

ASTERRA Leak Detection Service

VIVAQUA Brussels, Belgium 2021

Founded in 1891, VIVAQUA has become one of the largest water companies in



Belgium. It is a fully public company whose activities encompass the production and distribution of

drinking water, the management of sewer networks and flood control. VIVAQUA serves the 19 municipalities of Brussels and sells water to water operators in the Flemish and Walloon Regions. VIVAQUA supplies an average of 360,000 m³ of drinking water every day. The city of Brussels is the largest municipality, historical center and capital of Belgium as well as the administrative center of the EU.

In 2019 VIVAQUA set a goal to reduce non-revenue water to 10% by 2024. DMA's will be increased from 47 to 70 during this time period and the ASTERRA satellite leak detection pre-location program was deployed. VIVAQUA has 2378 Km of pipelines and a leak detection staff of seven persons.

The traditional method deployed by VIVAQUA is a street-by-street inspection using 3 crew members. Approximately 750 Km of pipe can be inspected per year thus requiring 3-4 years to inspect the entire system. Historically 200 leaks are identified through this program per year. It requires 20.5 person hours to find one leak and one leak is found for every 3.75 km inspected.

ASTERRA performed two services in 2021; 380km of pipe in February and 800 km of pipe in September – November. A total of 119 leaks were found during these two services in 59 crew days of inspection.

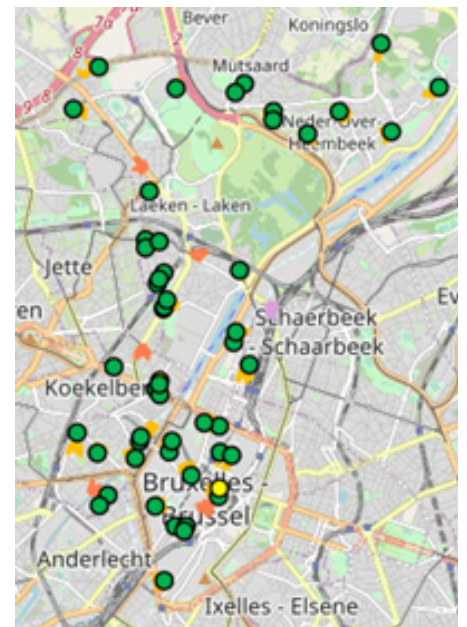
The performance metrics for the ASTERRA work are 12.9 person hours to find one leak and one leak found per 1.1km of pipe inspected. It takes approximately half the labor hours to find a leak using the ASTERRA pre-location services and more than three times as many leaks are found per km inspected. This shows the value of the ASTERRA method as leaks are not evenly distributed throughout



the system, they are clustered. The satellite analysis can identify those high concentration locations of leaks and direct staff accordingly.

Based on the cost of the ASTERRA service and the labor costs and hours the overall cost to find a leak is similar for both the traditional method and the

ASTERRA method; €921 versus €997 per leak. The value of the ASTERRA method is that the leaks are found quicker and thus they are active for a shorter period of time; there is less damage to roadways due to reduced main breaks, better brand image due to proactive approach and increased staff motivation.



Leak locations, Feb. 2021