

BIOCOMPOSITES

Natural composites can find applications in different market sectors such as automotive, construction, maritime, textile and packaging and the markets for composites based on fibres and timber are increasingly finding favour as an alternative to glass fibre in composites. Market expansion, especially for composites employing bioresins, is at present limited by cost of bioresins and the need for pilot scale production of new materials for application testing. Regionally the development of the biocomposites sector is severely constrained by the lack of a large-scale resin production and lack of a biocomposite product development and testing facility. However, since the East of England boasts major capacity in the processing of hemp, flax and other fibre crops, there is a great capacity for processing into composite panels and capacity in biopolymer production.

NATURAL FIBRES IN AUTOMOTIVE:

In vehicles, natural fibres are increasingly finding favour as alternatives to glass fibre in composites. Current automotive use of natural fibres in the EU is estimated at 100 kt per year, equivalent to approximately 7-8 kg per vehicle, but potentially this could grow, even over the short term, and with little technological change, to 12-13 kg. This presents a significant regional opportunity since the East of England boasts major capacity in the processing of hemp, flax and other fibre crops, capacity for processing into composite panels and capacity in biopolymer production.

There is scope to move above 12-13 kg per vehicle with technological innovation and InCrops is working with client companies to facilitate development of products that not only replace synthetic composites but do so with materials that reduce vehicle weight (and thus emissions) and which are derived from low GHG farming systems and supply chains.

NATURAL FIBRES IN CONSTRUCTION:

In construction, recent trends have seen increasing use of hemp-based materials, new fibre insulation products, and finished wood products, and with estimates that the East of England will see 780,000 new homes by 2030, there is considerable regional opportunity for bio-based materials.

InCrops is working with clients to support the development and adoption of modern, environmentally-friendly building materials with excellent energy conservation characteristics, low-carbon supply chains and high-levels of carbon sequestration.

INCROPS PROMOTES THIS SECTOR THROUGH:

- Developing a cluster of regional companies who have expertise in the manufacture and design of natural composites.
- Working on supporting those businesses by leveraging funding to support the infrastructure for natural composite production and to facilitate commercialization.
- Providing business support for the key regional stakeholders in biocomposite sector
- Collaborating with other organisations interested in the development of natural composite sector
- Working closely with national organisations such as the NNFC and Materials Knowledge Transfer Network in identifying the key strategic actions to facilitate the development of this sector.