Interreg CENTRAL EUROPE
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MISSION CE CLIMATE

# COMBATING WATER SCARCITY IN COASTAL AREAS

## UPGRADING THE EFFICIENCY OF THE WATER DISTRIBUTION SYSTEM AND DECREASING WATER LOSSES TO ADAPT TO POSSIBLE DROUGHTS CAUSED BY CLIMATE CHANGE.

## INNOVATIVENESS

The presented solution demonstrates a high level of integration of digital technologies and team management to achieve the best possible results. Its innovativeness lies in combining:

- modern water consumption measurement systems and loss detection equipment
- the team organisation and new team for the detection of losses

## OBJECTIVE

This pilot project aims to upgrade the water supply network for the island of Brač, which would directly reduce significant losses in the network and introduce monitoring and management of the water supply system to control losses / possible leaks and enable timely and appropriate intervention. This would improve the water supply of the population of the island of Brač and the general quality of life (especially in summer).

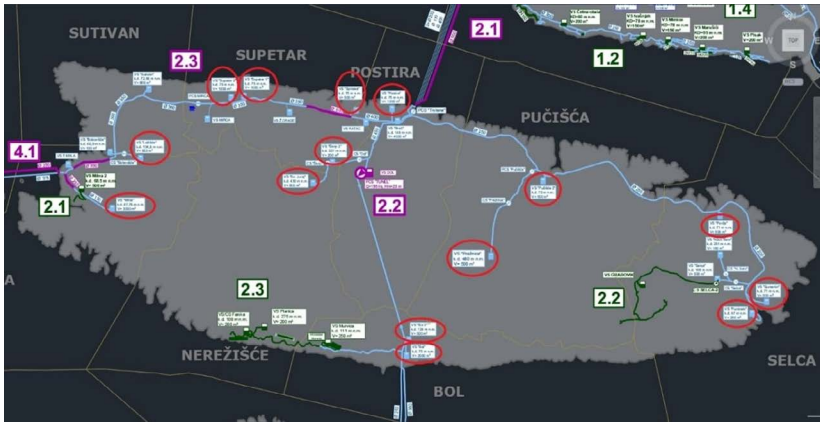
### GEOGRAPHICAL COVERAGE:

THE PILOT PROJECT'S FOCUS IS ON REDUCING LOSSES IN THE ISLAND OF BRAČ'S WATER SUPPLY NETWORK, AND THEREFORE THE PROJECT AIMS TO IMPACT THE ENVIRONMENTAL SYSTEMS RELATED TO WATER USE ON THE ISLAND OF BRAČ.

## CLIMATE RESILIENCE SOLUTION ON THE ISLAND OF BRAČ

The solution implemented by pilot project in the geographical area of the island of Brač consists of:

- improvement of the existing equipment in the Vodovod Brač water supply company with modern water consumption measurement systems and loss detection equipment
  See more here
- inauguration of the new team inside the organizational structure of **Vodovod Brač**, specialized in water leak detection in the water supply system.




- Circled in red are facilities where magnetic-inductive consumption meters were installed.
- Purple lines. Existing pipelines in the plan for re-construction.
- Green lines. New pipelines in plan for construction

# IMPLEMENTATION STEPS

Implementation of the solution followed clear steps as listed below:

1) DEFINITION OF TOR
2) SIGNING OF THE CONTRACT WITH VODOVOD BRAČ
3) PUBLIC PROCUREMENT OF EQUIPMENT
4) DELIVERY AND INSTALLATION OF EQUIPMENT
5) MONITORING
6) VERIFICATION PROCESS

## STEP 1 – DEFINITION OF ToR

The project partners EIHP and SDC have organized several meetings with members of Vodovod Brač in an effort to define the necessary equipment for the upgrade of the existing process of detecting water leaks in the water supply network of the Island of Brač. The major constraint for the equipment was the previously defined budget, which was sufficient for the planned investment at the time the project was prepared, but not after COVID pandemic and the rise of prices. The conclusion was two lists for procurement, one for the SDC to purchase and the other for Vodovod Brač.

