



TAIMEE

Thermal and Acoustic Insulating material
from finished leather waste

**THERMAL and ACOUSTIC INSULATING
MATERIAL from FINISHED LEATHER WASTE**

GREEN-UP EVENT

CITILAB. Plaça Can Suris, s/n. Cornellà del Llobregat

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eco-innovation 
WHEN BUSINESS MEETS THE ENVIRONMENT



STARTING POINT
PROJECT OVERVIEW

MARKET and
EXPLOITATION

IMPACT OF THE ACTIONS
CONSORTIUM

WORK PROGRAMME
WORK PACKAGES

ARTICLES: PANELS



Leather wastes disposed in landfills. It will reincorporated in the productive cycle, to obtain and bring into the market an innovative and eco-friendly insulation material. Leather fibrous structure has sound absorption and thermal insulation properties.



Energy use in buildings sector accounts for more than 40% of Europe CO₂ emissions.

Noise is a key form of pollution with serious human health consequences.



Retalls Crusts

TAIMEE insulating material (working in processes parameters as pressure, amount of leather waste, and binder proportion) can be formed as panels width with different thickness and densities (rigid and easy to handle).



Retalls Acabats

➤ Possible risks

Re-use leather wastes: avoid contamination, and waste's composition.

Agglomerate agent: correct composition, and quality standards are optimum.

Production: develop a final article with high quality.

Legal: certification should be a must in order to compete to big brands.



➤ Objective

Production and marked implementation of an innovative leather composite material (based in trimmings of finished leather waste) to provide acoustical isolation and thermal insulation for application in building sector.

➤ Actuations

- Initial roll out of the insulation material into production
- Scaling up to full production insulating panels
- Construction material applications.

➤ Outputs and Results:

- Introduce into market innovative environmental friendly material
- Set up the industrial methodology for efficient processing of leather waste
- Reduction of environmental impact of tannery and leather goods industries
- Reduction of fossil resource consumption, raw materials for the manufacture of most conventional insulators
- Contribution to the reduction of CO₂ emissions and noise exposure, due to the use of natural insulation materials in buildings.

➤ **Budget: 1.251.332 € - EU contribution: 50% (625.665 €)**

➤ **Start - End of the Project** 01 Sept.2012 (month 01) – 28 Febr.2015 (month 30)

➤ Project web site : www.taimee-project.eu



- **Potential market.** Save E in buildings cause upturn the insulating industry.
- **Barriers.** Perception that insulation products cannot compete in the area of performance or cost in building sector and Economic impact to new construction and for renovation houses.

Trends. Awareness of climate change + regulations aimed at improving energy efficiency will impact insulation product manufactures:

- 1.- n° of buildings that are likely to be required to be renovated (improve their thermal and sound insulation characteristics) in EU should increase significantly.
- 2.- + impact of thermal-acoustic products should lead to a favourable economic effect.

Marketing strategy. Based on informing and introducing the TAIMEE product to eco-friendly insulation material dealers at European.

➤ **Exploitation and business plan**

All the partners, analyze and validate market potential → define the business strategies for the market penetration and development a business plan, and different strategies (economic efficiency and profitability), according to:
production cost + new product characteristics and its advantages vs.existing products.

➤ **Transferability and replication**

The process to move from prototype to industrialisation should consider the widely insulation applications, such as: wall covering, under floor impact sound reduction, suspended ceilings, roof insulation, aerial sound insulation board, etc.

The production plant will have to be analysed and standardised for replication.



➤ Environmental benefits

Impacts of the TAIMEE technology implementation on building insulation, will be:

- ❖ Minimisation of the environmental impact of the tanner and leather products industry, recycling tons of waste diverted from landfills (400 ton/year).
- ❖ Reduction of fossil resource consumption, raw material and energy for the manufacture of conventional insulation materials.

- ❖ Increase in the sustainability of the productive process of insulation materials, considering the entire life cycle of TAIMEE product.
- ❖ Reduction of noise pollution, towards to carry out the Environmental Noise Directive about noise exposure in build-up areas.

