

LIFE EFFIDRAIN (<http://www.life-effidrain.eu/en>)

Efficient Integrated Real-time Control in Urban Drainage and Wastewater Treatment Plants for Environmental Protection

Funding instrument: LIFE 14

Topic: Environment and Resource efficiency application

Coordinator: Cetaqua (ES)

Beneficiaries: 4; countries: ES, FR

EU contribution: 1,286,653

Start date: October 2015

End date: March 2019

Duration: 42 Month

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Environmental problem addressed

Pollution of the water receiving bodies by the uncontrolled overflows of sanitation systems (sewer network + WWTP) during wet weather

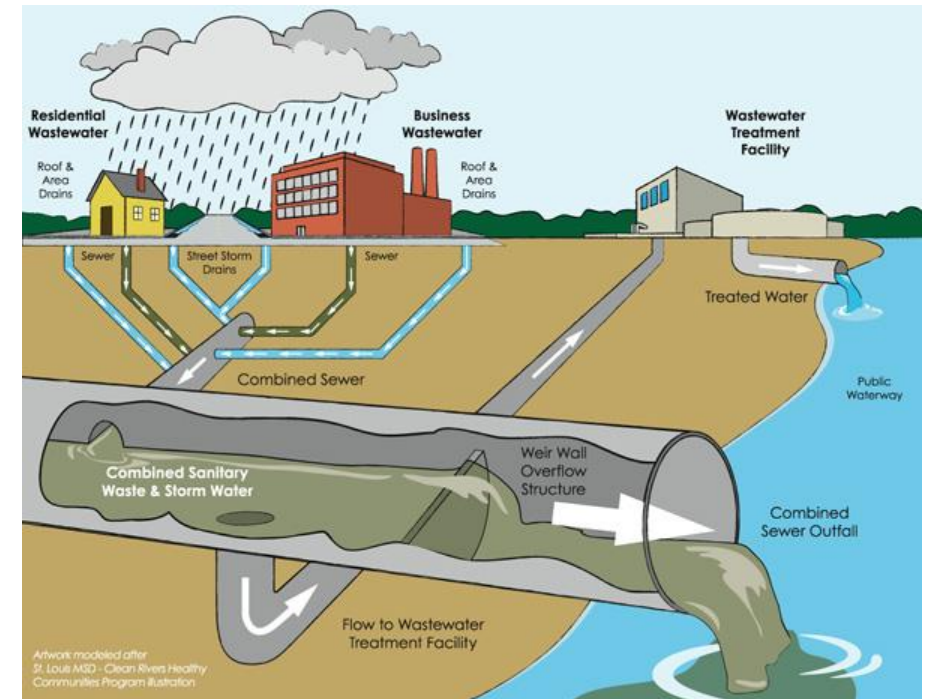
Caused:

- *Sewer network and WWTP systems are planned, designed and operated separately.*
- *Mainly, hydraulic information (flows) is considered without considering the pollutant load associated with the effluents (quality information).*

Main Objective

To minimize pollution of receiving bodies:

LIFE EFFIDRAIN aims at demonstrating real-time control strategies of the integrated sanitation system (network, plant and receiving body) based on the used of hydraulic and quality information



