

AFTB

AFTB project aims to create the required conditions for the uptake of adhesive free Engineered Wood Products by the construction industry.



Inspiration

Climate change binds North-West Europe (NWE) countries to optimise the (re)use of material and natural resources, leading to a growth in the Engineered Wood Products (EWPs) market. In this context, the use of toxic adhesives in the manufacturing of EWPs by the construction industry is wasteful and harmful.

Universities, industry, institutions and the public sector will cooperate to demonstrate new adhesive free EWPs using new technology, encouraging and enabling market uptake across NWE. A key priority is innovation in forest products that usually ends up in landfill or incineration and has the potential to encourage inclusive growth, particularly in rural forested areas of the NWE programme area.

Innovation

AFTB addresses the improvement of the current situation by removing the toxic adhesives from EWPs in manufacture. The project specifically focuses on the design, development, demon and testing of a new range of adhesive free EWPs by using low-grade locally sourced timber. AFTB is smart as it builds on academic and applied research, sustainable as it aims to improve the environmental credentials of a construction material.

The main project outputs are 3 adhesive free timber construction technologies (beams, panels and grid), structural design tool and lifecycle analysis for EWPs and safety design guidelines. LIST will bring its expertise in modelling and simulation of material behaviour, as well as structural optimisation for investigation and design of new adhesive free EWPs. LIST will develop a design tool capable of predicting possible failure, creep and vibration of adhesive free EWPs as well as proposing new designs with higher properties.

Impact

The negative health and environmental impacts are minor when compared to the positive impact of building with EWPs instead of steel. AFTB will remove harmful and wasteful adhesives from the production, lifetime and end of life disposal of EWPs. The project has the potential to reduce Volatile Organic Compound (VOC) & CO2 emissions in the manufacturing and disposal of EWPs.

AFTB will support ten NWE businesses to adopt the new technology and produce a range of adhesive free EWPs. This will have additional benefits leading to competitive advantage, economic growth and sustainable jobs. The new technology will also contribute to the sustainable management of forests in NWE and connected rural livelihoods, leading to more sustainable economic and environmental conditions in the future.

Partners

University of Liverpool (UK) , National University of Ireland, Galway (IR) , Université de Lorraine (FR) , Technische Universität Dresden (DE) , Office économique wallon du bois (BE)

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