European Textile Technology Marketplace

ETTMa

Call n° 05: May 2014

Call n°5 May 2014 Results

Technology Searches from Industry

Received by
11th July 2014

	**European Textile Technology Marketplace** **ETTMa** ***Call n° 05: May 2014***	

Industry Search n° 1

Company Identification			
Company Name			
Country	France		
I submit this search on my own behalf	X	I submit this search on behalf of a third party	

Technology Search Information	
Short Title	Electro-adaptive polymers

Description of the technology search (max. 200 words):

We are seeking for polymers technologies and materials that can offer adaptive shape (more or less stiff) while bended, stretched or stimulated with a really low voltage.

Minimum technology readiness level you would be willing to investigate (1 to 9)	5

Additional criteria (optional)	
Provide any additional criteria which could help making the responses more relevant e.g. specific technical requirements which are compulsory, excluded solutions which have already been investigated… (max 100 words): To be brought to market readiness within 1-2 years	
Languages for technical interaction (in order of preference)	FR, EN

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Indusry Search n° 2

Company Identification			
Company Name			
Country	Poland		
I submit this search on my own behalf	X	I submit this search on behalf of a third party	

Technology Search Information	
Short Title	Making new textiles from recycling clothes fibres

Description of the technology search (max. 200 words):

We have more textile wastes. They are after clothes sorting. We cannot sell it by second hands markets.
Our idea is:

1. Separating natural and synthetic textiles.
2. Cutting (grindering)textiles- to obtain singular fibres
3. Singular fibres we (or different companies) will use for production new textile

We look for suitable technologies for all 3 stages.

Minimum technology readiness level you would be willing to investigate (1 to 9)	

Additional criteria (optional)

Provide any additional criteria which could help making the responses more relevant e.g. specific technical requirements which are compulsory, excluded solutions which have already been investigated… (max 100 words):

Languages for technical interaction (in order of preference)	PL, EN

Call n°5 May 2014 Results

Technology Offers from Researchers & Technology Developers

Received by
11th July 2014

Table of Contents

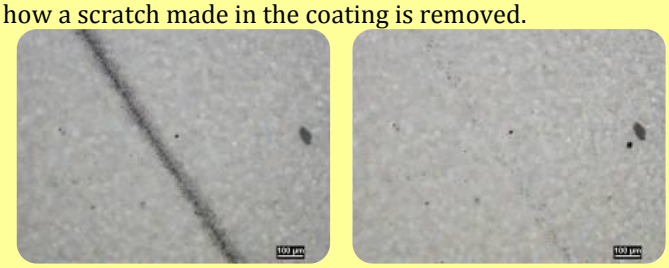
	European Textile Technology Marketplace **ETTMa** ***Call n° 05: May 2014***	

Technology Offer n° 1

Identification	
Organisation Name	Centexbel
Country	BE

Technology Proposal Information	
Short Title	Room temperature self-healing coatings for use on textile materials (1D, 2D or 3D)

Basics: together with a chemistry supplier we developed a self-healing coating for textile materials. The recovery takes place at room temperature, no external stimuli needed. Because of the nature of the coating, the self-healing effect is not "only once" (e.g. because of opening of microcapsules) but can be repeated several times.
The coating can be applied using common textile methods on fabrics and yarns, in principle also on 3D textile objects.
Example: illustration of how a scratch made in the coating is removed.



Initial scratch After 1 day

Application fields: these type of coatings can have an added value for applications where it is crucial to maintain a pristine surface, e.g. for aesthetical or protective reasons.

Own assessment technology readiness level of the proposed technology (1 to 9)	4-5
Type of industry evaluation proposed (mark with a cross)	__ Assessment of principal concept as described in a scientific paper __ Lab-site assessment of a physical prototype of a functional component or simple lab scale system __ Lab-site assessment of a fully functional lab scale system **X Lab-site testing of a fully functional small industrial scale system** __ Industry-site testing of a fully functional small industrial scale system __ First installation of full industrial scale system

IPR & Exploitation Conditions	
IPR Protection	__ Patented technology __ Patent Pending **X No formal IPR protection**
Exploitation conditions (mark with a cross)	__ full ownership of IPR/knowledge & full freedom of exploitation **X majority ownership of IPR/knowledge, with minor stakes of third parties** or existing exclusive licenses to third parties in minor exploitation domains __ minor ownership of IPR/knowledge with major stakes of third parties or existing exclusive licenses to third parties in major exploitation domains
Languages for technical interaction (in order of preference)	EN – FR – DE - NL

Contact for this technology proposal					
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	European Textile Technology Marketplace **ETTMa** ***Call n° 05: May 2014***	

