

QuantumDiamonds aims to revolutionizes Semiconductor Testing with Cutting-Edge Diamond Sensor Technology

Munich, Germany - QuantumDiamonds GmbH (QD), founded in November 2022 by Kevin Berghoff and Dr. Fleming Bruckmaier, is pioneering the next wave of advances in the sensor industry with its groundbreaking diamond-based magnetic field measurement technology. QuantumDiamonds specifically aims to transform the semiconductor test market by utilizing the unique properties of diamonds in combination with innovative post-processing techniques.

The core of QuantumDiamonds technology is based on quantum sensing with diamonds to achieve unprecedented resolution (sub-micrometer) and sensitivity (up to 30 pT/√Hz) in magnetic field measurement. In addition, these magnetic fields can be measured non-destructively, vectorially and at room temperature, enabling failure analysis of new complex chip architectures, such as 3D stacked chips connected by through-silicon vias (TSVs), backside-powered chips and other novel system-on-a-chip architectures. It also enables the characterization of novel semiconductor materials such as silicon carbide or gallium nitride.

QuantumDiamonds' vision to industrialize quantum-sensing-based magnetic field measurement on a large scale and at integration-relevant speed therefore promises to equip semiconductor manufacturers with new measurement systems. This technology will not only enable the detection of defects in novel architectures that were previously difficult to analyze, but will also set new standards for quality and efficiency in the semiconductor industry.

By overcoming critical challenges in semiconductor production with its innovative solutions, QuantumDiamonds sees itself as an important component in the development of next-gen chips.

For more information on QuantumDiamonds have a look at our website:

<https://www.quantumdiamonds.de/>

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