



## Photo Release -- KVH's 1750 IMU Key Part of New Augmented-Reality System Developed by Sportvision for TV Golf Coverage

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**The New Technology, Which Enables Labeling and Tracking of Golfers' Targets and Obstacles for Television Viewers, Makes Its Debut Today During FOX Sports' Coverage of the 115th U.S. Open From Chambers Bay**

MIDDLETOWN, R.I., June 18, 2015 (GLOBE NEWSWIRE) -- Golf fans watching televised coverage of the U.S. Open golf tournament will have a new outlook on what the professional golfer is facing, thanks to a camera and augmented-reality tracking system that includes a 1750 inertial measurement unit (IMU) from KVH Industries, Inc., (Nasdaq:KVHI). Called RangeFinder, the system was developed by [Sportvision, Inc.](#), creators of football's Virtual Yellow 1<sup>st</sup> and Ten<sup>®</sup> Line, in conjunction with [FOX Sports](#), and will debut today during the broadcast of the 115<sup>th</sup> U.S. Open from Chambers Bay, in University Place, Washington.

Photos accompanying this release are available at:

<http://www.globenewswire.com/NewsRoom/AttachmentNg/ed32b455-681c-4a3e-b65f-fd2624af90df>

<http://www.globenewswire.com/NewsRoom/AttachmentNg/33a48439-3411-443b-911f-099096c206b2>

At the heart of Sportvision's RangeFinder system is a broadcast-quality camera with a [KVH 1750 IMU](#) mounted in a box at the top of the camera; the IMU works in conjunction with a GPS mounted at the base of the camera. By combining data from the IMU and the GPS, the RangeFinder system enables the measurement of the precise location and attitude of the camera; with that information, Sportvision technicians create augmented-reality graphics that indicate how far away a green, sand trap, obstacle, or any other feature is located.

"We selected KVH's 1750 IMU due to its performance attributes, its size and weight, as well as its cost-effectiveness," says Mike Jakob, Sportvision president and chief financial officer. "We know this IMU well for what it brings to some of our other products, and we appreciate the reliability and high quality."

KVH's 1750 IMU incorporates three axes of [KVH's DSP-1750, the world's smallest fiber optic gyro \(FOG\)](#), with three axes of accelerometer technology to create an advanced 6-degrees-of-freedom sensor. Designed to integrate easily into the most demanding stabilization, pointing, and navigation applications, the 1750 IMU enhances performance at a lower cost than competing systems.

"Our IMUs and other inertial sensors have been used in several of Sportvision's innovative products, including the LiveLine <sup>TM</sup> system for America's Cup yacht racing coverage, and we are thrilled to play a role in this new system for golf coverage," says Martin Kits van Heyningen, KVH chief executive officer.

The RangeFinder system is designed to enhance the television viewer's enjoyment of golf competitions by providing more insight into the setting. "The camera is mounted on a mobile tower that can go vertical 20 feet in the air, and that gives the viewer a really unique perspective of the course," says Ken Milnes, project manager for Sportvision. "With the camera fully instrumented, we can put augmented-reality graphics on the TV screen. We virtually insert a rectangular placard that the TV viewer sees, with a pointer arrow and the yardage to the hole or obstacle."

During the U.S. Open, the RangeFinder mobile camera towers will be positioned on the fairway for a golfer's second or third shot on a particular hole; the intent is to provide graphics on the approach shots to the green, rather than on a drive from the tee. Sportvision and FOX Sports worked together for more than a year to develop the new system.

"For the TV viewer, RangeFinder gives them an angle behind the golfer that they have never seen before," says Zac Fields, vice president for graphics & technology at FOX Sports Media Group. "One of the advantages of any sports telecast is being able to utilize technologies so the viewer can see things that the athlete cannot. RangeFinder is a great example of being able to provide that kind of insight. We tested this technology at a smaller tournament last month and the initial feedback was extremely positive."

KVH's 1750 IMU marries the groundbreaking E•Core <sup>®</sup> ThinFiber technology of KVH's DSP-1750 FOG with very low noise, solid state MEMS accelerometers to create a commercial-off-the-shelf IMU. The 1750 IMU offers exceptional precision in a very small form factor, making it ideal for applications where space is limited, such as unmanned and autonomous systems. The 1750 IMU is one of a series of three IMUs that KVH has developed to address a wide range of demanding applications, including autonomous vehicles; unmanned aerial surveillance, surveying, and mapping; autonomous research and exploration; humanoid robots; and oil and gas pipeline inspection equipment.

*Note to Editors:* For more information, please visit [KVH 1750 IMU](#). High-resolution images of KVH products are available at the [KVH Press Room Image Library](#).

**About Sportvision**

[Sportvision, Inc.](#) is the nation's premier innovator of sports and entertainment products for fans, media companies, and marketers. As sports fans demand richer and fuller entertainment experiences, Sportvision delivers a heightened sports-viewing experience across all forms of media.

Sportvision has received 10 Emmy Awards, including recognition for the Virtual Yellow 1st and Ten<sup>®</sup> Line; three awards for its pioneering advanced media work with NASCAR; and most recently, the George Wensel Technical Achievement Emmy for sailing's LiveLine.

**About KVH Industries, Inc.**

[KVH Industries](#) is a premier manufacturer of high-performance sensors and integrated inertial systems for defense and commercial guidance and stabilization applications, having sold more than 18,000 TACNAV<sup>®</sup> systems and 80,000 fiber optic gyros. KVH is based in Middletown, RI, with research, development, and manufacturing operations in Middletown, RI, and Tinley Park, IL. The company's global presence includes offices in Belgium, Brazil, Cyprus, Denmark, Hong Kong, Japan, the Netherlands, Norway, Singapore, and the United Kingdom.

This release may contain certain forward-looking statements that involve risks and uncertainties. Forward-looking statements include, for example, statements regarding the functionality, characteristics, quality and performance of KVH's products and technology; anticipated innovation and product development; and customer preferences, requirements and expectations. The actual results could differ materially. Factors that may cause such differences include, among others, unanticipated declines or changes in customer demand, due to competitive, economic, seasonal, and other factors. These and other risk factors are discussed in more detail in KVH's most recent quarterly report on Form 10-Q filed with the SEC. KVH does not assume any obligation to update its forward-looking statements to reflect new information or developments.

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