irene
ITALIAN RELAY CENTRE NORTH EAST

Innovation

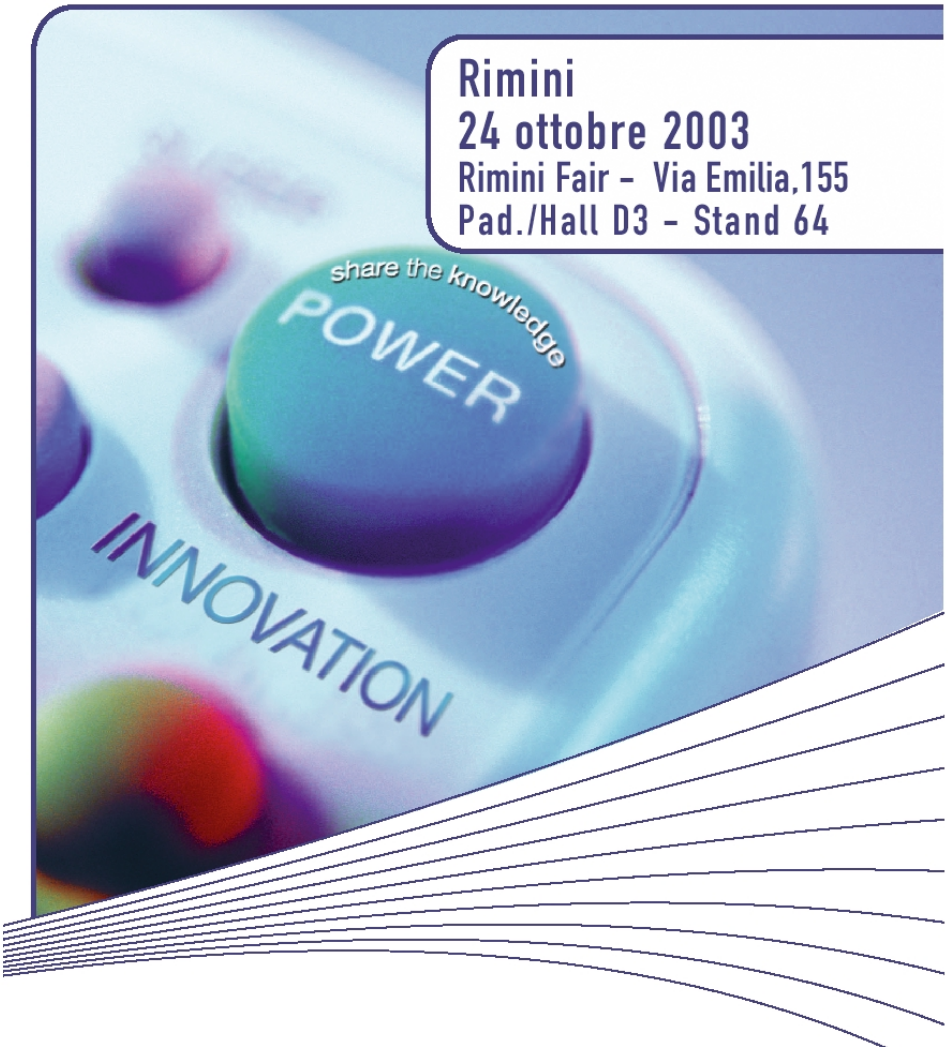
Transnational technology transfer day

L'Ambiente e il Tessile

Risultati di ricerca e opportunità tecnologiche per l'Europa

Environment and Textile

RTD results and technology opportunities for Europe



Rimini
24 ottobre 2003
Rimini Fair - Via Emilia,155
Pad./Hall D3 - Stand 64

ENEA
ENTE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE

ECOMONDO

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24 ottobre 2003
RIMINI FIERA
24 October 2003

Nell'ambito della fiera internazionale Ecomondo 2003 (ex Fiera Ricicla) (www.ecomondo.com) dedicata al recupero di materia ed energia e allo sviluppo sostenibile, l'Innovation Relay Centre IRENE organizza una giornata di trasferimento tecnologico transnazionale e presentazione dei risultati di progetti di ricerca sui temi delle Tecnologie Ambientali e del Tessile. In particolare verranno affrontati i seguenti argomenti:

- Tecnologie Ambientali per il settore Tessile
- Tessili e Tessili Tecnici a servizio dell'Ambiente
- Biotecnologie, Tessili e Ambiente.

L'iniziativa è organizzata in collaborazione con il Gruppo Tematico Ambiente e il Gruppo Tematico Tessile della rete degli Innovation Relay Centre.

La rete degli IRC intende fornire un supporto concreto all'innovazione e al trasferimento tecnologico transnazionale in Europa, attraverso una rete di servizi orientati alla diffusione di nuove tecnologie sviluppate dai centri di ricerca, università e PMI.

◆

The IRC IRENE is organizing a Transnational Technology Transfer Day and a presentation of RTD results in the «Environment and Textile» sectors.

The event, supported by The Thematic Group Environment and the Thematic Group Textile, will take place in Rimini, Italy, on 24 October 2003 within the framework of the international Ecomondo Fair, dealing with material and energy recovery and sustainable development (www.ecomondo.com). The selected topics are:

- *Environmental Technologies for Textile sector*
- *Textile and Technical Textiles for sustainable solutions*
- *Biotechnology, Textile and Environment.*

The goal of the IRC network is to support Innovation and transnational Technology Cooperation in Europe, through a range of business services specialised in diffusing new technologies developed by research institutes, universities, SMEs.

ENEA
ENTE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE

ECOMONDO

Transnational technology transfer day

Programma

9.30 - 10.30 Presentazione dei risultati di progetti di ricerca
10.30 - 10.45 Pausa caffè
10.45 - 13.00 Presentazione offerte tecnologiche
13.00 - 14.00 Pausa pranzo
14.00 - 18.00 One-to-one meetings

Nella prima sessione i ricercatori e le aziende selezionate avranno 10 minuti per presentare ad aziende e investitori i risultati dei progetti e delle tecnologie sviluppate. Le aziende spin-off che lavorano nel settore potranno cogliere l'occasione per mettersi in contatto con la realtà imprenditoriale e scientifica europea.

Nel pomeriggio, sulla base delle richieste di interesse pervenute, verranno organizzati gli incontri tra aziende, ricercatori e investitori.

Vetrina delle tecnologie

Nello stand verrà allestita una vetrina delle tecnologie, dove le aziende innovative e gli istituti di ricerca e di trasferimento tecnologico, sia italiani che europei, presenteranno le 20 tecnologie selezionate. Lo stand rimarrà aperto ai visitatori per tutta la durata della fiera.

Obiettivi

• Raggiungere accordi transnazionali di trasferimento tecnologico nel settore ambientale e tessile, attraverso contatti diretti tra gli interessati.
• Offrire uno spazio per la presentazione dei risultati dei progetti di ricerca.