## STEP 2 – SIGNING OF THE CONTRACT WITH VODOVOD BRAČ

The contract regulating ownership, installation and service of the pilot project investment has been signed by SDC and Vodovod Brač

## STEP 3 – PUBLIC PROCUREMENT OF EQUIPMENT

The close collaboration between project partners (EIHP and Splitsko/Dalmatinska County), the final beneficiary (Vodovod Brač), and members of CCRM was crucial for the relevant identification of technical and market analysis for the pilot project equipment and preparation of tender documentation. Following equipment was procured:

- 10 pieces of data logger
- VIBROPHONE MTC
- 15 Magnetic-inductive water meters for replacement of existing turbine meters
- 1 piece of remote water flow detection

## STEP 4 – DELIVERY AND INSTALLATION OF EQUIPMENT

The installation schedule is done according to water consumer needs. The installation will stop the water supply, and the installation needs to be done when the effect of stopping the water supply will be minimal (mainly during nights on weekdays).

Therefore the implementation of the solution needs to be coordinated with the beneficiaries, including specific conditions (summer holiday season, traffic jams...)

The installation process took a long time due to the required additional electrical installation work and adjustments to ensure that the equipment functioned in accordance with the manufacturer's recommendations and the full product warranty.

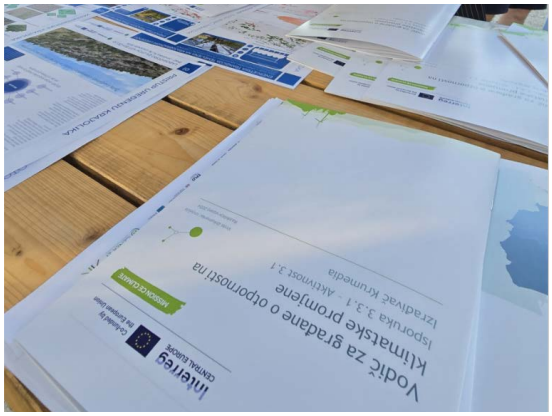
Examples of equipment investments into the water supply network

## STEP 5 – MONITORING

- The initial steps of the monitoring process started from the beginning of the pilot project implementation. All activities were coordinated by EIHP and SDC according the plan and process was slightly delayed due to post-COVID changes in the market, but finalized with expected outcomes and tangible results.
- A dedicated Water Loss Department was established, demonstrating a systematic approach to leak detection.
- Household Guide for citizens was created, offering practical advice on reducing energy and water use.

## STEP 6 – VERIFICATION PROCESS

- The verification of the results obtained from the pilot project implementation has been modified due to the equipment delivery timeline (and existing equipment before the pilot project implementation).
- Final equipment (existing + invested) of Vodovod Brač consists of: 16 data loggers: "ORTOMAT O4G data logger + 2 pieces of VIBROFON MTC-1.8 m cable + Antenna (GSM/UMTS+ MAGNET)" , 15 new magnetic-inductive water meters and an application for communication with them.
- Water loss was reduced from 26% to 20%, with plans to reach 15%, significantly improving energy efficiency and service reliability




Dissemination of Manual for citizens during local festival FOR FLAG Sustainable Development Festival in SUPETAR

Final presentation of the solution for local stakeholders

## LESSONS LEARNED

- The close cooperation between project partners and beneficiaries is crucial for the implementation
- The budget planning needs to be done according to market analysis also revised by specialist
- The time for pilot project implementation needs to be coordinated with the beneficiaries, including specific conditions (summer holiday season, traffic jams...)
- The work on the water reservoirs and installation of equipment has been done during the winter season, and usually during the night, which caused extra work and a longer time for the installation.
- Before purchasing the equipment, make preparations for the installation, especially the electrical installation and metal joints
- The reduction of water losses has been a result of the new equipment and the new team that has the knowledge to use the new equipment most efficiently.

## PILOT SUMMARY

The Brač pilot contributes a practical, scalable solution set for combating water scarcity in coastal areas by turning non-revenue water into a resilience resource. It replaces aging meters with magnetic-inductive units and expands telemetry and leak-detection capability to continuously find and fix losses, cutting distribution losses and stabilizing supply during droughts and peak tourist seasons. The project couples technology with governance–creating a dedicated Water Loss Unit, integrating data into simple operator dashboards, and validating savings over a full seasonal cycle–so utilities can act on evidence, not estimates. Night-time works and staged procurement show how to modernize coastal networks with minimal service disruption and within tight budgets, while citizen guidance materials reduce household demand. The result is a replicable "coastal playbook": instrument priority reservoirs and trunk lines, isolate sectors to pinpoint leaks, align interventions with tourism cycles, and use split-financing to de-risk delivery. Beyond securing potable water, the approach lowers pumping energy and emissions, strengthens drought preparedness, and offers a ready-to-adopt toolkit and operating model for other island and shoreline utilities facing climate-driven water stress.