

# Increased plant availability thanks to redundant Profinet

Marienheide wastewater treatment plant, Germany

## AR18001 | AUMA APPLICATION REPORT



At Marienheide WWTP, around 20 AUMA actuators with Profinet interface are linked in a ring topology with built-in redundancy.

Marienheide wastewater treatment plant (WWTP), Germany, has experienced remarkably high plant availability since installing redundant Profinet systems to integrate field devices. The plant operator is the Wupperverband, a large German water authority that operates 11 wastewater treatment plants, 14 reservoirs, a sludge incineration plant, and numerous flood retention and rainwater catchment reservoirs. Marienheide WWTP was the first Wupperverband plant to be equipped with Profinet technology at field device level.

### RING TOPOLOGY WITH INTEGRATED REDUNDANCY

Since autumn 2017, around 20 AUMA actuators have been operating in a Profinet network at Marienheide WWTP. AUMA's certified Profinet interface provides direct Profinet integration without the need for gateways. The interface supports Profinet's built-in redundancy concept, the Media Redundancy Protocol (MRP).

At Marienheide, AUMA actuators are installed in a ring topology using MRP. They are connected to the DCS via an intelligent switch. To support MRP, the AUMA interface incorporates a switch function with two physically separate Ethernet ports that provide two distinct communication channels to the host controller. If one port fails, communication continues automatically via the second port. All actuators therefore remain accessible even if the communication path is interrupted at one point on the ring.



WATER

### APPLICATION

Wastewater treatment

### AUMA SOLUTION

- > SA/SAR actuators with intelligent AC 01.2 actuator controls
- > Profinet
- > MRP redundancy

### CUSTOMER BENEFITS

- > Increased availability
- > Easy handling

"We expect high communication reliability due to the consistent use of Profinet at both control system and field level. Data and commands can be directly exchanged without any conversion; and Profinet's integral redundancy function provides additional safety for plant availability."

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