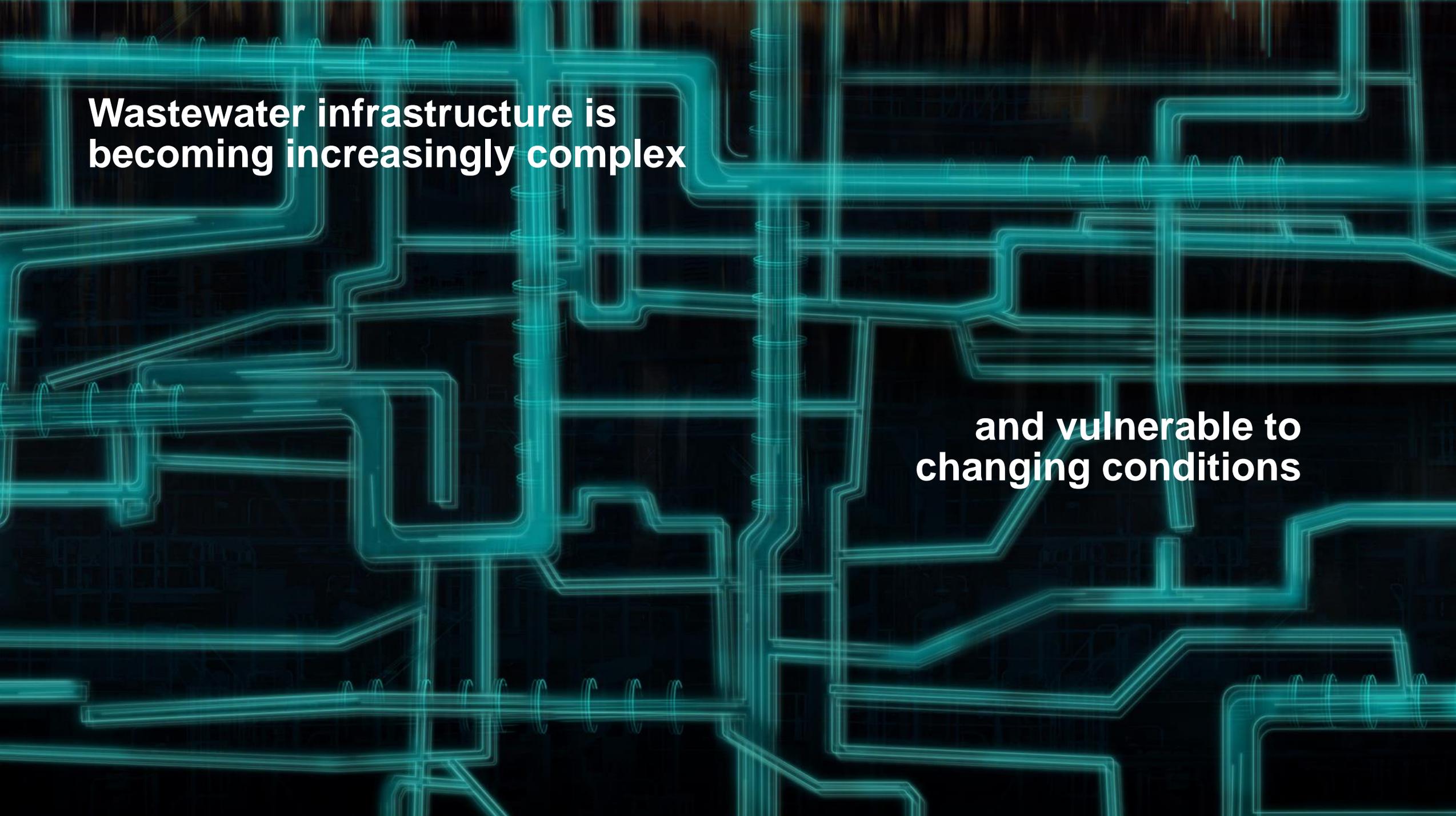


# Prevent blocked sewers using AI

Aquasuite SEWR

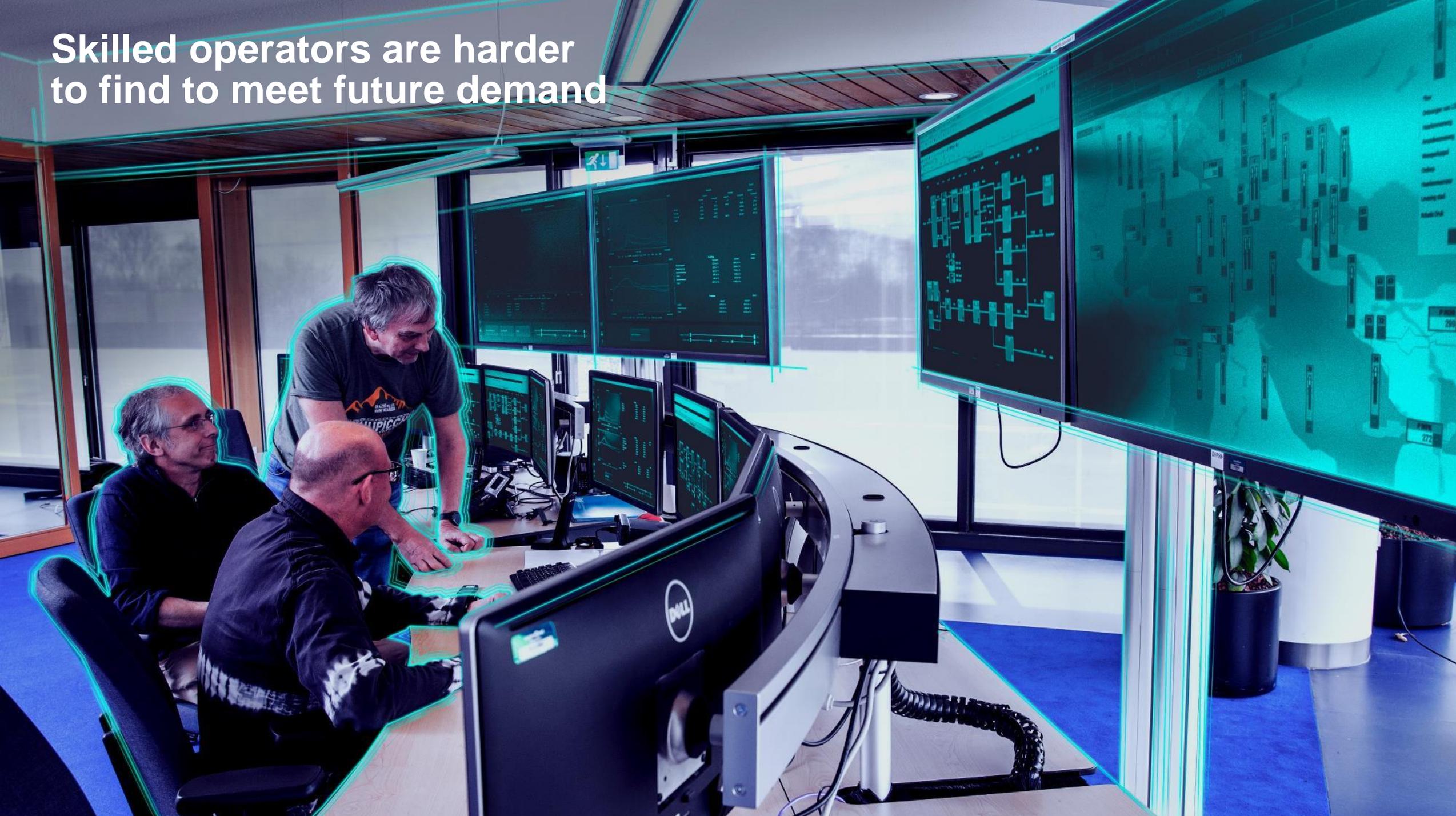




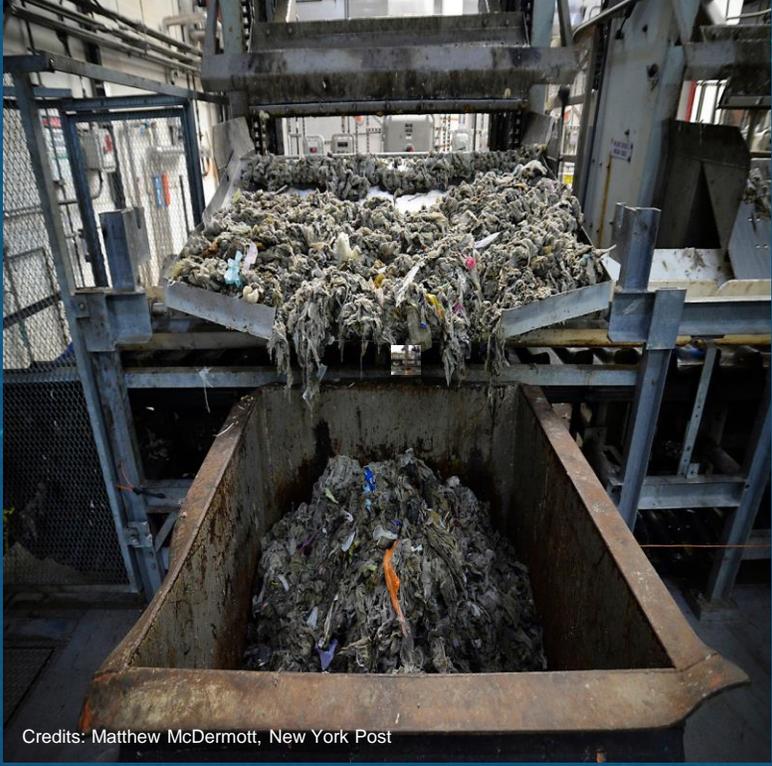
**Wastewater infrastructure is  
becoming increasingly complex**

**and vulnerable to  
changing conditions**

**Skilled operators are harder to find to meet future demand**



# Sewer blockages lead to big problems...



