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PulseTM: Water Intelligence Rapid Acoustic Technology

Customer Problem: Blocked sewers are a public health and pollution hazard; it affects every home, building and municipality.

Solution:

- **Rapid inspection of sewer networks for blockages and pipe defects**
  - Proprietary cutting edge acoustic technology
- **Saves Time and Money**
  - Up to 10x faster than CCTV and conventional sewer cameras
  - Targeted surveys means less wasted money
- **End to end service from inspection and repair to data-driven final report**
- **Currently deployed in the UK, Australia and the US**
- **Contact us at information@wi.international**

The Pulse Hardware

The foundation of the system begins by putting state of the art Pulse hardware in the hands of highly skilled survey technicians.

This technology serves most pipe sizes and we have developed the Pulse (>225mm), Pulse Micro (>100mm) and Pulse Nano (>75mm) to suit your needs. The primary

survey method is based on acoustics with a camera system to enhance surveying and provide valuable visual information to both operatives and clients.

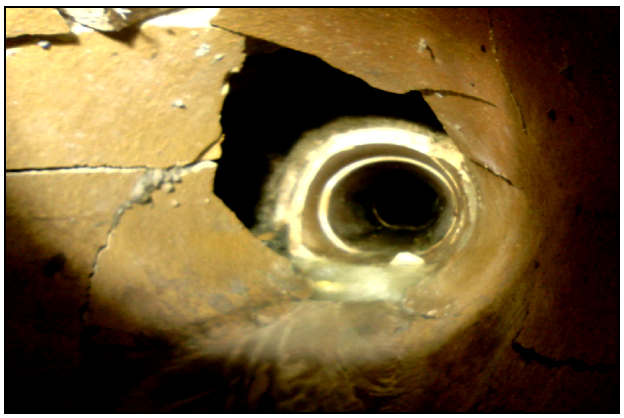
Rapid Operation Minimised Time

Deployment and operation of this system has been crafted around safe, shortstop operations that do not require permitting under most real-world scenarios. The equipment is lightweight, hand-portable by a single operative, and has been developed for areas inaccessible by vehicles as well as in busy urban environments. Once inside a pipe, the survey can be completed in less than 45 seconds with no requirements for an operative to enter the manhole.

Operating under short duration works allows for greater flexibility, faster deployment and lower carbon emissions as there are no requirements for larger traffic management vehicles or heavy plant. Access to areas such as SSSI's, farmland and protected areas can be achieved non-destructively and as quickly and safely as possible.

Pulse Platform Delivers Meaningful Insights for Minimally Invasive Surveying

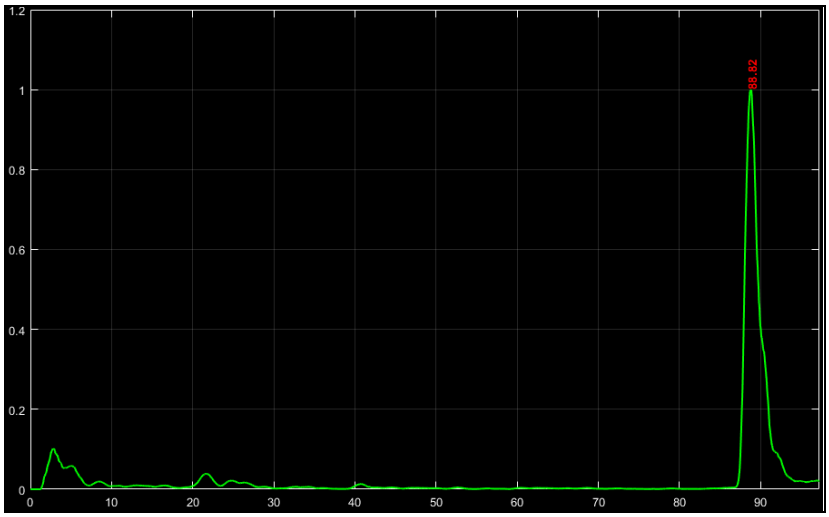
The hardware is supported by our proprietary software, creating a platform that has been designed, built and operated solely by us. Our platform captures all current water industry requirements, but we are committed to updating our systems to meet new challenges presented to the water industry. Our services are used extensively in the UK, Australia and the USA. Using our platform, we will be able to not only identify blockages and damage, but accurately locate where the issue is.



In addition our hardware has a defined end of life plan to limit E-Waste and recycle

components and materials as much as possible.

How It Works



An acoustic excitation is fired through the pipe from the Pulse head, and the reflected sound is detected in combination by the *Pulse* unit(s), custom data logger and Wave software. Photographs of the pipe interior at the point of insertion, site information and the acoustic survey files are transmitted to the analytics team for analysis and results validation. The costs of deploying *Pulse* are significantly less than using traditional methods such as CCTV and cleansing as a first pass, with individual teams being able to survey in the range of 1 Km Urban to 3.5 Km rural network per day.

Municipal Experience on Planned Works Programmes

In 2021 alone, in excess of 135 Km out of more than 556 Km of sewers surveyed have been identified by Water Intelligence International as serviceable without requiring further intervention: this has provided an instant cost saving on maintenance as CCTV and jetting, and the associated permitting, traffic management and road closure costs, have been avoided by the water company. Operating in this way has also led to significantly reduced disruption to the public.

Flood and Pollution Prevention

Pulse has been deployed in high risk flood investigations and blockage hotspot exercises as a data-gathering operation to assist in the identification of blocked pipes, bottlenecks and other problematic areas of large networks, as well as for general network health assessment..