Sustainable Adhesives for Renewable Materials

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Sustainability is an increasingly important competitive factor as companies are experiencing strong customer demands for transition to sustainable materials. In a joint project, 2D fab is developing renewable adhesives for wood panels and packaging.

Adhesives with graphene have the potential to improve productivity and properties, which allows them to replace fossil-based adhesives. 2D fab want to harness the potential of graphene to develop renewable adhesives for packaging, straws, and wood panels for furniture. In this project, starch and cellulose-based adhesives containing graphene will be used to develop demonstrators.

"Graphene enhanced adhesives have the potential to pave the way for more sustainable products. We are very excited to start this project with our partners – among them a couple of market-leading companies", says project manager Britta Andres.

Results from mixing 2D fab's graphene with starch-based adhesives have shown very good improved mechanical properties and enabled the production of corrugated board to run 30% faster and with lower pressure and lower temperature, which reduced energy consumption. Other positive results include strengthened adhesive joints, faster drying time and a smaller consumption of adhesive needed.

"We have been working with graphene enhanced adhesives for a while now, so we know that it works very well. One of our customers managed to increase production efficiency, reduce costs, and improve quality for various products. We are very positive about this project and can't wait to get started", says Britta.

The project, which is funded by SIO Graphene, includes the entire value chain from raw

material to final product to ensure a rewarding knowledge exchange and good development conditions.

Read the original article on 2D fab.