# And even bigger complaints and expenditure

*Raw Sewage Flooded Their Homes. They Finally Know Why.*

**Severn Trent in plea as firm attends 3,000 reports of sewer flooding or blockages in last fortnight**

**Fatbergs can cost millions to remove each year.**

**'Horrendous' - Villagers unable to take bath after sewer floods road**

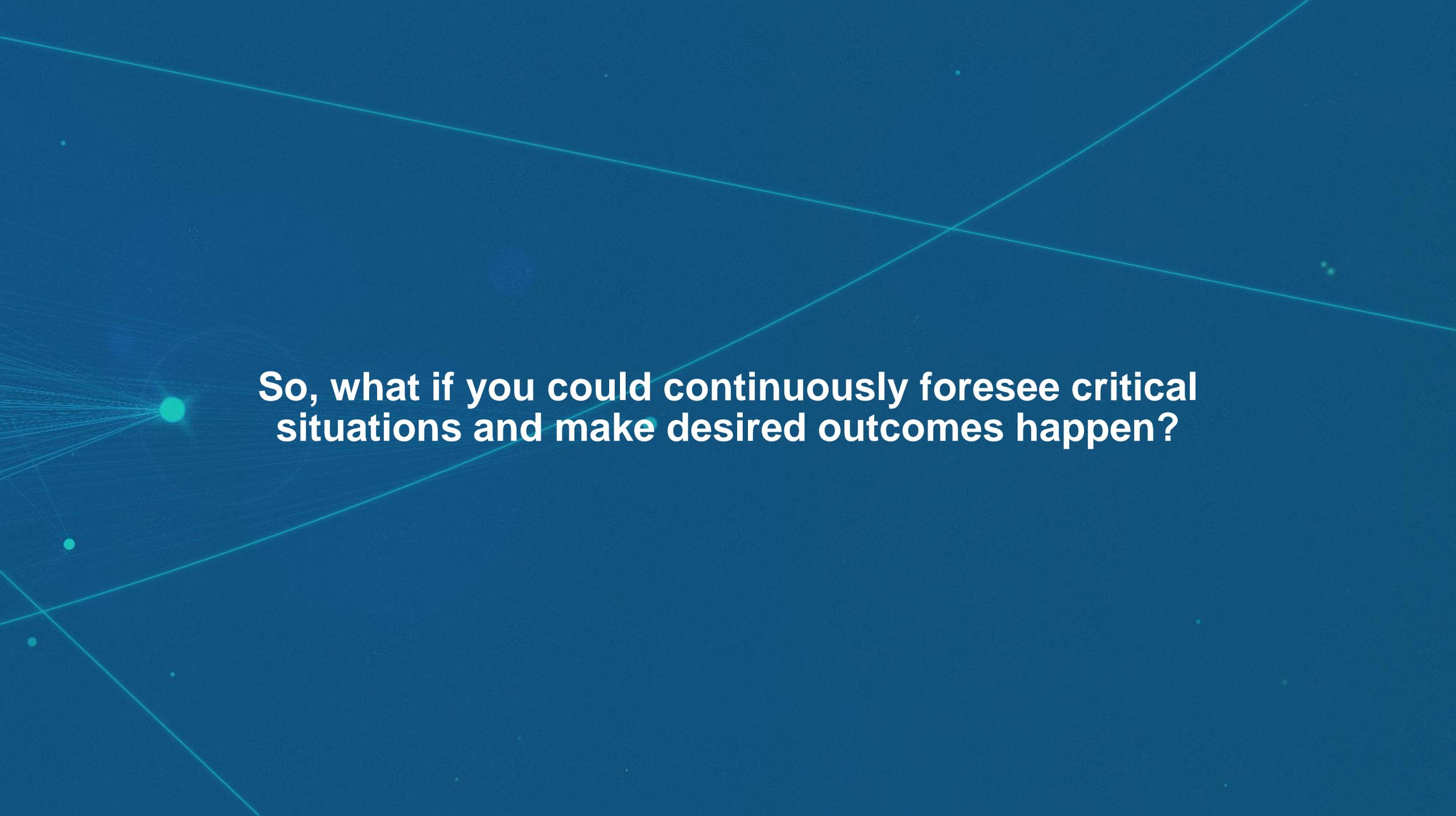
PUBLISHED: 16:13 06 December 2019 | UPDATED: 14:49 10 December 2019 | Daniel Hickey





