New process for Optimizing Wastewater Reuse from Mauguio to the Mediterranean area
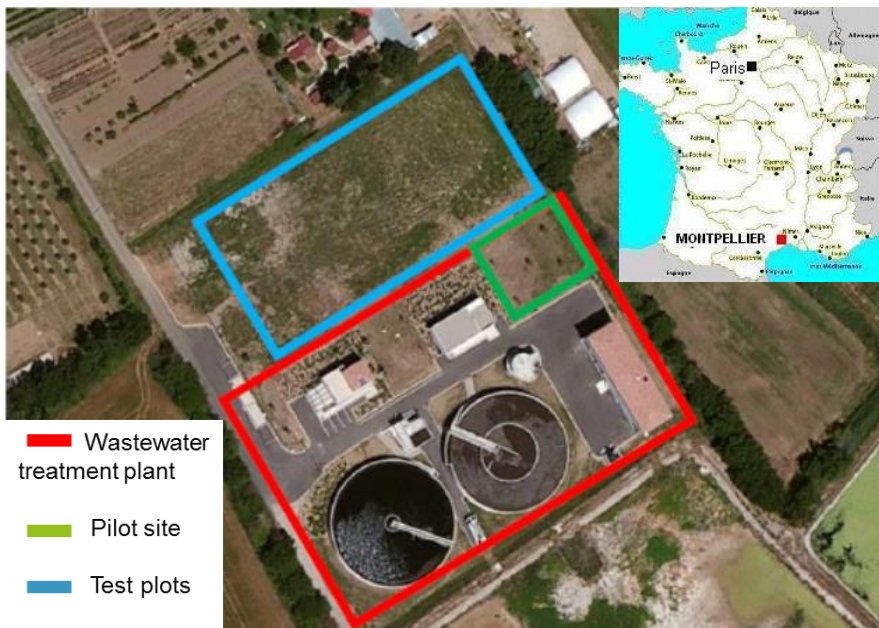
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Wastewater treatment plant
Pilot site
Test plots

