



# URBAN PLUNGE

Sydney  
**WATER**



## Fluidion | ALERT V2 and ALERT LAB

Country of Origin: France / USA

Technology Readiness Level: 9 - Fully commercial

*fluidion*  
fluidic intelligence

**Description:** Fluidion® ALERT technology provides a unique solution to measure *E.coli* concentrations in different types of surface waters that is rapid, accurate and autonomous. It is based on a patented rapid culture-based assay with enzymatic detection, and performs automatic sampling, incubation, optical monitoring (multispectral absorbance and fluorescence) and wireless operation/data transmission. Two variants of the technology are available: ALERT V2 provides automated sampling in-situ for fixed location monitoring, while ALERT LAB is portable. They are complementary, allowing time-series generation at sensitive locations, and, respectively, watershed investigations for identification and quantification of pollution sources. ALERT technology provides a complete monitoring solution including online operation, early-warning alerts, data visualization and archival. The ALERT V2 measurement duration is 2-12 hours (depending on concentration). Independent side-by-side testing has been performed by authorities and utilities worldwide, including the WHO engaged KWR Laboratory (NL) to evaluate the technology against reference methods (IDEXX Colilert) as part of the UNICEF Rapid Water Quality Testing Project.



**Applicability to Urban Swim Sites:** Fluidion® ALERT technology has been deployed at open-water bathing sites throughout Europe, UK and the USA. By providing simple installation with no power or wired telemetry requirements, it can be rapidly deployed and is immediately operational in urban or remote settings, in both freshwater and seawater. Real-time data (including QC information) are sent wirelessly, signals are analyzed for detection patterns, and early warnings alerts are generated automatically.

**Technical Risk and Case studies:** The technology is mature, commercial, and has been validated and successfully deployed worldwide since 2017 in dozens of recreational water monitoring applications, with e.g., government agencies (UK Environment Agency, USGS), large utilities (LADWP/US, SIAAP/FR, Southern Water/UK), major municipalities (Paris/FR, Los Angeles/US, NYC/US, Berlin/DE). The City of Paris, for example, has been using ALERT technology for daily monitoring in preparation of the 2024 Olympic Games, but also for monitoring open-water bathing at La Villette (3 measurements/day).

**Cost & Business Case:** Capex: \$24,000 (ALERT LAB), \$45,000 (ALERT V2) depending on accessories. OpEx: \$60/sample and \$1500/year (data subscription). Simulation: 3-year cost for daily monitoring (ALERT LAB): \$48,000, compared to \$182,500 currently using laboratory (assumptions: \$65 sampling, \$35 transport, \$65 analysis per sample).

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