DU NETTOYAGE - INSTITUT DE RECHERCHE SUR L'ENTRETIEN ET LE NETTOYAGE

participant: Hogeschool Gent

participant: WFK FORSCHUNGSINSTITUT FUR REINIGUNGSTECHNOLOGIE AN DER FACHHOCHSCHULENIEDERRHEIN EV

participant: STOWARZYSZENIE PRALNIKOW POLSKICH

participant: Chemische Fabrik Kreussler & Co GmbH

participant: UNION DES RESPONSABLES DE BLANCHISSERIES HOSPITALIERES - U.R.B.H.\*

participant: UNIVERZA V MARIBORU

participant: CROATIAN CHAMBER OF ECONOMY CCE

# ZOT

Project title: Zoroastrian Text(ile)s: Regulations, Symbolism, Identity

Start Date: 2013-07-01 End Date:2015-06-30

Most frequent returning words in objectives:

* ('project', 1)
* ('Text', 1)
* ('Regulations', 1)
* ('Symbolism', 1)
* ('Identity', 1)
* ('offers', 1)
* ('approach', 1)
* ('modalities', 1)
* ('changes', 1)

The project “Zoroastrian Text(ile)s: Regulations, Symbolism, Identity” offers an innovative interdisciplinary approach to the understanding of the modalities and changes in the use of textiles in the Zoroastrian communities of the Iranian milieu (from ca. the 2nd millennium BCE through to the 17th century CE).

Coordinator: KOBENHAVNS UNIVERSITET from:DK

# MAPICC 3D

Project title: One-shot Manufacturing on large scale of 3D up graded panels and stiffeners for lightweight thermoplastic textile composite structures

Start Date: 2011-12-01 End Date:2015-11-30

Most frequent returning words in objectives:

* ('preform', 6)
* ('production', 5)
* ('process', 4)
* ('composites', 4)
* ('manufacturing', 3)
* ('materials', 3)
* ('development', 3)
* ('tools', 3)
* ('project', 2)

The MAPICC 3D project and concept aims at developing manufacturing system for 3D shaped, multilayered products based on flexible materials. The ultimate goals are:  
  
> The development of integrated and automated process chain able to produce from hybrid thermoplastic yarn to 3D complex shaped thermoplastic composite structure in single step thermoplastic consolidation process.  
  
> The development of flexible industrial tools, able to produce customized final composites: possibility to reinforce the preform by coating, weaving multilayers, by injection of foam, by introduction of sensors (control quality of preform during the production or monitor the integrity of composite during use)  
  
> The development of modelling tool in order to help understanding of the mechanisms involved in the new technologies and to prototype virtually 3D preform, predictive tools to evaluate the physical and mechanical properties of final 3D preform and final composites structure and at the last step reverse engineering.  
  
The speed of production and the cost of manufacturing the 3D preform will be in accordance with the transport, building and energy thanks to:  
• The use of raw materials at low cost based on thermoplastic polymer, or regenerated fibres,  
• A decrease of production time. The polluting, labour-intensive and expensive steps of cutting, forming and joining, of current composites production could be avoiding.  
• A dynamic quality control during the production to improve the process robustness,  
• A decrease of quantity of wastes in comparison to current 2D preform based composite structures manufacturing.  
  
The consortium allows integrating the entire process chain and involves the industrial stakeholders from machine tools, automation and modelling processing of flexible materials, yarn and textiles, composites and end users for transport: industry insures the leadership of the project.

Coordinator: ECOLE NATIONALE SUPERIEURE ARTS INDUSTRIES TEXTILES from:FR

participant: COEXPAIR SA

participant: ASSOCIATION REGIONALE DE L'INDUSTRIE AUTOMOBILE

participant: VOLVO TECHNOLOGY AB

participant: LATVIJAS FINIERIS A/S

participant: RIGAS TEHNISKA UNIVERSITATE

participant: MECACORP

participant: ESI GROUP

participant: TenCate Advanced Composites BV

participant: REDEN B.V.

participant: P-D GLASSEIDE GMBH OSCHATZ

participant: STEIGER PARTICIPATIONS SA

participant: TEN CATE SYSTEMS BV

participant: ESI GmbH

participant: ASSOCIATION POUR LA RECHERCHE ET LE DEVELOPPEMENT DES METHODES ET PROCESSUS INDUSTRIELS

participant: FERLAM TECHNOLOGIES SAS

participant: POLITECNICO DI MILANO

participant: DYLCO SAS

participant: SVEUCILISTE U ZAGREBU TEKSTILNO-TEHNOLOSKI FAKULTET SVEUC

participant: ALSTOM TRANSPORT SA

# TRADE

Project title: "Global encounters: Fashion, culture and foreign trade in Scandinavia, 1500-1630"

