

Application Story

Industry: **Water**

Products: **Control Systems**

Sewage treatment plant Landshut



Reference project
Sewage treatment plant
Landshut

 **MITSUBISHI ELECTRIC Group**
ME-Automation Projects GmbH

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Mitsubishi Electric Europe B.V. / FA – European Business Group / Gothaer Straße 8 / D-40880 Ratingen / Germany
Tel. +49 (0)2102 486-0 / Fax +49 (0)2102 486-1120 / info@mitsubishi-automation.com / eu3a.mitsubishielectric.com



Reference project
Sewage treatment plant
Landshut

Customer:	Stadtwerke Landshut
Plant:	Sewage treatment plant Landshut
Population equivalents:	260 000
Project value:	~ 1.2 million Euro
Project duration:	2007–2008

Description

The sewage treatment plant in Dirnau was first commissioned in 1989. Every day, the plant processes up to 40 million liters of waste water from the city of Landshut and the neighbouring villages Ergolding, Altdorf, Furth, and Kumhausen. The waste water reaches the plant via an extensive sewer network with a total length of 345 km. After treatment, the water leaves the plant with a quality that is far above the legal requirements.

After many years of reliable operation, the automation equipment had reached its end of life or was obsolescent, so that adequate maintenance – and therefore plant reliability – could no longer be ensured. It was therefore decided to renew the entire process management & automation system. In addition, overall plant efficiency was to be increased by installing modern technology and automation functions.

In 2007, ME-Automation Projects, formerly known as KH-Automation Projects, received an order to renew the process control & automation system. Requirements such as distributed architecture, data consistency, the ability to process large amounts of data, and utmost availability were decisive factors during assessment of the new process management system.

Due to the sewage plant's distributed layout, particular demands were placed on the topology of the process management system. Moreover, by distributing the process control & automation tasks in several process servers, optimum matching of the automation system to the process as well as utmost availability are ensured. Tasks are executed directly where they are required.

All data of the extensive sewer system and the external structures are integrated by coupling the existing telecontrol system to the new process management system. To ensure efficient plant operation, the PMSX[®] pro process management system permits operation from the central control room and also from any of the distributed automation stations.

Also in critical situations, PMSX[®] pro supports the operators with a transparent display of the process, which enables them to make the necessary decisions quickly and confidently. Moreover, plant-wide system programming and configuration is possible from a central engineering workstation. What's more, the integrated Help function plus powerful tools for diagnostics, simulation, and quality assurance assist the personnel in efficient plant operation.





Technical requirements

- Process management of entire plant from a central point
- Operation and monitoring of entire plant by means of mobile operator stations
- Conversion and expansion during normal operation without retroactive effects
- System-wide engineering from all operating stations
- Vertical and horizontal data consistency
- Coupling of data from the existing telecontrol system
- Archiving of all incoming alarms & messages during the entire life cycle
- Archiving of all relevant measurement values in appropriate compression stages
- Strict data consistency in all software tools
- Access to all process values from the office environment
- Standardized software tools in accordance with IEC 61131-3
- Emulation of the real process by means of simulation software
- RFD-supported process management of third-party equipment
- Test system

Scope of delivery

- ▮ Process management system PMSX® pro
- ▮ Automation equipment
- ▮ Network using switch technology
- ▮ Video monitoring system
- ▮ Installation & wiring
- ▮ Target specifications / engineering / programming
- ▮ Documentation
- ▮ Factory tests with plant simulation
- ▮ Commissioning / trial operation / training
- ▮ Coupling to the existing telecontrol system

Process management characteristics

- | | |
|-----------------------------|--------------------------------|
| ▮ Process management system | PMSX® pro |
| ▮ Topology | distributed system |
| ▮ Network | optic fiber
Ethernet TCP/IP |
| ▮ Automation system | Mitsubishi System Q |
| ▮ Data points | about 9 000 |
| ▮ Automation stations | 8 |
| ▮ Operating stations | 6 |
| ▮ Mobile operator stations | 4 |
| ▮ Process servers | 9 |

Excerpt from our reference list

				
Waste incineration plant Frankfurt	Waste incineration plant Iserlohn	Waste incineration plant Weißenhorn	Wastewater treatment plant Erdinger Moos	Wastewater treatment plant Bad Homburg Ober-Eschbach
				
Milk production Regensburg	Energy supply center Dresden	Energy supply center Oberhausen	Pellet production plant Offenbach	Biomass CHP plant Wiesbaden
				
Energy supply center Munich Airport	Waste incineration plant Frankfurt	Drinking water plant Haltern	Sewage network and wastewater treatment plant Hamburg	Pellet production plant Dotternhausen
				
Wastewater treatment plant Düsseldorf-Nord	Waste incineration plant Frankfurt	Waste incineration plant Hamm	Waste incineration plant Frankfurt	Facility Management Control System Dresden
				
Facility Management Control System Nijmegen	Tank terminals Rotterdam	Barthel Pauls Söhne AG Biomass CHP plant	Wastewater treatment plant Stuttgart-Mühlhausen	Wastewater treatment plant Nuremberg
				
Wastewater treatment plant Nidderau	Wastewater treatment plant Landshut	Drinking water plant Friesland		
				
Tank terminal Botlek	Sewage network Wuppertal			

www.me-ap.de

GERMANY
ME-Automation Projects GmbH

Kasseler Straße 62
34277 Fuldaabrück

phone +49 (0)561 58540
fax +49 (0)561 5854530

e-mail: info@me-ap.de
www.me-ap.de

NETHERLANDS
ME-Automation Projects

Science Park Eindhoven 5008 A
5692 EA Son

phone +31 (0)40 26 79 900
fax +31 (0)40 26 79 919

e-mail: secretariaat@me-ap.eu
www.me-ap.eu

 **MITSUBISHI ELECTRIC Group**
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