

# Technology that has all senses covered

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The benefits of Interflow's multi-sensor pipeline inspection technology have been demonstrated on a major sewer line condition assessment project, in which the HD-Profiler was used to inspect 9.1 kilometres of large-sized sewer in three days while it remained in full operation without the use of the flow control measures.

**INTERFLOW'S HD-PROFILER IS** a self-contained, float-mounted inspection system that provides 360 degree, full-length condition assessment for sewers with diameters from 900-4,000 mm. Its multi-sensor inspection technology supplements its CCTV recording with laser measurement above the water level and sonar signals for underwater dimensional analysis.

Using this combination of technologies the HD-Profiler can provide a detailed report on the location and extent of sewer corrosion, the degree of deformation and the quantity of debris in the sewer. The device has its own power supply and the ability to store all the information it collects within its on-board memory. At the completion of the survey the data is downloaded and analysed.

The information is collected as the floating HD-Profiler is pulled between access points which can be many kilometres apart.

## INSPECTION IN A CHALLENGING SEWER

The large sewer recently assessed by Interflow varied in cross-sectional shape and size along its length. The horizontal dimension varied from approximately 3.2-4.2 m, while vertically it ranged from 2.4-2.7 m.

Man-entry was all but impractical due to the constant high flow depth averaging over 1.3 m and the difficulty of providing full ventilation in a sewer terminating in a dead-end. Depths to invert of up to 60 m and distances between access points of up to 800 m further complicated any attempts at safe man-entry. All these reasons provided a disincentive for manually traversing and assessing the sewer - typically the only option



Workers using Interflow's multi-sensor inspection technology.

available prior to the development of the HD-Profiler.

Interflow completed the inspection in three stages over a total of three days with the HD-Profiler. Lengths completed over these days were 3,690 m, 2,046 m and 3,530 m.

For each stage, the HD-Profiler was lowered into the flow and winched the full distance, through intermediate maintenance holes to the terminating access point. From here it could be lifted to the surface and the data logger removed and taken away for analysis. Man-entry was limited to the access points - not into the sewer.

The resulting report identified a total of over 1,500 cubic metres of debris along the 9.1 km of sewer inspected. The locations and quantities of the debris could be precisely identified. The degree of corrosion varied, with the report able to provide a continuous readout of the depth of wall thickness loss both graphically and in tabular form.

The data acquisition was completed in a fraction of the time that would have been needed for a manual traverse. This resulted in less community disruption at the locations of the maintenance holes, greater safety due to less person entry and no need for flow control measures.

The results obtained could also be considered more accurate with the laser and sonar profiling providing factual readouts, rather than relying on manual interpretation.

## SUMMARY

Interflow is committed to remaining at the forefront of the pipeline renewal industry and continuing to offer the highest value services to its clients. Multi-sensor inspection technology represents an advance in pipeline inspection and assessment of large diameter sewers. This technology has allowed a rapid, objective and accurate condition assessment to be carried out with a high degree of safety. [i](#)