Start Date: 2013-03-01 End Date:2015-02-28

Most frequent returning words in objectives:

* ('research', 4)
* ('study', 2)
* ('clothing', 2)
* ('fashion', 2)
* ('textile', 2)
* ('trade', 2)
* ('cultures', 2)
* ('period', 2)
* ('evidence', 2)

'This study of early modern Scandinavian clothing, fashion and textile trade offers a better understanding of how international trade and global cultural encounters shaped Scandinavian cultures in the Renaissance period. Using empirical and material evidence it explores what economic, social and stylistic changes were introduced by foreign imports in Scandinavian clothing cultures, how the lives of individuals were visually transformed by novel concepts, and, eventually, what constituted Scandinavian ‘fashions’ in the period (1550-1620). Carried out at the Centre for Textile Research (CTR), Copenhagen, the central goal of the project is to develop a new methodology combining my previous experience of empirical evidence and theoretical models drawn from fashion theory, social and economic history and anthropology with the tradition of textile analysis and costume conservation. This involves training in technical analysis of textiles, language and palaeographic skills and museum work. The CTR provides an exceptional environment for research and career development, because it holds an extensive international network of scholars and museum partners as well as a strong methodological expertise in textiles at both theoretical and practical levels. The new research perspectives and object-based methods gained at the CTR will result in a series of dissemination activities addressed both at the academic and general public, including scientific publications, an exhibition concept, visiting lectures, internet blog and a mini-conference that draws my own networks at CTR. Denmark has a long tradition of the study of historical dress. Training within the dynamic research environment of the CTR and Danish museums provides me with the research and management skills that, supported by a management course offered by the University of Copenhagen, will allow me to gain an independent senior academic position. My ambition is to found a Centre for Fashion Studies in Helsinki in 2015.'

Coordinator: KOBENHAVNS UNIVERSITET from:DK

# Force7

Project title: High performance oil spill recovery system suitable to effectively operate in rough sea waters based on improved oleophilic/hydrophobic materials

Start Date: 2013-03-01 End Date:2015-02-28

Most frequent returning words in objectives:

* ('spill', 5)
* ('recovery', 5)
* ('system', 5)
* ('mops', 5)
* ('vessel', 3)
* ('SMEs', 3)
* ('conditions', 2)
* ('oleophylic', 2)
* ('hydrophobic', 2)

Force 7 aims to develop an innovative oil spill recovery system for operation in rough sea conditions.  
The new system is based on the use of interconnected mops to create a large, wide mop net which will maximize the oil encounter rate on the surface of the sea whilst it is dragged to adsorb the slick. The system is extremely versatile because it only requires one vessel to operate and that can be any vessel of opportunity at the time of an emergency spill.  
The mops are made by novel fibres with controlled oleophylic and hydrophobic behaviour in order to absorb large quantities of oil and increase the recovery efficiency. Once the mops are saturated they are recovered onboard of the vessel and squeezed through a roller system: the oil collected is then stored and the mops are deployed again for another cycle. Traditional systems, in comparison, are characterised by lower performance in terms of oil recovery and cannot be used in harsh sea conditions, which are typically encountered in case of ship wreckage and often characterize the cold seas.  
Project objectives are related to the development of the oleophylic and hydrophobic fibre materials of the mop and the related treatments, the optimisation and production of the mops, and the development of the overall oil spill recovery system for field demonstration.  
Four SMEs constitute the core of the Project, representing the whole supply chain for the oil spill recovery end product. SMEs are supported by three RTDs providing the necessary experience in the field of technical textiles, engineering and oil spill responding services. SMEs will benefit 100% of project exploitable results, in a scheme that will provide full return of investment within 3 years by the end of the project.

