

Publishable summary

2BFUNTEX - 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



2BFUNTEX aimed at developing a platform for current and future actions in research, education and technology transfer in the field of functional textile structures and textile related materials to support the textile industry in the most efficient and effective way to transform into a dynamic, innovative, knowledge-driven competitive and sustainable sector. 2BFUNTEX is a platform for all innovation actors involved in European projects including interested companies not yet active in the field and users.

The 2BFUNTEX main objective was to support research and industrial innovation actors, i.e. universities, research institutes along with industry, in their efforts to define joint research projects and actions in the above mentioned field. The aim was to set up multidisciplinary teams oriented towards untapping the experienced potential related to functional materials and to enhance transfer of the vast knowledge available at universities and research institutes to industry and to favour rapid industrial uptake.

Basic objectives

- ***collecting all relevant information*** related to ongoing research and activities in the field of functional textile structures and textile related materials using modern detection methodologies (such as the 2BFUNTEX website);
- ***detection of synergies and gaps and the creation of project ideas*** in the field of functional textile structures and textile related materials;
- ***development of an interactive database;***
- ***training and education*** to increase the number of well-trained people who continue their (research) activities in functional materials related industry and to better train people already employed in industry
- ***dissemination;***
- ***creation of multidisciplinary teams (MDTs)*** performing research in the field of functional materials and oriented towards *industry* aiming at the creation of new business worldwide.

Main results achieved so far

The main result is the creation of an Open Innovation Platform (OIP) on functional textiles which is available on the project website www.2BFUNTEX.eu with a public area and an area restricted to registered users including (at the end of the project):

- Project database (198 projects)
- Technology database (72 technologies)
- Events related to functional textiles (151 events)
- Trainings (60 trainings)
- Training materials (85)

On the OIP, industry and researchers can express their needs (e.g. new technologies, products, processes, testing, research partners, ...), which are treated confidentially, in order to connect industry with available technologies or research capacities.

Six complexity and foresight workshops were organized to look at scenarios for the future of functional textiles, using also the Systems Thinking methodology. The foresight process finally resulted in concrete Action Planning for Multidisciplinary Teams (MDTs).

A bibliometric analysis of published literature and patents has been performed to get an overview of research in the field of functional textiles. Topics were identified with their relation to each other, as well as top organisations, journals, cited references and other relevant information. The results are made publicly available on the 2BFUNTEX OIP and support the MDTs in selecting and developing their innovation ideas. A confidential report of the bibliometric analysis for partners includes a detailed analysis on: Antimicrobial textiles, Flame retardancy, Electronic textiles and Plasma treatment.

In order to detect the synergies and gaps a market/technology matrix has been developed, which is being used by partners and MDTs to identify the industrial needs in the field of functional textiles.

A database with the main tests according to standards, related to the determination of properties that should be applied in materials for textile applications, has been published on the 2BFUNTEX website, as well as an overview of 'Possibilities for eco-design concept in textile materials'.

Based on collected training materials & training needs, 6 training topics were identified and course modules developed by 2BFUNTEX partners, namely on:

- Smart textiles,
- Nanomaterials and Nanotechnologies,
- Electrospinning,
- Sustainable textiles,
- Recycling of textile materials
- Protective functional textiles.

Three scientific conferences were organised: 1) the "2BFUNTEX session" at the AUTEX 2012 conference in Zadar, Croatia, in June 2012, attended by more than 60 participants; 2) the "International Istanbul Textile Congress 2013 on Innovative and Functional Textiles" in Istanbul, Turkey, on 30-31 May 2013 with ca. 300 participants and followed by a brokerage event and technoshow organised with the help of the European Enterprise Network (EEN); 3) the Symposium M on "Functional textiles – from research and development to innovations and industrial uptake" organised together with the COST Actions MP1105 (<http://www.flaretex.eu>) and MP1206 (www.electrospinning-cost.eu) within the E-MRS 2014 Fall Meeting in Warsaw in September 2014 with ca. 70 participants.

