

Quebec's Ministry of Transportation uses a wireless system from Newtrax Technologies in its instrumentation to speed up data acquisition of bridges and overpasses.

Based on innovative Newtrax Wireless Mesh technology, the solution increases efficiency and enables instrumenting larger structures.

MONTREAL, Quebec – December 18, 2007 – Faced with a significant increase in the number of structures, including major bridges, in need of instrumentation for structural analysis, the Quebec Ministry of Transport (MTQ) came to Newtrax Technologies inc. to improve one of its data acquisition systems. The current data acquisition equipment was based on highly sensitive analog seismic sensors wired with hundreds of meters of cabling. The time involved transporting, setting up, and then repacking these cables at every test site was a serious burden and generated a significant workload. These issues had to be resolved to meet the increased demand within a reasonable timeframe.

Increasing efficiency and enabling instrumentation of large structures

Newtrax took the seismic sensors currently used by the MTQ and integrated them into a completely self-contained battery-powered wireless solution which is more secure and significantly easier and quicker to deploy and subsequently take down at the completion of testing. "Handling, installing and repacking the sensors used to take as much as a full day of work when we were working with the cables. This is significant considering we usually only spend two or three days in the field at each structure. Newtrax's wireless system eliminates that delay and more inspections can be completed using the same resources", said Jean-François Laflamme, Instrumentation Engineer from the Structures Directorate, the MTQ's structural analysis expert unit.

In addition to the optimization of time MTQ engineers spend in the field, the wireless solution enables data acquisition on larger structures such as the Pierre-Laporte Bridge in Quebec City, the longest main span suspension bridge in Canada. According to Mr. Laflamme, the instrumentation of a structure longer than a kilometer would not have been possible with the existing wired system. The new wireless system will allow the MTQ to complete these tests with easier handling and deployment of the sensors and without having to worry about the signal noise cables pick up over such long distances.

Leveraging Newtrax's Wireless Mesh

Newtrax's wireless mesh products are designed for harsh environments without access to grid power outlets. The solution delivered to the MTQ leverages the following strengths:

Ad hoc multi-hop network with extended range

Newtrax's wireless mesh protocol supports networks with numerous hops between the gateway and leaf nodes. Some client installations currently operate with as many as 30 hops between the gateway and the furthest node. No central network coordinator is required for the network to form by itself.

Time synchronization with millisecond precision

Data acquired at high frequency by the numerous seismic sensors must be synchronized with very high precision for correct analysis. Newtrax's wireless mesh protocol delivers accurate time synchronization between all devices.

Open architecture

The wireless devices can easily interface with standard sensors, including the seismic sensors used by the MTQ. System output is unchanged so engineers use the same data analysis software.

Intuitive graphical user interface

Engineers use an intuitive graphical interface to quickly and easily configure all sensor parameters and trigger data acquisition sessions.

For more information about Newtrax's wireless solutions, please contact us directly or visit <http://www.newtraxtech.com/en>.

About Newtrax Technologies – www.newtraxtech.com

Founded in 2002, Newtrax Technologies Inc. is a privately owned company with headquarters in Montreal, Canada. The company's vision is to provide the most reliable, user friendly and cost effective solutions for monitoring, control, messaging and tracking in harsh environments without grid power outlets. Solutions provided by Newtrax are based on its advanced wireless mesh/FHSS networking protocol and RF-based motion and proximity sensor. Newtrax's technological advantages include low installation costs of large networks, access to new applications in dynamic or hazardous environments where wires are not an option and range extension with multiple hops. The company's intellectual property portfolio includes several patents pending and industrial secrets.

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