Coordinator: RINA CONSULTING SPA from:IT

participant: CENTRE SCIENTIFIQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE

participant: OIL POLLUTION ENVIRONMENTAL CONTROL LIMITED

participant: LKL TEC LIMITED

participant: EDWARDS DIVING SERVICES LIMITED

participant: Extreme Materials srl

# PPEXT

Project title: Industrial Extensions to Production Planning and Scheduling

Start Date: 2010-05-01 End Date:2013-05-31

Most frequent returning words in objectives:

* ('Brazil', 6)
* ('University', 5)
* ('partners', 4)
* ('industries', 4)
* ('models', 4)
* ('research', 3)
* ('production', 3)
* ('project', 2)
* ('Paulo', 2)

This project (PPExt) has two EU partners: the University of the West of England (UWE) &amp; the Faculty of Engineering of Porto University (FEUP), and three from Brazil: University of São Paulo (USP), Federal University of São Carlos (USFCar) &amp; São Paulo State University (UNESP). The five institutions plan a large three-year joint research programme on a major competitive issue for both the EU and Brazil, with a strong economical and environmental impact: the optimization of production planning processes across several industries. The project will exchange research staff between the EU and Brazil to develop and test industrial extensions to models and optimisation algorithms in production lot sizing, cutting and packing and scheduling in 6 industries: animal nutrition, beverages, glass, dairy products, textiles and furniture. The specific objectives are to: 1. Formulate industrial extensions to production planning models that can handle the complexities of specific industries; 2. Develop methods to solve the models formulated; 3. Test the models and solutions methods in the six selected industry areas in both the EU and Brazil; 4. Disseminate the results within EU and Brazilian academia, and promote the transfer of knowledge from academia to industries; 5. Transfer knowledge between the EU and Brazil. All five partners are experienced in this field of research. Because of their complementary expertise, the partners have collaborated in the past, but at an intermittent pace, not taking full advantage of the potential synergies between them. The exchange programme will allow the partners to carry out a structured and integrated workplan, enabling long term and sustainable collaboration between the ERA and Brazil.

Coordinator: UNIVERSITY OF THE WEST OF ENGLAND, BRISTOL from:UK

# CESICOP

Project title: Elucidating the control of cell size in plants

Start Date: 2010-10-01 End Date:2012-09-30

Most frequent returning words in objectives:

* ('cell', 14)
* ('kinesin', 6)
* ('cell-wall', 5)
* ('size', 4)
* ('expansion', 4)
* ('plants', 3)
* ('wall', 3)
* ('ploidy', 2)
* ('importance', 2)

Cell size is a crucial determinant of overall organ size. The size of a cell can be influenced by various hormones; it depends on the identity of the cell; and it is positively correlated with the cell’s ploidy level. However, the molecular mechanisms that determine when cell expansion stops to ensure an appropriate cell size are poorly understood. In plants, the presence of a cell wall means that the extent of cell expansion, and thus the amount of cell wall synthesized, is also of paramount economic importance, given our dependence on plant cell-wall material for classical uses (paper, textiles, etc.) and for bioenergy production. The Lenhard group have recently isolated mutations in an Arabidopsis kinesin, a microtubule-based motor protein, that lead to larger cells despite normal ploidy levels. The kinesin associates with Golgi-stacks and appears necessary to ensure their even distribution within the cell. Given the importance of the Golgi-apparatus for secretion of cell-wall material, the current working hypothesis is that more uneven cell-wall biosynthesis in the mutants resulting from the uneven distribution of the Golgi-stacks triggers cell-wall integrity-sensing pathways, which in turn lead to the synthesis of more cell wall and excess cell expansion. This proposal will address the basic function of the identified kinesin by analyzing plants lacking also a highly similar, probably functionally redundant kinesin; study the mechanism of action of the kinesin in question by analyzing an identified interacting protein; assess the cellular basis for the observed cell enlargement by testing several of the assumptions and predictions of the working hypothesis outlined above; and investigate the relation between the excess cell enlargement in the kinesin mutant and that seen in the phenomenon of ‘compensation’. Together, these studies will provide important new insight into the regulation of cell-wall synthesis and cell expansion in plants.

