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Success stories with SIMATIC WinCC Open Architecture

Success stories with SIMATIC WinCC Open Architecture in Water

SIEMENS

Success stories with SIMATIC WinCC Open Architecture in Water

SIEMENS

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- Water level regulation in Delfland region, Netherlands
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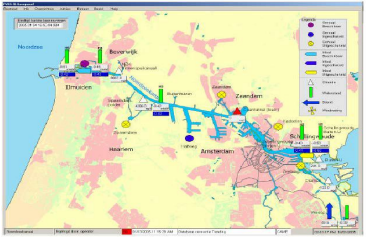
Decision supported system for water level regulation



Segment: Wastewater
End user: Directorate-General for Public Works and Water Management
System integrator: Control Systems Zaanstad
Realization date: 2004

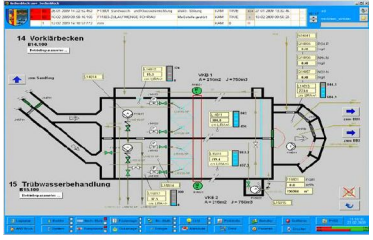
Requirements:
- High quality of data
- Collection and storage of all relevant data

Solution:
- WinCC OA as a middleware solution which collects and stores the data in a central Oracle database
- Connection between the information gathering system and the IT application via trigger tables in each database

Benefits:
- The use of a DSS leads to significant energy savings and increases the service life of the pumps

Control Systems Zaanstad, a subsidiary of Imtech Infra, is a provider-independent system integrator with projects in the fields of infrastructure and industry. Due to the knowledge, experience and capacity of the firm, Control Systems Zaanstad is capable of offering complete solutions from design to commissioning and maintenance for projects of all types and all levels of complexity.

Modernization of the automation system of the waste water authority “Bruck/Leitha-Neusiedl/See”



Segment: Waste water
End user: Water authority “Bruck/Leitha-Neusiedl/See”
System integrator: Siemens

Requirements:
- Hot-Standby Redundancy
- Reporting compliant with national legal requirements

Solution:
- Communication via OPC SINAUT and OPC FMS
- Multiscreening control room workstations
- Control of 26 pumping stations via telecontrol engineering

Benefits:
- Well-engineered algorithm ensure the best possible water quality
- Easier operation due to pager alarming and remote maintenance

The waste water plant is construed to serve 175,000 inhabitants. Its special task is to protect the highly sensitive nature reserve and world famous Lake Neusiedl by applying modern methods of wastewater treatment.

Water level regulation in Delfland region, Netherlands

Segment: Water regulation
End user: Hoogheemraadschap van Delfland
System integrator: HUMIQ
Realization date: 2009

Requirements:

- Perfect overview of all field stations
- Easy control of water level management devices
- Combine geographical information with process data

Solution:

- GIS Viewer – the combination of SCADA functionalities with geographical information (GIS)
- 220 field stations connected via ADSL and/or UMTS
- Over 100 SMS level measurement devices in the field

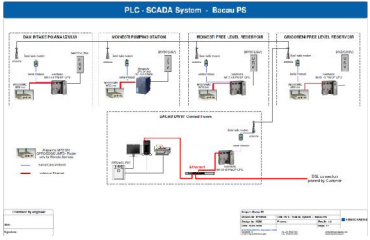
Benefits:

- Precise and fast fault navigation due to alarm signalization on the map
- Easy control of pumping stations and monitoring of water levels

Delfland is one of Netherland's water authorities. 1,4 million people live there and 40.000 companies are located in the 41.000ha large Delfland area.

Because it is located far below sea level, many pumping stations and water inlets are used to regulate the water level to react on rainfall and dry periods.

Drinking water pumping station Bacau



Segment: Water
End user: City of Bacau Municipal Council, Romania
Main contractor: STRABAG
System integrator: Hereschwerke Automation GmbH
Realization date: 2009

Requirements:

- Automation & Scada system for rehabilitation of main pumping station for 240,000 PE sewage plant

Solution:

- WinCC OA 3.8 Server, 2 operator stations, S7 TCP/IP driver
- 5,000 I/O's
- WinCC OA Report, WinCC OA Communication Center
- SIMATIC S7 300 PLCs

Benefits:

- Quick and standardized engineering due to comprehensive symbol library
- Reliable and efficient operations
- High quality reporting meets national requirements

Rehabilitation of pumping station and sewage plant for 240,000 population equivalent (PE) shall help to improve quality of life for 180,000 people in Bacau region. Hereschwerke Automation GmbH was awarded as contractor for the electrical equipment for the waste water pumping station.

