

WATER RESCUE project

WATER RESCUE project aims at sustainable drinking water supply management through the increase of water use efficiency and the monitoring and improvement of water quality throughout the whole water supply chain. The project not only safeguards water resources quality and quantity from natural and human pressures but, more importantly, it assures the water consumers safety and health as well as their quality of life.

WATER RESCUE project aims at the cross-border sustainable drinking water supply management and conservative use through:

(a) Evolution/adaptation of an innovative joint methodological framework for water resources management (in quantity and quality) regarding human and natural pressures (including climate change) and reduction of the vulnerability of the water resources systems.

(b) Increase water use efficiency through the reduction of the Non-Revenue Water and water losses in the drinking water distribution networks.

(c) Increase the use of innovative technologies, through the integrated management of water resources.

(d) Water quality improvement across the entire water supply chain from the water resources and back to the environment through continuous monitoring of the quality parameters in real time.

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WATER RESCUE pilot actions

- *DEYA of Komotini pilot action:* development of IT applications to directly support the water utility operations and indirectly contribute to the water use efficiency (by reducing NRW).
- *DEYA of Thermi pilot action:* supply and installation of flowmeters in 45 boreholes and supply and installation of automated chlorination systems in 6 water tanks. The hydraulic simulation model of the water distribution network is developed by University of Thessaly (PB3).
- *Municipality of Kardzhali pilot action:* supply and installation of 4 flowmeters and supply of a mass spectrometer with inductively coupled plasma ICP-MS to perform water and wastewater analyses.
- *Municipality of Gotse Delchev pilot action:* Design of DMA, construction of a manhole, installation of measuring equipment and data analysis and rehabilitation of water main in DMA Dunav.
- *DEYA of Thermaikos pilot action:* development of IT applications for water distribution network management to localize the areas affected by water interruptions etc. and mapping failures history in a GIS environment.

<https://water-rescue.eu/>

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Interreg Greece-Bulgaria WATER RESCUE

European Regional Development Fund



Beneficiaries

Municipal Water Supply and Sewerage Company of Komotini	Greece
Municipal Water Supply and Sewerage Company of Thermi	Greece
University of Thessaly-Special Account Funds for Research-Department of Civil Engineering	Greece
Municipality of Kardzhali	Bulgaria
Municipality of Gotse Delchev	Bulgaria
Municipal Water Supply and Sewerage Company of Thermaikos	Greece

Lead Beneficiary: Municipal Water Supply and Sewerage Company of Komotini, Greece
<https://www.devakom.gr/>

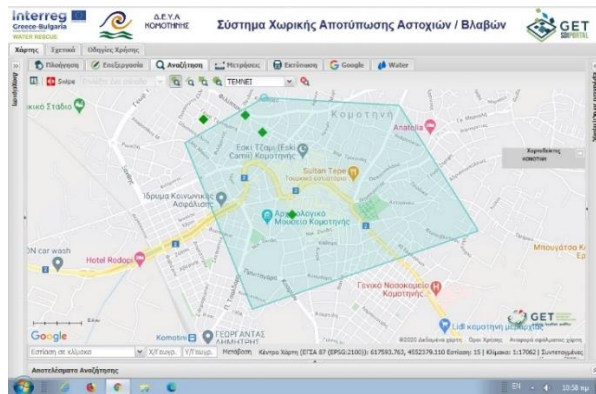


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WATER RESCUE results

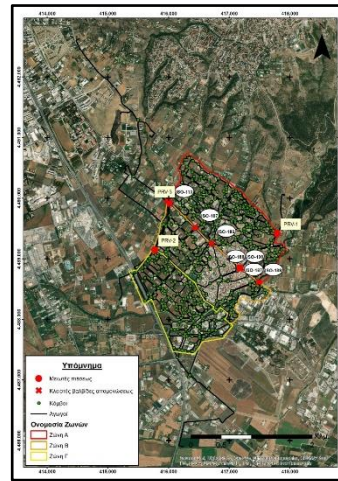
DEYA of Komotini

DEYA of Komotini targeted “speed and quality of repairs” pillar for the reduction of real losses in its water distribution network. The IT applications developed reduced the total time for the repair of failures in the distribution network and at the same time provided a decision-making tool to the utility managers. This tool is valuable as the managers can monitor the evolution of the failures both spatially and temporally and can localize the parts of the network where interventions are needed. Additionally, the IT applications developed will improve the quality of service to the consumers as they can be informed in real time for any water interruptions, and they can also report any unusual event that is due to a failure in the water distribution network.



DEYA of Thermi

The flowmeters installed in the boreholes of the water utility contributed to the accurate and reliable recording of the water volumes abstracted. This activity results in an accurate elaboration of the water balance to estimate NRW and its causes and then develop a strategy to reduce them. The 6 automated chlorination devices installed in selected water tanks results in



accurate chlorination to ensure safe water for the consumers. Also, the development of the hydraulic model of the water distribution network is a useful tool for water operators as it can be used for the development of scenarios, the segmentation of the network in DMAs for more efficient management, etc.

Municipality of Kardzhali

Four ultrasonic flowmeters are installed in the water supply network of Kardzhali to accurately measure flow rates and locate water losses. With respect to the monitoring and requirements for drinking water quality, a mass spectrometer with inductively coupled plasma ICP-MS is supplied. The water utility will implement



permanent operational monitoring of drinking water and wastewater quality. The spectrometer allows the implementation of timely and prompt measures for improving water quality and providing safe water to its customers and make sure that the treated water effluent from the wastewater treatment plant is at the proper quality to return to the environment.

Municipality of Gotse Delchev

The pilot action in the water distribution system of Gotse Delchev resulted in water supply reduction ranging from 25% to 38%. Average night flow reduction ranged from 43% to 57.9%. ILI values after the implementation of the pilot action range from 46.98 to 57.73 compared to 94.65 to 124.14 before the pilot action implementation.



DEYA of Thermaikos

The water distribution network management application gathers all the necessary data for the water distribution network and at the same time serves as a decision-making tool. The failures mapping application gives the possibility to the water utility to reduce the total repair time for failures and also act as a decision-making tool for the managers in order to decide whether a specific part of the network needs further actions.

