

Installation of a pilot underwater acoustic listening system for continuous leak detection on drinking water distribution networks

PROJECT TITLE:

Installation of a pilot underwater acoustic listening system for continuous leak detection on drinking water distribution networks

COUNTRY :

Kenya

AN INCUBATION PROJECT SUPPORTED BY:



www.sainte-lizaigne.com

VERBATIM OF THE PROJECT LEADER:

« Sainte-Lizaigne is known for providing quality products and equipment to contribute to the reliability and durability of the drinking water network. As water resource management is a major issue, Sainte-Lizaigne also develops supervision solutions for a better asset management.

The SENSE system, a solution deployed in our project in Kenya, allows a dense network through connections to subscribers, a precise and permanent monitoring of water networks (leakage), a better organization of interventions in the field to optimize the efficiency of the water network. »

Marc CORMERY, Export Manager, SAiNTE-LiZaiGNE

GEOGRAPHICAL LOCATION:

Municipality of Kisumu in KENYA

SCALE OF INTERVENTION:

The test site is deployed in Kenya's third largest city (in terms of population), Kisumu.



CONTEXT AND ISSUES OF THE TERRITORY:

■ Access to clean water:

Access to clean water in Kenya is not enough. Only 57% of households are served by water sources considered as clean. Access to clean water is a real issue in urban areas. Moreover, 80% of diseases in Kenya are directly related to inadequate access to safe water, poor sanitation, and obviously affect that poorest population.

■ The efficiency of drinking water distribution networks:

The problem of unaccounted for water and in particular physical losses in drinking water distribution networks has become a major issue in Kenya where the average efficiency (the ratio of volume distributed to volume produced) of the network is 58%, far from the acceptable world standard of 75%.

■ **Economic issue:**

This situation of water losses leads to a financial loss for all water companies.

The SENSE underwater acoustic monitoring project, deployed in Kenya, aims to improve network efficiency in a context where water resources are scarce.

The implementation of a pilot site with an innovative French technology of acoustic listening of the networks (SENSE) will make it possible to reduce the water leaks on the pilot area.

The solution implemented within the framework of the project (SENSE), allows a permanent monitoring of the water network, to detect leaks and to pre-locate them, to intervene in their repair.

The project includes the following components:

- **Component 1:** Implementation of SENSE systems and repair of detected leaks. This step will be carried out by IWASCO teams in close collaboration with Seureca and Sainte-Lizaigne.
- **Component 2:** Analysis of the technico-economic benefits resulting from the technology, through flow and pressure measurement campaigns carried out before and after the implementation of the technology.
- **Component 3:** Technical capacity building in leak detection and repair.

KIWASCO teams will be trained in the use and maintenance of the equipment in the field throughout the project. A complementary training is planned at the Sainte-Lizaigne centre in France, which will focus on the management and maintenance of the SENSE technology as well as the challenges of managing drinking water networks in a more general way, for the staff of the "Unaccounted for Water" department of KISWASCO.

GOAL(S) OF THE PROJECT:

The overall objective of the project is to improve the efficiency of the drinking water distribution networks.

Specifically, it will focus on

- reducing water leakage in the pilot area
- extending the solutions of the pilot site to other sites

SDG TARGETED BY THE PROJECT:



PROJECT ISSUES:

- Safeguarding the resource
- Network efficiency
- Detection and Repair of leaks
- Integration of the solution into an existing network (Kisumu)

SECTORS CONCERNED :

- Drinking Water

EXPECTED RESULTS:

- Leakages in the drinking water networks at the pilot site are detected and repaired,
- Network efficiency at the pilot site is improved

- The solutions implemented are extended to other sites with insufficient efficiency rates

STAKEHOLDERS OF THE PROJECT:

Actors involved:

- SAINTE-LIZAIGNE
- SEURECA
- KIWASCO (Kisumu Water and Sewage Company)

Technical partner(s):

- Kisumu Comity
- LVSWSB

Financial partner(s):

DG Trésor/FININTER2

ESTIMATED COST OF THE PROJECT:

Total amount of the project is 720,136 euros excluding tax.

Financed by the DG Treasury/FINTER2 through the FASEP project support tool for 643,636 euros HT, Sainte-Lizaigne and KIWASCO participation for 76,500 euros HT in unbilled expert services and local services of Kiwasco

SHORT-TERM ACTIONS (3 YEARS):

Operation of the Sense system put in place to reduce water losses.

LONG TERM ACTIONS (10 YEARS):

Extending the system to other cities in Kenya.