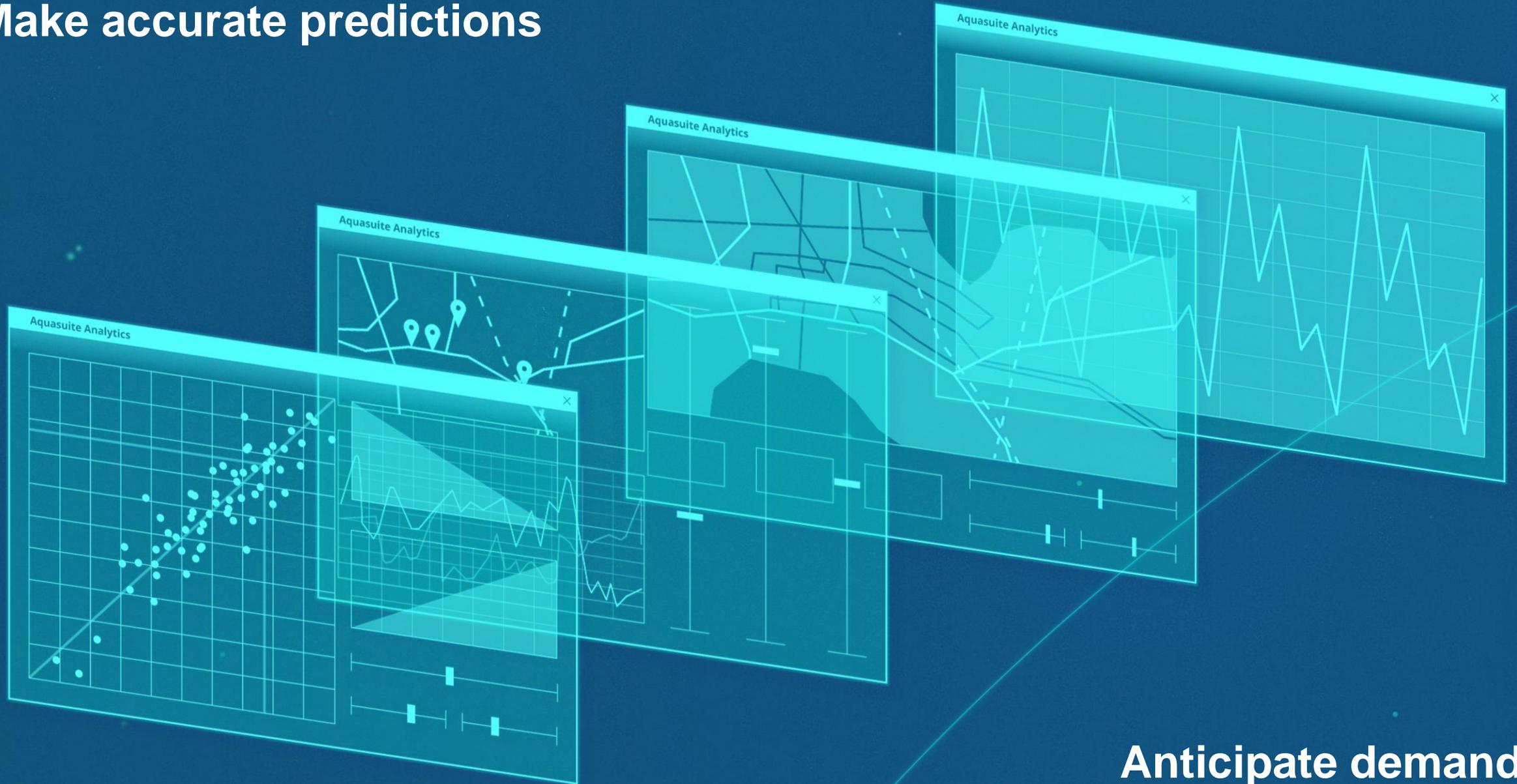
However...

**IoT and ever-growing data flow  
brings great opportunities for  
better management of your  
wastewater infrastructure**

The background is a solid dark blue color. It features several thin, light blue lines that intersect and cross each other across the frame. There are also several small, glowing light blue dots scattered throughout, with a larger, more prominent one on the left side. The overall aesthetic is clean, modern, and tech-oriented.

