

Increase Environmental Data Accuracy & Availability with LoRaWAN[®]

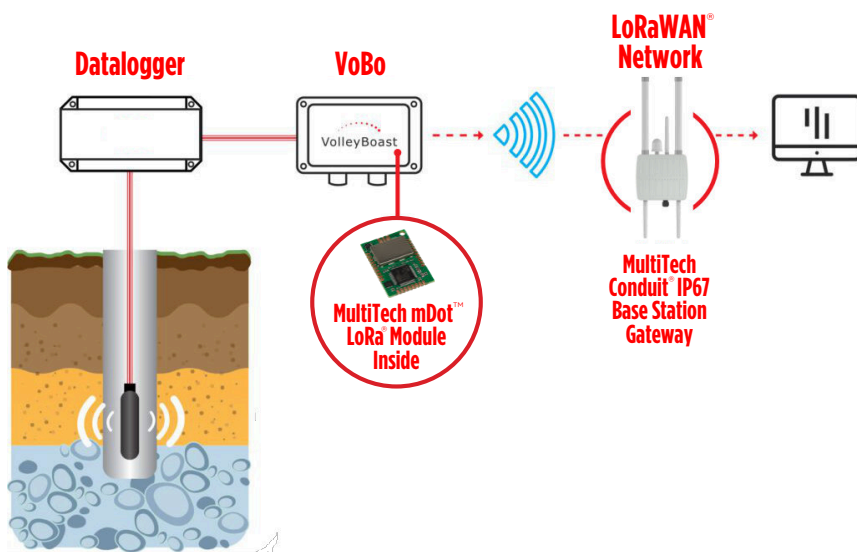
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Challenge

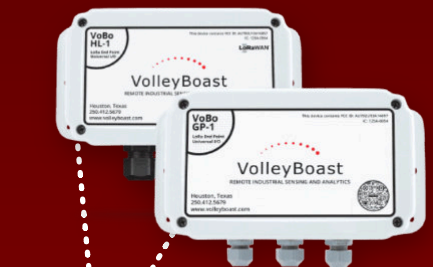
In the mining, construction, and environmental monitoring industries, data acquisition is critical. The accuracy and availability of the data can have a significant effect on the success of the project. Manually downloading data periodically from a datalogger does not always provide the timely insight that is needed. The Volley Boast VoBo GP-1™ (safe area) and HL-1™ (hazardous area) devices, containing the MultiTech mDot™ LoRaWAN[®] module, are innovative LoRaWAN endpoints that have established themselves in the world of data collection, particularly in the ability to read a wide range of sensors. The VoBo GP-1 & HL-1 enables robust, long range wireless communication between vibrating wire data and a LoRaWAN network.

Solution

1. **Volley Boast VoBo GP-1 & HL-1:** This robust LoRaWAN endpoint serves as a bridge between sensors, dataloggers, and a LoRaWAN



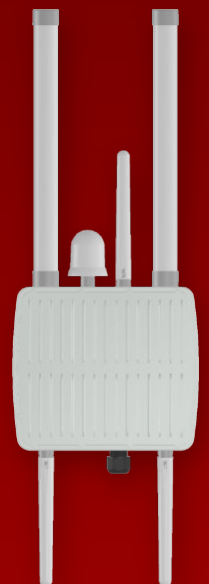
Solution



**Volley Boast
VoBo GP-1
& HL-1**

**MultiTech
mDot™ LoRa[®]
Module
(inside)**

**MultiTech
Conduit™ IP67
Base Station
Gateway**



network. It's designed to seamlessly integrate with a wide range of sensors and transmitters with a variety of protocols, offering unparalleled flexibility and compatibility. In this application, the Modbus input channel is used to read register data on the datalogger.

2. MultiTech mDot™ LoRaWAN® module:

The module is integrated into the VoBo and provides the processing power and LoRaWAN connection to the network.

3. Datalogger: The datalogger supports various sensors, provides data acquisition capabilities and in this case functions as a Modbus slave.

4. Vibrating Wire Sensors: These sensors are commonly used for measuring various parameters such as strain, pressure, and temperature. They work based on the principle of detecting changes in the frequency of a vibrating wire to determine the property being measured.



Benefits

The integration of the Volley Boast VoBo GP-1 & HL-1 with a datalogger opens a world of possibilities for real-time environmental monitoring, geotechnical engineering, structural health monitoring, and beyond. Some applications include:

- Monitoring water level and pore pressure.
- Monitoring of slope stability and landslide risk.
- Measurement of soil moisture and temperature profiles.
- Monitoring of structural integrity in civil engineering projects.

Summary and Outlook

In the world of mining, construction, and environmental monitoring, having access to reliable, accurate, and timely data is essential. The VoBo GP-1 & HL-1 is a powerful tool for collecting and transmitting sensor data read from dataloggers. With its wide compatibility, plug-and-play LoRaWAN integration, real-time monitoring capabilities, and robust data transmission features, the VoBo GP-1 & HL-1 is changing the way data is collected, analyzed, and utilized. As the push for data increases, innovative devices like the VoBo GP-1 & HL-1 play a crucial role in shaping the future of data-driven solutions.

“The mDot LoRaWAN module and processor enables the VoBo to deliver the features, versatility, and performance our customers have come to expect in Volley Boast products.”

*Paul Clepton
VP of Business Development
Volley Boast*