

# CENTRALIZED MANAGEMENT OF WASTEWATER QUALITY OF THE SEWAGE NETWORK IN THE

## BARCELONA METROPOLITAN AREA

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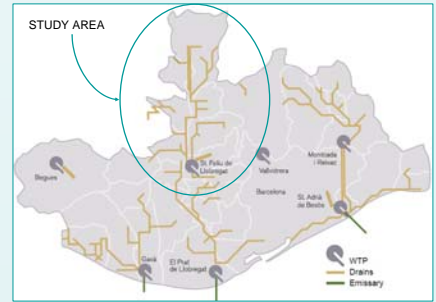


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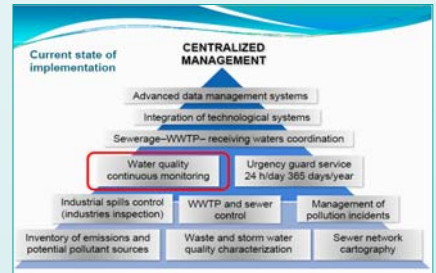
### INTRODUCTION:

The Barcelona Metropolitan Area is a local administration which includes more than 30 municipalities of the surroundings of Barcelona. Among its various activities it has competencies in waste water treatment.



### OBJECTIVES:

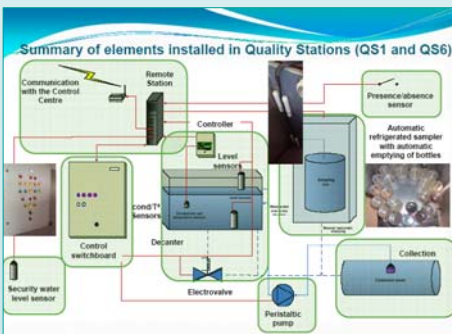
- Characterization of the industrial effluent in the sewage network
- Detection of pollution episodes by unexpected changes in the quality of the water
- Continuous control of industrial spillages and its influence in planning of inspections
- Protection of the Wastewater Treatment Plant (WTP), the receptor environment, and the sewage System



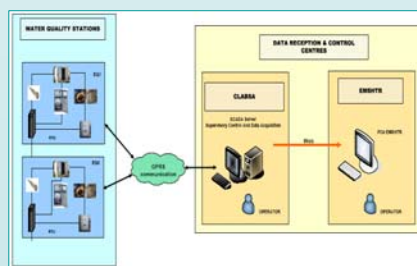
### METHODS, RESULTS AND DISCUSSION:

In the first step of the Centralized Management Project, two remote controlled Quality Stations that receive real time information have been running. These Quality Stations have been located in two strategic points: in the head-board of the System, coinciding with the connection of an Industrial Area (QS1) and at the entry of the WTP of Sant Feliu de Llobregat (QS6).

#### Installation of Quality Stations



#### Communication

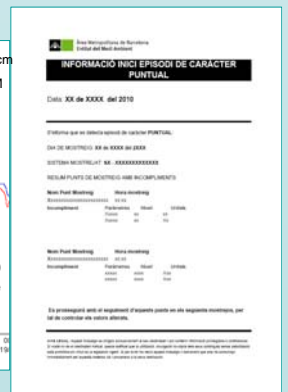
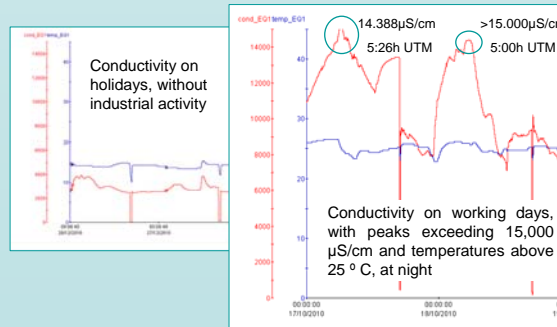
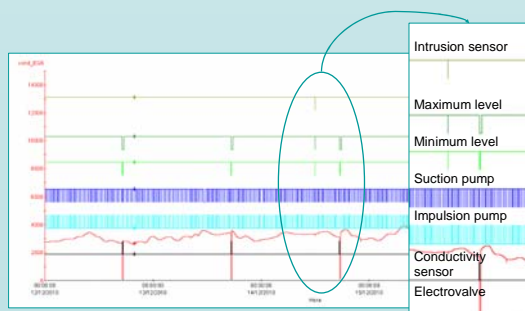


#### Data treatment programs



**Exploitation and maintenance:** The communication and correct operation of all remote controlled equipment is controlled daily.

**Detected episodes:** Example of one of the detected episodes by Quality Station 1, showing high conductivity peaks with a similar duration and during the same time frame. Action protocols are activated with the Sant Feliu de Llobregat WTP.



### CONCLUSIONS:

1. During the installation phase the importance of a correct water recirculation has been proven in order to obtain trustworthy data. With this aim level detection probes have been installed in the decanters in order to monitor the correct function of the hydraulic circuit.
2. Concerning the exploitation phase, one of the most troublesome points is the maintenance of the Quality Stations. For this matter, those elements that are likely to undergo a constant maintenance have been remote controlled for the right running of these Stations.
3. The correct function of the Quality Stations allows making use of the necessary tools to reinforce the degree of knowledge and the control of the system, by increasing the diagnostic capability by means of the detection of serious incidents related to spillages.
4. The capacity of intervention is improved allowing the activation of an emergency operative with the possibility of taking remote controlled sampling.
5. In future phases of the Centralized Management project an effort will be made to integrate elements of Geographical Information Management and tools that facilitate data treatment.

### REFERENCES:

1. Gil, A., Llopart, A. (2009). *Telecontrol de la Calidad del Agua. Aplicación en infraestructuras de saneamiento: Objetivos, perspectivas de futuro*. CLABSA
2. Llopart, A., Gil, A. (2010). *Projecte de Gestió Centralitzada de la qualitat de les aigües residuals del sistema Sant Feliu de Llobregat*. CLABSA