

## **Sustainable Innovation 2023**

*Accelerating Sustainability in the Creative Economy and Creative Industries*

24th International Conference

Online Conference: 20<sup>th</sup> – 26<sup>th</sup> March 2023

Business School for the Creative Industries

University for the Creative Arts

Epsom, Surrey, UK

### **By-bio-plant based material and Design Opportunities.**

#### **évY Dutheil**

This project emerges from global concerns relating to the use of finite resource materials. There are general issues relating to the environmental harm, the impact and recyclability of using plastics or other intensive materials in terms of sustainability. Within the industry, bio-plant-materials have shown some measurable positive outcomes in terms of lowering the impact, valuing local resources, renewability and low toxicity. We are differentiating biomaterial, interacting with biological systems and by-bio-plant based material which is issued from renewable plant material and by-products from the agro-industry. Today these world problems demand new perspectives, adaptation and should be encouraging students to work on a new typology of 'eco and regenerative' materials. This is important to consider as an alternative resource, new ways of behaviour and a meaningful shift for the future.

An existing current successful use is the adoption of hemp and flax. This project aims to investigate how bio-plant-materials and especially by-product, can be explored to provide a sea of opportunities in place of more commonly used industrially manufactured materials. The process looks at characteristics of the material through manipulation, pedagogical practice, and design thinking approaches. Executed through engaging design masterclasses in an Engineered University, with a mix of marketing and engineering students; connecting their course to their specialist internal research lab focusing on agro-material; this bridge process aims to initiate and familiarise students to these problematics and immerse them in a professional research environment. The challenge was to initiate and develop design outcomes as one of the actions and change their mind-set as future project product manager. Developing stronger network link with prospective mature student in industry and cutting-edge research was one the aim. Circular and systems design thinking to improve the lifecycle of the product or material which were considered and reflected upon.