On 23rd October 2013 the 2BFUNTEX@eurofinish2013 [Innovation Seminar annex Matchmaking Event on Functional Textiles](#) was organised at the [EUROFINISH 2013](#) Trade Fair in Ghent, Belgium, which attracted 2438 visitors and 160 exhibitors. The 2BFUNTEX brokerage event was attended by over 60 participants from 17 different countries.

A special 2BFUNTEX session on ‘**Effective tools for European textile technology transfer**’ was held at the 9th Annual Public Conference of the ETP for the Future of Textiles and Clothing on April 1, 2014 in Brussels attended by 148 persons.

On 14th November 2015, the 2BFUNTEX consortium organised its final conference at ITMA 2015 in Milan, Italy, for which more than 400 people registered from 71 different countries, among which many from industry. Successful cases of effective technology transfer on functional textiles between research & industry have been presented and the winners of the 2BFUNTEX Technology Competition were announced and asked to present their technology.

Seven 2BFUNTEX newsletters were published and widely disseminated across Europe towards main textile stakeholders, as well as published on the 2BFUNTEX website.

Based on the analysis of the technology-innovation gaps, 8 multidisciplinary teams (MDTs) that collaborate along the following specific research topics were started up in 2013 :

- antimicrobial textiles,
- smart textiles,
- nanotechnologies,
- flame retardancy,
- biotechnologies,
- electrospinning,
- plasma,
- sustainable textiles.

Expected final results and their potential impact and use

2BFUNTEX established a European portal (SPOC-single point of contact) which all interested parties can address when they need anything in the area of functional textile structures and textile related materials.

The 2BFUNTEX OIP brings relevant activities (research projects, courses, workshops, ...) from different innovation actors (research institutes, universities, industry, associations, policy makers) together and makes them available to a wider audience. Thus, 2BFUNTEX coordinates and assists the innovation activities in the field of functional materials to create maximum awareness and assists innovation actors in actively collaborating together to increase the number of valuable projects with enhanced industrial uptake.

Gathering of information includes current projects and technologies at universities, research institutes and industry, collecting information regarding the needs which industry and/or end users have detected, revealing non used potential synergies, identification of research gaps and overlaps and subsequent recommendations for future actions, defining multidisciplinary teams

along with SME input, defining project scopes and identification of financial support mechanisms to leverage the efforts, setting up training and education activities and organising exchange programmes between universities/institutes and industry, passive and active dissemination, organisation of general and targeted events.

The website is the core of the project. It contains:

- information on the status of the 2BFUNTEX project;
- names of the consortium members providing information that allows easy identification of people to be contacted when having specific questions;
- 2BFUNTEX database that includes all relevant information on projects, technologies, people, networks, events, etc.;
- list of upcoming events;
- lists of available information, training packages, materials, etc. and conditions to get access; information on calls for projects;
- web based learning platform;
- input section allowing external innovation actors to provide information on their projects, technologies, events, ... related to functional materials;
- portal to get support.

The 2BFUNTEX OIP will continue after the project and remain available to all stakeholders in the field of functional textiles to upload and consult information.

The final aim of the project was to assist the process of creating new project ideas and creating multidisciplinary teams where SMEs can find contact persons skilled as well in research as in industrial applicability of their research results.

Bringing together all actors in the field, i.e. fostering a multidisciplinary approach between universities, research institutes, SMEs and sector associations, and identifying technological gaps as well as eliminating practical barriers will result in a faster industrial uptake of innovative functional textile structures and textile related materials. SMEs will be involved in the multidisciplinary teams to allow researchers to better orient their joint efforts towards industrial applications. Additionally the SMEs will be able to adapt their methods of production, management and distribution in an early stage. Thus it is expected that 2BFUNTEX will boost the coordination of research and the uptake of new products and processes by industry.

The 2BFUNTEX project incorporated an important training and education work package where training materials regarding functional textile materials have been elaborated. These can be used in all European universities and research institutes to train their students at different faculties and by sector organisations to train technical people in their SMEs. These materials allow a common language regarding functional textile structures and textile related materials and will increase the number of well-trained people in the field. It is expected that better training and better collaboration will lead to real innovation processes in industry.

More information on www.2BFUNTEX.eu