Technology Offer n° 2

Identification	
Organisation Name	Faserinstitut Bremen e.V. — FIBRE —
Country	Germany

Technology Proposal Information	
Short Title	Biotechnological Modification of Natural Fibres for use in High-Performance Composites

The institute has long–time experience in the area of domestic natural fibres and biocomposites as materials for automotive applications, lightweight construction or building. This comprises the processes from fibre extraction via fibre (surface) or matrix modification as well as optimisation of processing parameters. This enables the production of parts with tailored properties in terms of i.e. young's modulus, tenacity or flammability. Beside 'classical' mechanical characterisation parts can be tested and optimised in terms of i.e. Fogging (DIN 75201), odour (EN 13725) or flammability (DIN 75200).

The infrastructure consists of modern polymer analysis and fibre analysis labs as well as biotechnical or chemical fibre modification. In addition there is the possibility of scale-up into industrial scale (cf. fig. 1) with large reactors on site of an industrial partner.

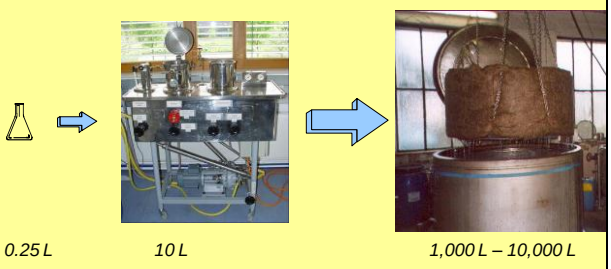

Figure 1: scalability of biotechnical or chemical fibre modification from lab- via technical- to industrial scale.

Concerning matrix materials there are several options ranging from standard polymers to a broad variety of biopolymers, if necessary in combination with coupling agents.

Polymeric fibres (mono- and bi-component) with special properties can be produced on our melt spinning equipment with a throughput of 10 kg/h, based on broad experience in the area of fibre production and enabling the supply of specially designed materials for experiments in technical scale as well as prototype production.

Own assessment technology readiness level of the proposed technology (1 to 9)	5 – 7
Type of industry evaluation proposed (mark with a cross)	_X_ Assessment of principal concept as described in a scientific paper _X_ Lab-site assessment of a physical prototype of a functional component or simple lab scale system _X_ Lab-site assessment of a fully functional lab scale system _X_ Lab-site testing of a fully functional small industrial scale system _X_ Industry-site testing of a fully functional small industrial scale system __ First installation of full industrial scale system

IPR & Exploitation Conditions	
IPR Protection	__ Patented technology __ Patent Pending _X_ No formal IPR protection
Exploitation conditions	_X_ full ownership of IPR/knowledge & full freedom of exploitation
Languages for technical interaction (in order of preference)	English, German

Contact for this technology proposal					
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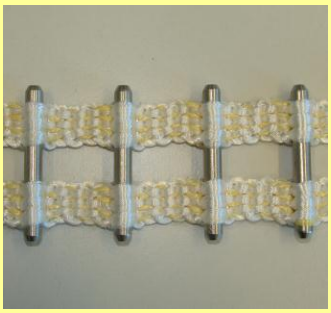
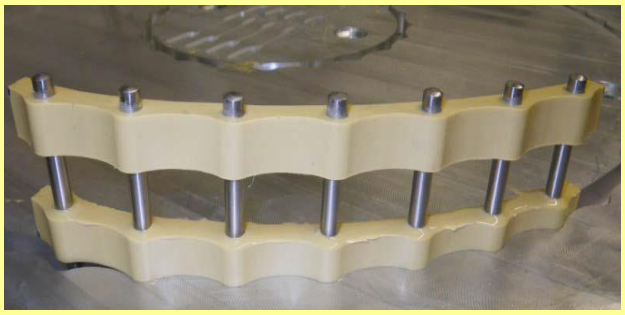
Technology Offer n° 3

Identification	
Organisation Name	**STFI – Saxon Textile Research Institute**
Country	Germany
Technology Proposal Information	
Short Title	**Belts with knitting structure and pins**

Description of the technology proposal (max. 300 words):
This new modular textile based traction and bearing system for transport and conveying systems is light-weight designed. The system combines freedom of maintenance, special flexibility, and low weight for drive belt applications and operation without pre-load and directional control as well as flexible axial distance of chain applications. The transmission of traction is realised by a knitted textile structure. Orthogonal pins are integrated with defined distances, responsible for the application of force and able to bearing function if necessary. The pins could be coated with plastics as well as the whole textile structure. The newly developed system is an alternative and effective transport and conveying system in lightweight construction.



