

Case Study

PRO-ACTIVE MONITORING TO REDUCE FLOODING AND POLLUTION EVENTS IN SUSCEPTIBLE AREAS



INTRODUCTION

Detectronic introduced the LIDoTT sensor on a trial basis to one UK water utility who was experiencing frequently surcharging chambers within its tidal catchment. Following a successful trial in the harshest tidal catchment, the water utility purchased 200 LIDoTT sensors and data loggers to be installed in hotspot areas within the sewer network.

OBJECTIVE

- Achieve reduced sewer flooding and pollution incidents by monitoring known areas that are prone to incidents.
- Receive early warnings on issues such as blockages allowing them to attend sites for rectification before sewer flooding/ pollution incidents occur.

PLANNING & IMPLEMENTATION

The sites were selected in areas which had suffered from flooding/ pollution incidents in the past. Detectronic field services surveyed the sites for suitability, installed the equipment where possible and sought alternatives for any

sites considered unsuitable (e.g. access issues, none comms, etc.).

Data from the LIDoTT sensors is transmitted to the cloud and stored within our software platform. Access logins are provided for the clientData charts and site information can be viewed on our online platforms.

Our software platform, DetecAnalytics, uses machine learning to predict what the levels in the chamber should be at certain times and during certain weather conditions (i.e. if it's raining expect higher levels in the chambers). This prediction allows a bandwidth of certainly and if the levels in the chamber pass through the bandwidth for a set period (e.g. half an hour), an autonomous email alert is sent to both Detectronic and SWW.

Detectronic have set different alert priorities depending on the type of alarms and duration. For example, if the level in the chamber rises above a certain threshold point (high level point or CSO spill point) and outside of the predicted level bandwidth, this will be classified as a higher priority than if the level is outside of the bandwidth but below the threshold point. This allows the user to determine between potential partial blockages which won't cause a potential pollution incident for x period compared with a full blockage which requires attention ASAP and allows them to resource accordingly.



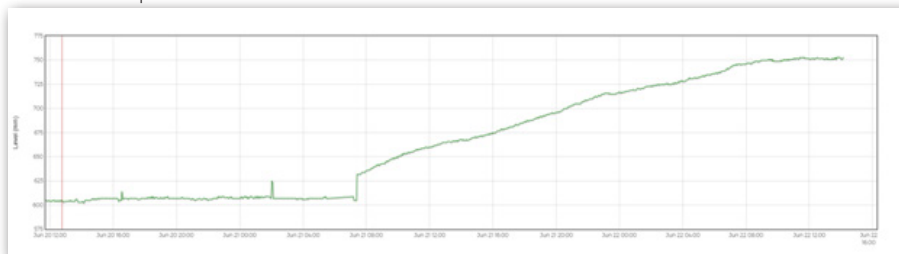
RESULTS

5 Intervention reports between 21/5/2021 and 16/08/2021 were issued to the client which identified blockages.

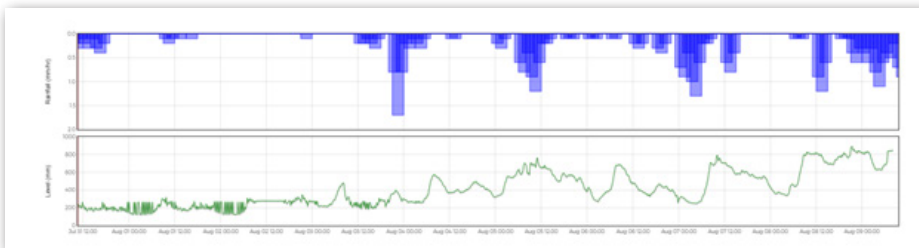
With these reports, the client was able to schedule site visits ahead of any pollution event and remove the blockage.

Had these sites not been monitored, the client would have been unaware of the issues which could have resulted in properties flooding or pollutions into local watercourses and costly fines from the Environment Agency.

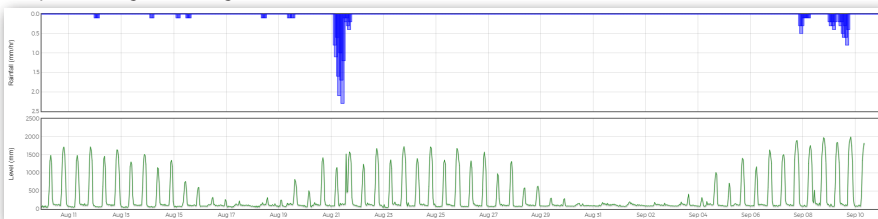
Example data charts below:



Graph showing level increases in the chamber



Graph showing increasing levels



Graph showing LIDoTT installation with Tidal influences



Products and Services

- LIDoTT® Level Sensor
- MSFM Lite data logger
- Data screening
- Field services



Regent St
Whitewalls Industrial Estate
Colne
Lancashire
BB8 8LJ

+44 (0)1282 449 124
sales@detectronic.org
www.detectronic.org