

Application Story

Industry: **Water**

Products: **Control Systems**

Erdinger Moos sewage plant



Reference project
Erdinger Moos sewage plant

 **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
Erdinger Moos sewage plant

Customer:	Abwasserzweckverband Erdinger Moos
Plant:	Erdinger Moos sewage plant
Population equivalents:	320 000
Project value:	~ 1.3 million Euro
Project duration:	2007–2010

Description

The Erdinger Moos Abwasserzweckverband (association for sewage treatment) operates a modern sewage plant in Eitting, in which the waste water from the communes in the association as well as sewage from the Munich airport is treated by means of the latest mechanical, biological, and chemical procedures. Regarding plant performance, a particular challenge occurs in the winter months, in which an additional huge amount of sewage containing de-icing agents from the airport must be treated. This places utmost demands on the plant's automation & control systems and on the treatment stages. When handling these task, the plant operators are assisted by the modern and powerful process management system PMSX® pro.

After 25 years of reliable operation, and due to increasing difficulties in obtaining spare parts, the maintenance costs required to ensure continued operational safety had increased significantly. 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 existing 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 sewage 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 process management system permits operation from the central control room and also from any of the distributed automation stations.

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





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
- External long-term data storage



Scope of delivery

- Process management system PMSX® pro
- Automation equipment
- Network using switch technology
- Large-screen display
- 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 12 000 |
| Automation stations | 12 |
| Operating stations | 15 |
| Mobile operator stations | 5 |
| Process servers | 12 |

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 Fuldabrück

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**
ME-Automation Projects GmbH