



## **KVH Fiber Optic Gyros Helping to Keep U.S. Trains on Track**

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### **Lockheed-Martin Incorporates KVH FOGs in its New Positive Train Control System Currently in Development and Testing**

MIDDLETOWN, R.I., March 14 /PRNewswire-FirstCall/ -- Fiber Optic Gyros (FOGs) manufactured by KVH Industries (Nasdaq: KVHI - news) are playing a vital role in the development of a next-generation Positive Train Control (PTC) system intended to improve railway efficiency, reliability, and safety. A critical element in any PTC system is precise knowledge of each train's position and speed. To that end, Lockheed Martin Corporation has under development a train location determination system that combines data from the Global Positioning System (GPS), a tachometer, a track database, MEMS accelerometers, and KVH E\_Core 2000 FOGs to identify where the train is and on which track it is located at all times. KVH recently delivered 32 additional E\_Core 2000 FOGs for Lockheed Martin's ongoing PTC development and testing program.

"The demand for a new PTC solution is being driven by the fact that railway managers need to have precise, real-time information regarding the position and motion of every one of the more than 20,000 locomotives and 550,000 freight and passenger cars in service in North America," explained Jay Napoli, KVH's director of FOG and OEM sales. "However, while GPS is a valuable tool, it is not a complete solution for PTC operations. For example, GPS will be blocked when the train is passing through tunnels or beneath thick foliage. As a result, any PTC system needs a supplemental source of precise data. In the case of the Lockheed Martin PTC system, data from various sources, including KVH's E\_Core FOGs, are combined to provide position, speed, and direction data that is available 100 percent of the time."

E\_Core FOGs use KVH's proprietary polarization-maintaining optical fiber and fiber components and are highly reliable systems with no moving parts to wear out or require maintenance. FOGs provide extremely precise rotational rate information by measuring the phase difference between two paths of light traveling in opposite directions through the optical fiber. Their precision results in part because of their lack of cross-axis sensitivity to vibration, acceleration, and shock.

In June 2000, Lockheed Martin was awarded a \$34 million contract to lead the Illinois Department of Transportation's Positive Train Control Project, a joint initiative of the Association of American Railroads (AAR), the Federal Railroad Administration (FRA), and the Illinois DOT. The PTC system involves the application of advanced technologies -- including digital data communications, accurate positioning systems, wayside interface units, on-board and control center computers, and other advanced display, sensor, and control technologies -- to help manage and control railroad operations.

It is part of a nationwide effort to improve schedule reliability, increase track capacity, enhance safety, and provide the capability for high-speed passenger train service throughout the United States. Certain types of train control systems are required by the FRA for all tracks on which any train will operate at 80 miles per hour or faster. This means that economical, effective train control systems are essential for the success of high-speed rail development in the United States. Similar PTC efforts are also in consideration in the United Kingdom, Canada, Europe, Australia, and Asia.

"Improving the efficiency and safety of our railway infrastructure is vital," Napoli continued. "According to the AAR, railroads operate more than 173,000 miles of track and account for more than 40 percent of all freight transportation in the United States, including 70 percent of all U.S.-manufactured automobiles, 30 percent of the nation's grain harvest, and 65 percent of the coal. Given the demand for increased efficiency, safety, and cost savings, there is the potential for every train in the United States to be equipped with a PTC system."

KVH Industries, Inc., is a leading provider of innovative high-bandwidth communications products. Using proprietary fiber optic and satellite antenna technology, the company is developing next-generation systems with greater precision, durability, and versatility for communications, navigation, and industrial applications. An ISO 9001-registered company, KVH has headquarters in Middletown, Rhode Island, with a fiber optic manufacturing facility in Illinois, and a European sales, marketing and support office in Hoersholm, Denmark.

Statements in this press release regarding future plans, events, performance, and profitability levels are forward-looking statements and are subject to risks and uncertainties that could cause actual results to differ materially. The following are important factors, among others, that should be considered in evaluating any forward-looking statements: the company's actual revenue, sales order levels, overhead rates, expense levels, and audit adjustments during future quarters, general economic conditions, the level of government funding for railroad tracking programs, delays in contract awards, the introduction of new products by, and pricing practices of, the company's competitors, and other risks identified in the company's SEC filings. Actual results may differ materially.

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