- ❖ Reduce building energy demand and then decreasing CO₂ emissions, in order to help to meet the environmental goals of EU Dir. on Energy Performances of Buildings.
- ❖ Reducing emissions from building sector through insulation offers also:
 1. a cost-effective measure to combat climate change.
 2. reducing Europe dependence on foreign energy supplies and European vulnerability to increases in world energy prices.
 3. creating value-added jobs.



➤ Economic sustainability

Since 2010, although biosourced insulation market still represents 1% share, this segment provides an additional sales volume and becomes a source of growth. TAIMEE will eventually search for ways of being integrated in the mainstream circuit via a conventional insulation actor which would find a means of diversifying and greening its offer.

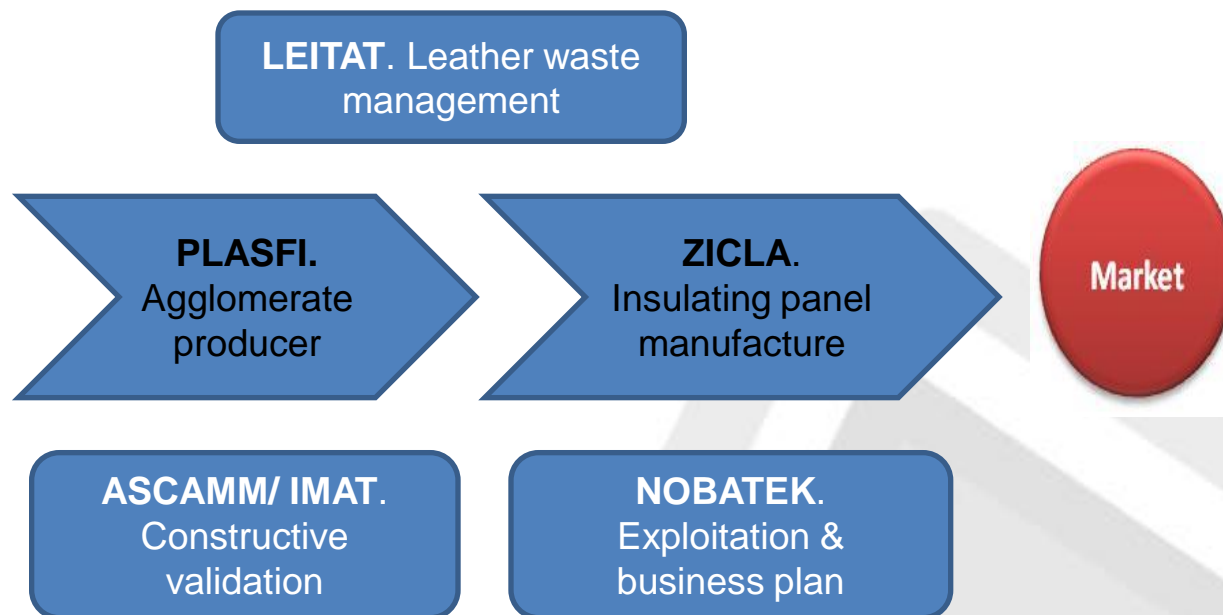
From the economic perspective, the main impacts of the project are:

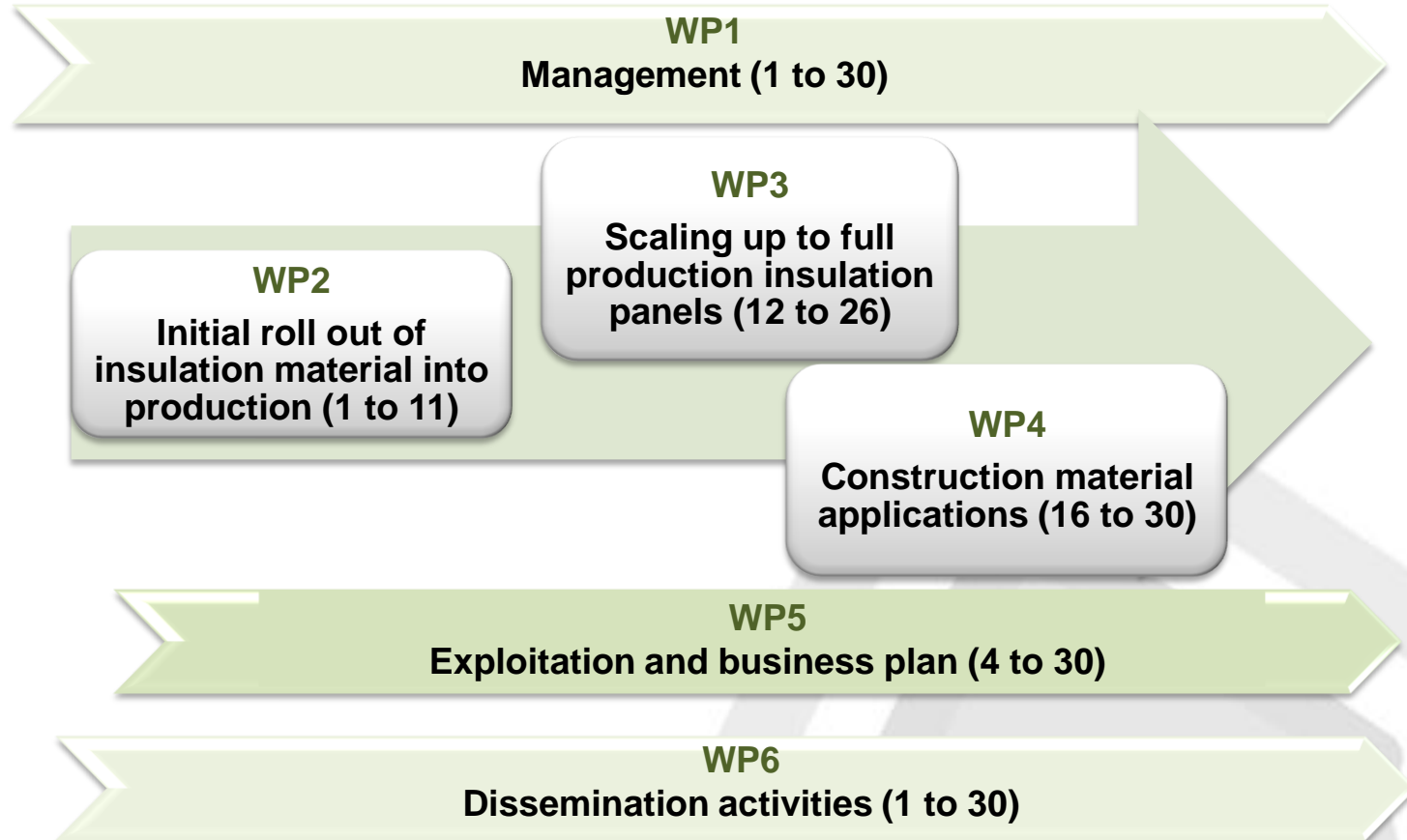
1. Reduction of the environmental costs of waste management, 4.2 million €.
2. TAIMEE recycled insulation leather material expected to produce 75000 m², with a projected net profit of over 300000 €.
3. Payback Time: 3.5 years
4. Market replication: different sound and thermal insulation range of applications and production plant replication to potential leather waste production sites and actors.



➤ Partners value chain

Partners involved in the project, have developed the technical solutions to produce the insulating material.







WP1. Management. LEITAT (leader - coordinator)

Activities expected to ensure the correct progress of the project, in order to make possible the fulfilment of the contractual obligations with the Grant Agreement and the Consortium Agreement.

Tasks

1. **Organisation of periodical meetings.** (Resp.Partner: LEITAT. Partners involved: ALL).
2. **Contractual administration.** (Resp.Partner: LEITAT Partners involved: ALL).
3. **Financial administration.** (Resp.Partner: LEITAT Partners involved: ALL).
4. **Monitoring and measuring the performance indicators** (Resp.Partner: LEITAT Partners involved: ALL).
5. **Annual reporting and EACI relations.** (Resp.Partner: LEITAT. Partners involved: ALL).