Coordinator: UNIVERSITAET POTSDAM from:DE

# CREATION

Project title: A CREATION of new methodology for the analysis of the influence of textiles on human beings

Start Date: 2010-11-01 End Date:2012-10-31

Most frequent returning words in objectives:

* ('textiles', 11)
* ('objectives', 3)
* ('creation', 3)
* ('human', 3)
* ('textile', 3)
* ('research', 3)
* ('methodology', 3)
* ('hand', 3)
* ('Fellow', 3)

The objectives of this project are: creation and verification of a complex way of analysing the effects of textiles on human organisms, the comfort in those textiles and perception of those textile by humans as well as a classification of textiles (creation of hierarchical system of textiles) in respect of their influence on human organism. The underlying concept of the research is based on the development of a methodology concerning physiological (respiratory, circulatory), subjective hand measurement - perceiving of textiles, objective hand measurement (Total Hand Value (THV)), and finally creation of a “reaction to textiles” model. The methodology will be based on physical test in volunteers wearing different textiles (an interactive and a traditional one as reference point), psychological reactions on those textiles and objective laboratory methodology measuring a hand of textiles. The final phase consists of creating a sensorial process modelling based on stimulation of humans by textiles. The objectives will be achieved through multidisciplinary research of textile engineers, physiologists, neurologists, and statisticians. Using volunteers in laboratory testing will enable the analysis of the influence of different textiles on human physiological parameters. The tests on textile sets of garments concern the physical measurements of the fabrics, e.g., liquid permeability, air permeability, thermal resistance, THV according to the Kawabata System. This project is tailored in order for the Fellow to reach well – defined objectives in terms of career advancement. The schedule and the framework of a main research concept is a complement of the training activities and a Personal Career Development Plan, which head for a development of the scientific skills and knowledge of the Fellow and support of a Fellow at present stage of her career, an enhancement of her competence diversification in terms of new skills acquisition at multidisciplinary level.

Coordinator: UNIVERSITEIT GENT from:BE

# INTERCOM

Project title: New inter-scale techniques for damage analysis of novel composite architectures

Start Date: 2012-04-01 End Date:2016-03-31

Most frequent returning words in objectives:

* ('damage', 7)
* ('multi-scale', 3)
* ('composites', 3)
* ('research', 2)
* ('novel', 2)
* ('representative', 2)
* ('materials', 2)
* ('medium', 2)
* ('concept', 2)

The aim of the proposed research is to develop novel methods of multi-scale analysis for complex architectures obtained with various manufacturing techniques, such as 3D braiding/ weaving, tufting, automatic tow placement, and embroidery. The common feature of these structures is the absence of representative building block at the yarn level. Hence, these composites are not materials in the traditional sense of homogeneous or homogenizable medium. There is no established strategy for accessing the internal stress-strain state and damage in such composites. This challenge will be handled by developing an entirely new multi-scale framework, which constructs the boundary conditions imitating interaction of the meso-volume of interest with the surrounding media. The proposed concept is based on previous studies of textile composites, which succeeded to find a way of handling volumes smaller than representative ones with a fine accuracy.  
  
The local meso-scale architecture determines all the aspects of damage accumulation. The methodology aims at defragmenting the medium in accordance to the potential planes of inter-yarn crack propagation. Such a concept can substantially simplify the damage accumulation simulation. The primary focus of the damage modelling is the effect of barely visible damage on component performance. The theoretical developments of the modelling approach will be supported by an extensive multi-scale experimental program. It will be realised through testing of an aircraft component, which is produced by the 3D rotary braiding. The experiments will provide a strong basis for the model validation against surface strains, damage onset, stiffness degradation, damage modes, and crack patterns.  
  
Although fundamental in the core, the research has a direct practical relevance. It will provide instrument to analyse and eventually optimise novel complex materials.

Coordinator: UNIVERSITY OF BRISTOL from:UK

# 3D-LIGHTTRANS

Project title: Large scale manufacturing technology for high-performance lightweight 3D multifunctional composites

Start Date: 2011-04-01 End Date:2015-03-31

Most frequent returning words in objectives:

* ('manufacturing', 6)
* ('3D-LightTrans', 3)
* ('composites', 3)
* ('research', 3)
* ('goal', 2)
* ('low-cost', 2)
* ('textile', 2)
* ('chains', 2)
* ('mass', 2)

