

Hydro-Logic® Level Logger Provides Citywide Flood Warning For Singapore

Project profile

Objective

In the face of increased flooding due to climate change, Singapore's Public Utilities Board (PUB) needed to replace a system of outdated data loggers and improve its citywide flood alert network.

Solution

The ATEX-certified Hydro-Logic® Level Logger 300Ex provided a safe, robust and reliable smart monitoring solution capable of operating effectively in Singapore's harsh, confined sewer network.

Situation

Built on an island at the southern extremity of peninsular Malaysia, the city state of Singapore faces unique water management challenges.

Densely populated and constrained by water on all sides, its sewer network is under pressure from both increased use and climate change.

Singapore's sewers are a well-established part of the city's drainage network, which responds rapidly to storm rainfall, and the city has a long history of flooding.

Problem

Sewer flooding had worsened over the last 10 years due to the increasing incidence of intense short-period monsoon storms caused by climate change. As a low-lying island, the worsening flooding problem was affecting many different parts of the city.

Singapore's national water agency, the Public Utilities Board (PUB), wanted to monitor stormwater runoff in the sewer network in order to activate alarms at three different levels of severity, in order to provide early warning of floods to residents and responders.

The PUB had installed a network of over 650 ATEX-certified GPRS 2G loggers in 2012, but many of these needed to be upgraded with 3G modems as the local 2G network was being converted to 3G.

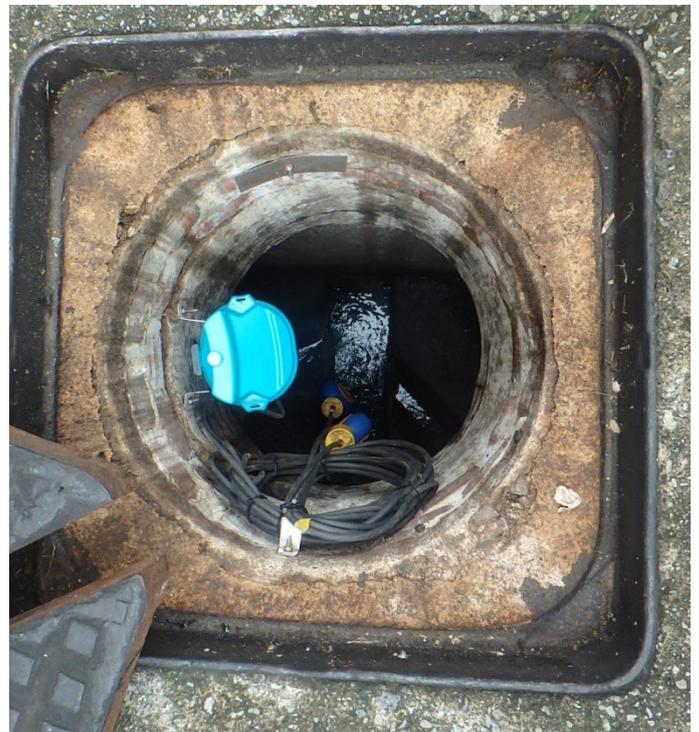
Product profile

Hydro-Logic® Level Logger 300Ex

Remote Smart Monitoring system designed for use in harsh and confined environments.

- Remote water level monitoring
- Automated alerts and warnings
- Long battery lifetime, low maintenance
- GPRS 3G modem
- ATEX-certified

With such a large distributed network, any replacement needed to be robust, with long battery lifetimes and little to no maintenance requirement.



The Hydro-Logic® Level Logger 300Ex is ATEX certified for use in harsh environments such as sewers

Solution

PUB instructed ECO Field Services to source a replacement monitoring system, and ECO approached Hydro International's Hydro-Logic® Smart Monitoring team, with whom they had worked before.

The Hydro-Logic® team recommended the ATEX-certified Hydro-Logic® Level Logger 300Ex, which is designed to operate in harsh and confined environments such as combined sewers and CSOs.

