Surface Acoustic Wave technology provides stable high accuracy wired or wireless strain and temperature measurements for torque and linear strain applications in harsh environments. Passive, non P-N junction measurement provide higher reliability, accuracy, and lifetime than typical powered, electronic foil strain gauge based measurement systems. The Microsystems team at GE Research, in conjunction with Transense Technologies Plc, developed the device integration, system level design, modeling and fabrication methodologies to provide a highly robust sensing solution for challenging military and industrial applications.

GE Research Capabilities
- Increased controllability provided by direct strain for improved operational efficiency and life.
- Minimal impact to rotor dynamics
- System axial lengths of <1” for dual redundant systems
- Shaft diameters from <3” to >3’
- -55°C to 200°C rated system
  (Higher temp offerings under development)
- 28,000 sq. ft. class 100 cleanroom
- ISO 9001:2015 certified
- ITAR compliant

GE Research Offerings
- Device and system level offerings
- System design and packaging integration
- OEM integrated solutions
- Endurance testing and calibration solutions
- DFM/DFR Support
- Supply chain options for all volume needs

All Quartz Packaged RF Strain and Temperature Sensor Die

RF Strain implement in a full dual redundant highspeed torque monitoring

Torque Measurement System Capability
- Better than ±2% accuracy
- Greater than 4kHz measurement bandwidth
- Tested at 150°C for 20,000 MTBF
- System supports > 40,000 g's

For additional information, please contact:

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