Demo Case Update
From NTUA – National Technical University of Athens
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The integration of different sensors, which currently transmit and store data into proprietary subsystems within EYDAP, into a unique information system consists a key challenge and priority for Athens Demo Case. In the past months, a lot of work has been conducted towards this direction. Specifically, the Data Warehouse (DW) of EYDAP has been configured, serving as an "intra-EYDAP" one-stop service that currently receives, on real-time basis, flow and quality data from all legacy sensors installed in the system under study (the "Gkiona - Dafnoula" aqueduct of length 131 km). At the same time, NTUA has worked on the development of the Fiware-compliant smart platforms that will support the real-time monitoring and operational management of raw-water conveyance system of EYDAP.

The smart platforms are building upon the "Nessie" system: a modern dashboard and database system, developed within NTUA, able to acquire, store, process and visualize high-resolution data from sensors in a scalable, simple and fast way. In the past months, key components of the back-end system of Nessie (FTP connection, database schema and scheduler) were configured to establish connections with the DW of EYDAP. Currently, data from 5 open channel flow meters, 8 sluice gate opening valves, 10 water level meters and 6 water quality meters are transmitted in real-time from the DW and imported into the Nessie system. In parallel, a web platform was developed for the processing, analysis and visualization of real-time data from the sensors. Currently, prototypes of the dashboard for both water flow and quality are currently "live". Indicative screenshots of the user interface are given in Figure 1 and 2. The homepage of the dashboards provides quick access to real-time data, either via "water quality" or "water flow" dashboard, while the dashboards enable the users to navigate by water property (flow, water depth etc.), or by metering station, using the interactive map or drop-down lists.

Currently, the web applications are being further enhanced with new functionalities such as additional visualization options, overview information and comparative statistics on flow and quality across the channel. In parallel, connectors that will establish connection between the DW and Nessie system with Fiware Context Broker are being developed. It is expected that a fully operational Fiware-compliant system will have been implemented by the end of May.
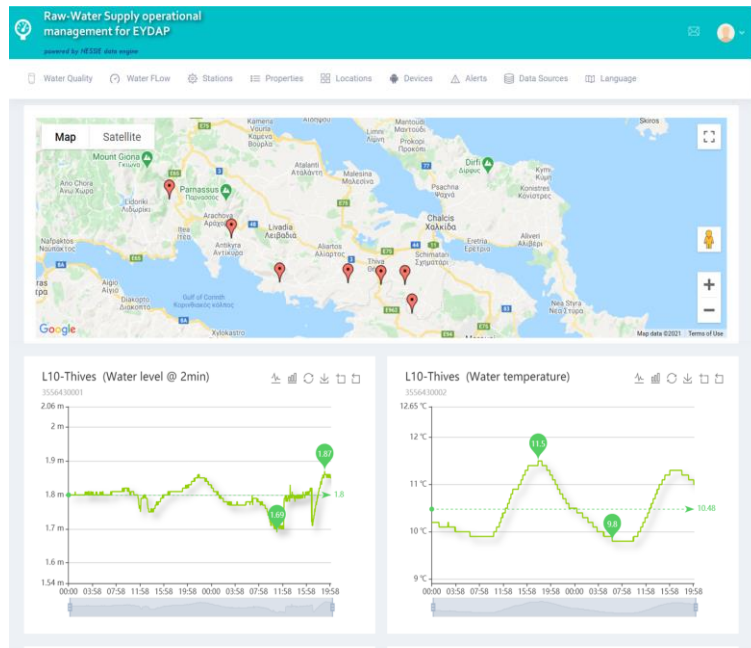
Figure 1: Dashboard of the Nessie system for the real-time monitoring of raw-water in the conveyance system of EYDAP.
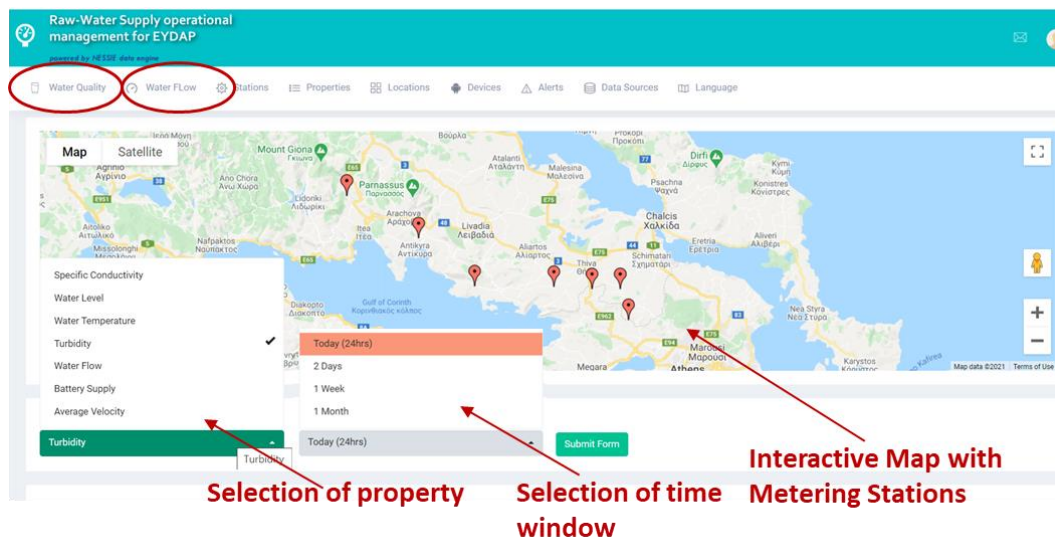

Figure 2: Key navigation functionalities of the web platform to get access to real-time data from sensors.

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