DATA TRANSMISSION MODULE SENDS WATER LEVEL TO TWITTER

Flood Warning in Murr per Tweet by IoT Gateway DATAEAGLE 7000

DATAEAGLE 7000
TWEETS IN REAL-TIME

The water level of the river Murr in Ludwigsburg, Germany is measured with a real-time monitoring system to inform the people about flood events.

According to the water level the measuring and transmission interval is adjusted automatically and sent to Twitter. In case of a flood the data is transmitted in real-time without delays.

https://twitter.com/BrueckeMurr
Twitter: @BrueckeMurr

http://portal.dataeagle.de
Login: pegelstand_murr_bruecke
Password: dataeagle7000

The system consists of a water level sensor and the IoT Gateway DATAEAGLE 7000. The data is sent via cellular radio and is capable of autonomous operation as a battery is integrated.

APPLICATION

Sudden flood events with a high risk potential increasingly belong to everyday life of people living or working directly at rivers and streams. Even though avoiding events caused by the weather themselves is impossible, a prompt flood warning would be extremely helpful for residents of respectively flood-prone waters. Unfortunately, there is either not a sufficient number of conventional early-warning systems available or they primarily send their warning signals to authorities or organizations such as e.g. fire brigade or Technisches Hilfswerk (German Federal Agency for Technical Relief), and not directly to the persons concerned. A further aggravating aspect is that wired warning systems are often damaged by flood und signal transmission is disrupted or even fails completely. Remedy may be found here using wireless, radio-based flood warning systems such as for example offered by Schildknecht AG with the IoT (Internet of Things) Gateway DATAEAGLE 7000. Utilizing mobile radio in combination with a cloud portal provides further advantages for users.

CHALLENGES

Flood warnings are the more effective and helpful the more directly they achieve the exposed persons. A further challenge is that flood must not impair early-warning mechanisms and their transmission routes. Moreover, they must be "intelligent" enough for being able to formulate warnings in a plain text in accordance with the situation and understandable for all. Furthermore, it is necessary to transmit information about water levels of the areas affected by flood in real-time and without delay, since sometimes just a few hours may be decisive for the exposed persons. Warning systems with DATAEAGLE 7000 comply with all those requirements.
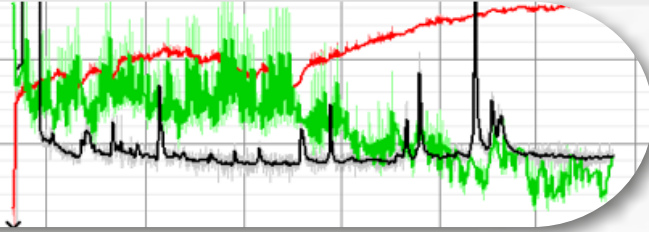
SOLUTION

The DATAEAGLE 7000 Gateway of Schildknecht AG features a firmly integrated, universal SIM card for using about 400 mobile radio networks in all over the world, with the most powerful network at the location automatically being selected. This involves particularly high availability of the radio path in the event of potential network fluctuations. The network then transmits the flood warning signal directly to a cloud or a portal also developed by Schildknecht AG where data is analyzed in corresponding graphical representation and with a well understandable text warning message being created. At the input side, DATAEAGLE 7000 provides different interfaces for sensor signals, such as for a signal of battery-operated ultrasound distance sensor for defining water levels. Such a sensor was also applied at a water level site at the Murr river (district Ludwigsburg): Measurement values are identified by the sensor, sent to the cloud or Schildknecht portal by DATAEAGLE 7000 by mobile radio, where they are processed and made available for further utilization. "Further utilization" may mean both retrieving information by interested parties using internet-ready devices, as well as – in the event of an alert – immediate forwarding of a flood warning message by Tweet. This is how everyone can easily follow the corresponding information channel about water levels on Twitter for free.

RESULT

The solution described above for a flood warning system using the IoT Gateway DATAEAGLE 7000 is applicable for warning systems of any kind: The large range of signal inputs at the radio module provides high flexibility when recording sensor signals; the automatic dial-in in mobile communications networks secures data transport into the cloud, and the portal positioned there provides for immediate transmission of warnings – for example by Twitter to the group of people concerned.

"The IoT Gateway DATAEAGLE 7000 can be used for various sensor data transmission and can be used self-sufficiently as it comes with an integrated battery. In addition, it can be upgraded at any time for larger tanks, without the need for a specific infrastructure because it works with mobile radio".

Elena Eberhardt, Business Development & Marketing Manager, Schildknecht AG

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