## DEMD \"Deep Electromagnetic Detection\"

**Abstract:**

DEMD "Deep ElectroMagnetic Detection" is an innovation of JFM Conseils, developed and tested for one of the main sewer owner in France (Paris Area).

Their problem is to make interventions on laterals, close to the buildings. When the digging occurs, it is commonly found that the lateral is not at the expected place.

Our electromagnetic solution is free from the natural physical constraints of detection and can identify wastewater pipes at depths never before covered by conventional non-intrusive network detection equipment.

The purpose of the DEMD is to avoid costly interventions with a large footprint and detect and locate deep sewers and blind laterals from the man entry sewer.

First trial was made last year. It showed that laterals which were supposed to go straight from main to the building had deviations. They can arrive 3 meters away from the intended alignment. The trial has shown that our method locates them with a precision of 10 cm at a depth of 5 m.

A larger scale trial is underway is on 200 laterals in a main street. These results should be available for presentation at the Florence ISTT Conference and Exhibition.

Benefits of DEMD are plentiful and interesting:

- We can precisely locate sewer pipes with only one entry point. It works well with blind laterals. It works in dense urban environment with lots of subsurface networks.

- We can link the detection system with CCTV and make assessment of the condition of the pipe and offer rehab solution to the owner if requested.

System is cost effective by providing:

- Avoidance of risky and unnecessarily costly diggings.

- Connection location and assessment.

Propose a cost effective rehabilitation method such as lining instead of laterals replacement.