New process for Optimizing Wastewater Reuse from Mauguio to the Mediterranean area

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Location: Mauguio (34), near Montpellier

SAUR, BRL Ingénierie, ARMINES, IRSTEA, PERAX, Bio-UV, LISPB (INSA), ApoH
### Description of the case study

**Project's name**: NOWMMA (R&D)  
**Country**: FRANCE  
**City**: Mauguio  
**Start Date-End Date**: 2011-2015  

**Water Sources**: Domestic wastewater  
**Uses**: Agriculture / Tests  

<table>
<thead>
<tr>
<th>Crops</th>
<th>Irrigated Area (Ha)</th>
<th>Origin</th>
<th>Water reused (m³/Y)</th>
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</thead>
<tbody>
<tr>
<td>Grass</td>
<td>0.3 ha</td>
<td>Domestic wastewater</td>
<td>(R&amp;D)</td>
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**Filtering**  
**Disinfection**  
**Storage Capacity (m³)**  
**Irrigation**  
 Sand filter  
 UV  
 Tank (20)  
 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

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

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

4890 analyses carried out

20 check points throughout the process

Sampling and inspection along the pipeline (biofilm development)

Total cost : 70 000 €
How do I illustrate the question:
Which practices, technologies and institutional framework to create effective, safe and cost effective water reuse chain?

- 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?