Bio Composites for Structural Automotive Applications

NPSP Composieten Haarlem, The Netherlands
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nabasco
nature based composites

Over 10 years experience in biobased composites.

"*Making beautiful products with natural fibres and biobased resins*"

Advantage: lighter CO2 footprint, cheaper than carbon, comparable specific properties to glass, excellent acoustic property, recyclable, biomass

Replacing oil/carbon/glass based composites with biobased alternatives.
The next step in sustainable lightweight structures for the automotive industry.

Project Outline

Objectives

- **Material analysis** (test battery) of biobased composites (stiffness/fracture/acoustics)
- **Cost reduction** by development of multifunctional production systems for small/medium volume: cutting, draping, finishing, pick-and-place
- Strengthening **international collaboration** between industry and knowledge institutes on sustainable (E-)vehicle production

Result

- Biobased composite parts with **competitive properties** compared to glass (mechanical/thermal) and carbon (thermal)
- New production **automation system** for low cost series
- **Demonstration** of construction parts in series

Project description

1. Choose existing demonstrator product (metal based)
2. Re-engineer into biobased version (hamp/flax based)
3. Optimize form and function (exploit new trade-offs)
4. Minimize number of parts using advanced textile production techniques
5. Develop automated production line
6. Demonstrate biobased construction product

Partners

- Launching automotive customers (Tier, OEM)
- Automotive **engineering**
- Preforming, braiding/weaving, advanced **fibre/textile** techniques
- **Automation** of RTM production
- Composite **assembly**: weld, glue, stitch

Want to join Sustainable Automotive Production?

Contact

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