

## CASE STUDY

# Safeguarding the reliability of helicopters

Brüel & Kjær's permanently mounted accelerometers were developed in close collaboration with AgustaWestland to monitor helicopter gearbox health on the AW139.

When peoples' lives depend on gearboxes performing even after potential engine failures, the very best in reliability and quality is needed to ensure gearbox health and predict failures. Equally, absolute reliability is vital to eliminate false alerts. And we are proud that our accelerometers for Health Usage Monitoring Systems (HUMS) have been in production for over ten years without a single quality issue.

The design of these HUMS accelerometers is focused on guaranteeing a highly robust and reliable sensor.

- Continuously operates in demanding environmental conditions
- Avoids low- and high-frequency electro-magnetic interference with a double shielded design
- Practical centre-bolt mounting allows any cable direction
- Able to detect bearing failure due to high resonance frequency of 43 kHz

The flight-certified accelerometer was quickly developed using finite element modelling, which allowed consultation throughout the design process and minimal prototyping before the flight certificate approval testing.

### Global supplier

We have the largest sound and vibration sales and support network in the world, and regularly hold local courses and roadshows to facilitate continual dialogue with our customers.

Innovation alongside customers such as AgustaWestland is a vital part of what makes us who we are, and our global network of engineers are always ready with their expertise. Wherever you are in the world, we can help with measurement and analysis problems, installations, software updates, calibration, planned maintenance, repair and rental.

Brüel & Kjær is EN9100 certified.



Type 4511 is immune to dust, humidity, electro-magnetic interference and ground loops.

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