

PARTNERS Project

The 16 partners cover all the entire value chain from feedstock, biosynthesis of the polymer or polymer precursor, through the optimization of product recovery, purification and further conversion towards the final product.

The consortium is formed by seven SMEs, three industrial companies and six research centres and Universities. All of them have a recognized expertise in their business and knowledge field.



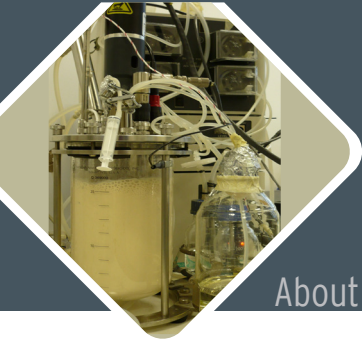
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New tailor-made biopolymers produced from
lignocellulosic sugars waste
for highly demanding fire-resistant applications



About the **BRIGIT** Project

BRIGIT aims to develop a cost-competitive and environmentally friendly process to produce biopolymers (polyhydroxybutyrate, PHB, and succinate-based biopolyesters, PBS-Poly-Butylene-Succinate) from waste-derived lignocellulosic sugar feedstock liquor of wood sulfite pulping process. The fermentation process will be carried out "in-situ" in the spent sulfite liquor through a new fermentation culture technology without alteration of the quality of current lignosulphonates (they have a high market demand as additive). Other non-wood plant waste, used nowadays in the pulp production, will be also considered as alternative sugar source in this project.

In comparison with previous projects to obtain biopolymers from different sources, the main innovation in BRIGIT is the use of an existing sugar-rich waste stream and the process integration with the existing industrial operation. This approach will permit an overall reduction in resource consumption and in greenhouse gas emissions and a dramatic reduction of operational costs due to the use of non-sterile steps, without the need of intermediate discontinuous bioreactors and avoiding waste transport.



BRIGIT chain value partners

BRIGIT aims to develop bio-based composites for high-tech fire-resistant applications. The use of these biopolymers in combination with natural fabrics (flax, hemp,...) will be mainly in the passenger and goods transport sector (trams, buses, trucks,...). These composites will be used as alternative materials for 3D sandwich panels that are currently made out of thermoset resins reinforced with continuous glass fibres. The new panels will be recyclable, lighter, with a broad processing windows, high production capacity (using a continuous compression moulding process) and low embodied energy in comparison with current thermoset panels.

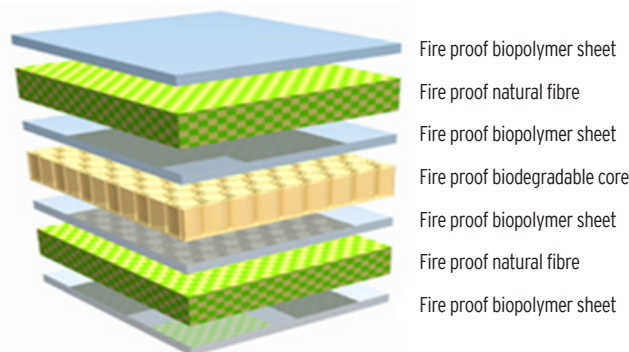


Fig 1. Scheme of multi-layer sandwich panel to be developed within BRIGIT project.

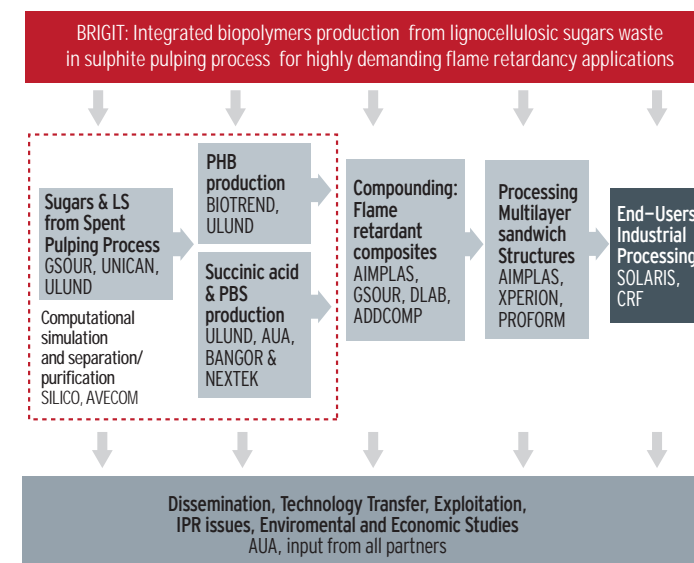


Fig 2. Overview of the partners and their role in the project.

FUNDING

The research leading to these results has received funding from the European Union Seventh Framework Programme (FP7/2007–2013) under Grant Agreement n° 311935 BRIGIT



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