Target

Aziende, università, start-up, spin-off e istituti di ricerca che:
• abbiano sviluppato tecnologie innovative utili a risolvere problemi ambientali del settore tessile;
• offrano-cerchino soluzioni nel settore tessile per risolvere problemi ambientali;
• siano interessati in partnership per cooperazioni tecniche e progetti di ricerca;
• intendano presentare i risultati di progetti di ricerca.

Programme

9.30 - 10.30 Presentation of research project results
10.30 - 10.45 Coffee break
10.45 - 13.00 Presentation of technology offers
13.00 - 14.00 Lunch
14.00 - 18.00 One-to-one meetings

During the first session, selected companies and researchers will be given 10 minutes to present their project results and their technologies to companies and investors. It could be a good occasion also for spin-off companies working in the field to come into contact with the European entrepreneurial and scientific world. After the first session, the one-to-one meetings will be arranged between participants interested in the technology opportunities presented.

Technology Showcase

A technology showcase will be set up, where innovative companies together with research and technology transfer institutes, both Italian and European, will present the 20 selected technologies. The stand will be open to visitors for the entire duration of the fair.

Objectives

• To reach transnational technology transfer agreements in Environment and Textile, by initiating direct contacts between potential partners.
• To give the opportunity to present RTD project results.

Target Group

Companies, Universities, Start-ups, Spin-offs and Research institutes:
• providing innovative technologies useful to solve environmental problems of the textile sector;
• seeking textile solutions to solve environmental problems;
• interested in partnerships for technical co-operation and RTD projects;
• presenting RTD results of European projects.

Transnational technology transfer day

Elenco delle tecnologie innovative

TO-CZ-001 Sviluppo di tessili tecnici con proprietà permanenti

TO-IT-003 Impianto modulare mobile per l'identificazione e ottimizzazione dei processi possibili per il trattamento recupero e/o riciclo degli scarichi industriali

TO-IT-006 Trattamento acqua di scarico e riciclo nell'industria tessile

TO-DE-008 Prodotti chimici per il tessile. Dati sull'impatto ambientale

TR-IT-009 Tecnologia di filtrazione

TO-IT-010 Metodologia integrata per la Good Environment Practice nell'industria tessile

TO-DE-011 Il processo del letto fisso a lignite e coke per il trattamento dei reflui industriali

TO-CZ-012 Produzione di nanofibre

PS-CZ-013 Applicazione di fibre continue di basalto nella tecnologia tessile e altre branche

TO-IT-014 Ossidazione anodica dell'acqua di scarico della tintoria tessile

TO-DE-015 Tecnologie produttive pulite e a basso costo. Tecnologie integrate per il trattamento dell'acqua di scarico per il riutilizzo e la riduzione dei consumi energetici

TO-DE-016 Nuova tecnologia di insufflaggio per immettere materiali fibrosi nelle cavità dei muri per l'isolamento domestico

TO-DE-017 Esperienze e conoscenze nella tecnologia delle membrane (ultrafiltrazione, nanofiltrazione ed osmosi inversa) per il trattamento dell'acqua di scarico e nella tecnologia dell'aerazione

PS-BE-018 Decolorazione e preparazione alla depurazione biologica dell'acqua di scarico

TO-DE-019 Rimozione dei coloranti dall'acqua di scarico mediante complessazione supramolecolare

TO-DE-020 Trattamento enzimatico combinato per il cotone greggio

TO-DE-021 Modificazione fotonica della superficie delle fibre (laser e lampade ad eccimeri)

TO-DE-022 Gli ioni di uranio nell'acqua di scarico legati dai calixareni

TO-DE-023 Chitosano e derivati per il finissaggio tessile

PS-CZ-024 Utilizzo del basalto per applicazioni industriali

PS-DE-025 Sviluppo di metodi pratici per protezione ambientale integrata nella produzione, specialmente metodi di processi adiacenti per il riciclo di materiali ed acqua

TO-IT-026 Nuovo metodo e nuova attrezzatura per rintracciare simultaneamente differenti anticorpi e antigeni in campioni alimentari, clinici, ambientali

PS-DE-027 Metodi alternativi di finissaggio tessile, come plasma ed enzimi; modifica ed analisi della superficie

TO-IT-028 Riutilizzo dell'acqua di scarico tessile mediante ozonizzazione spinta

TO-IT-029 Riutilizzo dell'acqua di scarico tessile mediante processi di filtrazione a membrana

PS-IT-030 Patantex

TO-CZ-031 Migliorare la produzione di fibre di basalto di alta qualità

PS-IT-032 Riciclo dell'acqua di scarico nel finissaggio tessile mediante l'applicazione e l'ulteriore sviluppo di bioreattori a membrana utilizzati per la vita nello spazio

PS-IT-033 Progetto di mercato verde

TO-IT-034 Tintura di abiti con coloranti vegetali

TO-CZ-035 Produzione di tessuti tecnici da fibre di vetro con telai ad aria

Transnational technology transfer day

The most innovative technologies

TO-CZ-001 Development and production of technical textiles with permanent properties

TO-IT-003 Mobile modular plant for the identification and optimization of the suitable process for the treatment, recovery and/or recycling of industrial wastes.

TO-IT-006 Waste water treatment and recycling in the textile industry

TO-DE-008 Textile chemicals - Data and facts for the environment

TR-IT-009 Filter technology

TO-IT-010 Integrated methodology for Good Environment Practice in textile industry

TO-DE-011 The lignite coke fixbed process for treating industrial waste water

TO-CZ-012 Production of nanofibres

PS-CZ-013 Application of basalt continuous fibres in textile technology and other branches

TO-IT-014 Anodic oxidation of textile dyehouse waste water

TO-DE-015 Cost effective and cleaner industrial production technologies (textile industry, agro-industry, etc.). Integrated waste and waste water treatment technologies for water reuse, waste recovery and minimisation of energy consumption

TO-DE-016 New blower machine technology to blow fibrous materials for house insulation in wall cavities

TO-DE-017 Experience and know-how in membrane technology, ultra e nano filtration and reverse osmosis for industrial waste water treatment and membrane aeration technology

PS-BE-018 Decolouration and preparation to the biological purification of waste water

TO-DE-019 Removal of dyestuffs from waste water by supramolecular complexation

TO-DE-020 Combined enzymatic pretreatment of raw cotton

TO-DE-021 **Photonic surface modification of fibres (excimer lasers, excimer lamps)**

TO-DE-022 **Binding of uranyl ions from waste by calixarenes**

TO-DE-023 **Chitosan and its derivates for textile finishing**

PS-CZ-024 **Utilisation of basalt for industrial application**

PS-DE-025 **Development of practice-oriented methods for production-integrated environmental protection, especially process-adjacent methods of material and water recycling**

TO-IT-026 **New device and method to simultaneously detect different antibodies and antigens in alimentary, environmental and clinical samples**

PS-DE-027 **Textile finishing, alternative methods like plasma and enzymatic finishing; surface modification and surface analysis**

TO-IT-028 **The reuse of textile waste water by strong ozonization**

TO-IT-029 **The reuse of textile waste water by membrane filtering processes**

PS-IT-030 **Patantex**

TO-CZ-031 **Improved production of high-quality basalt fibres**

PS-IT-032 **Waste water recycling in textile finishing through the application and further development of membrane bio-reactors used in space life-support systems**

PS-IT-033 **Green marketing project**

TO-IT-034 **Garment dyeing with vegetable dyes**

TO-CZ-035 **Production of technical fabrics from glass fibers on air jet weaving machines**

Reference TO-CZ-001

Kind Technology Offer (TO)

Country Czech Republic (CZ)

Title Development and production of technical textiles with permanent properties

Description
SPOLSIN spol s.r.o. is a producer of special textiles for protective wear including fire resistant, acid resistant, antiabrasive, antistatic textiles and knitted fabrics for sportswear.

