

Previsico Sensor Solutions

A radar-base connected sensor to monitor water depth and support at-risk communities

Challenge

Climate change and urbanisation are escalating flood impacts – particularly in areas previously unaffected by flooding. Although defences are in place and warnings available for river and coastal flooding, they rarely (if at all) exist for surface water flooding, which is catching people off guard.

Surface water flooding occurs when drainage systems are overwhelmed, typically due to intense rainfall in urban areas. It poses a wider flood risk than coastal or river flooding, impacting thousands of residential and commercial properties.

Previsico's sensor monitors water depth at the entrance of a screened culvert that frequently blocks.



What is Previsico Sensor?

- An easy-fit, radar-base connected depth sensor that can be installed in a variety of above and below-ground locations, including within sewers and gulleys.
- Continuous monitoring and full diagnostics with each reading, meaning data can be verified in real time.
- Device can be configured to send automated email or SMS alerts when assets are at risk..
- Over The Air (OTA) power planning and dynamic sampling supports up to 10+ years battery life.
- Integrates with Previsico's flood forecasting technology that draws on several leading data sources. These include best available weather nowcasts and forecasts, satellite imagery, ground sensors, LiDAR elevation data, land cover, drainage and geology.
- Intuitive online portal maps devices, showing changes in depth and associated diagnostics.

Benefits

- Automated warnings give communities and response teams confidence and time to mobilise flood action plans, therefore reducing disruption, distress and cost.
- Advanced diagnostics remove the guessing game that currently exists around depth measurement reliability, ensuring full confidence in the data.
- An ideal solution for above (e.g. rivers, culverts, ordinary water courses) and below (e.g. gulleys, sewers) ground monitoring. [Watch the video](#) to see how Previsico's depth sensor solution is helping to protect a Lancashire village.
- Best-in-class technology underpinned by over two decades of published research in partnership with the Cabinet Office and emergency services.



The Sensor triggered on Boxing Day evening at around 11pm. It alerted our flood wardens and we managed to get to the culvert and clear it before it flooded the village. We can only recommend this type of technology as it is the way forward in flood management tools.



Gill Darbyshire,
Whalley and Billington Flood Action Group

The growing flood problem...

- 1 in 5 properties affected by surface water flood risk.*
- 33% UK commercial properties at risk from flood.*
- 75% of businesses don't include climate risks in their business continuity plans.*
- Flood losses expected to increase five-fold by 2050.*
- Long-term mental health problems up to nine times more likely for flood victims.*

* References



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