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Trimble Introduces State-of-the-Art Integrated Seismic and Geodetic System for Earth Sciences and Infrastructure Monitoring Applications

ISTANBUL, Aug. 25, 2014 /PRNewswire/ -- Trimble (NASDAQ:TRMB) introduced today an integrated Global Navigation Satellite System (GNSS) reference receiver, broadband seismic recorder and a force-balance triaxial accelerometer for infrastructure and precise scientific applications—the Trimble® SG160-09 SeismoGeodetic system. The SG160-09 provides real-time GNSS positioning and seismic data for earthquake early warning and volcano monitoring as well as infrastructure monitoring for buildings, bridges, dams as well as other natural and manmade structures.

The announcement was made at the Second European Conference on Earthquake Engineering and Seismology (2ECEES) in Istanbul, Turkey.

The Trimble SG160-09 SeismoGeodetic system combines the innovation, reliability and data integrity of both the Trimble and REF TEK brands into a single instrument. The system integrates seismic recording with GNSS geodetic measurement in a single compact, ruggedized package. It includes a low-power, 220-channel GNSS receiver powered by the latest Trimble-precise Maxwell™ 6 technology and supports tracking of both GPS and GLONASS signals plus the Galileo E1 frequency.

The system includes both the SG160-09 and utilization of Trimble's CenterPoint™ RTX™ correction service, which provides on-board GNSS point positioning. Based on Trimble RTX technology, the service utilizes satellite clock and orbit information delivered over cellular networks or Internet Protocol (IP), allowing cm-level position displacement tracking in real-time anywhere in the world. The SG160-09 system will be available for purchase without the RTX correction service for those applications using real-time kinematic (RTK) positioning.

The seismic recording sensor includes an ANSS Class A, low-noise, force-balance triaxial accelerometer with the latest, low-power, 24-bit A/D converter, which produces high-resolution seismic data. The internally built accelerometer has +/- 4g full scale output, large linear range, high resolution and sensitivity, which makes it ideal for both portable and permanent deployment. The SG160-09 processor acquires and packetizes both seismic and geodetic data and transmits it to system operators using an advanced, error-correction protocol with back-fill capability providing data integrity between the field and the processing center.

The SG160-09 system is ideal for earthquake early warning studies and other hazard mitigation applications, such as volcano monitoring, building, bridge and dam monitoring systems. The SG160-09 system features a variable size industrial grade USB drive to support real-time telemetry data transmission. In the event of a telemetry link outage, the data is stored on the USB drive and can be re-transmitted to the centralized processing station as soon as the communication link comes back up, allowing no data loss during the system operation.

The Trimble SG160-09 system is optimized for field use with instrument mounted or externally mounted GNSS antenna configurations. The lightweight yet rugged SG160-09 consumes very little power and can be used for projects with remote connectivity and in extreme weather conditions. Because the SG160-09 combines both GNSS and strong motion in a single instrument, site installation time is reduced, data communications flow through a single pathway, and station power infrastructure is streamlined, making the SG160-09 a cost competitive solution compared to other systems on the market today. It has an IP67 rating, which means it is sealed against dust and can be submerged in water up to a meter for approximately 30 minutes. The SG160-09 also meets MIL-STD 810F standard for drops, vibration and temperature extremes.

"The SG160-09 is another example of Trimble's on-going focus in GNSS and seismic technology for the scientific and engineering communities," said Ulrich Vollath, general manager for Trimble's Infrastructure Division. "Trimble has developed a combined state-of-the-art GNSS receiver with a high-dynamic range, low-noise accelerometer that provides dynamic monitoring with the flexibility required for today and tomorrow's challenges."

The Trimble SG160-09 SeismoGeodetic system is expected to be available in the fourth quarter of 2014. For more information, visit: www.trimble.com, call 1-800-767-4822 (U.S. only), +1-303-323-4111 (outside of the U.S.) or email: Infrastructure_Sales@Trimble.com.

About Trimble

Trimble applies technology to make field and mobile workers in businesses and government significantly more productive.

Solutions are focused on applications requiring position or location—including surveying, construction, agriculture, fleet and asset management, public safety and mapping. In addition to utilizing positioning technologies, such as GPS, lasers and optics, Trimble solutions may include software content specific to the needs of the user. Wireless technologies are utilized to deliver the solution to the user and to ensure a tight coupling of the field and the back office. Founded in 1978, Trimble is headquartered in Sunnyvale, Calif.

For more information, visit: www.trimble.com.

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