

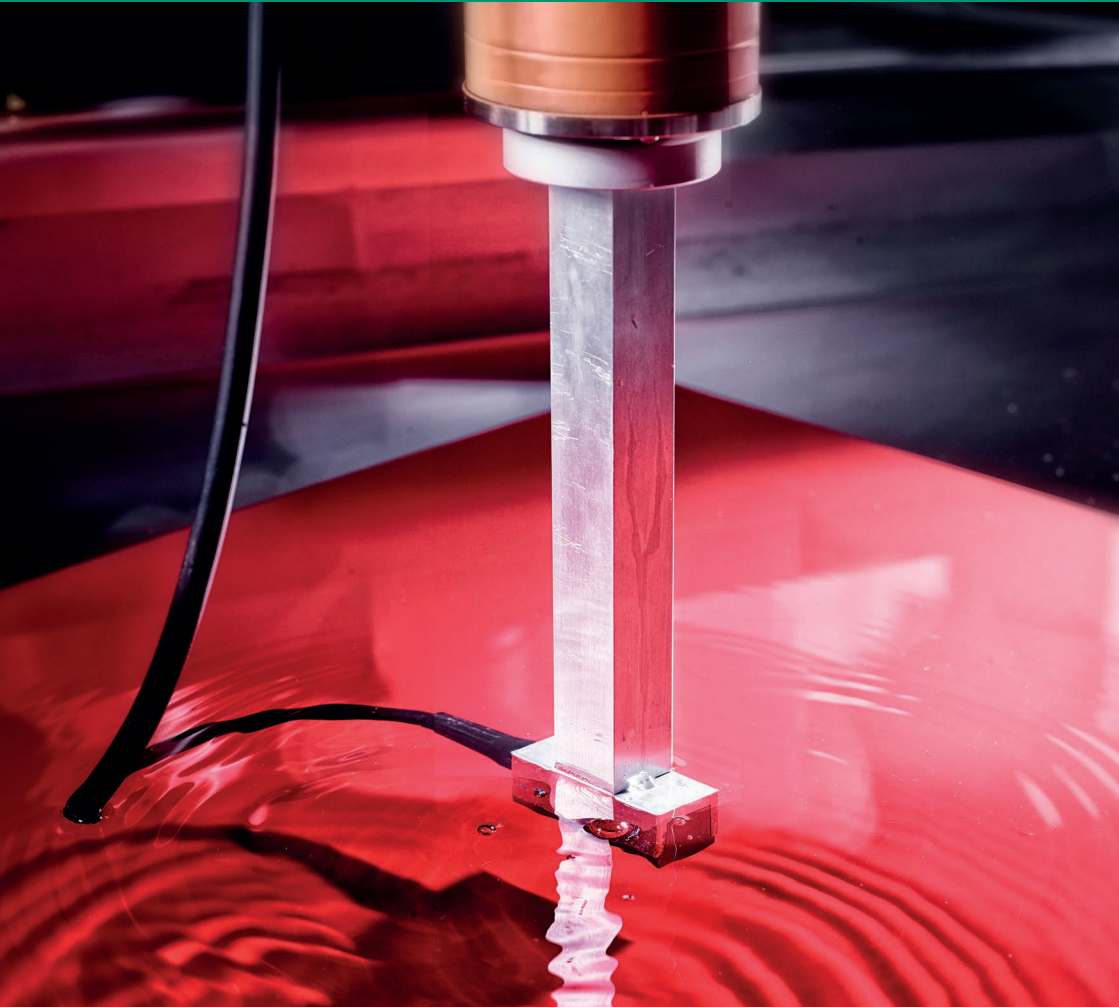


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FRAUNHOFER INSTITUTE FOR NONDESTRUCTIVE TESTING IZFP

COMPLEX GEOMETRIES EFFORTLESSLY TESTED – QUALITY CONTROL FOR COMPOSITE COMPONENTS





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Developed at Fraunhofer IZFP “Sampling Phased Array” technology offers unique features for 3D ultrasound imaging of lightweight components made from fiber-reinforced plastics that find increasing appliances in aerospace and many other industries like wind energy or automotive industry.

The exhibit demonstrates the potential of robot-assisted ultrasound examination for future 3D reconstruction of complex components. The robot-guided ultrasonic sensor head scans the component; volume data basing on the ultrasonic signals are generated simultaneously. After the scanning the volume data can be evaluated reliably, reproducibly and largely automatically according to the component specifications by specific algorithms that are adapted to the inspection problem.

Such a supplement can relieve the test personnel significantly. In the longer term the time-consuming manual interpretation of all data will be avoided completely, speeding up the inspection process with improved reliability.

Advantages of the “Sampling Phased Array” test engineering

- Flexible inspection robotics for complex components
- 3D characterization of fiber composites
- 3D visualization
- Data fusion can be integrated

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