The goal of 3D-LightTrans project is to provide groundbreaking, highly flexible and adaptable low-cost technologies for manufacturing of 3D textile reinforced plastic composites (in the following referred to as textile reinforced plastics or TRP), including innovative approaches for the individual processes and its integration in complete manufacturing chains, which will enable to shift them from its current position in cost intensive, small series niche markets, to broadly extended mass product applications, not only in transportation, but also in other key sectors, like health and leisure.  
To fulfil this goal, 3D-LightTrans manufacturing chains will based on hybrid yarn incorporating thermoplastic matrix material, processed to deep draped multilayer textiles and multifunctional 3D-textile constructions, which will be fixed to dry pre-forms and finally, processed into composites by thermoforming. By integrating these new, innovative process steps with full automation in -nowadays mostly manually performed- complex handling operations, it will be possible to obtain a fully automated and highly adaptable manufacturing chain. 3D-LightTrans will open the way to a totally new concept for the design, manufacturing and application of composites for low-cost mass products in a wide range of sectors.  
The Consortium brings together multidisciplinary research teams involving five industrial stakeholders from machine tools and machine automation (P-D Glasseiden, Van de Wiele, Lindauer Dornier, Coatema) and several OEM active in the field of processing of flexible materials and composite manufacturing, including Federal Mogul, among others, as well as from the application sector (FIAT and Bentley), and extensive expertise from well known research specialists in the area of materials, production research and technical textiles in particular, like AIT, TU-Dresden and University of Ghent.

Coordinator: AIT AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH from:AT

participant: AUTOMATITZACIO DE PROCESSOS I MEDIAMBIENT SL

participant: CENTRO RICERCHE FIAT SCPA

participant: UNIVERSITEIT GENT

participant: COATEMA COATING MACHINERY GMBH

participant: Xedera e.U

participant: Lindauer DORNIER GmbH

participant: Federal Mogul Systems Protection

participant: P-D GLASSEIDE GMBH OSCHATZ

participant: OFFICE NATIONAL D'ETUDES ET DE RECHERCHES AEROSPATIALES

participant: GRADO ZERO ESPACE SRL

participant: NORTH WEST TEXTILES NETWORK LIMITED

participant: BENTLEY MOTORS LTD

participant: UNIVERSITE D'ORLEANS

participant: ACONDICIONAMIENTO TARRASENSE ASSOCIACION

participant: Michel Van de Wiele

participant: SVUM AS

# FLY-BAG

Project title: Blastworthy textile-based luggage containers for aviation safety

Start Date: 2008-12-01 End Date:2011-02-28

Most frequent returning words in objectives:

* ('aircraft', 6)
* ('explosion', 4)
* ('explosives', 3)
* ('containers', 3)
* ('luggage', 3)
* ('layer', 3)
* ('effects', 2)
* ('explosions', 2)
* ('idea', 2)

'The rise in worldwide terrorism has required measures be taken to harden aircraft against catastrophic in-flight failure due to concealed explosives. Commercial aviation can be protected from the threat of explosives by : 1. preventing explosives from reaching the aircraft 2. mitigating the effects of an explosive protecting the aircraft from an onboard explosion. The risk that a small quantity of an explosive, below the threshold of the detection instruments, could get undetected should be considered, and the introduction of contermeasures to reduce the effects of on-board explosions should be considered. This is the idea behind FLY-BAG. Hardened containers (HULD) have been developed for the latter scope, but have some disadvantages which prevent their wider utilisation: they are heavier and more costly than standard luggage containers and only applicable to wide-body aircrafts. The issue of containing explosions aboard narrow-body aircraft must be resolved. Our concept is based on the development of flexible textile-based luggage containers able to resist a small to medium explosion by controlled expansion and containment of the shock waves whilst, at the same time, preventing hard luggage fragment projectiles (shrapnel) from striking the main structure of the aircraft at high speed. A multi-layered 'soft-sandwich' structure is required to absorb the large dynamic loads of the explosion and the large deformation related to the gas expansion. Our idea is to use a multi-axial textile structures made of ballistic yarns as an internal high strength layer, coupled with an external 'foldable' layer which could deform in a controlled way during the explosion, in a way similar to air-bags in cars. Composite elements like thin strips or thin sheets contribute with reinforcement and containment functions. A core layer will be considered as well e standoff distance between an explosive device and the aircraft skin panels to reduce shockholing and blast forces.'

Coordinator: RINA CONSULTING SPA from:IT

participant: MERIDIANA S.p.A

participant: CARMEL CARGO NETWORK BV

participant: Meridiana Maintenance S.p.A.

participant: HOFFMANN AIR CARGO EQUIPMENT

participant: CENTRO DI RICERCHE EUROPEO DI TECNOLOGIE DESIGN E MATERIALI

participant: SAECHSISCHES TEXTILFORSCHUNGSINSTITUT E .V.

participant: DANMARKS TEKNISKE UNIVERSITET

participant: BLASTECH

# T-POT

Project title: Unlocking the Croatian Textile Research Potentials

Start Date: 2009-03-01 End Date:2012-02-29

Most frequent returning words in objectives:

