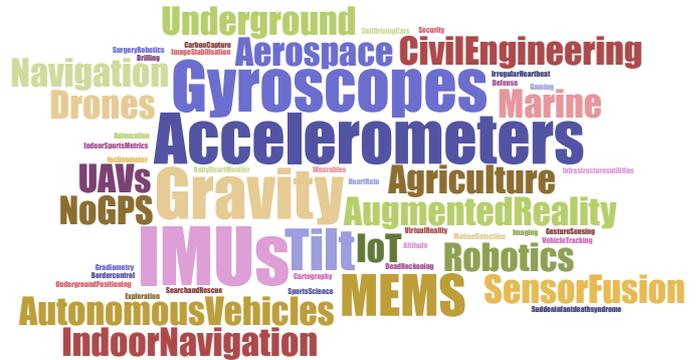


DATASHEET
MEMS Gyroscopes

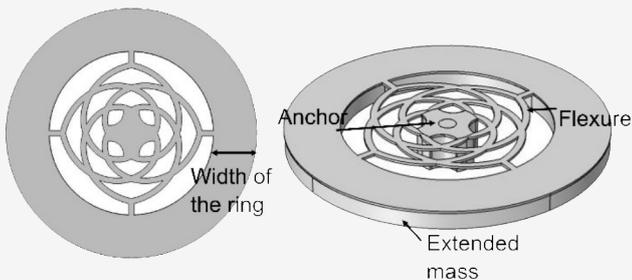
- State of the art MEMS inertial sensors
- A novel design based on a micromachined silicon structure supported by a quatrefoil suspension developed by SMG.
- High mechanical Quality factors > 1 million and high natural frequencies > 100 kHz providing for inherent shock and vibration immunity.
- Gen 1 and Gen 2 products currently under development



	Gen 1 Gyro	Gen 2 Gyro
Range	1600	
Bias Repeatability (°/hr)	0.5	0.1
Scale Factor Repeatability (ppm)	300	150
Angle Random Walk (°/hr)	0.05	0.005
Bias Instability (°/hr)	0.05	0.01
Shock Survivability (g ms)	200 100	
Temperature Range (°C)	-40 to +85	

Application Examples

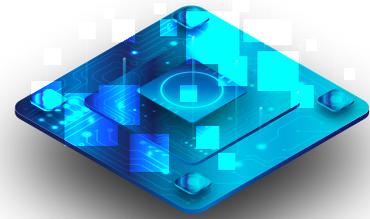
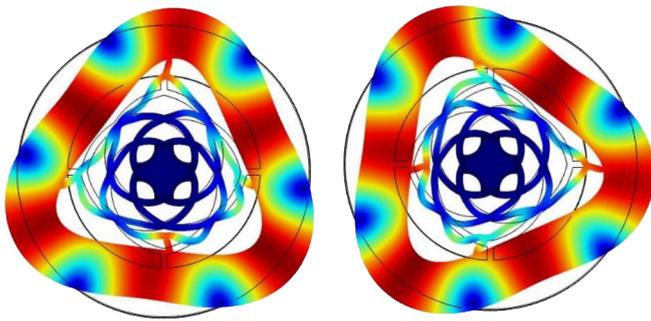
- Autonomous vehicles
- Augmented reality
- Robotics
- Aerospace
- Agriculture
- Sensor fusion
- Search and rescue



Top view and perspective view of the device

- UK based company based near Cambridge
- European manufacturing
- Expertise in MEMS design for gravity and inertial sensors
- Proprietary resonant MEMS technology





- Mode-matched operation to maximize the mechanical scale factor.
- (Above) The secondary degenerate modes of the device illustrated via finite element simulation (COMSOL).
- Example dataset from resonant MEMS Gyroscope
- (Right) Frequency split for different for different tuning voltages, and Scale factor improvement for different frequency split between two modes.
- (Below) Allan deviation plot for the MEMS gyroscope (Left) without mode matching (Right) with mode matching.