Textile structure with pins



Coated belts

Advantages:
- Maintenance-free construction
- Low weight

Fields of Application:
- Transport and conveying systems

Own assessment technology readiness level of the proposed technology (1 to 9)	**6**
Type of industry evaluation proposed	**X Lab-site testing of a fully functional small industrial scale system**

IPR & Exploitation Conditions	
IPR Protection	**X Patented technology** __ Patent Pending __ No formal IPR protection
Exploitation conditions	**X full ownership of IPR/knowledge & full freedom of exploitation**
Languages for technical interaction (in order of preference)	German, English

Contact for this technology proposal					
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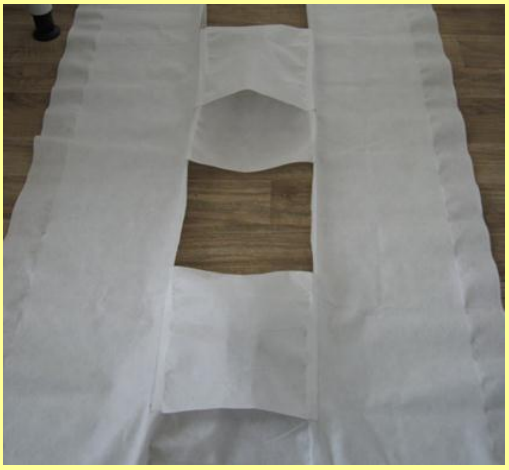
Technology Offer n° 4

Identification	
Organisation Name	**STFI – Saxon Textile Research Institute**
Country	Germany
Technology Proposal Information	
Short Title	**Warp-Knitted fabric with integrated pockets**

Description of the technology proposal (max. 300 words):

The warp-knitted fabric with integrated pockets creates a three-dimensional, light and flexible structure mat which is usable e.g. for erosion control. The pockets could be filled by different substrates according to their function for example for water storage or nutrient supply.
A nonwoven is supplied to the Raschel machine which is manufacturing the knitted fabric with integrated pockets. The nonwoven gets U-shaped slots inside the machine, e.g. realised by an intermittent sporadic working punch in the area of the nonwoven feeding. The resulting parts are folded, reverted and warp-knitted on the basic textile layer building the upper side of the pocket.



Advantages:
- Size of pockets is adjustable at the machine
- Fusion of several working steps
- Separate manufacture of the pockets not necessary

Fields of Application:
- Erosion control
- Renaturation of steep embankments
- Design of open spaces indoor and outdoor

Own assessment technology readiness level of the proposed technology (1 to 9)	**4-5**
Type of industry evaluation proposed	**X Lab-site assessment of a physical prototype of a functional component or simple lab scale system**
IPR & Exploitation Conditions	
IPR Protection	**X Patented technology** __ Patent Pending __ No formal IPR protection
Exploitation conditions	**X full ownership of IPR/knowledge & full freedom of exploitation**
Languages for technical interaction (in order of preference)	German, English

Contact for this technology proposal					
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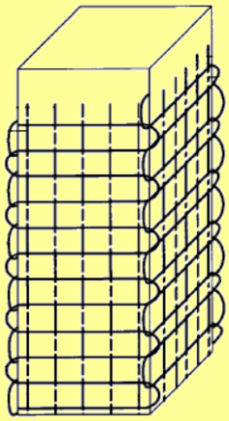
Technology Offer n° 5

Identification	
Organisation Name	STFI – Saxon Textile Research Institute
Country	Germany
Technology Proposal Information	
Short Title	**Woven Square Tube**

Description of the technology proposal (max. 300 words):

The woven square tube has a rectangular or quadratic profile, which is manufacturable as a hollow tube or cored with padding material, e.g. fibres, bulk material or rigid bodies. Up till now, a square structure of woven tubes was realized by additional forming and fixing after weaving process. The four sides of the woven square tube, which are connected articulated, consist of separate weft systems and therefore no fixation is necessary to keep the shape.



Advantages:
- Long-lasting dimensional stability
- Optional using of filling material
- Variable form of tube structure
- Application of a range of materials possible

Factors of Influence on Quality:
- Behaviour and quality of used materials

Fields of Application:
- Semi-finished product for fibre-reinforce plastics
- Casing for sealing material

Own assessment technology readiness level of the proposed technology (1 to 9)	**4-5**
Type of industry evaluation proposed	**X Lab-site assessment of a physical prototype of a functional component or simple lab scale system**
IPR & Exploitation Conditions	
IPR Protection	**X Patented technology** __ Patent Pending __ No formal IPR protection
Exploitation conditions	**X full ownership of IPR/knowledge & full freedom of exploitation**
Languages for technical interaction (in order of preference)	German, English

