

EUROPEAN SSUCHY PROJECT UPDATE AFTER 3 YEARS OF WORK

SSUCHY - Sustainable & advanced bio-based composites

3 years after the project launch, the 17 European partners gathered online to review their work & plan for the last year of the project.

The SSUCHY Project is developing composite constituents and materials, based on renewable resources, with notably applications in the transportation and audio sectors. It brought its 17 European partners together online for 2 days of exchanges.

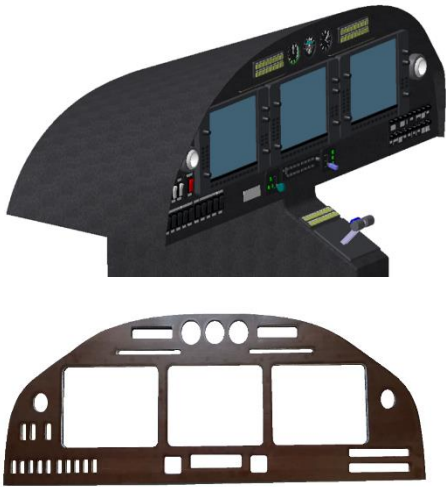
This remote event was the opportunity to share their recent outcomes with great progress noticed on fractionation of wood and hemp shives alongside epoxy/thermosets preparation. A focus was made on the successful implementation European hemp woven reinforcements and the preparation of its first batches of inhouse bio-based composites. Finally, first complete prototypes of a green loudspeaker system and a cockpit dashboard were presented.

Sustainable vibes: The Green Loudspeaker by Wilson Benesch

The "Green Loudspeaker" belonging to Wilson Benesch's Precision Series reached its first complete form! As of Today, it is the first-of-its-kind biobased high-end audio speaker with tangible market possibilities. With great deal of collaborative work, the final demonstrator is composed of an eco-friendly sandwich material notably composed of a woven hemp fabric developed by Linificio & ENSAIT combined with a recycled PET foam. Aesthetic qualities – notably color – are very good and when tested at UFC/FEMTO Institute, it demonstrated better vibro-acoustic performances than the current version of the loudspeaker in both low (< 80 Hz) and high (> 6 kHz) frequencies which is very good news for audiophiles.



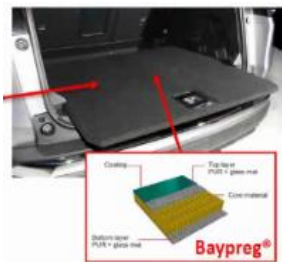
Flying with natural fibers: Electrical aircraft Cockpit Panel by EADCO



The Cockpit Panel for Electrical Aircraft has been entirely designed by two of our partners, of Bristol Composites Institute (ACCIS) and EADCO GmbH. The core of the panel is made of a sandwich composite composed of an epoxy/flax composite the Flaxtape™, recently marketed by the French company Ecotecnilin combined with aerospace-graded foam with a bio-based content of approximately 40% in weight. To our knowledge, SSUCHY's demonstrator cockpit panel is currently the only biobased structural cockpit part to have reached performances compatible with EASA (European Union Aviation Safety Agency) regulations requirements and more specifically the very harsh aircraft specifications and certification rules (CS-23). Objective for the last year of SSUCHY: replace the Flaxtape™ by a woven hemp-based reinforcement treated with a biobased epoxy polymer.

Greener mobility: Biobased Monocoque scooter frame by NPSP and car trunk load floor by Trèves

NPSP is working towards the development and production of an enhanced bio-based monocoque scooter frame. With the help of Bristol Composites Institute (ACCIS), NPSP entirely redesigned a first version of the prototype that was based on the initial scooter containing a steel frame. Notably, they managed to correct local failure by putting in place local strengthening thus reinforcing safety & durability. The overall work lead to a drastic reduction of the expected manufacturing costs compared to the current process while increasing the overall biobased content.



Trèves is targeting weight and noise reduction by developing a hemp-based trunk load floor, as an alternative to a current B-Preg® solution composed of glass fibres, honeycomb and Polyurethane. It is also expected to display better creep resistance at high temperature together with an increased damping capacity. To stay competitive in the automotive market, the new solution had to be fast, simple and compatible with existing production lines. As of now, UFC/FEMTO Institute is finalizing data analysis on the final selected materials.

About SSUCHY*

The SSUCHY project is positioned on the development of composite constituents, based on a renewable resource (*i.e.* bio-based polymers and plant fibre reinforcements) for the development of multifunctional recyclable and/or biodegradable bio-based composites with advanced functionalities for application in different sectors: transportation (ground transportation and aerospace) and high value market niches such as the acoustic and electronics sectors. It is dedicated to the development of specific concepts, technologies and materials to achieve a complete value chain and prove the principle at the scale of product demonstrators.

SSUCHY brings together 17 European partners. Coordinated by the Université de Franche-Comté (UFC/FEMTO Institute), the project will be carried out over 48 months, from September 2017 to August 2021, with a total budget of € 7 411 150, including € 4 457 195 of BBI JU contribution. SSUCHY has received funding from the Bio-Based Industries Joint Undertaking under the European Union's Horizon 2020 research and innovation program under grant agreement No 744349

The 17 European project partners

- 3 industries: Linificio e Canapificio Nazionale Srl (Italy), Nouryon (Netherlands) and Trèves (France)
- 3 SMEs: EADCO GmbH (Germany), NPSP BV (Netherlands) and Wilson Benesch (United Kingdom)
- 10 academic institutions: Université de Franche-Comté FEMTO-ST (France), Chimie Paris Tech – CNRS (France), Ecole Nationale d'Ingénieurs de Tarbes (France), Ecole Nationale Supérieure Arts et Industries Textiles – ENSAIT (France), Université de Bourgogne (France), Università Cattolica del Sacro Cuore (Italy), University of Bristol (United Kingdom), University of Derby (United Kingdom), Katholieke Universiteit Leuven (Belgium), Stockholms Universitet (Sweden)
- One competitive cluster: IAR, The French Bioeconomy Cluster (France)

*SSUCHY: *Sustainable Structural and Multifunctional Biocomposites from Hybrid Natural Fibres and bio-based polymers*

More information:

- SSUCHY website: www.ssuchy.eu
- European Commission website: http://cordis.europa.eu/project/rcn/210573_en.html

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