

## CASE STUDY: MELBOURNE, AUSTRALIA

# SCANNING “THE LAND DOWN UNDER” FOR LOST WATER REVENUE

For the past five years, **Melbourne, Australia** has been selected as the “World’s Most Livable City” by the *Economist Intelligence Unit*. Above ground, life is great. But beneath, its infrastructure was suffering from a loss of nearly 12% real water loss every year.

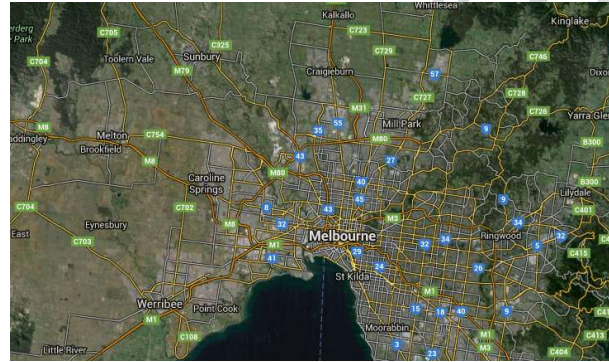
In December 2015, Melbourne undertook a pilot program to pinpoint these water loss areas — all from detailed area scans from space.

The technology detected 18 leaks in the pilot region and the client was provided the information in GIS form as well as a detailed “Leak Sheet Report” for every suspected leak.

*“18 leaks in four days is unheard of,” said Melbourne’s Water Authority director. “Based on the provided assessment from the aerial scans, we estimate this remote sensing technology will substantially improve our leak detection process, saving us time and resources which we are now able to use to repair leaks.”*

## TECHNICAL SPECS:

- Innovative satellite scanning technology detects leaks efficiently, accurately and faster than existing solutions.
- Remote sensing of subterranean water leakage is based on a primary algorithm that detects underground leaks **by analyzing micro-spectral satellite imagery**. They receive microwave satellite images as input and then applies mathematical manipulation and analysis to provide a vector of coordinates.
- **Water Vision Technology** processes the collected scan data and provides the utility with the leak locations and estimated leak size. From discreet, professional technical support to turn-key programs that perform all leak correlation for utilities, **Water Vision Technology** works closely with utilities with solutions to convert found water leaks into revenue.



## During the program, we benchmarked two metrics:

1. Location accuracy: whenever crews were able to verify a suspected leak’s location, the leak was found within a few meters of the original coordinates.
2. The minimum detectable leak size was 0.1 liters per minute.

“We were able to confirm that our minimum detectable leak size is 0.1– 0.3 liters per minute,” said CEO, Eran Nevo. “Based on our microwave imagery, **they** not only detected leaks accurately, it also provided a reliable indication of leak sizes.

- The technology is based on microwave reflectometry, or microwave electromagnetic signals. Microwaves are particularly useful for water detection, as water exhibits a high value of relative dielectric permittivity, therefore enabling the discovery and measurement of water in soil.
- **They** selected a specific microwave wavelength not only for its ability to penetrate the ground, but also due to its high sensitivity to treated water characteristics.
- **Water Vision Technology** surveys an entire network periodically, providing monthly or quarterly results as requested.
- Each scan typically requires only 2-4 days of field correlation to isolate the leak, raising the effectiveness of acoustic teams so that they can focus on the last few meters of a leak detection.

To learn more about leak detection from Water Vision Technology please call +1 (858) 771-4909 or visit our website at <https://watervisiontech.com>