Innovative Aspects
Technical textiles specialised in: fire resistant, acid resistant, clean room, antiabrasive, filtration.

Main Advantages
Integrated production process of spinning, weaving, knitting, dyeing and finishing including testing in accredited laboratory.

Keywords Technical textiles

Company Type Industry

Company Size 50-250

Collaboration Type Commercial agreement with technical assistance.

IRC Contacted IRC Czech Republic

Company
SPOLIN spol s.r.o.

Reference TO-IT-003

Kind Technology Offer (TO)

Country Italy (IT)

Title Mobile modular plant for the identification and optimization of the suitable process for the treatment, recovery and/or recycling of industrial wastes

Description
ENEA - IRC IRIDE has realised a modular chemical facility consisting of 14 units, each one capable to carry out a distinct chemical process for wastes treatment. The tests are performed on a trial sample of industrial waste with the aim of determining the best process both for treatment and recovery or recycling to reach two objectives: rationalisation of water usage and treatment, economic valourisation of the residual materials.

Innovative Aspects
Modularity and transportability.

Main Advantages
Rationalisation of the use of water and energy resources needed by the waste treatment, with a consequent reduction of costs and environmental impact. Economic valourisation of the residual materials.

Keywords
Environmental engineering, Technology, Waste management, Recycling, Recovery.

Company Type Research institute - University

Company Size >500

Collaboration Type Technical co-operation, Manufacturing agreement.

IRC Contacted IRC South Italy - IRIDE

Company
ENEA - IRC IRIDE

Reference TO-IT-006

Kind Technology Offer (TO)

Country Italy (IT)

Title Waste water treatment and recycling in the textile processing industry

Description
Two different treatment processes were experimented on a pilot scale to test the efficiency in removing colour and persistent organic substances like TOC and COD from waste water. The first process involves a pre-oxidation step with Fenton's reagent and a subsequent coagulation-flocculation step. The second process involves only the coagulation-flocculation step.

Innovative Aspects
High colour removal (97-99%) and good TOC removal (80-90) only by means of Fenton treatment.
Promising results have been obtained in decolourisation of dyeing waste water with TiO2-UV advanced oxidation method.

Main Advantages
The research has focused also on the sizing process performed with PVA (polyvinyl alcohol); membrane treatment of a simulated sizing effluent allowed to recover the chemical and the water for reuse.

Keywords Waste management, Recycling, Recovery.

Company Type Research institute - University

Company Size >500

Collaboration Type Technical co-operation, Manufacturing agreement.

IRC Contacted IRC North-East Italy - IRENE

Company
ENEA CR Casaccia

Reference TO-DE-008

Kind Technology Offer (TO)

Country Germany (DE)

Title Textile chemicals - Data and facts for the environment

Description
A recent report made on behalf of the German Environmental Bureau provide an overview on the chemicals used in textile finishing. Almost 2,500 substances were assessed. Application characteristics, function and all specific information on the chemicals are listed in tables. The assessment is based on interviews and discussions with manufacturers, textile finishers and their associations, as well as on an extensive literature and patent research.
The report is published by the Springer Verlag, Heidelberg.

Innovative Aspects
According to their function in the process the chemicals are classified using the well-established TEGEWA nomenclature for auxiliary chemicals. For each substance, identified by CAS number, further information such as physical-chemical characteristics, toxicological properties, and examples of trade names containing them were collected. The overall information pool may be shortly accessible via the Internet address of the oekopro database www.oekopro.de.

Main Advantages
Oekopro database and publication present a review of all the textile finishing processes, current environmental techniques, a summary of major European legislation and directives as well as comments on current environmental topics relative to the branch. The branch specific assessment is accessible free-of-charge via the Internet and can be interactively actualised.

Keywords Textile technology, Technical textiles, Environmental engineering, Technology, Waste management.

Company Type Research institute - University

Company Size 11-50

Collaboration Type Financial resources

IRC Contacted IRC North Rhine-Westphalia

Company
INSTITUTE FOR ENVIRONMENTAL RESEARCH, DORTMUND UNIVERSITY

Reference TR-IT-009

Kind Technology Request (TR)

Country Italy (IT)

Title Filter technology

Description
They are looking for new products, technology and projects to develop in filtering sector.
They offer experience, production capability, organisation. Deep expertise in weaving, working with metal wire, such as stainless steel wire.

Innovative Aspects

Main Advantages

Keywords
Textile technology, Thermoplastic textile fibres, Woven technical textiles, Environmental engineering, Technology.

Company Type Industry

Company Size 11-50

Collaboration Type Licence agreement, Joint venture agreement, Manufacturing agreement.

IRC Contacted IRC North-East Italy - IRENE

Company
TEMAS Engineering Srl

Reference TO-IT-010

Kind Technology Offer (TO)

Country Italy (IT)

Title Integrated methodology for Good Environment Practice in textile industry

Description
A research project has been set up with the objective to establish a multicriteria integrated and coherent implementation of Good Environmental Practice (GEP) and water saving strategies in textile finishing processes, responding to the European Directive of the sector Integrated Pollution Prevention and Control (IPPC). This directive requires Best Available Techniques (BAT) to be defined for several industrial processes, with the objective to eliminate or reduce emissions. As far as textile industries are concerned, BATs implementation involves closed-loop options for industrial water usage.

Innovative Aspects
Multicriteria integrated approach.

Main Advantages
Minimisation of impacts of the textile production.

Keywords
Environmental engineering, Technology, Waste management, Recycling, Recovery.

Company Type Research institute - University

Company Size >500

Collaboration Type Technical co-operation.

IRC Contacted IRC North-East Italy - IRENE

Company
ENEA

Reference TO-DE-011

Kind Technology Offer (TO)

Country Germany (DE)

Title The lignite coke fixbed process for treating industrial waste water

Description
A German company offers a new waste water treatment process called LCBR (Lignite Coke fixbed Bioreactor). On the bottom of the LCBR a gravel layer covers the piping for aeration, backflushing and collection header. The organic pollution in the waste water will first be held on the lignite-coke surface by adsorption. A build-up of a special biofilm will degrade the organic pollution by biodegradation. A three-month break in operation will not stop biodegradation activity. The LCBR was successfully tested in industrial waste water in chemical industry, petrochemical and oil industry, textile industry and percolation water treatment (landfills). The LCBR will produce significant reduction in COD, BOD, AOX, nitrogen compounds and colour in waste water. The first plant was built within a carpet production line.

