



## PRESS RELEASE

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### **Miniaturised sensor passes in-orbit test on CryoSat-2**

SEA's MEMS Rate Sensor, the smallest gyro ever flown by ESA, was given a guest slot on CryoSat-2 as a flight experiment. So far it has amassed more than 150 days' worth of measurements, which is cross-checked against the mission's regular attitude sensors.

To meet the tight CryoSat-2 schedule, a MEMS experimental unit was rapidly prototyped with simplified interfaces and limited performance. Daniele Temperanza of ESA's Control Systems Division said: "This sensor is based on a new concept, and the flight experiment was very important for proving its feasibility,"

"The CryoSat-2 team offered us this opportunity to gain flight heritage. The satellite's ice measurements rely on knowing its orbital position and attitude very precisely, so we have highly accurate data to check the sensor's performance against."

The sensor design was derived from an existing MEMS gyro already used in millions of cars for electronic stability control. Its evolution for space was backed through ESA's Basic Technology Research Programme and General Support Technology Programme with three UK-based industrial partners: SEA, Selex Galileo and Atlantic Inertial Systems Ltd (part of Goodrich Corporation).

"These CryoSat-2 test results are an important step on the way to getting this exciting new technology working operational., Good as the results are, our new generation of sensors are looking even better for Sentinel-3 and subsequent programmes which will utilise fully developed MEMS gyros, with refined detectors and telemetry interfaces." said Dick Durrant SEA's, project manager for the flight experiment.

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