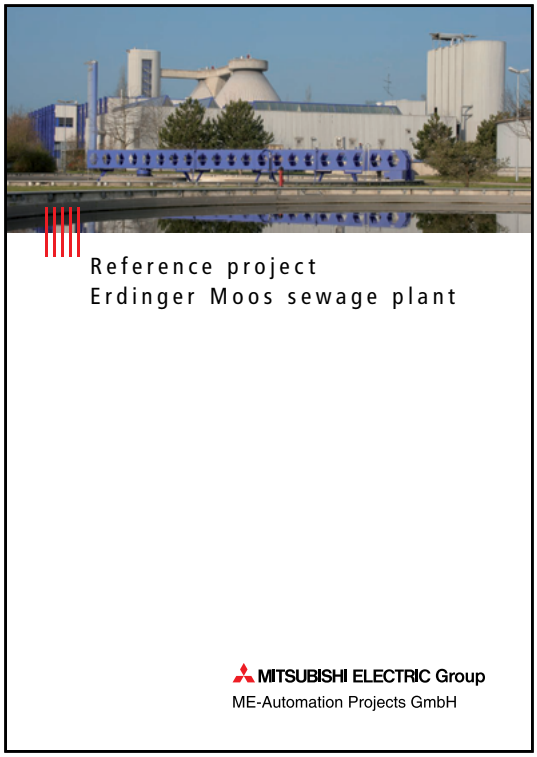
Application Story

Industry: **Water**

Products: **Control Systems**

Erdinger Moos sewage plant



Project of ME-Automation Projects GmbH, a member of the Mitsubishi Electric Group. First published in June 2014.

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Reference project
Erdinger Moos sewage plant

MITSUBISHI ELECTRIC Group

ME-Automation Projects GmbH

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.

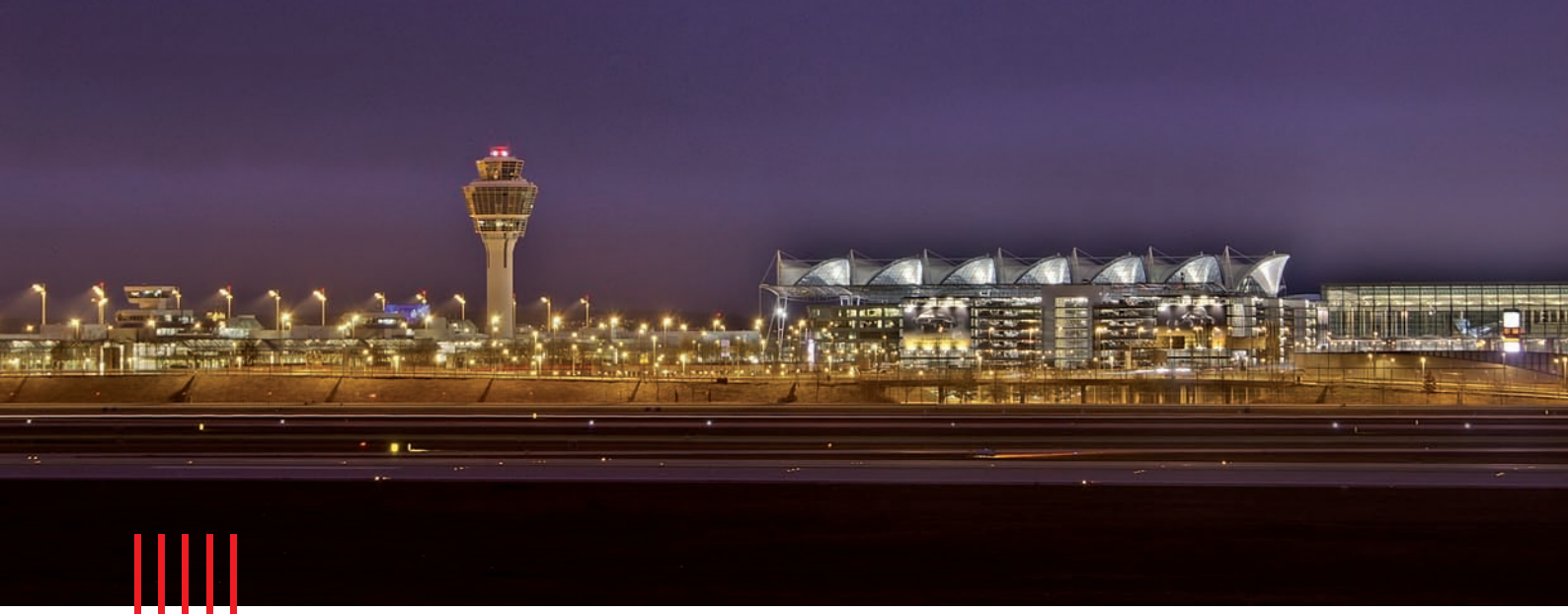
After 25 years of reliable operation, and due to increasing difficulties in obtaining spare parts, the maintenance costs required to ensure continued operational safety had increased significantly. It was therefore decided to renew the entire process management & automation system. In addition, overall 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*			

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