



## Northrop Grumman's Hemispherical Resonator Gyro Marks 30 Million Operating Hours in Space

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WOODLAND HILLS, Calif., Feb. 17, 2015 /PRNewswire/ -- Northrop Grumman Corporation's (NYSE: NOC) hemispherical resonator gyro (HRG), which is used for commercial and military space applications, recently achieved 30 million hours of continuous operation without a single mission failure.

***NORTHROP GRUMMAN***

A photo accompanying this release is available at: <http://media.globenewswire.com/noc/mediagallery.html?pkgid=30788>.

Since February 1996, the HRG has been a vital component of Northrop Grumman's Scalable Space Inertial Reference Unit (Scalable SIRU™) and its predecessor, the Space Inertial Reference Unit (SIRU), which enable the stabilization, tracking and attitude control of spacecraft and satellites.

"Our HRG is considered the gold standard of sensors due to its reliability and performance during critical space missions," said Bob Mehlretter, vice president, Navigation and Positioning Systems, Northrop Grumman Electronic Systems. "Our gyro has consistently demonstrated performance that meets even the most stringent requirements."

The HRG's simple construction makes it highly reliable and naturally radiation-hardened in any space environment. Additionally, the gyro's small size and light weight lends itself to an inertial reference unit form factor that is easily incorporated into a spacecraft's design.

Launched aboard more than 145 spacecraft, the HRG technology has been used in commercial, government and civil space missions for domestic and international customers. The HRG technology is based on scientific observations made more than 100 years ago of a "ringing" wineglass that produces changing sounds depending upon its rate of rotation.

Northrop Grumman is a leading global security company providing innovative systems, products and solutions in unmanned systems, cyber, C4ISR, and logistics and modernization to government and commercial customers worldwide. Please visit [www.northropgrumman.com](http://www.northropgrumman.com) for more information.

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