Innovative Aspects
This technology shows a very new but simple system for treatment of water of coloured and heavy degradable pollution.

Main Advantages
The LCBR process shows the following benefits:
- minimal energy and manpower requirements;
- good operation performance;
- stability and flexibility due to fixed biomass and to bulk of lignite-coke;
- usable as a single system or modular in combination with several units.

Keywords Environmental engineering, Technology.

Company Type Industry

Company Size < 10

Collaboration Type Technical co-operation, Joint venture agreement, Manufacturing agreement, Commercial agreement with technical assistance.

IRC Contacted IRC Lower Saxony - Saxony Anhalt

Company
AQUA-BIOCARBON GmbH

Reference TO-CZ-012

Kind Technology Offer (TO)

Country Czech Republic (CZ)

Title Production of nanofibres

Description
A new industrial-scale technology of production of nanofibres by electrospinning polymer solutions. Fibres diameter 50-500 nanometers. Application intended: filtration, medicine applications, special sensors, protective clothing, sorbents.

Innovative Aspects
Eco-friendly high productive process.

Main Advantages
Eco-friendly high productive process. Potential production: up to 50 square meters/min.

Keywords Technical textiles

Company Type Research institute - University

Company Size > 500

Collaboration Type Manufacturing agreement, Commercial agreement with technical assistance, Financial resources.

IRC Contacted IRC Czech Republic

Company
TECHNICAL UNIVERSITY OF LIBEREC

Reference PS-CZ-013

Kind Partner Search (PS)

Country Czech Republic (CZ)

Title Application of basalt continuous fibres in textile technology and other branches

Description
Basalt fibres are perspective replacement of glass due to chemical inactivity, wide temperature range of application, abrasion resistance and price. New technology of preparation of continuous fibres enables utilisation of basalts for creation of textile structures as sewing threads, weaves and knitted goods. They are developing technologies for creation of textiles, including hybrid yarns. They look for co-operation in the area of application of basalt textiles as protective layers (thermal, chemical), protective clothing and reinforcement to composites (including concrete).

Innovative Aspects
New kind of fibres, protective materials, mixture of fibres, hybrid yarns.

Main Advantages
Replacement of glass fibres, improved economy of production, extending of working temperature range, chemical stability.

Keywords Environmental engineering, Technology

Company Type Research institute - University

Company Size > 500

Collaboration Type Technical co-operation.

IRC Contacted IRC Czech Republic

Company
Technical University of LIBEREC

Reference TO-IT-014

Kind Technology Offer (TO)

Country Italy (IT)

Title Anodic oxidation of textile dyehouse waste water

Description
The proposed technology aims to remove COD from effluents coming from textile dyeing process. It is based on the anodic oxidation of organic pollutants carried out by means of DSA (Dimensionally Stable Anode) anodes. This technology is particularly suitable in the dyeing processes that use reactive and direct dyestuffs: in fact these dyestuffs utilise a lot of salts (sodium chloride or sodium sulphate up to 70 g/litre) that confer to the stream the necessary conductivity.
This technology is suitable for two kind of applications:

1) Treatment of the exhaust dyeing bath (reactive and direct dyestuff) followed by the activated carbon filtration to eliminate the residual COD. The result is a pure solution of salts that can be reused into the process. The exhaust bath contains 60-80% of the total pollutants and this technology (anodic oxidation and activated carbon filtration) allows (a) to reduce of 60-80% the total pollution of the dyeing process and (b) to recovery the salt solution that can be reused in the dyeing process.

2) Pretreatment of the exhaust dyeing bath together with the first and the second washing bath. This three streams contain 80-90% of the total pollutants and this technology (anodic oxidation without carbon filtration) allows to reduce of 70-80% the pollution of these streams, that means a reduction of about 60-70% of the total pollution of the dyeing process prior sending to the centralised treatment plant, together with the other streams, for the final depuration if necessary.

Innovative Aspects
The process, in addition to water treatment, allows the recovery of salt avoiding its concentration in the environment.

Main Advantages
The technology proposed allows:

- higher COD (and colour) removal compared with traditional interventions;
- the treatment can be operated also on a discontinuous basis;
- no sludge production;
- no chemicals required;
- the plant is compact and needs a little space;
- easy to manage;
- cost effective reduction of COD, especially in case of salt recovery.

Keywords Environmental engineering, Technology, Recycling, Recovery.

Company Type Consultant company

Company Size < 10

Collaboration Type Technical co-operation.

IRC Contacted IRC North-East Italy - IRENE

Company
STUDIO TECHNICA

Reference TO-DE-015

Kind Technology Offer (TO)

Country Germany (DE)

Title Cost effective and cleaner industrial production technologies (textile industry, agro-industry, etc.). Integrated waste and waste water treatment technologies for water reuse, waste recovery and minimisation of energy consumption

Description
Four technologies on different topics could be offered.
(a) Advanced Oxidation Process AOPs have potential to remove hazardous and recalcitrant substances from waste water. Innovative AOPs as well as reactor concepts for the reduction of chemical demands and energy consumption will be offered for application in textile industry, agro-industry, food industry, etc.
(b) Efficient waste-to-energy processes (anaerobic processes) with improved biogas production and less contaminated residues. New reactor concepts with improved efficiency.
(c) Advanced aerobic treatment of waste water by encapsulation of specialised micro-organisms.
(d) High performance conditioning of sludges for more cost effective dewatering and subsequent thermal treatment.

Innovative Aspects
New reactor design. New treatment processes. New industrial applications.

Main Advantages
Higher production efficiency. Less environmental pollution.

Keywords Environmental engineering, Technology, Waste management, Recycling, Recovery.

Company Type Research institute - University

Company Size 50-250

Collaboration Type Technical co-operation.

IRC Contacted
IRC Lower Saxony - Saxony Anhalt

Company
CUTE INSTITUT GmbH

Reference TO-DE-016

Kind Technology Offer (TO)

Country Germany (DE)

Title New blower machine technology to blow fibrous materials for house insulation in wall cavities

Description
A small German company has developed a new blower machine for all kind of fibrous materials (e.g. waste products from the textile industry, flax, hemp or cellulose). This new system uses a feed screw to transport the material. The screw compresses the material and transports it through a pipe into a blower chamber. Here a cutter separates the compressed material and assures a steady and continuous material feeding. The machine has a digital control unit and can be integrated in an industrial manufacturing process (e.g. manufacturers of prefabricated houses).

Innovative Aspects
Due to the new concept the machine can handle almost all material. It is designed to be integrated in an industrial manufacturing process and contains a digital controlling unit.