Contact for this technology proposal					
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	**European Textile Technology Marketplace** **ETTMa** ***Call n° 05: May 2014***	

Technology Offer n° 6

Identification	
Organisation Name	Maastricht University
Country	The Netherlands

Technology Proposal Information	
Short Title	Biofabrication technologies for regenerative medicine

Advanced macro, micro and nano biofabrication technologies are developed and combined with fundamental knowledge of (developmental) biology to design and engineer complex tissues and organs. Potential applications of such constructs are in (stem) cell research, cancer research, pharmaceutical or toxicological screening, tissue regeneration or bioartificial organs. The technological basis for the fabrication of such constructs are:

- Additive manufacturing technologies for building functional 3D scaffolds, such as 3D fiber deposition;
- Advanced electrospinning technologies for generating extracellular matrix-like fibrous meshes.

While these technologies are applied in our studies for biomedical applications, they can find broader applications in fields such as smart clothing, filtration, and components for advanced technologies (e.g. energy cells, insulators, optics).

Own assessment technology readiness level of the proposed technology (1 to 9)	3
Type of industry evaluation proposed (mark with a cross)	_X_ Assessment of principal concept as described in a scientific paper _X_ Lab-site assessment of a physical prototype of a functional component or simple lab scale system __ Lab-site assessment of a fully functional lab scale system __ Lab-site testing of a fully functional small industrial scale system __ Industry-site testing of a fully functional small industrial scale system __ First installation of full industrial scale system

IPR & Exploitation Conditions	
IPR Protection	_X_ Patented technology __ Patent Pending _X_ No formal IPR protection
Exploitation conditions (mark with a cross)	_X_ full ownership of IPR/knowledge & full freedom of exploitation __ majority ownership of IPR/knowledge, with minor stakes of third parties or existing exclusive licenses to third parties in minor exploitation domains __ minor ownership of IPR/knowledge with major stakes of third parties or existing exclusive licenses to third parties in major exploitation domains
Languages for technical interaction (in order of preference)	English

Contact for this technology proposal					
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	**European Textile Technology Marketplace** **ETTMa** ***Call n° 05: May 2014***	

Technology Offer n° 7

Identification	
Organisation Name	University of Borås
Country	Sweden

Technology Proposal Information	
Short Title	Functionalization of textile materials without incorporating metallic contents for textile applications requiring electrical conductivity

Today, in this modern and technology oriented era, people want to make their lives more comfortable and talk a lot about smart or intelligent devices, which can evaluate the environment and then respond to the results of the evaluation. Functional textiles or smart textiles are the key components of these intelligent devices which can be used for many sophisticated electronic applications and are the shape of future textile industry.

Functionalities, such as electrical properties can be introduced in textile materials either by incorporating conventional electronic devices or metallic yarns, but it increases the cost and weight of the product and makes overall process more complicated.

Due to the technological advancements in the field of organic materials, today it is possible to produce all-organic wearable devices having lower weight and natural comfort level.

In our research, we have produced electrically conductive textiles (fibres/fabrics) by the synergic combinations of commercially available textile materials and conductive polymers. For this purpose, a thin and highly conductive coating of conductive polymer was produced on the surface of textile substrates by using an efficient technique, called chemical vapour deposition (CVD). In CVD process, a catalyst containing textile substrate was introduced in a reaction chamber where polymerization reaction started spontaneously by providing monomer vapours. In this process, synthesis of conductive polymer and coating of textile materials takes place simultaneously. The obtained coated textiles (fibres/fabrics) exhibited high electro-mechanical properties and showed great potential for bio-medical and energy generation applications. We characterized the stretch sensing properties of coated fibres and got very encouraging results. Conductive membranes produced by CVD process has great demand to be used as anti-static air filters and electrodes for bio-fuel cell applications. Use as heating element has also been demonstrated.

The industrial commercialization of CVD process might be possible and it can open the new doors in the field of smart and functional textiles.

Own assessment technology readiness level of the proposed technology (1 to 9)	3 -4
Type of industry evaluation proposed (mark with a cross)	X Assessment of principal concept as described in a scientific paper X Lab-site assessment of a physical prototype of a functional component or simple lab scale system __ Lab-site assessment of a fully functional lab scale system __ Lab-site testing of a fully functional small industrial scale system __ Industry-site testing of a fully functional small industrial scale system __ First installation of full industrial scale system

IPR & Exploitation Conditions		
IPR Protection	__ Patented technology __ Patent Pending	_X_ No formal IPR protection
Languages for technical interaction (in order of preference)	English	

Contact for this technology proposal					
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