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Trimble Launches New Portfolio of Wireless IoT Sensors for Water Monitoring

Battery-Powered Sensors Leverage LoRa Wireless Technology for Low-Power, Long-Range Communications

NEW ORLEANS, Sept. 26, 2016 /PRNewswire/ -- Trimble (NASDAQ:TRMB) introduced today its Telog® 41 Series of wireless, battery-powered sensors for water monitoring applications. These new Internet of Things (IoT) sensors use innovative, low-power, Long-Range (LoRa® technology) wireless communications to remotely measure and monitor water, wastewater and groundwater systems including water pressures, flows, levels and rainfall volumes.

As part of a smart water infrastructure, the Telog 41 Series wireless sensors work in combination with Telog cloud-hosted and on-premise software to allow utilities to more easily and economically deploy wireless monitoring. The sensors extend across a utilities existing monitoring programs for better tracking, measurement and reporting of water usage, sanitary and combined-sewer overflows (CSO/SSO) and flooding, leakage and non-revenue water (NRW). The sensors can be deployed to enable utilities to address many of the significant challenges they are facing due to drought and water shortages, storm events and flooding, budget constraints and environmental regulations.

The announcement was made at the 2016 Water Environment Federation Technical Exhibition and Conference (WEFTEC).

LoRa for Smart Water IoT Applications

The Telog 41 Series sensors leverage LoRa technology to operate on LoRaWAN™ wireless networks that are being deployed globally to support a variety of IoT and smart cities applications. LoRaWAN is a Low-Power, Wide Area Network (LPWAN) specification intended for wireless, battery-operated sensors or "Things" in regional, national or global networks. The LoRaWAN wireless specification enables seamless interoperability among IoT sensors without the need for complex local installations to enable the rollout of IoT applications such as the monitoring of water pressures, water levels, rainfall and metered flow volumes. It has been adopted by network providers across the U.S., Europe and Asia.

"The IoT for water enables a step change in operational efficiency, compliance and sustainability for the water industry," said Adrian Newcombe, business director of Trimble's Telog solutions. "With the Telog 41 Series of IoT sensors, utilities now have the ability to monitor areas of their network that would have been cost prohibitive to reach in the past. And with the ability to wirelessly report data at resolutions down to five minute intervals, water managers have much deeper visibility into their operations. This is essential for enabling utilities to transform how they operate their distribution and collection networks."

Telog 41 Series Solutions

The Telog 41 Series includes five new wireless IoT sensors that monitor key measurements of water, wastewater and groundwater systems, including water system pressures, levels, flow and rainfall. The sensors communicate the data using LoRaWAN technology to Telog software at intervals between five minutes and 24 hours. Using Telog cloud-hosted or on-premise software, utilities have full access to Telog 41 Series monitoring data, including alerts and alarms and advanced analytics and reporting.

The Telog 41 Series include:

- **Pressure Monitoring:** The Telog PR-41 Pressure Recorder provides utilities with visibility of their water system pressures ensuring that they can operate the network to meet customer needs, regulatory requirements and manage NRW.
- **Level Monitoring:** The Telog WL-41 Level Recorder allows utilities to monitor water levels of underground aquifers, reservoirs and water towers, ensuring that they have a real-time view of the water resources available and stored within their network.
- **Flow Monitoring:** The Telog MTU-41 Meter Telemetry Unit enables utilities to monitor water flows in their system by collecting the values from a flow meter register and reporting the computed interval flow volume. The Telog MTU-41 ensures that the utility has an up to date view of flows, while improving efficiencies with the elimination of manual reads.
- **Pulse/Event Monitoring:** The Telog PE-41 Pulse Event Recorder enables the monitoring of meter devices such as

flow meters within the network. By retrofitting the Telog PE-41 to existing mechanical meters (e.g. flow meters) in the network, the utility can gain near real-time data on parameters such as flow that were not previously possible, while driving efficiencies by removing the need for manual reads.

- **Rainfall Monitoring:** The Telog RG-41 Rain Gauge allows utilities to continuously gather data on rainfall within their service area. The Telog RG-41 monitors the output of a tipping bucket rain gauge and reports the rainfall intensity so utilities can understand the intensity and distribution of rainfall and its potential impact on their network.

Key common features of the Telog 41 Series remote monitoring sensors include:

- Low cost relative to traditional cellular remote monitoring products, allowing utilities to deploy sensors in higher numbers and to distribute them throughout their distribution and collection networks
- LoRaWAN IoT wireless technology ensuring that sensors call in at high frequency while still retaining long battery life (four to seven years)
- Configurable alerts and alarms for automated event detection and reporting
- Powered by a single, user-replaceable C-size lithium battery; no need for on-site power and simple to maintain
- Small size, rugged and easy to install
- Compatible with Telog cloud-hosted and on-premise software

For more information on the Telog 41 Series and other hardware and software solutions for smart water monitoring, see: www.telog.com/Products/LoRaWAN.aspx.

Availability

The Telog 41 Series is expected to be available in the fourth quarter 2016 from Trimble's Telog Authorized Partners and Distributors.

About Trimble's Water Division

Trimble's Water Division specializes in field and office solutions for GIS mapping and work management, field data collection, design and inspection, wireless monitoring and network management for water, wastewater and stormwater utilities, manufacturers and service providers around the world. Trimble's solutions integrate advanced positioning, sensors and mapping technologies with software and hardware to automate utility mapping, design, construction and field operations, enabling increased productivity, enhanced regulatory compliance and improved customer service and response. In 2015, Trimble acquired Telog Instruments, Inc., which now operates as a Trimble company within the Trimble Water Division. Telog Instruments was founded in 1984 and is a leader in wireless water infrastructure monitoring and management sensors and software solutions. For more information about Trimble's Water solutions, visit: www.TrimbleWater.com.

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About Trimble

Trimble is transforming the way the world works by delivering products and services that connect the physical and digital worlds. Core technologies in positioning, modeling, connectivity and data analytics enable customers to improve productivity, quality, safety and sustainability. From purpose built products to enterprise lifecycle solutions, Trimble software, hardware and services are transforming a broad range of industries such as agriculture, construction, geospatial and transportation and logistics. For more information about Trimble (NASDAQ:TRMB), visit: www.trimble.com.

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