Main Advantages
The blower machine can handle almost all material. The machine works silent, minimises dust development and health risk for the operator, can be directly connected to a material silo, has a controlled material feeding simple and maintenance free, avoids hose plugging problems even when long fibrous materials are used. The digital controlling unit is the interface to integrate the blower machine in an industrial manufacturing process.

Keywords Waste management, Recycling, Recovery.

Company Type Industry

Company Size < 10

Collaboration Type Manufacturing agreement, Commercial agreement with technical assistance

IRC Contacted IRC Lower Saxony - Saxony Anhalt

Company
GEKO MASCHINENBAU GmbH

Reference TO-DE-017

Kind Technology Offer (TO)

Country Germany (DE)

Title Experience and know-how in membrane technology, ultra e nano filtration and reverse osmosis for industrial waste water treatment and membrane aeration technology

Description
A German inventor company with over 40 years of experience in membrane technology offers know-how and tailor made solutions for textile industries' waste water problems. The company offers (1) solutions with ultrafiltration technology for waste water containing sizing agent, latex emulsions or waste water from raw wool cleaning; (2) nanofiltration and reverse osmosis for dye containing waste water and process water. All these membrane-based cleaning processes require a specific pretreatment phase. To find the best solution the company uses an own development 3-dimensional test device.
Furthermore the company offers ODE - a membrane based technology for an effective, economic aeration and degasification for solid-liquid-gas systems that can be used to upgrade an existing biological treatment system for textile waste water.

Innovative Aspects
The company offers tailor made solutions with the best ratio in terms of effectivity and price.

Main Advantages
ODE procedure meets both requirements: nearly 100% oxygen saturation can be attained in aqueous liquids with air forced through nanoporous polypropylene or polyethylene membranes at an overpressure of 0.25-0.50 bar; this is achieved 25-30% faster than in procedures operating at atmospheric pressure.

Keywords Environmental engineering, Technology

Company Type Industry

Company Size < 10

Collaboration Type Licence agreement, Technical co-operation, Joint venture agreement.

IRC Contacted IRC Lower Saxony - Saxony Anhalt

Company
INGENIEURBURO FUR UMWELTTECHNIK UND WASSERAUFBEREITUNG

Reference PS-BE-018

Kind Partner Search (PS)

Country Belgium (BE)

Title Decolouration and preparation to the biological purification of waste water

Description
The decolouration of waste water with a conventional technology carries away some toxic elements. The proposed technology makes possible the decolouration and the detoxification of the effluent. They propose the utilisation of fungi. First trials have shown a good detoxification. The decolouration depends on specific parameters; the process needs an adaptation to the industrial site. The sludge volume is reduced.

Innovative Aspects
It is a new approach without chemical products.

Main Advantages
First the detoxification and secondly the decolouration. After the detoxification, the effluent may be purified by the biological process.

Keywords Environmental engineering, Technology.

Company Type Research institute - University

Company Size 11-50

Collaboration Type Licence agreement.

IRC Contacted IRC for Wallonia

Company
CELABOR Scrl

Reference TO-DE-019

Kind Technology Offer (TO)

Country Germany (DE)

Title Removal of dyestuffs from waste water by supramolecular complexation

Description
A German research institute (DTNW) has developed in co-operation with 3 SMEs a new technology for purification of waste water, especially from dyehouses. This technology uses water-insoluble supramolecular compounds for binding dyestuffs (or other aromatic compounds) by complexation reactions. The supramolecular compound is used as granular stationary phase in a water treatment column. Alternatively the supramolecular compound cucubituril may be used as a layer on granular mineralic supports. After exhaustion of the column the material can be regenerated for multiple use by flushing with ozone gas. Up to now from every class of dyestuffs successful results are obtained for water cleaning. The purified water may be used again as processing water in the plant, saving in this way huge water costs.

Innovative Aspects
Supramolecular compounds for water treatment constitute a novelty. Besides dyestuffs other unpleasant or toxic compounds may be removed provided their molecules contain aromatic rings. Alternatively the cucubituril columns may be used for purification of drinking water.

Main Advantages
Regenerable water purification system of high capacity; savings of water costs.

Keywords Environmental engineering, Technology.

Company Type Research institute - University

Company Size < 11-50

Collaboration Type Technical co-operation.

IRC Contacted IRC North Rhine-Westfalia

Company
DEUTSCHES TEXTILFORSCHUNGSZENTRUM NORDWEST

Reference TO-DE-020

Kind Technology Offer (TO)

Country Germany (DE)

Title Combined enzymatic pretreatment of raw cotton

Description
A German research institute (DTNW) is developing in co-operation with 2 SMEs and an university institute a new technology for pretreatment of raw cotton or linen. Pretreatment is aimed at avoiding alkaline scouring by use of enzyme cocktails which are intended to perform scouring and a high level of bleaching in a one-step process. The process uses combinations of technical available enzymes which are selected by mutual compatibility. Aimed at high efficiency optimization with regard to treatment temperature, pH and treatment time the enzymes are added carefully in one bath. Special enzyme formulations will be prepared too. Additionally enzymes from extremophilic bacteria will be included into cocktail.

Innovative Aspects
Combination of enzymes for textile pretreatment is just a new area of research.

Main Advantages
Mild pretreatment process with low fibres damage avoiding ecologically unfriendly chemicals.

Keywords Textile technology.

Company Type Research institute - University

Company Size < 11-50

Collaboration Type Technical co-operation.

IRC Contacted IRC North Rhine-Westfalia

Company
DEUTSCHES TEXTILFORSCHUNGSZENTRUM NORDWEST

Reference TO-DE-021

Kind Technology Offer (TO)

Country Germany (DE)

Title Photonic surface modification of fibres (excimer lasers, excimer lamps)

Description
A German research institute (DTNW) has developed in co-operation with industry a new technology for surface modification of synthetic fibres. Using UV-irradiation by excimer lamps, various surface properties can be obtained. Especially by irradiation in the presence of certain unsatured monomers the surface may be either made extremely hydrophobic or very hydrophilic. These processing can be directed either to the generation of barrier layers against chemical attack or to increase enormously adhesion in coatings. Fabrics moving under the excimer lamp are irradiated for short time after being impregnated with a suitable monomer. Another feature of this photonic technique is the irradiation of an UV-transparent coating (i.e. polyolefinic) on strongly absorbing fibres like polyethyleneterephtalate; the resulting coating is strongly bound to the fabric.

Innovative Aspects
Excimer lamp technology for surface treatment of textiles constitute a new area of research.

Main Advantages
Combination of textile polymer coatings can be achieved without adhesion promoting chemical which are otherwise difficult to obtain or almost impossible.

Keywords Textile technology.

Company Type Research institute - University

Company Size < 11-50

Collaboration Type Technical co-operation.