**So, what if you could continuously foresee critical situations and make desired outcomes happen?**

**Make accurate predictions**



**Anticipate demand  
and changing conditions**

**Bring together good data & AI to get ahead of events..**

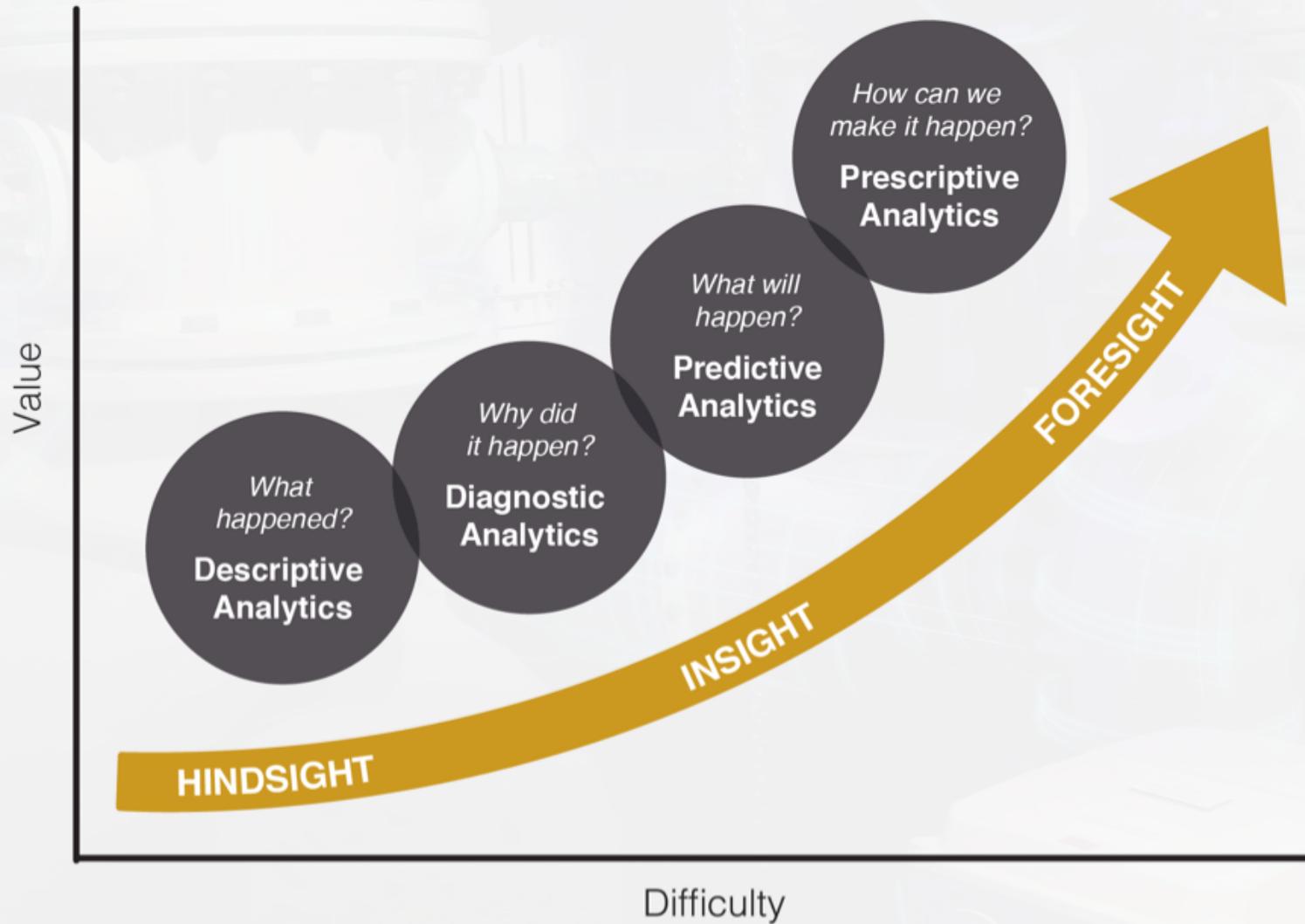
**..tackle changes before they become problems**

# Good data & inputs

Good level data can be used as inputs to AI models

- Accurate data
- Patterns become evident in the data



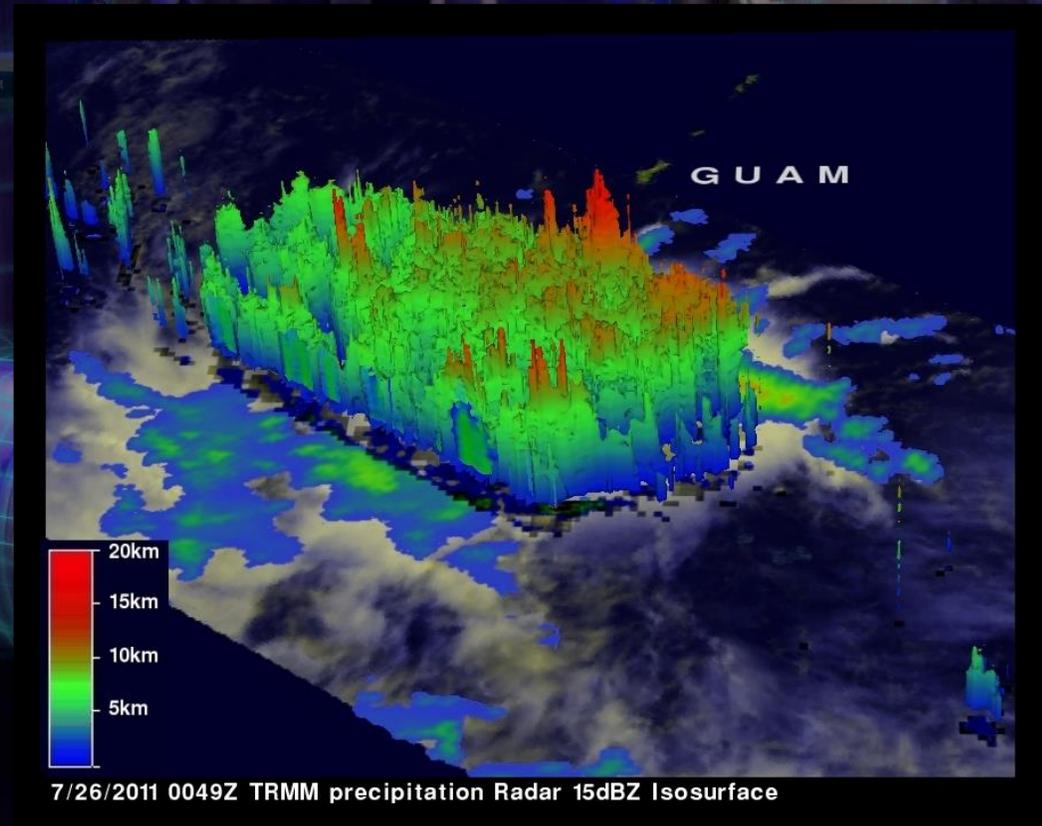


# Using AI in sewers is a challenge..

The majority of sewers are combined systems.

