



## *Ecological panels for trucks and buses from by-products of the cellulose manufacturing industry*

*The BRIGIT project aims to develop fire resistant bioplastics for goods and passengers transport.*

*Panels made of the new material will be recyclable, and will also valorize the waste and by-products of the cellulose production*

The European R&D project BRIGIT, which started in August 2012 and will last for 48 months, is funded by the European Commission within the Seventh Framework Programme. The project is coordinated by The Technological Institute of Plastics (AIMPLAS), and the consortium is made up of a total of 16 partners including research centers (AIMPLAS and Centro Ricerche FIAT) universities (Lunds Universitet, Universidad de Cantabria, Agricultural University of Athens and University of Bangor), and industrial companies (Biotrend, SilicoLife, Avecom, Nextek, Daren Labs, Green Source, Addcomp, Proform, Xperion and Solaris), from 12 European countries.

Thanks to this project, a new generation of ecological bioplastics panels, produced from by-products of the cellulose manufacture for the textile industry, will be expected on the market in 2016. These panels will be used in the transport sector.

### **Bringing high added value to cellulose manufacturing by-products**

In the project, new processes for obtaining green and cheap bioplastics will be developed. Specifically, the biopolymers PHB (polyhydroxybutyrate) and PBS (polybutylene succinate) will be obtained from the valorization of waste from the high quality cellulose pulp manufacture, thereby taking advantage of by-products usually used in low added value applications, such as the production of food for animals or as additives for concrete manufacturing.

The manufacturing process of the PHB and PBS that will be developed within the BRIGIT project is also innovative compared to the existing processes. The new technology will allow the reduction of the number of processing steps, resulting in a more efficient, more profitable and more sustainable process. According to M. Angel Valera, technical coordinator of the *project "the use of the by-products of the cellulose manufacturing process as a source of sugars required to carry out the fermentation process in which the microorganisms produce the PHB and the*

*succinic acid, will allow the integration of the processes needed to obtaining different biopolymers proposed in BRIGIT, and therefore a saving in production costs."*

### Recyclable and environmentally friendly vehicles

The innovative material resulting from the BRIGIT project will be a bioplastic with the mechanical properties and heat resistance required by the transport industry, but with the advantage of being completely recyclable unlike the currently used thermosetting resins.

The new bioplastic will be used to produce sheets reinforced with flax or hemp natural fibers, instead of the standard glass fibers. The combination of these bioplastic sheets with a foamed internal core will form 3D panels that will be installed in trucks and buses. Moreover the use of these 3D panels could be broadened to other applications in trains, boats, vans and other vehicles for transporting goods and people.

For more information regarding the BRIGIT project, please visit [www.brigit-project.eu](http://www.brigit-project.eu).

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