The logger operates on either 2G or 3G mobile networks, and can transmit data from beneath either a metal or concrete manhole cover.

Hydro-Logic® Solutions Director Rod Hawnt worked with engineers Tim Campbell and Jamie Drummond to ensure that over 400 units were tailored to meet the customer's specification, tested and manufactured for delivery on time and within budget.

As part of the project the team also developed a custom SMS-based alarm system specifically for the PUB and ran a successful trial to demonstrate the reliability and effectiveness of the system.

Outcome

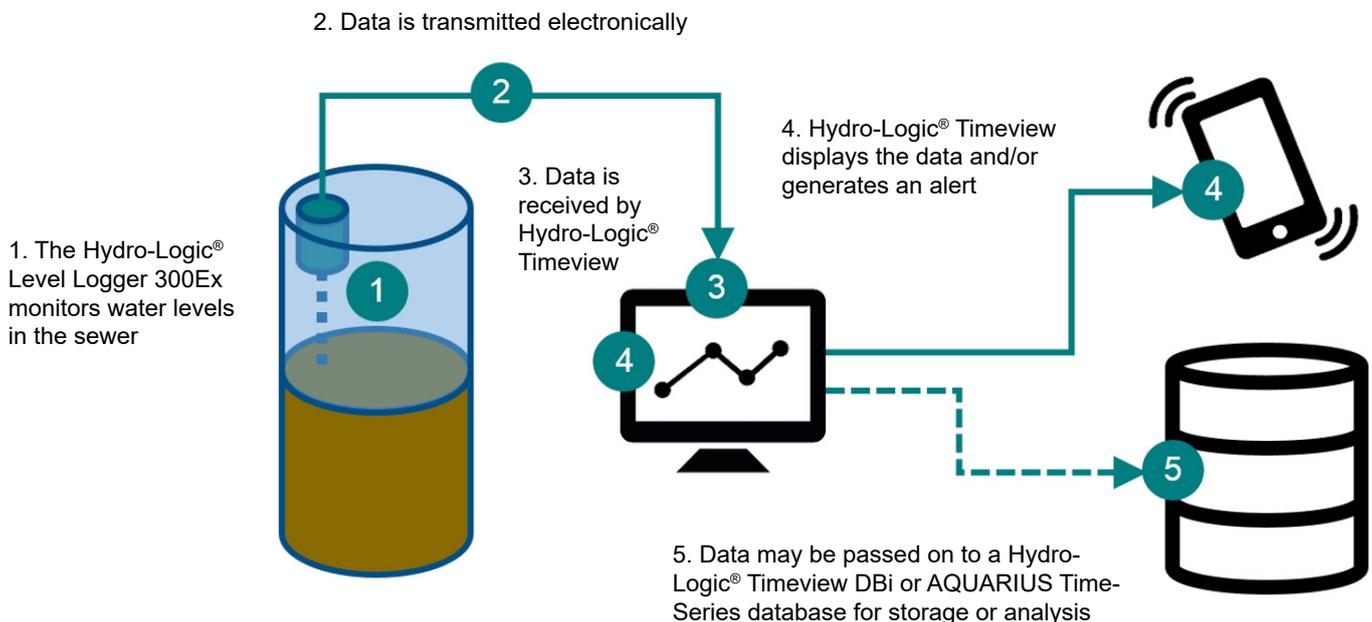
The system was delivered and installed by ECO Field Services between October 2016 and February 2017, enabling the PUB to make it operational on schedule in March 2017.

The network has been delivering automated flood warning alarms successfully since installation, and is a critical data gathering component to complement the PUB's interactive online map of surface water monitoring stations.

“ The most important aspect of the project is the reliable unattended operation and delivery of flood warning alarms in very hostile confined space conditions in sewer manholes, without the need for regular maintenance or battery swaps. ”

- Rod Hawnt

How it works



Learn more

To learn more about how the Hydro-Logic® Level Logger can help you to monitor water levels even in challenging environments visit hydro-int.com, search **Hydro-Logic Level Logger** online or contact us:

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