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Sustainable, highly efficient multicopter

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The sustainable multicopter system is the goal of a current joint project.

Thanks to efficient, bio-based structural designs and a modular construction method, the new aircraft will be significantly more sustainable, lighter and cheaper than comparable conventional systems. The Fraunhofer WKI is therefore developing functional materials, manufacturing processes for molded parts, and suitable coatings for this purpose.

Material classes

For the new multicopter, the following material classes will be utilized:

- laminated materials made from peeled and 3D veneers;
- natural-fiber-reinforced plastics on the basis of thermosets; and
- thermoplastically processable, natural-fiber-reinforced bio-plastics.

Material optimization

For the optimization of the materials, the researchers are conducting diverse tests, thereby addressing such issues as stiffness and strength as well as water absorption and swelling. The developed materials should then be utilized in the production of multicopter prototypes.

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