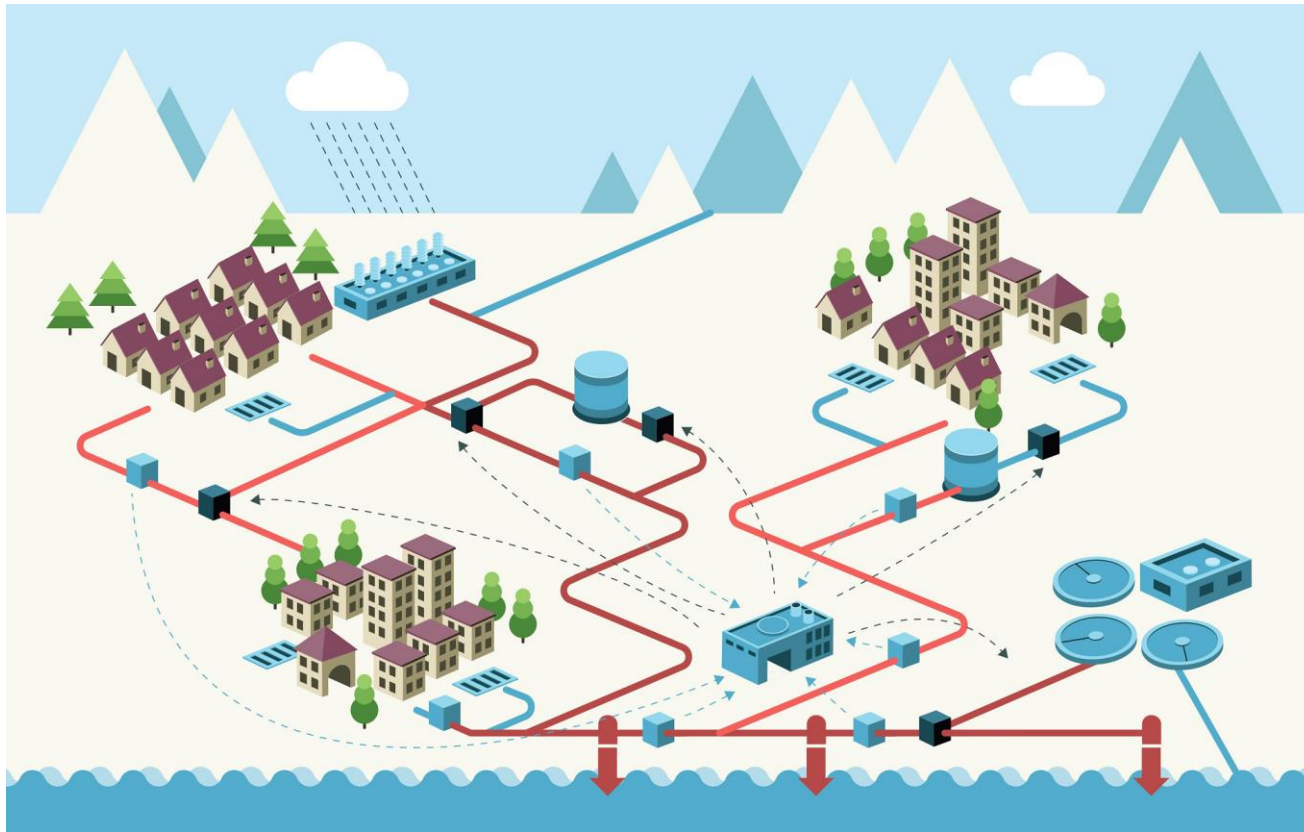
Solution / Innovation

1. *A new concept of real-time control of urban drainage networks (UDN) and waste water treatment plants (WWTP) together to protect the receiving waters*
 1. **A quality monitoring strategy specifically designed for the integrated control of UDN and WWTP**
 2. **Two procedures to compute integrated real-time control (RTC) strategies for the control elements regulating water detention and diversion**
 3. **One procedure to use telemetry and mathematical models to diagnose faults**
 4. **A procedure to derive controller reconfiguration strategies**
2. *A hardware/software (hw/sw) implementation of the RTC procedures in the Mediterranean pilot located in Badalona (Spain) and in the Atlantic pilot located in Bordeaux (France).*
3. *A set guidelines for transferability and replication of the LIFE EFFIDRAIN approach.*

collaboration or support areas

- 1. Smartening of the water system - Develop, test and deploy autonomous monitoring and control algorithms integrated as part of ICT solutions*
- 2. Reinforce better utilisation and effective deployment of new technology enablers*
- 3. Develop and deploy Decision making tools able to apply new decision schemas considering competing objectives and multi-stakeholder governance models*

keywords that characterise your project



ICT (Monitoring and Control) to better protect receiving bodies from urban drainage and sanitation systems (UDSSs)

Pollution-based control of UDSSs

30% Mass reduction regarding current operation (Bordeaux pilot)