

## Torque-based solutions for mobile machines

Sensor-Technik Wiedemann (STW) is extending its portfolio with torque sensors by NCTE. The integration into the system environment gives customers improved dimensioning of drive shafts and more accurate regulation of power.

The torque sensors work according to the magnetostriction principle. The rotating shaft is permanently magnetized with the aid of current pulses, and thus becomes a part of the sensor. If the torque changes, this magnetic field also changes in response. "High-resolution magnetic field sensors positioned close to each other detect these changes contactlessly, highly precisely, and reliably on a long-term basis", explains Dr. Jens Müller, Chair of the NCTE Board. The sensors can also be used within a wide temperature range, in areas characterized by strong vibrations, bend and transverse forces, and in environments which require particular protection against dust and water. Here both standard and OEM solutions are offered.

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*A torque sensor by NCTE (Photo: STW)*

For STW (Germany), the torque sensor extends the portfolio already available for pressure, temperature, expansion, inclination, angle, and position sensors. For Dr. Michael Schmitt, Managing Director at STW, this collaboration represents a logical step: "The torque sensor matches perfectly with our philosophy of providing complete solutions for mobile machines in demanding environments". In particular in the agricultural sector, there is a high demand for measurement of the torques incurred by the drive shafts of auxiliary units. For safety reasons, the shafts are frequently over-dimensioned and thus offer savings potential. The torque sensor can also be used for power electrification. The customer also profits from the connection of the sensors to the STW control units.

The data is available in real-time via a CAN network, and can thus be read, saved, processed, and observed further as a manipulated variable via telematics services. STW supports its customers from the draft of a system concept via training and the selection of the individual components or the design of customer-specific products right up to the programming of safety-relevant solutions, prototype construction, and finally the serial production. The solutions by STW in connection with the torque sensors by NCTE are available now.

### About NCTE

The German company develops, produces, and sells sensors which measure mechanical forces (torque, shear, bend forces) contactlessly and therefore in a manner suitable for serial production. NCTE supplies a range of standard sensors in serial production as well as integrated OEM solutions and customer-specific developments.