EYDAP

Fiware4Water

FIWARE for the Next Generation Internet Services for the WATER sector

Project Information

Project acronym	Fiware4Water
Title	FIWARE for the Next Generation Internet Services for the WATER sector
Call	H2020-SC5-2018-2019-2020
Grant agreement no	821036
Starting Date	1/6/2019
Duration	36 Months

Project Abstract

FIWARE is an open-source IT platform, created under the Future Internet Public Private Partnership (FI-PPP) which was established by the European Commission. Fiware4Water intends to link the water sector to FIWARE by demonstrating its capabilities and the potential of its interoperable and standardised interfaces for both water sector end-users, and solution providers. In addition to building modular applications using FIWARE and open API architecture for the real time management of water systems, Fiware4Water also builds upon distributed intelligence and low level analytics (smart meters, advanced water quality sensors) to increase the economic and societal efficiency of water systems and social acceptability of digital water. The scope is to create the Fiware4Water ecosystem, demonstrating its technical, social and business innovative potential at a global level, boosting innovation for water.

Figure 1: Fiware4Water context

Location of sites

- Demo Case #1. Athens (Greece) –Water supply system real time operational management
- Demo Case #2. Cannes (France) – Improving the Water Distribution System: proactive management, leakage reduction and water quality monitoring
- Demo Case #3. Amsterdam (the Netherlands) - Intelligent control for wastewater treatment
- Demo Case #4: Smart Meters and Customers – South West Water (UK)

Figure 2: Fiware4Water demo case map

Innovative technologies

FIWARE is a curated framework of open source components which can be assembled together with other third-party components to accelerate the development of Smart Solutions. The innovation of the project is interlinked with the Fiware4Water standards-based architecture. The main layers of its architecture and interoperability are:

- ➢ Physical Device Layer:
- ➢ Connectivity Layer,
- ➢ IoT Service Layer,
- ➢ Mediation Layer,
- ➢ Information Management Layer,
- ➢ Application Layer:
- ➢ A cross-cutting Security and Privacy layer guaranteeing secure access to information and devices, while respecting the privacy of users and exploitations.
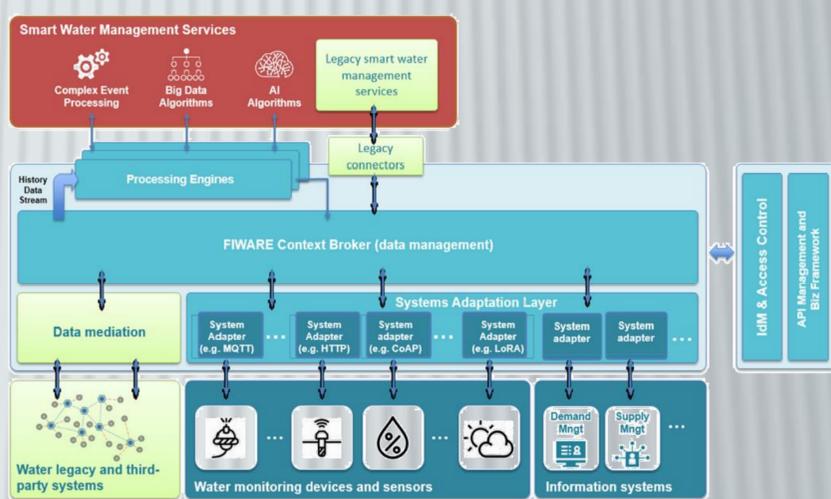

Figure 3: Fiware4Water functional structure and links with legacy systems
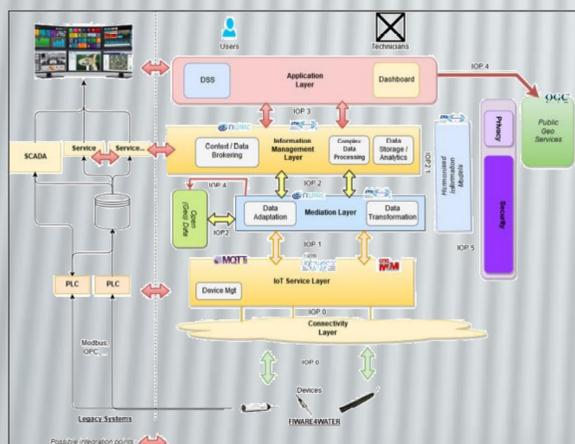
Activities of EYDAP in the project

Figure 4: Fiware4Water: Architecture and interoperability points

FIWARE will be used to integrate operational sensors (existing flow meters, stages and water quality sensors), as well as 2 new open channel Doppler flowmeters and other surveillance methods into a common operational picture (in real time).

EYDAP will apply the innovative analytics and models to synthesise the information and provide operational decision support, with an emphasis on:

- optimising water conveyance from sources to treatment plants in this extensive and complex multi-reservoir, multi-aqueduct system and
- providing early warning in cases of increased turbidity, to allow the treatment plants to customise their processes accordingly.

The solution will be demonstrated in a suitable part of the water supply system (e.g. the Amfissa – Dafnoula aqueduct).

Benefits for EYDAP

- The participation of EYDAP in the Fiware4Water presents an opportunity for decreasing the cost of the deployment of remote services and as such improves the business case for the Company and its clients.
- Fiware4Water is considered a proof of concept application for adopting FIWARE across the business, in view of its IoT and smart meter deployment strategy. It will allow the Company to have access to a much larger technology market for sensors and applications, and less 'lock-in' to integrated end to end systems, thus reducing costs and increasing quality of service.