IRC Contacted IRC North Rhine-Westfalia

Company
DEUTSCHES TEXTILFORSCHUNGSZENTRUM NORDWEST

Reference TO-DE-022

Kind Technology Offer (TO)

Country Germany (DE)

Title Binding of uranyl-ions from waste by calixarenes

Description
A German research institute (DTNW) is developing in co-operation with 2 SMEs a new technology for removing uranium-VI-compounds from waste water as found in areas of nuclear mines. This technology uses supramolecular compounds of the calixarene type which are fixed on textile filters. Derivatives of calixarenes suitable for permanent binding onto polyester or cellulosic textile materials (i.e. nonwovens) are synthesised and fixed onto a textile filter material. Those calixarenes have a high and specific binding affinity to UO2++ without being blocked by other metal ions. Those calixarenes-filters may be regenerated by treatment with dilute acids thus giving concentrated solutions of radioactive compound for disposal. The process is especially suited for controlling and purification of surface water in mining deposits.

Innovative Aspects
Combining binding capacity of calixarenes with textile filter materials constitute a novel technology.

Main Advantages
Selective remedy for nuclear mining areas, especially for effluent surface water; regenerable.

Keywords Textile technology.

Company Type Research institute - University

Company Size < 11-50

Collaboration Type Technical co-operation.

IRC Contacted IRC North Rhine-Westfalia

Company
DEUTSCHES TEXTILFORSCHUNGSZENTRUM NORDWEST

Reference TO-DE-023

Kind Technology Offer (TO)

Country Germany (DE)

Title Chitosan and its derivates for textile finishing

Description
A German research institute (DTNW) is developing new sizing materials for weaving in co-operation with 3 SMEs and another research institute. Chitosan and its derivates are explored as new biodegradable sizing agent for weaving especially of synthetic yarns and of yarns blend. Other uses of chitosan for textile finishing (as auxiliary or as permanent finish) are explored too. Chitosan(s) having high film forming properties and forming viscous solution even at low content are evaluated with regard to impregnation of the yarn, with regard to desizing procedures.

Innovative Aspects
Chitosan being from natural marine based resources (i.e. from crabs) the textile yarn pre-treatment will be a new technology for sustainable textile processing.

Main Advantages
Use of chitosans promises distinctly less size add-on to be needed (and to be removed) and avoids the use of non-degradable polyacrylics or polyvinyl alcoholic sizes.

Keywords Weaving related to textile technology.

Company Type Research institute - University

Company Size < 11-50

Collaboration Type Technical co-operation.

IRC Contacted IRC North Rhine-Westfalia

Company
DEUTSCHES TEXTILFORSCHUNGSZENTRUM NORDWEST

Reference PS-CZ-024

Kind Partner Search (PS)

Country Czech Republic (CZ)

Title Utilisation of basalt for industrial application

Description
Research and development of the technology and the necessary plants and equipment for the processing of basalt including the realisation of pilot applications, e.g. protective cloths.

Innovative Aspects
Replacement of glass.

Main Advantages
Improved physical properties. Cheep raw material.

Keywords Woven technical textiles for industrial applications.

Company Type Research institute - University

Company Size 50-250

Collaboration Type Technical co-operation.

IRC Contacted IRC Czech Republic

Company
RESEARCH INSTITUTE OF TEXTILE MACHINES LIBEREC

Reference PS-DE-025

Kind Partner Search (PS)

Country Germany (DE)

Title Development of practice-oriented methods for production-integrated environmental protection, especially process-adjacent methods of material and water recycling

Description
Studies of production-process control and process-improvement by process-adjacent methods to avoid the formation of residues and polluted waste water and waste water treatment and water recycling.
Targets:

- production-integrated environmental protection;
- production-process control, industrial environment.

Partner are sought for research projects (EU).

Innovative Aspects
To associate optimisation of procedures in technologies that do not harm the environment with process-adjacent methods and water recycling considering cost criteria.

Main Advantages
Economical production-integrated environmental protection.

Keywords Environmental engineering, Technology, Recycling, Recovery.

Company Type Research institute - University

Company Size > 500

Collaboration Type Technical co-operation.

IRC Contacted IRC North Rhine-Westfalia

Company
WUPPERTAL UNIVERSITY

Reference TO-IT-026

Kind Technology Offer (TO)

Country Italy (IT)

Title New device and method to simultaneously detect different antibodies and antigens in alimentary, environmental and clinical samples

Description
This invention, realized by the technological centre in Southern Italy, refers to a method to simultaneously detect different antibodies and antigens by immuno-enzymatic assay (ELISA). The innovative method is based upon the use of a device which allows the introduction of the solid phase of an immuno-enzymatic reaction directly into the vial containing the collected sample, to obtain:

a) the simultaneous search for different antigens, e.g. micro-organisms or their toxins or xenobiotic substances in environmental samples (water, etc.);
b) the simultaneous search for different antibodies in clinical samples or foods (bulk milk, animal or human individual blood samples with an anticoagulant, saliva, eggs);
c) the simultaneous search for different antibodies and different antigens in clinical samples or foods.

Companies operating in the textile sector with waste water problems are being sought for testing the technology in this specific field.

Innovative Aspects
The possibility of processing samples for the entire range of tests that can be carried out at the same time (breathing panel, enteric panel, panel of animal health, pathogens and toxins in foodstuffs, etc.). It responds in a congruous manner to the needs of diagnostic serology and food and environmental control, that rarely foresee one single type of test for sample, allowing the release of the complete analytical report at the end of one single test.
The solid phase, constituted by small cylinders, can be planned to allow the assembling of the individual small cylinders at any time, according to the diagnostic needs that occur on each occasion.
The method lends itself to the creation of kits for the examination of samples in the field or in small laboratories (environmental, medical or veterinary), thanks to the simplification of the procedures for the distribution of the sample, the cleaning of the solid phase, and to the possibility to carry out simultaneously the detecting of more antibodies and/or antigens. In this case the spectrophotometric reading can be a visible reading of the results of the test.

Main Advantages
The reduction in the sample-processing times, by making use of the transport time to the laboratory for performing the first-step period of incubation; the execution time for this type of test in a laboratory is about 50 minutes in total, while the classic method takes decidedly longer.
An improvement to the test sensitivity derives from the possibility, to increase the quantity of the sample to be analysed according to will, without increasing the quantities of reagents necessary to carry out the tests.

Keywords
Environmental engineering, Technology.

Company Type Research institute - University

Company Size >500

Collaboration Type Licence agreement.

IRC Contacted IRC South Italy - IRIDE

Company
ENEA - IRC IRIDE

Reference PS-DE-027

Kind Partner Search (PS)

Country Germany (DE)

Title Textile finishing, alternative methods like plasma and enzymatic finishing; surface modification and surface analysis

Description
The research activities of the German Wool Research Institute at the Aachen University Inc. (DWI) concentrate on the fields: wool-cosmetics, proteins-bioactive substances and polymers-macromolecular materials. Connecting link between these three areas is the modification and analysis of surface in order to improve material properties. Main areas of research are:

- the surface modification of natural and technical fibres (improved usage, cleaning and care properties, comfort, environmentally friendly production and processing);
- the development of biocompatible and biofunctional materials for medical applications;
- the controlled release of active substances for cosmetic, biomedical and textile applications.