* ('research', 6)
* ('textile', 4)
* ('T-Pot', 2)
* ('reinforce', 2)
* ('sector', 2)
* ('goals', 2)
* ('industry', 2)
* ('institutions', 2)
* ('project', 2)

T-Pot aims to reinforce research potentials of Faculty of Textile Technology (TTF) in order to strengthen university sector to become one of the components of national innovation. The goals are to develop the capacity for breakthrough research leading to innovative textile and textile related products contributing in this way to local industry. Top scientists will be attracted to the country for exchange of know-how and guidance of Croatian textile manufacturers. Prerequisite for these objectives is an active participation in research projects and successful competing for funds in the European Research Area. For that reason T-Pot will reinforce human and material potential, so as research infrastructure. Three strategic partnerships with well established research institutions will be developed and further communication with other textile centres with similar scientific interest will be facilitated. Employment of 3 new PhD students, their training at 3 prestigious research institutions, so as acquisition of selected equipment will be significant contributions to the project goals. Dissemination activities such as organization of workshops, trainings, forums, round table and 2 conferences will contribute to spreading excellence and exploiting of project results and knowledge in particular within the industry. All stated activities will sustain the progress of real integration and cohesion of Croatian textile/clothing (T/C) sector into European Union Framework Programmes.

Coordinator: SVEUCILISTE U ZAGREBU TEKSTILNO-TEHNOLOSKI FAKULTET SVEUC from:HR

# TEX-SHIELD

Project title: Environmental friendly and Durable Oil and water repellence finish on Technical Textiles

Start Date: 2012-12-01 End Date:2015-11-30

Most frequent returning words in objectives:

* ('chemistry', 5)
* ('finish', 4)
* ('market', 3)
* ('water', 3)
* ('PFC-C', 3)
* ('concerns', 3)
* ('textiles', 2)
* ('repellent', 2)
* ('fabrics', 2)

In the current market, the well-known brands of technical textiles are coated with Perfluorocarbon chemistry to possess highly durable oil and water repellent (OWR) finish. In early days, water repellent finish for fabrics was provided by simple paraffin or wax coatings which washed out eventually. Alternatively, PFOS and PFOA are the chemicals belonging to the family of perflourochemicals (PFCs) also known as C8 chemistry is used. Although PFC-C8 are used together with binders that act as glue to stick to the surface of fabrics, as it is not chemically bonded to the substrate it leaches out, causing ecological threat. Recent studies have found PFC-C8 present in the blood, tissues and foetal-cords of human and its bio-persistence and bioaccumulation in the environment has caused significant concerns. Notably, due to these concerns, 3M withdrew Scotchguard from the market in 2000. C8 Fluorocarbons are currently under high regulatory pressure (2006/122/EC) and it’s outlawed in favour of C6 chemistry which performs lower to meet the industries durability and repellence standards.  
There is a strong demand for replacing the C8 chemistry with an equally performing finishing chemical. TEX-SHIELD will develop a novel, multifunctional molecular structure with silica backbone that is chemically bondable to the fibre/filament to achieve a highly durable textile finish that is resistant against the oil/grease /powder stains by biological route. The reasonable silica content in it will replace the C8 chemistry while providing equal performance. A replica of film forming effect will be formulated. The project will evaluate the suitable deposition technique. TEX-SHIELD will provide the textile industry with a cost effective and environmentally safe OWR finish on textiles, revolutionising the current market place, whilst resolving the concerns of the current PFC-C8 based stain-resistant coatings. This will profoundly reduce water consumption during washing for the consumers.

Coordinator: NORTH WEST TEXTILES NETWORK LIMITED from:UK

participant: PANAZ LTD

participant: ASSOCIATION TECHTERA

participant: UNITEX VZW

participant: CTF 2000 NV

participant: INSTITUT NATIONAL DES SCIENCES APPLIQUEES DE LYON

participant: EVA COMMERCE LTD

participant: Hogeschool Gent

participant: DE CLERCQ GEBR. - DECCA NV

participant: ASSOCIATION UP-tex

participant: SAMPAS NANOTEKNOLOJI ARASTIRMA GELISTIRME VE PAZARLAMA LIMITED SIRKETI

# SoilArchnAg

Project title: EFFECT OF SOIL ARCHITECTURE ON TRANSPORT AND RETENTION OF SILVER NANO-LITTER

Start Date: 2012-11-01 End Date:2014-10-31

Most frequent returning words in objectives:

* ('soil', 5)
* ('nano-litter', 3)
* ('industry', 2)
* ('product', 2)
* ('land', 2)
* ('transport', 2)
* ('soils', 2)
* ('lack', 1)
* ('human', 1)

A lack of understanding of the human and environmental health implications of nano-materials has deterred public and scientific support for nanotechnology evolution across industries. Nano-silver in particular has gained increasing popularity due to its biocidal properties in the garment industry to create odor-free clothing. An increase in “nano-litter” release to the environment is expected from erosion by product use and land application of nano-litter enriched wastewater sludge. This project will investigate the transport of nano-silver in soils through laboratory experiments using a novel 3-dimensional soil model technique that creates reproducible replicates of real soil pore networks, and simulations that combine non-equilibrium statistical physics of particle-solid interactions with information of Lattice-Boltzmann flow fields. The objectives are to: i) determine the effect that soil structure has on the transport of nanoparticles, ii) assess the capacity of soils under different land management practices (and therefore different soil architectures) to filter out suspended nano-litter from groundwater, and iii) develop a modeling tool to help industry forecast the propagation of nano-enabled products and their derivatives through soil environments from product use and disposal. The findings of this study are expected to directly impact environmental policy in the host country as well as worldwide.

Coordinator: THE UNIVERSITY COURT OF THE UNIVERSITY OF ABERTAY DUNDEE from:UK

# WEAR-A-BAN

Project title: Unobtrusive wearable human to machine wireless interface

Start Date: 2010-06-01 End Date:2012-10-31

Most frequent returning words in objectives:

* ('low-power', 2)
* ('wireless', 2)
* ('market', 2)
* ('objective', 1)
* ('investigate', 1)
* ('demonstrate', 1)
* ('body-area-network', 1)
* ('WBAN', 1)
* ('technologies', 1)

The objective of Wear-a-BAN is to investigate and demonstrate ultra low-power wireless body-area-network (WBAN) technologies for enabling unobtrusive human to machine interfaces (HMI) into SME-driven market segments of smart fabrics / interactive textiles (SFIT), robotics for augmented reality assistance and rehabilitation, and natural interfacing devices for video gaming. The proposed research will generate high societal and market impact for the European SMEs, and will enable major technological breakthroughs in the areas of ultra low-power radio system-on-chips (SoC) and of textile-oriented system-in-package (SiP) platforms for miniature wearable antennas, wireless and sensor electronics and digital signal processing.

Coordinator: RTD TALOS LIMITED from:CY

participant: MOVEA

participant: CSEM CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA - RECHERCHE ET DEVELOPPEMENT

participant: WIZARBOX

participant: CAP DIGITAL

participant: Ramon Espi SL

participant: Deltatron Oy

participant: COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

participant: ASOCIACION DE INVESTIGACION DE LA INDUSTRIA TEXTIL

participant: Voxler

participant: PLAY ALL SARL

participant: TECHNISCHE UNIVERSITAET BERLIN

participant: SIGNALGENERIX LIMITED

participant: Robotics Society in Finland

participant: ASOCIACION DE EMPRESARIOS TEXTILES DE LA REGION VALENCIANA

# ENVIRO-TEX-DESIGN

Project title: Virtual Collaborative Design Environment

Start Date: 2008-09-01 End Date:2011-08-31

Most frequent returning words in objectives:

* ('Eco-Tex-Design', 3)
* ('project', 3)
* ('objectives', 3)
* ('platform', 2)
* ('Design', 2)
* ('consist', 2)
* ('integration', 2)
* ('knowledge', 2)
* ('environment', 2)

Eco-Tex-Design has for overall objective to develop a platform supporting a “Knowledge Based Collaborative 3D Virtual Design” dedicated to the Clothing &amp; Leather/Footwear SMEs. The adding value of this project will consist of the integration of decision making supports derived from a knowledge based environment related to performance as well as to environmental, health and toxicological regulations, standards and labels. The Eco-Tex-Design project will therefore focus on two main objectives addressing the design process and at a lesser extend, a third one focusing on production framework and future mass customisation. These objectives will consist of: 1. A “Collaborative 3D Virtual Design Platform” providing users with information and tools as well as an integration framework including all the main components to be developed within the project. 2. A new knowledge environment based on a five data sets and on the customer demand and/or specifications. It will be interacting with legacy 2D CAD and new 3D CAD systems and linked to the collaborative platform. It will include: An EHS Decision Making Toolbox and a Performance Evaluation Module 3. A “Production Organisation Framework” based on the concept of “extended factory” enabling a fast reaction to the new trends. Itwill include: a partnership network and a Data sheets generator based on historic of data sheets. For achieving these objectives, Eco-Tex-Design will address the whole design process.

