

Dear reader,

This is the first newsletter from WoTIM, a project within the WoodWisdom Net Programme. WoTIM is the acronym for Wood-based thermal insulation materials. In this project, superior cellulose based insulation materials are developed. The target is that the performance of the novel cellulosic insulation materials is at comparable level with the materials made of polyurethane foams.

Five partners are involved in the WoTIM project: VTT (coordinator, Finland), Innventia (Sweden), FCBA (France), Holmen (Sweden) and Soprema (France). In addition, there are four cofunding companies: Stora Enso, Ekovilla Oy, Neovo Solutions Oy and Oy Interenergy Pressocenter Ltd. The project started in January 2014 and will be concluded in December 2016.

Newsletters will be published twice a year to keep you updated with the progress in the Work Packages (WP). In addition, you can find all information about the project at any time on the WoTIM website [www.wotim.eu](http://www.wotim.eu).

*Petri Jetsu, VTT  
Project Coordinator*

## Consortium

### **VTT Technical Research Centre, Finland**

VTT has two main roles in the project, which are be the coordinator of the consortium (WP1) and be the principle cellulosic insulation material developer based on foam technology. In WoTIM VTT is responsible for the structural design and laboratory-scale production of foam formed insulation panels (WP3). VTT is the initiator and main developer of a high risk investigation on cellulose based spray-on insulation materials (WP4). In addition, VTT has a supporting role in the analysis, modelling, prediction of material performance (WP5) and economic evaluations (WP6) in a complementary way with FCBA and Soprema and in the dissemination activities (WP7).

### **Innventia, Sweden**

The research institute Innventia has two main roles in the project. It will bring its deep expertise in mechanical and chemical processing of wood fibres and nanofibrillated celluloses to the consortium and will lead the selection, processing and characterizing of the (ligno)cellulosic raw materials (WP2) in close co-operation with company partner Holmen AB and research organisation partner FCBA. Innventia has an excellent record of disseminating research results from international projects and will also thus lead the WP7.

### **Holmen AB, Sweden**

Holmen AB is a forest industry group that manufactures printing paper, paperboard and sawn timber and runs forestry and energy production operations. Holmen makes active and visible R&D work in the area of mechanical pulping. Holmen will work closely with Innventia in WP2 and will offer its fibre materials into project use together with their fibre processing expertise and will develop the fibre materials towards the needs defined in the project. Holmen also will carry out the market survey related to foamed cellulosic products and has supporting role in economic evaluations (WP6).

## **FCBA (French Institute of Technology for forest based and furniture sectors), France**

FCBA will lead the ecologic, economic and health evaluations of the developed materials (WP6). Due to its excellent testing facilities, it will participate in the evaluation of the performance of new insulation materials in buildings (WP5). FCBA has a strong background in mechanical pulping and nanocellulose production and will also co-operate with Innventia and Holmen in WP2. In addition FCBA has a supporting role in the development of spray on insulation material (WP3) in a complementary way with VTT and Soprema and in the dissemination activities (WP7).

## **Soprema SAS, France**

Soprema SAS is a family industrial group which operates in building envelope business with activities such as thermal and acoustic insulation. With comprehensive testing facilities and excellent competence related to insulation material testing the company will lead the material performance evaluations (WP5). Soprema will define the specifications and economic cost of this thermal insulation and provide information on health and environment regulations (WP6). It also will bring expertise in mechanical, chemical processing and characterisation the foams made and will lead a feasibility study (WP3, WP4).

## **Project structure**

### **WP 1 Management**

The objectives of WP1 are

- to establish, implement and communicate Consortium Agreement with partners
- to supervise and monitor compliance by the partners with their obligations
- quality management of reports
- management of property rights
- to collect, review and communicate progress and final reports

### **WP 2 Raw materials selection and fibre processing**

The objectives of WP2 are:

- to formulate criteria for the needed wood-based raw material properties based on the processing and end product requirements
- to select, process and supply WP3 and WP4 suitable wood-based fibrous raw materials
- to characterise the fibrous raw materials used

### **WP 3 Development of foam formed thermal insulation materials**

The objectives of WP3 are

- to evaluate the effects of different (ligno)cellulosic raw materials on thermal insulation and mechanical properties of foam formed insulation panels
- to design a foam formed panel structure that maximises thermal properties with appropriate mechanical properties
- to compare different production concepts of foam formed insulation panels
- to explore the possibilities for process scale-up

### **WP 4 Development of cellulosic in-situ spray-on materials**

The objective of WP4 is to explore the ways to produce self-curing in-situ spray-on insulation foam from fibrous (ligno)cellulosic raw materials.

### **WP 5 Insulation material performance**

The objectives of the WP5 are

- to evaluate and benchmark the performance of the developed new insulation materials including thermal properties, mechanical properties and sensitivity to microbes
- to clarify the level of fire, water and microbes resistance needed and investigate how they can be best added to the material
- to evaluate the thermal and moisture performance in buildings by numerical simulations
- to give guidelines for development work done in WP3 and WP4

### **WP 6 Economic, ecological and health evaluation**

The objectives of WP6 are

- ensure that the new insulation materials will be developed according to a sustainable approach and in an economically viable way
- ensure that the used raw materials cause no risk to human health

### **WP 7 Dissemination and exploitation of results**

The objectives of the WP7 are

- to promote the dissemination and exploitation of the results in Europe, in particular towards the producers and users of insulation materials
- to address the scientific community and the general public and communicate about the possibilities of new and more efficient, wood-fibre based sustainable insulation materials

## **WoTIM website**

The address of the project website is [www.wotim.eu](http://www.wotim.eu). Here you will find information such as news and events, objectives, project structure, contact information and links to partners.