

PRESS RELEASE

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Flat force sensors offer new possibilities for data acquisition: Altosens GmbH launches Fraunhofer technology on the market

Whether in the industrial environment, in mobility or at home: "Smart services" require data that is processed and evaluated. Altosens GmbH, a Fraunhofer LBF spin-off from Osnabrück founded in April 2022, offers novel cloud-based force sensors that measure forces where this was previously not easily possible. This allows unexpected service operations to be reduced and therefore systems that are difficult to access to be operated more economically. Such a monitoring system can, for example, increase the profitability of wind turbines, especially for offshore turbines, where on-site maintenance is costly due to difficult accessibility. More information is available from the Altosens team in the Startup Area at Hannover Messe, Hall 17, Booth B 65.

The digital transformation, Industry 4.0 and "Smart Services" pose major challenges for industry. Machine learning and artificial intelligence methods are opening up new opportunities for value creation via data-driven business models. Common to all applications and business models is the use of multi-physical sensor data. In order to obtain relevant data with little additional effort, economically feasible, robust and easily integrable sensors are required.

From scientific research to spin-off company

By research in the field of smart materials, a team of scientists at the Fraunhofer Institute for Structural Durability and System Reliability LBF developed the capacitive DELTA-C® technology. Through an internal Fraunhofer programs for technology transfer, the Darmstadt research team came into contact with Uwe Steinkamp, the now CEO of Altosens GmbH. Together, they planned and pushed ahead with the founding of the startup. Dr. William Kaal, group leader for vibration optimization at the Fraunhofer LBF and co-developer of the DELTA-C® technology: "I am pleased that the founding of Altosens means that a technology developed by us at the Fraunhofer LBF is on its way to be available on an industrial scale and therefore can create benefit for various users. With Altosens as a partner, we can further develop the technology in an even more targeted manner and better support our customers."

Editorial office

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Individually adaptable force sensors for a wide range of applications

After the foundation of Altosens GmbH, a first customer from the logistics/automotive sector could already be won with the Jost-Group, which benefits in particular from the sensor properties "overload capability" and "installation space-neutral integration". With the help of the constantly growing modular system, Altosens is able to realize first prototypes within a few months. Thus, sensor prototypes for various applications in logistics, household and wind turbines have already been realized in the founding year.

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Increasing the profitability of wind turbines thanks to innovative sensor technology

With a force-measuring washer, Altosens plans to increase the profitability of wind turbines by reducing unplanned service operations. Especially for offshore turbines, these operations cause relevant costs due to difficult accessibility. A cloud-based monitoring system with the Altosens force sensors serves as the basis for this. The sensors contain an integrated evaluation unit, which can also provide information about the remaining service life of the structure, bolt prestressing forces, load trends, etc. using the methods of fatigue strength.

More information: <https://www.altosens.tech/> and in der Startup Area of Hannover Messe, April 17 to 21, Hall 17, booth B6. Free ticket: <https://lnkd.in/eg2iAZfC>



The force-measuring washer based on Delta-C® technology from Fraunhofer LBF can be used for monitoring wind turbines. Photo: Fraunhofer LBF, Raapke

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Jointly enthusiastic about innovative sensor solutions: Uwe Steinkamp, Managing Director of Altosens GmbH, Dr. William Kaal and Dr. Sven Herold, Fraunhofer LBF, the co-inventors of Delta-C® technology. Photo: Fraunhofer LBF, Zeidler-Finsel

Fraunhofer LBF in Darmstadt has stood for the **safety and reliability of lightweight structures** for more than 80 years. Today, with its expertise in the areas of structural durability, system reliability, vibration technology and polymer technology, the Institute provides solutions for three of the most important cross-cutting issues of the future: lightweight design, functional integration and cyberphysical mechanical engineering systems. The focus here is on solutions to social challenges such as resource efficiency and emission reduction as well as future mobility, like e-mobility and autonomous, networked driving. Comprehensive skills ranging from data acquisition in real operational field use to data analysis and data interpretation, in addition to deriving specific measures to design and improve material, component and system properties form the basis for this. Customers come from automotive and commercial vehicle construction, railway transport engineering, shipbuilding, aviation, machine and plant construction, power engineering, electrical engineering, medical engineering, and the chemical industry. They benefit from the proven expertise of 400 employees and cutting-edge technology accommodated in more than 17,900 square meters of laboratory and experimental space.

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