Coordinator: INSTITUT FRANCAIS DU TEXTILE ET DE L'HABILLEMENT from:FR

participant: ATHENS TECHNOLOGY CENTER ANONYMI BIOMICHANIKI EMPORIKI KAI TECHNIKI ETAIREIA EFARMOGON YPSILIS TECHNOLOGIAS

participant: INOTEX SPOL SRO

participant: Color-Web GmbH by Peppermint

participant: FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

participant: NEXT TECHNOLOGY TECNOTESSILE SOCIETA NAZIONALE DI RICERCA R L

participant: INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE PENTRU TEXTILE SI PIELARIE

participant: ELKEDE TECHNOLOGY AND DESIGN CENTRE SA

participant: E. PECCI & C SPA\*

participant: ZKS Miltex

participant: ASOCIATIA PATRONILOR SI MESERIASILOR CLUJ

participant: UNION DES INDUSTRIES TEXTILES

participant: GROUPE FLORY SA

participant: DIM.VASILEIADIS KAI SIA EE

participant: MODERN TESTING SERVICES (GERMANY) GMBH

participant: SAFETY FOOTWEAR INDUSTRY MARI EPE

# NANOWEB

Project title: Development of Functional Nanofibers by Electrospinning

Start Date: 2010-05-01 End Date:2014-04-30

Most frequent returning words in objectives:

* ('nanofibers', 4)
* ('materials', 4)
* ('properties', 4)
* ('nanofibers/nanowebs', 4)
* ('polymer', 3)
* ('additives', 3)
* ('technique', 2)
* ('produce', 2)
* ('polymers', 2)

Electrospinning is a technique for producing nanofibers by creating a continuous filament by exposing a polymer solution or polymer melt to very high electrical fields. Due to its versatility and cost effectiveness, electrospinning has gained wide use recently to produce functional nanofibers from different materials, which include polymers, polymer blends, ceramics, sol-gels and composite solutions. Electrospun nanofibers and their nanowebs have several remarkable characteristics such as very large surface-to-volume ratio, pore sizes in nano range, unique physical properties along with the design flexibility for chemical/physical functionalization by incorporating specific additives into nanofibers. The unique properties and specific functionalities of such nanofibers/nanowebs make them favorable candidates in many applications areas such as medical/biotechnology, filtration and membrane technology, functional textiles, sensors, energy, composite materials, etc. Nanofibers/nanowebs from various types of natural and synthetic polymers can be easily produced by electrospinning, yet, improvements and new functionalities are always desired in order to enhance the properties of these electrospun nanofibers/nanowebs and broaden their application areas. Herein, it is proposed to fabricate functional polymeric nanofibers/nanowebs containing specific additives (cyclodextrins, textile additives, antibacterials, etc) by using electrospinning technique. The aim of this project is to produce new functional electrospun nanofibers/nanowebs and investigate their properties for the development of multi-functional nanofibrous materials for applications in filtration, functional textiles, medical/biotechnology, etc. The research proposed here has an interdisciplinary nature in the field of chemistry, materials science, textile, biology and engineering.

Coordinator: Bilkent Üniversitesi from:TR

# FRONT

Project title: Flame Retardant ON Textile

Start Date: 2008-11-01 End Date:2011-04-30

Most frequent returning words in objectives:

* ('flame', 2)
* ('retardant', 2)
* ('textile', 2)
* ('research', 1)
* ('produce', 1)
* ('advantages', 1)
* ('project', 1)
* ('increase', 1)
* ('market', 1)

The aim of the research is to develop and produce flame retardant textile, with economical and environmental advantages. Once project will be completed, it will be possible to increase the flame retardant textile market quota to the detriment of untreated textiles. This could support the introduction of new standards and rules to grant a higher security level against fires.

Coordinator: EUROPIZZI SPA from:IT

participant: ANTECUIR SL

participant: UNIVERSITEIT GENT

participant: ABEIL SA

participant: CENTRO TESSILE COTONIERO E ABBIGLIAMENTO SPA

participant: Klopman International Srl