Location : Mauguio (34), near Montpellier

SAUR, BRL Ingénierie, ARMINES,

IRSTEA, PERAX, Bio-UV,

LISPB (INSA), ApoH

Description of the case study

Project's name	Country	City	Start Date-End Date	Water Sources	Uses
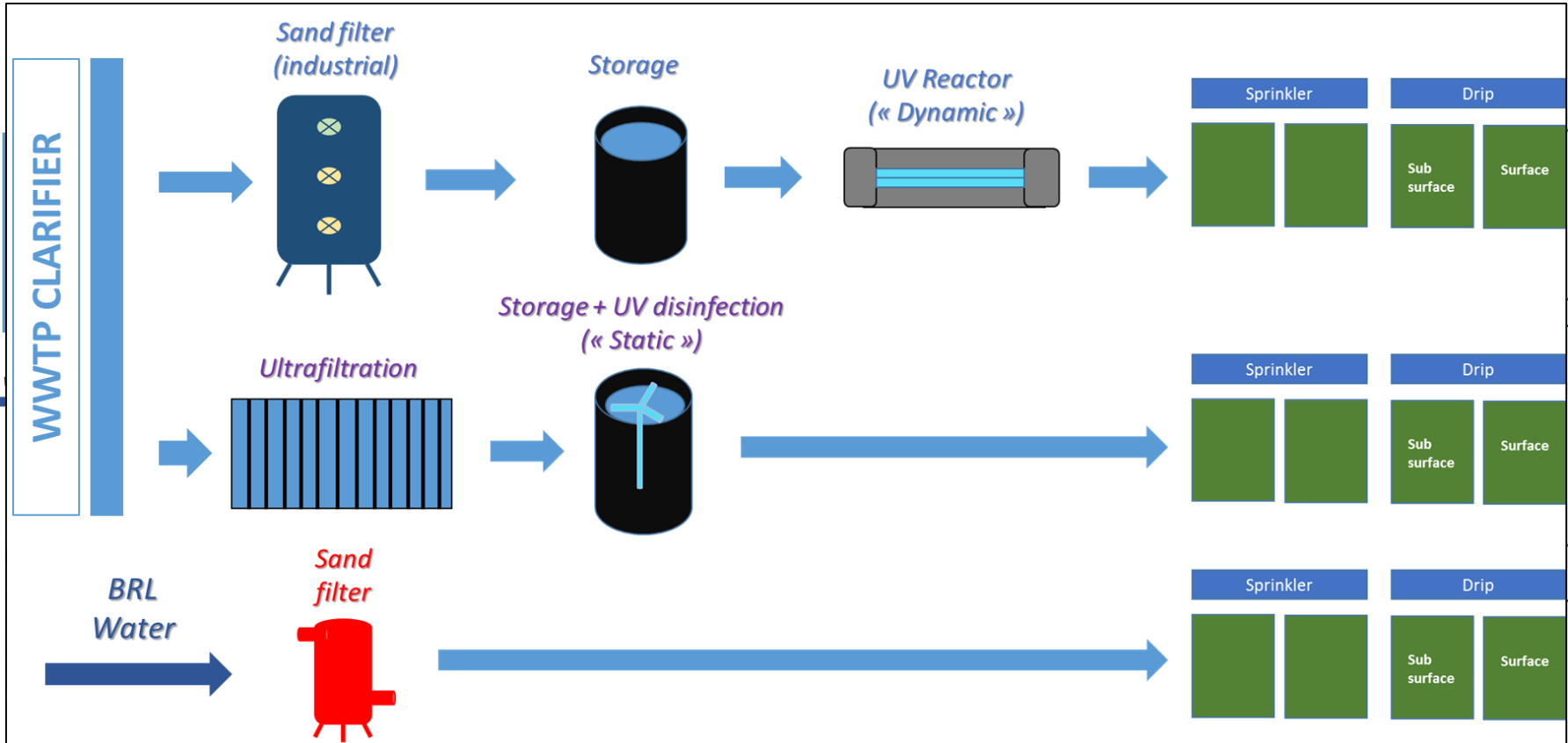
Filtering		Sand filter
Disinfection		UV
Storage Capacity (m³)		Tank (20)
Irrigation		Sprinkler, Surface and subsurface drip irrigation

How do I illustrate the question:
Which practices, technologies and institutional frameworks should be used to create an effective, safe and cost effective water reuse chain?

Objectives

- Follow up of water quality at each stage of the process (from treated water outlet to irrigation)
- Consideration of official French recommandation of 25th of June, 2014
- Sanitary and technological risks assessment along the network.

• Analyses & studies

Two analyses periods
(2014 and 2015,
10 weeks per year)

- Physico – chemical parameters (Turbidity, COD, pH, conductivity, …)
- Bacteriological analyses (follow up of faecal contamination)
- Follow up of pipe clogging (biofilm development, etc,)

4890 analyses carried out

20 check points throughout the process

Total cost : 70 000 €

Sampling and inspection along the pipeline (biofilm development)

BRL Ingénierie

How do I illustrate the question:
Which practices, technologies and institutional framework to create effective, safe and cost effective water reuse chain?

- Results / Observations
  - Improved knowledge of reuse systems performance
  - Satisfactory water quality (in respect of the stringent French regulation)
  - Comparison of observed phenomena in drip / sprinkling irrigation
  - Comparison of observed phenomena in surface / subsurface drip irrigation
  - Highlighting of network cleaning every year before irrigation
  - Better understanding and managing of water quality evolution inside an irrigation network
  - Best practice for irrigation network O&M (monitoring, wind measurement…)
  - Various water use opportunities (road washing…)

Pending questions

Performance of the irrigation network with a downgraded quality of water?

How to ensure the safety of the irrigator according to water quality and the method of application?

Extrapolation to a large scale network?