**Press release**

**Precision matters: core sensing relies on HBK’s expertise in smart sensory drive shafts**

September 2021  
  
The drive shaft as a key component of the drive units of plants, machines and commercial vehicles is subjected to high loads, especially when used in harsh environments.

Companies perform maintenance work at regular intervals to ensure full operability. The current state of the devices that require maintenance and, thus, their actual need for maintenance are often unknown. As a rule, only in the event of a failure is its cause investigated and only then is the required spare part ordered. This results in unnecessary delays and expensive production losses.

To counter this, the market leader, “Elbe Group”, in cooperation with “core sensing”, has developed an innovative product family of sensory drive shafts. The smart components continuously provide data about their condition. Potential problems can be detected and resolved in time. Cost-intensive downtime is significantly reduced. What many plant and vehicle manufacturers have wished for finally becomes reality.

The intelligence of the next-generation drive shaft is located inside a standard drive shaft. To achieve this, “core sensing” integrated their smart sensors and measuring electronics in the cavity already present in the component. The strain gauges installed in the drive shaft were individually provided by Hottinger Brüel & Kjaer (HBK) and optimally adapted to the application's environmental conditions in terms of geometric dimensions, material and temperature tolerance.

The structurally integrated sensor provides highly precise real-time information about the acting torque directly from the drive shaft. This information enables reliable conclusions to be drawn about the condition of the shaft and surrounding components. Users can, therefore, rely on precise measurement results.

HBK customized and provided the torsional strain gauges installed in the drive shaft for measuring the torque and the T-rosette for measuring the axial force. Therefore, users can rely on precise torque and axial-force data, which are supplemented with a variety of additional measured variables due to “core sensing's” smart solutions for the entire measurement chain.  
  
**End**

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The full case study can be found on the company's website:

<https://www.hbm.com/de/10204/intelligente-sensorische-gelenkwelle-oem-sensoren/>

**About HBK – Hottinger Brüel & Kjær**

The two market leaders, HBM and Brüel & Kjær, have joined forces as HBK – Hottinger Brüel & Kjaer – to form the world’s foremost provider of integrated test, measurement, control, and simulation solutions.

HBK – Hottinger, Brüel & Kjaer – provides a complete portfolio of solutions across the test and measurement product life cycle, that unite the physical world of sensors, testing and measurement with the digital world of simulation, modelling software and analysis. By creating a scalable and open data acquisition hardware, software and simulation ecosystem, product developers can cut time-to-market, drive innovation and take the lead in a highly competitive global marketplace.

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