

# Case Study

## ACEA Group Selects SAVI® Wastewater Treatment Equipment for the Roma SUD Project

### OVERVIEW

The significance and size of the ACEA Group in Italy can only be described by what it does. ACEA operations in Italy include supplying 44.50 million cubic feet of drinking water annually to a population of 9 million, treating 30,335 million cubic feet of wastewater, and performing annual testing on over 1.3 million drinking water sources. ACEA's water related investments in 2018 amounted to 0.99 billion USD.

The Group manages the entire water supply and service in Rome, Frosinone and Pescara, as well as in the respective provincial administrative districts. They are also present in the regions of Lazio, Tuscany, Molise and Campania, and abroad in Latin America. All of these services are performed within a commitment to sustainable management of water resources and a respect for the environment.

Thanks to the experience gained over decades, ACEA has developed cutting-edge expertise in the design, construction and management of integrated water systems: from spring water to waterworks, from aqueducts to sewerage and wastewater treatment.



### PROBLEM

ACEA and the municipalities of Rome identified major problems that had to be addressed in order to improve the level of wastewater treatment in the city.

- Untreated sewage being discharged into water ways.
- Century old wastewater treatment plants using structurally and technically outdated equipment that failed to meet new treatment regulation standards.
- If some of the very old plants are closed, the newer plants will require significant expansion and upgrades to receive the additional wastewater.
- Any new urban development such as the At02 territories, could not occur unless the proper wastewater collection and treatment infrastructure was built to support that growth.

In addition, protection of the water reserves in the Lazio Region was a critical initiative. As the discharge limits become more and more restrictive, there was a need for more technologically advanced wastewater treatment equipment and processes designed to meet those discharge limits.

## Roma SUD Project

Not to be ignored was the impact of the environment with perhaps some help from climate change. The number of storm water events had increased dramatically over the past 10 years. As more and more land was being covered with buildings and blacktop, less and less land was available to absorb the storm runoff. White water that previously had been absorbed by the land and ended up in aquifers, now ran into water bodies and collection systems. Existing collection systems were channeling more white water flow to the plants and the plants were overwhelmed.



While all these problems needed to be solved, these more expanded and advanced treatments come with a high price tag. The equipment and processes are more expensive. The operation of these more sophisticated plants requires more specialized and highly trained personnel with higher skills levels. More electricity is required to operate these larger plants. The quantity of residuals and biosolids produced by the more advanced equipment and processes would increase the cost of disposal.



## SOLUTION

ACEA began to design upgrades and capacity increases at the two wastewater treatment plants in Rome. Roma SUD, a traditional activated sludge plant, was the first target. A new parallel line was added to the plant design along with primary fine screening. With these upgrades Roma SUD would become the largest wastewater treatment plant in Europe.

When the tender for Roma SUD was issued, SAVI® of Mantua, a member of the SAVECO™ wastewater division, presented its capabilities and references to ACEA. Several years earlier, SAVI had provided its fine screens for the Brescia MBR project. At that time, Brescia was the largest MBR plant in the world. Based on those types of references, SAVI was welcomed as a bidder to the project. The two most qualified bidders participated in an evaluated bid and SAVI was selected for the fine screen project. This first phase of the tender was for two lines of fine screening. The first line consisted of six (6) VSA 2600 Flo-Drum screens. The second line was made up of eight (8) VSA 3000 Flo-Drum screens. These fourteen (14) screens provide the plant with a total capacity of 14.4 m<sup>3</sup>/s or 330 MGD.

All fourteen screen drums were constructed of 3 mm stainless steel wedge wire and custom engineered to meet this specific application. The screens were required to handle high flows with low head loss.

## RESULTS

The first six screens were installed and commissioned in 2017. The screens in the second phase are in the process of being installed. Included in the second phase along with the screens, SAVI also provided shaftless conveyors, Penstocks (up and downstream), plant water washing, cranes, steel work, four travelling bridges for sand and grease removal (PVD 29'6" x 98'5") and four grit classifiers from SPECOC®, another member of the SAVECO wastewater division. This final phase in the Roma SUD project will be completed and commissioned by the beginning of 2020.