Level is based on:

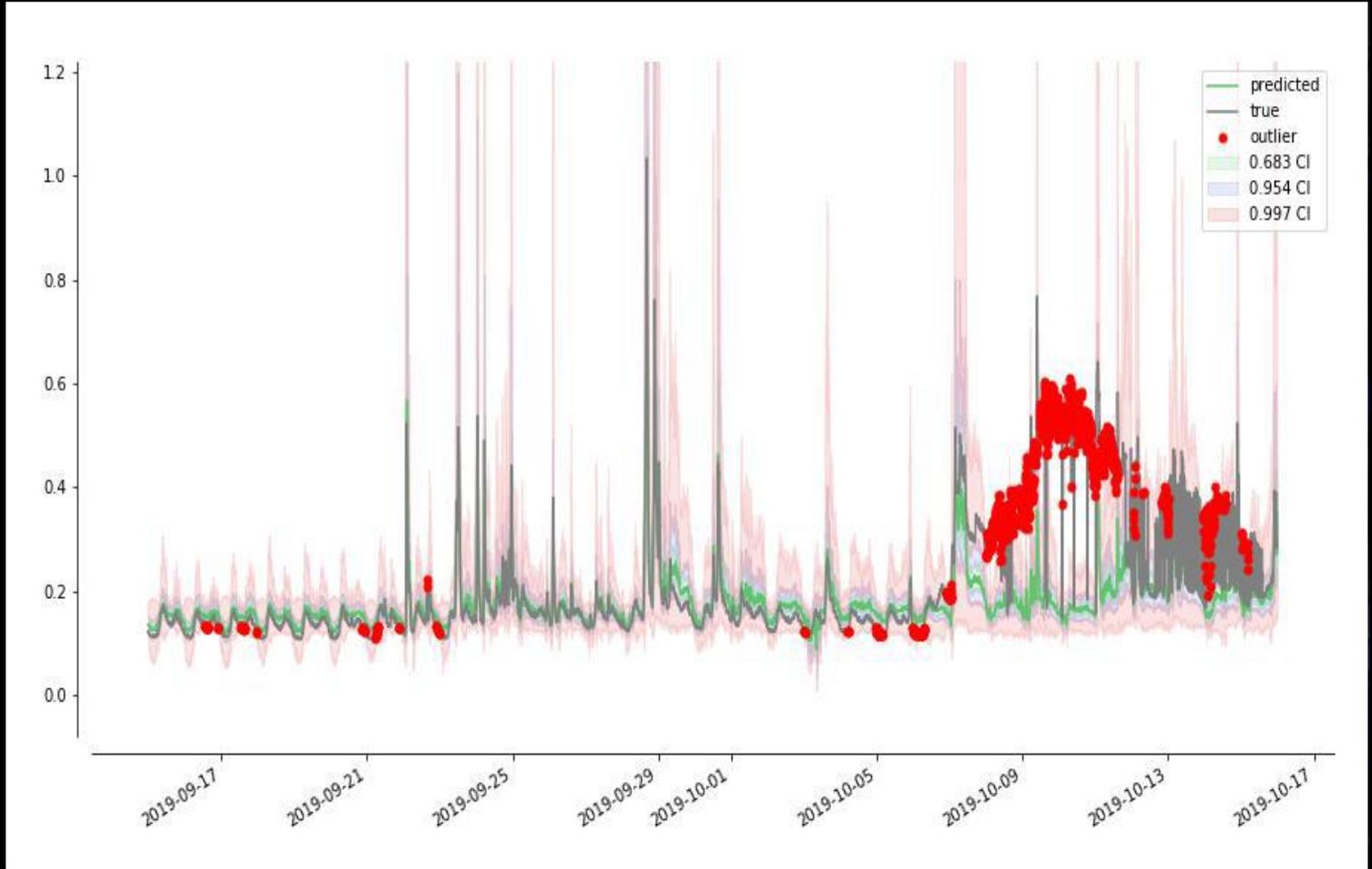
- Human input
- Rainfall



# Neural networks..

Neural networks are able to combine the historical data, catchment wide data & rainfall to produce predictions