WP2. Initial roll out of the insulation material into production. PLASFI (leader)

Develop the initial production of the insulation leather material, including the definition of the leather waste supply chain, the leather waste homogenization and validation, the industrial optimization of the agglomerate agent. The first application of the insulation material will be identified. The density, thickness and other physical parameters will be defined. The leather particle size will be determined to optimize the initial roll out to the first application. The optimal proportion of agglomerate and leather waste will be regulated to reach the proper physical parameters.

Tasks

- 1. Collection of finished leather waste, homogenization and validation. Suppliers' Identification and consolidation** (Responsible Partner: LEITAT).
- 2. Eco-binder technology optimization to industrial application.** (Responsible Partner: PLASFI, Partners involved: ZICLA).
- 3. Identification of first application and insulation panel production.** (Responsible Partner: ZICLA; Partners involved: All others).



WP3. Scaling up to full production insulating panels. ZICLA (leader)

Scaling up to a full production the TAIMEE insulation panels from the leather waste. It aims to achieve an initial daily production of about 80 m²/day.

This work package receives the results of the previous activity, and focuses the production to the first application identified. The replication potential in different construction applications will be developed in parallel.

Tasks

- 1. Process optimization and insulation panels' production.**
(Resp. Partner: ZICLA. Partners involved: PLASFI, LEITAT, ASCAMM/ IMAT).
- 2. Replication and potential applications in constructive insulating solutions**
(Responsible Partner: PLASFI. Partners involved: All others).



WP4. Construction material applications. ASCAMM/ IMAT (leader)

The industrial pilot **test held in previous WP's will permit:**

- .- Obtain a product sample to test and check if technical requirements are reached.
- .- Obtain a product sample to test market (samples, real life applications for technical training, etc.).

Material testing will be carried out in external laboratories coordinated by IMAT and it will take place during all the process of samples production in a cyclical improvement process held by industrial partners.

The principal aim of this work package is to validate the TAIMEE materials as a building product according to technical and sustainable requirements.

Tasks

- 1. Check the performances of the final product applications.** (Responsible Partner: ASCAMM/ IMAT. Partners involved: NOBATEK, LEITAT)
- 2. Environmental and technical benchmarking of new process. Life cycle assessment.** (Resp.Partner: ASCAMM/ IMAT. Partners involved: All others)



WP5. Exploitation and business plan. NOBATEK (leader)

This project is focused on industrial development of natural insulation materials products to be used in building sector and bringing this technology to market in a variety of construction applications.

Other diversification of the commercial forms that TAIMEE should have to efficiently penetrate the biosourced insulation niche market, this WP will aim at identifying a strategy to a step by step expansion into most dynamic European markets (Spain, France and U.K.). Each one of these markets has established actors and retailer circuits, common European certification and local certification of building materials is a key element for a sound marketing strategy. The replication strategy will foresee the normalisation of production units to be sold and installed close to sources of leather waste in EU countries.

Tasks

- 1. Analysis of the potential market and Identification of target groups and key actors** (Responsible Partner: NOBATEK. Partners involved: All others).
- 2. Technical support for Environmental assessments and certification applications of TAIMEE** (Resp.Partner: NOBATEK. Partner involved: all others and the BRE as subcontractor).
- 3. Exploitation and development of a marketing strategy.** (Resp.Partner: NOBATEK. Partner involved: All others and BRE and KIM as outsourced).



WP6. Dissemination activities. LEITAT (leader)

Covers resources to contribute, upon request by the EACI, to common dissemination activities and a final evaluation with the aim to increase synergies between projects supported by the eco-innovation initiative and to increase their visibility. Includes project specific dissemination activities that are defined in the following paragraphs.

Tasks

Pre-defined tasks

1. Project information sheets.
2. Additional information material.
3. Information and dissemination events.
4. Producing Layman's report.
5. Evaluation of project impacts.

Project-specific tasks

6. Annual dissemination strategies.
7. Creation of a dedicated project web.
8. Preparation of a project flyer.
9. Regular information on project progress.
10. Development of a cluster meeting.

www.taimee-project-eu





THANKS FOR YOUR ATTENTION

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