Innovative Aspects
New methods in textile finishing: plasma treatment, biotechnological methods.

Main Advantages
Environmentally friendly, cost-saving, improve usage properties, development of new products.

Keywords Technical textiles, Biology, Biotechnology.

Company Type Research institute - University

Company Size 50-250

Collaboration Type Technical co-operation.

IRC Contacted IRC North Rhine-Westfalia

Company
GERMAN WOOL RESEARCH INSTITUTE AT THE AACHEN UNIVERSITY

Reference TO-IT-028

Kind Technology Offer (TO)

Country Italy (IT)

Title The reuse of textile waste water by strong ozonization

Description

The company has been operating for many years in the sector of industrial waste water treatment, mainly waste water of textile industry, aiming at reusing it in technological processes. With this aim it has experimented techniques of "complete purification", whose use is innovative for this sector and for the type of waste water treated.
The ozonation treatment consists in assuring the transfer of the ozone from the gaseous phase into the liquid phase by diffusion through a gas/water interface. For this purpose either porous diffusers can be used, placed at the bottom of specially provided water-ozone contacting tanks, which allow the subdivision of micro-bubbles of the ozonized gas, or as an alternative an ejector system for the injection under pressure of the gas mixture into the water stream.
The ozonation treatment is a valid technique for the purification of the textile waste waters, thanks to the full decolourization of the treated water, which allows its reuse into the productive cycle.

Innovative Aspects

With respect to the conventional technologies, limited to the purification of waste waters to be discharged according to rules, the proposed technology fosters the reuse of the treated waters in technology processes, being its characteristics suitable to this purpose.
However, according to the experimental results, the reuse of 100% ozonized water is only possible in the less noble phases of the dyeing process (i.e. fulling, rinsings,...), as in these applications the water residual salinity does not represent a problem.
A valid alternative is represented by the use of a mixture of ozonized water and primary water.

Main Advantages

The oxidation with ozone, thanks to its decolourizing effect, has been acknowledged, as tertiary treatment, to be particularly appropriate for textile waste water purification aimed at the reuse. For a company, to be equipped with a waste water recycling plant, would mean: 1) to cut down expenses for supplying and discharge water to be used in the various production processes and 2) to have an in-house more flexible management of the "water cycle" without being dependent on the water-bearing stratum, whose conditions lead, in some periods of the year, either to a production reduction or to supply water by water-trucks.

Keywords Environmental engineering, Technology, Recycling, Recovery.

Company Type Research institute - University

Company Size < 11-50

Collaboration Type Partner for research project.

IRC Contacted IRC North-East Italy - IRENE

Company
TECNOTESSILE Srl

Reference TO-IT-029

Kind Technology Offer (TO)

Country Italy (IT)

Title The reuse of textile waste water by membrane filtering processes

Description
The company has been operating for many years in the sector of industrial waste water tertiary treatment, mainly waste water of textile industry, aiming at recycling it in technological processes. With this aim it has experimented techniques of "advanced purification", whose use is innovative for this sector and for the type of waste water treated.
The membranes allow the separation from a liquid flux both of suspended solid particles and of molecules or material dissolved in it.
The membrane processes mostly applied in the industrial waste water treatment are regulated by a pressure difference between the fed flux and the permeated flux. There are four membrane separation processes, whose driving power is a pressure gradient: microfiltering (MF), that allows the removal of suspended particles (microorganisms, inorganic particles, colloids); ultrafiltration (UF), that allows the elimination of big soluble molecules, proteins, viruses and bacteria; nanofiltration (NF), that allows to retain charged species with a strongly better efficiency for the bivalent species; reverse osmosis (RO), used for the sea water desalination, by complete elimination of ion species.

Innovative Aspects
With respect to the conventional technologies, limited to the purification of waste water to be discharged according to law, the proposed technology fosters the reuse of the treated waters in technology processes, being its characteristics suitable to this purpose. The innovative aspects refer to the application of this typology of processes, which have been long in use in other sectors or for white waters, to very polluted textile waste water. The reuse of treated water was tested on small semi-scale plants, even for noble processes such as the reels and hanks dyeing of various fibre typologies.

Main Advantages
The membrane processes allow to obtain great efficiencies in the removal of pollutants, producing high quality water, suitable to the reuse in technology processes, thanks to its compliance to the relevant specifications. For a company, to be equipped with a waste water recycling plant, would mean: 1) to cut down expenses for supplying and discharge water to be used in the various production processes and 2) to have an in-house more flexible management of the water cycle, without being dependent on the water-bearing stratum, whose conditions lead, in some periods of the year, either to a production reduction or to supply water by water-trucks.

Keywords Environmental engineering, Technology, Recycling, Recovery.

Company Type Research institute - University

Company Size < 11-50

Collaboration Type Technical co-operation.

IRC Contacted IRC North-East Italy - IRENE

Company
TECNOTESSILE Srl

Reference PS-IT-030

Kind Partner Search (PS)

Country Italy (IT)

Title Patantex

Description
Consortium of research institutes to promote and coordinate the exchange of information and research activities on environmental issues in the textile, leather and paper industrial sectors.

Innovative Aspects
Cross-sectorial coordination to exchange knowledge and carry out common projects.

Main Advantages
Avoiding repetition. Improve knowledge. Disseminate results available. Promote the full scale implementation of new technologies.

Keywords Environmental engineering, Technology, Waste management, Recycling, Recovery.

Company Type Research institute - University

Company Size > 500

Collaboration Type Technical co-operation, Financial resources.

IRC Contacted IRC North-East Italy - IRENE

Company
ENEA

Reference TO-CZ-031

Kind Technology Offer (TO)

Country Czech Republic (CZ)

Title Improved production of high-quality basalt fibres

Description
Fibre production based on entirely new technology patented by Czech Academy of Science. We are scaling-up the technology from laboratory to industrial level on the basis of exclusive licence contract with Czech Academy of science. Basalt fibres are perspective replacement of glass due to chemical inactivity, wide temperature range of applications, abrasion resistance and price. New technology of preparation of continuous fibres enables utilisation of basalts for creation of textile structures as sewing threads, weaves and knitted goods.

Innovative Aspects
Characteristic features of basalt fibres are especially high temperature resistance (inclusive strength stability) and stability in agresive (alkali) environment. For the production is used natural basalt which unlike glass does not contain any strange additives. In result both the product and the production discards are enviroment friendly.

Main Advantages
Lower energy costs per unit of product, better quality reached by more effective volume melting (compared with surface melting of classic production).
Microwave technology moreover enables much lower energy consumtion: 2 - 2.5 kWh/kg comparing with 4-6 kWh/kg for classical PtRh method. Volume heating and melting by microwaves reaches better melting and in result better fiber consistence and properties.