- Predictions drive insights

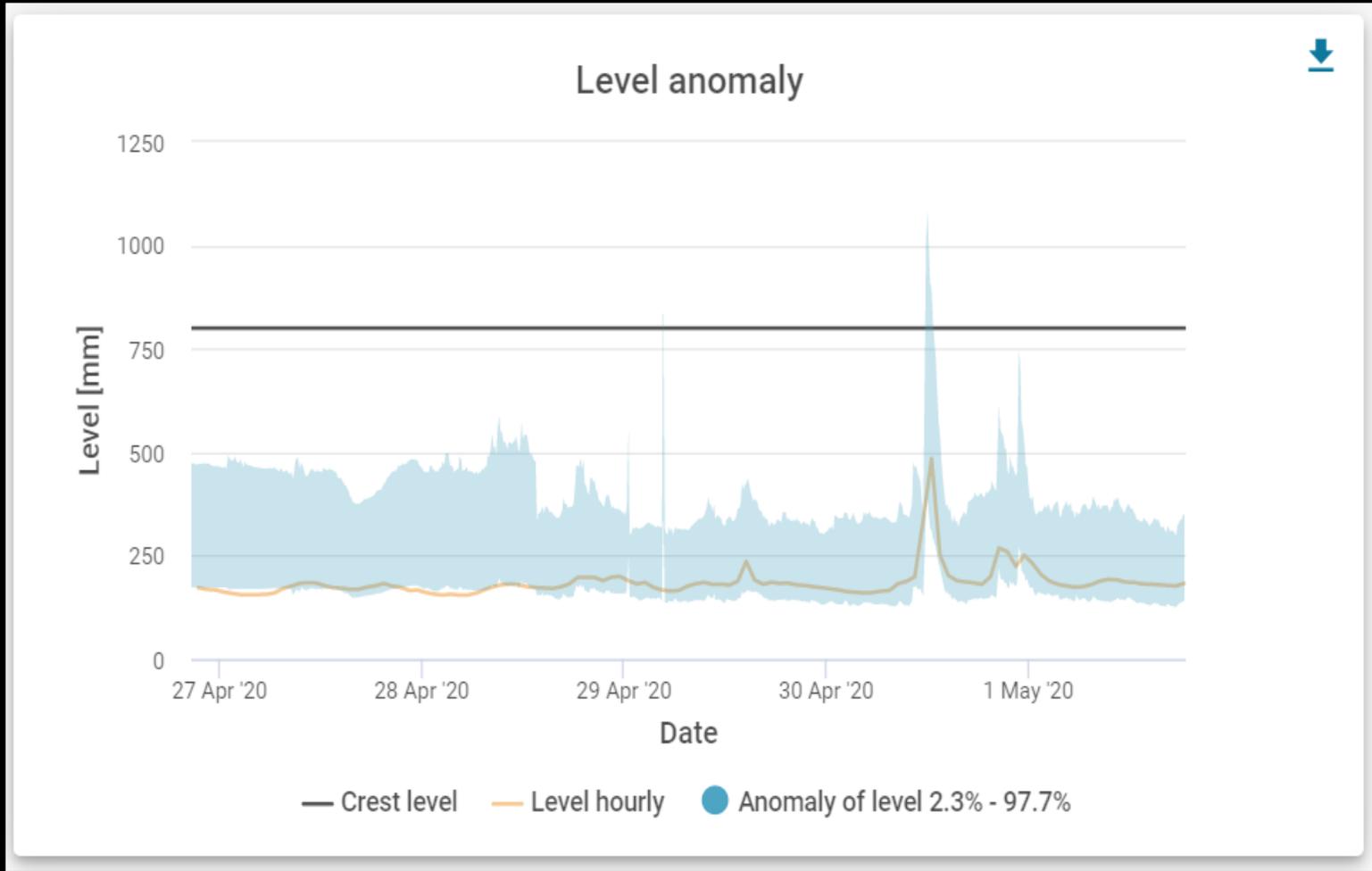


An aerial photograph of a city at dusk, with a wastewater treatment plant in the foreground. The plant's circular tanks and rectangular basins are overlaid with a glowing blue digital grid and circular patterns, representing data analysis. The sky is a mix of dark blue and orange from the setting sun. The city lights are visible in the background.

**AI deployed on good data...**

**...enables actions to be taken to prevent sewer flooding**

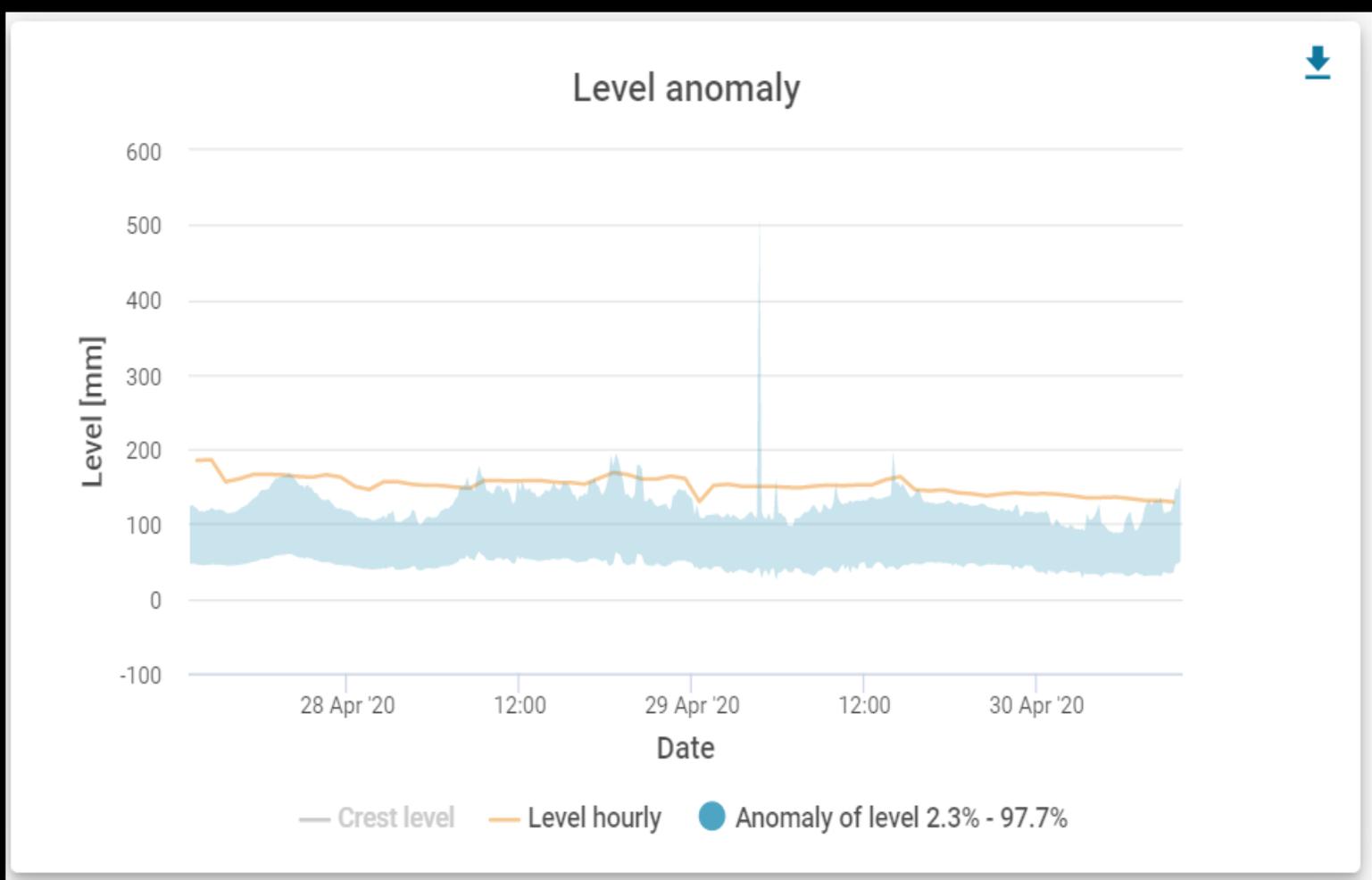
# Anomaly Detection



We have developed an algorithm to state in real time if sewer level is abnormal. This detects

