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BIO FIBRO CAR

The research leading to these results has received funding from the European Union's Seventh Framework Programme managed by REA-Research Executive Agency http://ec.europa.eu/rea (FP7/2007-2013) under grant agreement nº FP7-SME-2012-SME

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BIO FIBRO CAR

Melt spun fibres based on compostable biopolymers for application in automotive interiors

http://biofibrocar.aitex.es

Project Duration:
01/01/2013 – 30/06/2015

Funding Scheme:
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Contract number:
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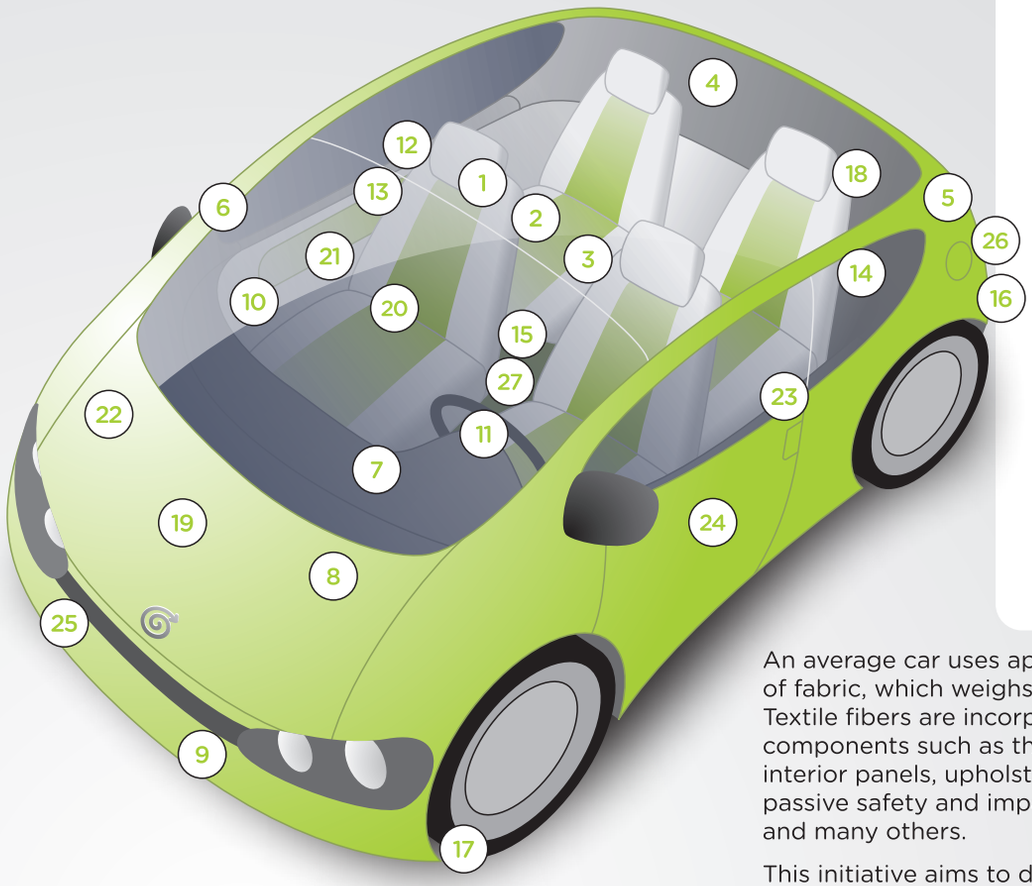
needs

The automotive sector currently generates large volumes of solid waste particularly at the end of the vehicle's life. This makes the substitution of different plastic textile components for others that are more environmentally friendly one of the ways in which the industry is trying to reduce its environmental impact as well as adding new value-adding functionalities to new products.



1. SUN ROOFS
2. ROOFS
3. FOLDING ROOFS
4. SUN BLINDS
5. FUEL FILTERS
6. COLUMN GUARDS
7. TRANSMISSION TUNNELS
8. BATTERIES
9. BELTS AND HOSES
10. COMPOSITES
11. AIR BAGS
12. SEAT BELT ANCHORS
13. SEAT BELTS
14. BOOT LINING
15. BOOT FLOORING
16. EXHAUST PIPES
17. TYRES
18. ROOF INTERIORS
19. BODYWORK
20. SEATS
21. UPHOLSTERY
22. INSULATION
23. WINDOW FRAMES
24. DOORS
25. FILTERS
26. FUEL TANKS
27. FLOOR MATS

An average car uses approximately 40 to 50 m^2 of fabric, which weighs an estimated 9 to 10 kg. Textile fibers are incorporated into many components such as the tires, seat belts, hoses, interior panels, upholstery, sandwich panels for passive safety and impact absorption, composites and many others.

This initiative aims to develop greener materials that have greater recyclability. New synthetic Polylactic acid-based textile fibers will be developed from renewable resources. To these will be added substances that will greatly improve the material's resistance to abrasion, odour absorption and fireproofing.

BIO FIBRO CAR

research

The main objective of the research project is to manufacture textile substrates (woven or non-woven) for vehicle interiors from renewable resource-based synthetic fibres from Polylactic Acid derivatives that can be used as a substitute for the polyester fibres that are currently used. These biofibres must fulfil the same requirements that the fibres used at the moment including thermal resistance.

- Spinning new biodegradable synthetic fibers from PLA-based compounds.
- Improving abrasion resistance with the development of Core-Sheath fibres.
- Reactive extrusion of additivated or functionalized material to obtain biofibres with improved odor absortion and anti-microbial activity
- Fulfil the mechanical requirements for their use in the automotive sector.
- Be completely biodegradable after its life of use according to the standards.
- To develop an understanding of the structural modifications (crosslinking and reactive extrusion process) over the polymers based on PLA.
- Development of new textile from the fibers developed.
- Development of non-woven structures from the fibers developed.

expected products

- New functionalized yarns or threads though the use of new biopolymers functionalized.
- New additives for car odour removal and development of additives with anti-microbial activity
- New biocompounds based on PLA with improved properties and functionalities to be used in the manufacture of fibres for the automotive sector
- New types of fabrics with the biofibres developed in the project, with fire resistant, odour control or higher mechanical properties, using continuous fibres.
- Innovative non-wovens for automotive industry with high added value.