



COORDINATOR

**Textile Research
Institute AITEX**

AITEX is a Spanish non-profit making private association formed by textile and related companies. In the field of standardisation and quality, it has advanced testing laboratories: chemistry, physics and fire behaviour, that are authorised to award several certifications. AITEX participates in various EC initiatives, supporting the Spanish companies in the development of a growing number of diverse EU-funded projects.

AITEX has coordinated several LIFE projects such as:

- ◆ “The application of advanced photo-oxidation techniques in the treatment of residual waters in the Textile industry” (LIFEENV99/E/346).
- ◆ “Water Purification Tertiary Treatment using Photo-oxidation at semi-industrial scale” (LIFE03 ENV/E/000102).
- ◆ “Alternatives for waste volume reduction in the textile sector through the application of minimisation measures in the production process and in the consumption” (LIFE05 ENV/E/000285) awarded as “Best LIFE Environment 2008-2009 Project” by EC and “Best Environment European Project of Valencian Community 2008 by Conselleria de Presidencia.
- ◆ “Risk reduction to public health from environmental sources using biotechnology in the textile sector” LIFE07/ENV/E/000794).
- ◆ “Demonstrative solutions to reduce noise pollution in industrial areas, using finishing technologies in textile materials” (LIFE09/ENV/ES/000461).

THE CONSORTIUM



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NOISEFREETEX

**“DEMONSTRATIVE
SOLUTIONS TO
REDUCE NOISE
POLLUTION IN
INDUSTRIAL AREAS,
USING FINISHING
TECHNOLOGIES IN
TEXTILE MATERIALS”**



LIFE+ *Environment Policy and Governance*

LIFE09 ENV/ES/000461

01/01/2011 — 31/12/2013

NOISEFREETEX

LIFE09 ENV/ES/000461

Total budget: 995.834 €

EU contribution: 497.167 €

Antecedents

Acoustic pollution is generated by a not wished sound, which affects negatively to the quality of life and manages to hinder even the realization of the daily tasks. It is necessary to act through the development of products and materials capable to palliate the negative effects caused by the acoustic pollution.

Materials used at present, feature some problems related with their installation, durability, and efficacy in some parts of the frequency range of interest.

This project tries to offer innovative solutions which improve the existing products used as acoustics isolation. It is known intuitively the necessity to create lightweight products, few voluminous and with a high acoustic efficiency.

Textile materials can offer a very good behaviour with some coatings and finishes, which are applied by means of last generation technologies (electrospinning of nanofibers or technical finishing treatments and coatings).



Project objectives:

This project aims to validate demonstrative solutions to reduce noised pollution mainly in industrial zones that are close to the urban areas. Finishing technologies in textile material will be used to that purpose. These solutions based on textile materials, will be used as constructive elements in industrial facilities walls, floors, ceilings and acoustic barrier walls in roads, in order to minimize the environmental noise impact.

Specific Objectives:

- ◆ To know the national and European acoustic specifications in building and environmental requirements, mainly to industrial areas.
- ◆ To define specific textile materials which have interesting properties like sound absorption materials and moreover that can be improved and optimized.
- ◆ To work with different kinds of finishing processes (electrospinning, plasma surface treatments and coatings) to improve results of basic textile materials.
- ◆ To validate the demonstrative solutions or prototype materials developed in acoustic field to reduced noise pollution (noise barriers, encapsulated systems, etc).
- ◆ To study the compatibility of the developed solutions with the fire behaviour in order to abide by the specific laws and requirements in this field.
- ◆ The dissemination and transfer of these solutions to construction industry, to textile and acoustic isolation materials companies via leaflets, web pages, publication in specialist magazines, mail shots and demonstrations at fairs etc.
- ◆ To organize events at European level in order to disseminate the Project results to all the target public.

Expected results

This project intends to find a satisfactory and efficient demonstrative solution to reduce noise pollution in industrial areas, using finishing technologies in textile materials.



- ◆ Find textile materials with specific acoustic properties.
- ◆ Characterize the acquired textile materials (acoustic properties and fire behaviour).
- ◆ Improve the acoustic base-properties with finishing processes. It is expected to improve minimum 20% absorption coefficient in normal incidence.
- ◆ Select the solutions which show the best results as acoustic materials. It is expected to work with between three and five different materials depending on the preliminary results.
- ◆ Improve the lab results because in this case the absorption occurs in all directions not only at normal incidence.