- Up/downstream blockages
- Sensor failure

# Anomaly Detection

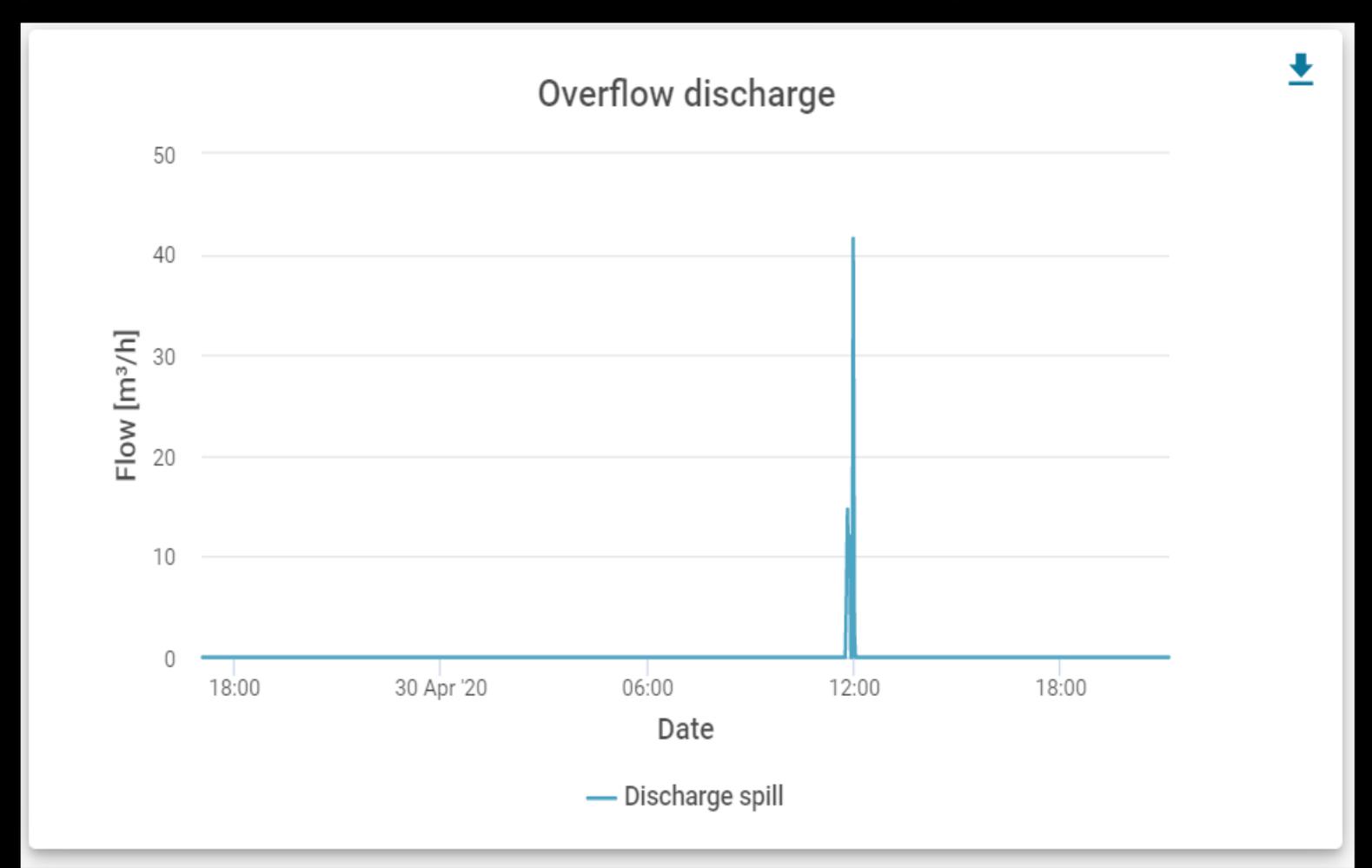


We have developed an algorithm to state in real time if sewer level is abnormal. This detects

