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Case Study

SEWER NETWORK LEVEL MONITORING IN SINGAPORE

INTRODUCTION

Over the past 18 months Detectronic has partnered with three Singapore based companies to deliver Smart sewer network monitoring solutions. Detectronic combined its latest sewer level monitoring technology, the LIDoTT sensor, with its partners telemetry products, software and site services to provide innovative solutions for the Singaporean Water Authority, PUB.

PUB have been searching for a smart sewer network sensor which reliably monitors level under the extremely challenging conditions of their wastewater network. Historically, the PUB has faced considerable wastewater management challenges such as widespread sewer blockages due its non-combined sewers and high FOG's. With current minimal and simplistic sewer level monitoring, identification and rectification of these blockages has been very difficult resulting in considerable financial and environmental impact due to the flooding of private/public land and property. To address this, PUB aim to install 2000 sewer level devices across the entire network during 2021/2022.

OBJECTIVE

PUB's objective has been to deploy accurate and reliable sewer level sensors at scale across their sewer network. The monitors must provide consistent data streams on sewer hydraulics to assist with long term sewer blockage and flooding detection/prevention managed by their operations teams.

Other technologies have been considered for this scheme previously including simple switch devices, ultrasonic only sensors and radar. However, the LIDoTT's combined ultrasonic and depth sensor with patented seamless transitioning is the preferred solution due to its novel technology, which overcomes the limitations of traditional sensors and its low cost making this approach financially viable.
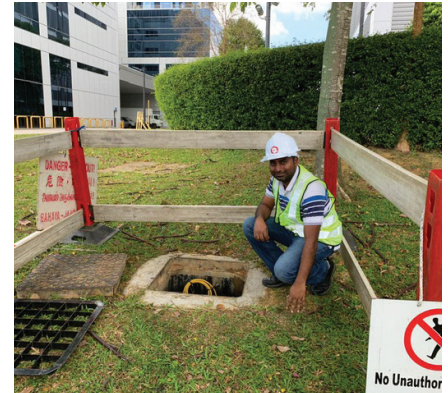
PLANNING & IMPLEMENTATION

Detectronic manufactures the LIDoTT Sensor technology at its UK headquarters and provides a complete technical support service to its partners throughout the long-term monitoring program in Singapore. Detectronic has been committed to ongoing collaboration with its partners to ensure the water authority receives the highest quality of data for the entire lifespan of the sensors. The smart network monitoring project is to last indefinitely with up to 2000 monitors being added to additional catchments over the coming year. The project is currently in phase 1 with 20 sensors being successfully deployed which is being followed by 200 sensors in phase 2 and ramping up delivery to meet the customers monitoring targets.

RESULTS

20 LIDoTT sensors have been deployed successfully within the Singapore sewer network. The client has been able to effectively monitor the critical points in network where these sensors have been deployed for hydraulic anomalies, blockages and flooding. This has greatly benefited the customer by offering them invaluable advanced warning of impending pollution incidents and enabling them to proactively respond to anomaly alarms greatly improving their abilities of reducing public and environmental impact.

Leela Krishna Sriramula of Space Age Labs, Singapore at an installation site

Products and Services

- LIDoTT sensors
- Product and data integration with customers telemetry
- Training
- Technical support

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