Keywords Technical textiles.

Company Type Other

Company Size < 10

Collaboration Type Technical co-operation, Joint venture agreement, Manufacturing agreement (Subcontrating & Co-contracting), Commercial agreement with technical assistance.

IRC Contacted IRC Czech Republic

Company
MELTIT AS

Reference PS-IT-032

Kind Partner Search (PS)

Country Italy (IT)

Title Waste water recycling in textile finishing through the application and further development of membrane bio-reactors used in space life-support systems, Acronym: Space2Tex

Description
Conceived within the Technology Transfer Programme of the European Space Agency (ESA), the SPACE2TEX project aims at developing a novel concept of compact, high-efficiency and cost-effective waste treatment plant for water recycling in textile finishing. The project final objective is the application of Membrane BioReactors (MBRs) for the biodegradation of textile finishing pollutants, often hardly-biodegradable, in small waste water system plants within the textile processing plant, with the final aim of recycling waste water. The idea builds on the application and further development of the know-how, developed by ESA, on MBRs for 100% water recycling in micro-ecological space life support systems.

Innovative Aspects
The design of a versatile textile wastewater treatment train for water reuse under highly variable conditions, inspired by a space concept.
The interaction between biology and membrane filtration in MBR technology.
The post-treatment of MBR effluent to achieve the desired water quality for reuse.

Main Advantages
Developing a water purification and recycling plant makes it possible to purify water from textile finishing directly from the source of pollution. The plant will be an innovative combination of a novel membrane based system and a microbial treatment, at a small footprint and at low cost. Combined with a cost-effective post-treatment technology, a reliable system for textile wastewater recycling will be obtained.

Keywords Technical textiles.

Company Type Technical Centre - Technology transfer Centre

Company Size 50-250

Collaboration Type Technical co-operation.

IRC Contacted IRC North-East Italy - IRENE

Company
D'APPOLONIA SpA

Reference PS-IT-033

Kind Partner Search (PS)

Country Italy (IT)

Title Green marketing project

Description
The green marketing project originates from the consideration that en ecological environmental improvement in the textile-clothing sector can form the added value on which to play the differentiation of the competing countries and to win the challenge on the world markets. The aim is to favour the utilization of the green merketing tools of this sector and namely: tecnologies with low environmental impact;ecological certification of the product.
The green marketing policies of the European Community and their applicability to the textile sector have been evalueted by means of a research and the best techniques relevant to IPPC/BAT have been taken into consideration, thus permitting a comparison between the eco-toxicilogical requests of the clients/market and the available techniques.Therefore ten companies located in the most representatives textile areas of Lombardy have been selected.The audit of the conformity to the environmental regulatios and the site environmental analysis are now ongoing at such companies, with the purpose of laying down an Improvement Plan and of preparing technical report supporting the attainment of the Ecolabel Certification; moreover there will be an audit of the Product Ecological Requirements which, throug a critical avaluations of the results, will lead to the identification of any technical ameliorative interventions aimed at obtaining the Ecolabel certification. The propagation of the results and the economical evaluation of the project will follow.

Innovative Aspects
Activation of a technological transfer process to a pool of sample companies, selected in order to start the introduction of innovative technologies or techniques having low environmental impact, in line with the technological state of things. Experimentation in the utilization of the green marketing tools foreseen by the European Community (Ecolabel and Ecoaudit).

Main Advantages
As whole, the intervention is aimed at the improvement of the competitiveness of the small and medium companies in the textile sector.

Keywords Environmental engineering, Technology.

Company Type Service sector

Company Size 50-250

Collaboration Type Technical co-operation.

IRC Contacted IRC North-East Italy - IRENE

Company
CENTRO TESSILE COTONIERO E ABBIGLIAMENTO SpA

Reference TO-IT-034

Kind Partner Search (PS)

Country Italy (IT)

Title Garment dyeing with vegetable dyes

Description
Starcolor, a PMI highly specialised in garment dyeing and surface treatment of textiles, has developped a technology that allows vegetable dyes to be used on natural fibers (cotton, wool, hemp, flax etc.) inside a modern industrial cycle. Colour yields and fastness obtained with vegetable dyes, especially lightfastness which is normally very low with these particular dyes preventing their industrial exploitation, are comparable with those obtained with sinthetic colours and the process is performed respecting existing "bio" standards for textiles. The company is interested in further improving its application methodology of vegetable dyes on different materials, not only textiles.Vegetable dyes have been totally replaced by synthetic dyestuff granting high yields and colour fastness since the beginning of the 20th century, and are not used anymore by the dyeing industry. Natural extract have a very low environmental concern with respect to synthetic ones, but traditionally they need metal mordanting with toxic ions (copper, tin, zinc, exavalent chromium) and long treatment times in order to develop colour shades with high fastness. Starcolor has developped a research based upon atoxic metal ions, with a dyeing kinetic that allows the optimization of industrial costs and times. The selection and standardisation of natural extracts and the chemistry which has been developped for every natural fibre have lead to an extensive offer of intense colour shades with high fastness.

Innovative Aspects
The use of biodegradable natural extracts, eco-friendly produced mainly by simple water extraction, for dyeing natural fibres with acceptable industrial costs.

Main Advantages
Developpement of a process that can be certified under all bio textile standards. Replacement of synthetic dyestuff of high environmental concern (not biodegradable, possibly releasing carcinogenic aromatic amines widely used for their synthesis, etc.

Keywords Textile technology.

Company Type Industry

Company Size 50-250

Collaboration Type Commercial agreement with technical assistance.

IRC Contacted IRC North-East Italy - IRENE

Company
STARCOLOR - TINTORIA EMILIANA

Reference TO-CZ-035

Kind Technology Offer (TO)

Country Czech Republic (CZ)

Title Production of technical fabrics from glass fibers on air jet weaving machines

Description
Matter concerns air jet weaving machines especially developed for the needs of producers supplying technical fabrics of different weaves incl. leno weave. The looms are standardly offered in width 220 cm. In case of demand it is possible to consider also the widths to 440 cm implementing necessary development works.

Innovative Aspects
Technical fabrics made from glass fibers are produced on projectile or rapier weaving machines above all, whose performance is limited with their principle. Weaving on air jet weaving machine enables to achieve higher performance and quality parameters. New principle of leno weave formation.The machines can among others produce the glas wallcoverings.

Main Advantages
Less by half lower electrical power requirement of the machine (approximately 1,8 kW).
Decrease of mechanical noise level (-10 dB).
Replacement of the paper-hangings with the glas wallcoverings (increasing of fire safety)- increase of weaving performance.
Processing wide range of warp and weft materials.
Leno device does not limit weaving performance.

Keywords Technical textiles.

Company Type Research institute - University

Company Size < 10

Collaboration Type Commercial agreement with technical assistance.

IRC Contacted IRC Czech Republic

Company
RESEARCH INSTITUTE OF TEXTILE MACHINES LIBEREC