- Up/downstream blockages
- Silt build-up
- Sensor failure

# Anomaly Detection

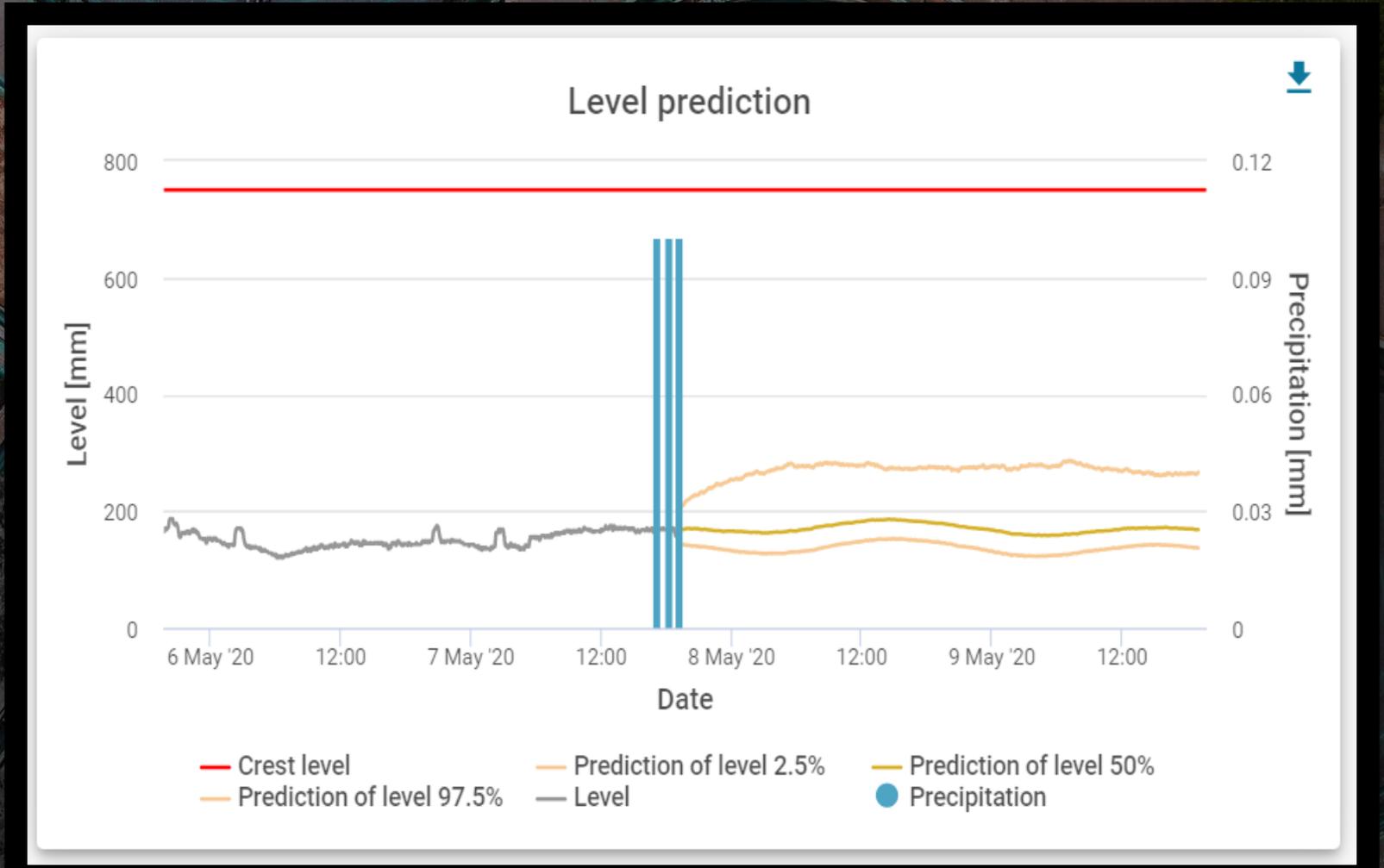
Take action before  
there is a problem



# Spill prediction

A further algorithm is able to predict the level in sewers for the next 48 hours.

- Early warning of pollution events



# What does this mean for you?

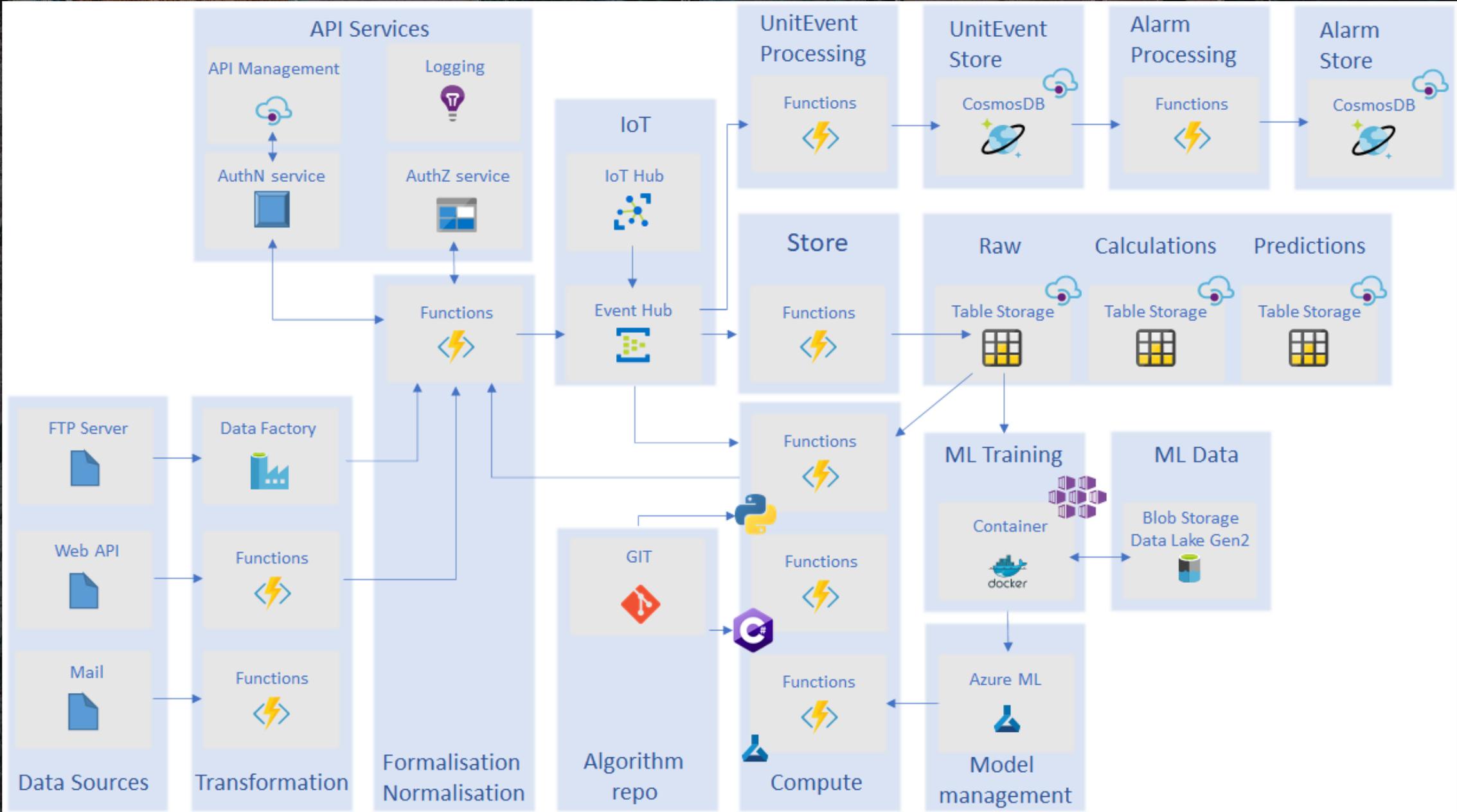
- Better understanding of wastewater network, with reduced spills / flooding
- Ability to pro-actively warn stakeholders & take preventative actions
- Catchment wide thinking, planning & actions

A medium shot of Neil Butler, Sales Director at Detec, speaking at a conference. He is a middle-aged man with short, light brown hair, wearing a light blue patterned button-down shirt. He is smiling and has his right hand resting on his chin, with a ring visible on his ring finger. The background is a blurred indoor setting with other people and a blue wall. The image has a white geometric graphic overlay consisting of several thin lines forming a grid-like pattern.

**“By partnering with Royal HaskoningDHV and utilising their revolutionary Aquasuite software, we take our data analysis and reporting to a whole new level with DetecAnalytics.”**

Neil Butler, Sales Director, Detecronic

# Aquasuite Azure Architecture



# How to contact us



**Tom Woolley**

Business Development Director

[tom.woolley@rhdhv.com](mailto:tom.woolley@rhdhv.com)



**Christof Lubbers**

Product Manager Wastewater

[Christof.lubbers@rhdhv.com](mailto:Christof.lubbers@rhdhv.com)



General contact info

[aquasuite@rhdhv.com](mailto:aquasuite@rhdhv.com)

[www.aquasuite.ai](http://www.aquasuite.ai)