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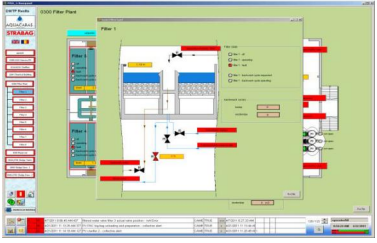
HERESCHWERKE

Drinking water treatment plant Resita



Segment: Water
End user: SC Aqua Caras SA
Main contractor: STRABAG
System integrator: Hereschwerke Automation GmbH
Realization date: 2010

Requirements:

- Automation & Scada system for rehabilitation of drinking water treatment plant and main pumping station for 85,000 people

Solution:

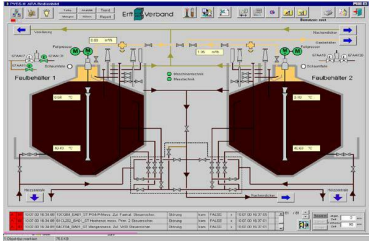
- WinCC OA 3.8 Server, 2 operator stations, S7 TCP/IP driver
- 5,000 I/O's
- WinCC OA Report, WinCC OA Communication Center
- SIMATIC S7 300 PLCs

Benefits:

- Quick and standardized engineering due to comprehensive symbol library
- Reliable and efficient operations
- High quality reporting meets national requirements

Rehabilitation of drinking water treatment plant and pumping station for 85,000 people town of Resita as part of the ISPA program (Improvement of water supply, sewerate and sewage treatment in the CARAS-Severin county, Romania). Hereschwerke Automation GmbH was awarded as contractor for the electrical equipment.

Wastewater treatment plant in Frechen



Segment: Wastewater
End user: Erftverband
System integrator: SI-tronik GmbH

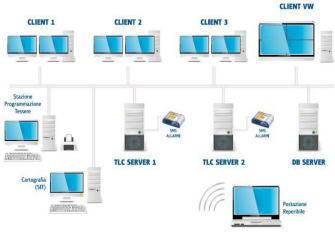
Requirements:
- Redundant configuration
- Collection and storage of all relevant data

Solution:
- Communication via Profibus FMS to Siemens PLCs
- WinCC OA displays the data in trend curves on 5 workstations

Benefits:
- Custom programming ensures the best possible water quality
- Remote maintenance possibilities ease the operation for the engineers

The wastewater treatment plant of the Waste Water Authority Frechen was designed as a mechanical biological plant for sludge treatment. The plant is designed to serve 14,000 people.

Telecontrol system for irrigation and territory monitoring Sannio Alifano



Segment: Water and waste water
End user: Consorzio di Bonifica Sannio Alifano
System integrator: ID&A
Realization date: 2008 - 2010

Requirements:

- Integration of the telecontrol system with the other enterprise systems
- More than 550 remote terminal units (RTU)
- “Always on” connection with remote terminal units

Solution:

- Redundant WinCC OA architecture, connected with GIS and water accounting systems
- Modbus GPRS connections towards Siemens S7 and ID&A RCSLOG
- RTUs supplied by photovoltaic panels and connected with the automatic control for water delivery

Benefits:

- Rational usage of the water resource
- Reduction of energy consumption and water leakage
- Fast and efficient alarm management
- Total integration of enterprise data

I.D.&A. is WinCC OA Premium Solution Partner and a well-proven system integrator in Italy for the realization of turn-key remote control systems for utility companies.

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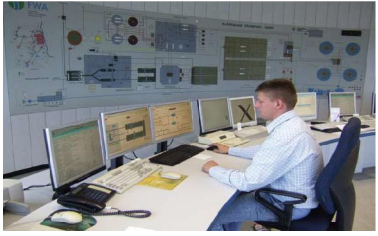
IDEA Information Development & Automation

CONSORZIO DI BONIFICA SANNIO ALIFANO

Wastewater treatment plant in Frankfurt (Oder)



Segment: Wastewater

End user: FWA – Wastewater treatment plant Frankfurt (Oder)

System integrator: AllTec Automatisierungs- und Kommunikationstechnik GmbH

Realization date: 2008

Requirements:

- Migration to the new system without stopping the plant
- Future expandability of the system

Solution:

- Redundant PLS system
- Linux server, Windows XP clients

Benefits:

- For the optimal use of an object-oriented process control system an object model designed by AllTec was implemented
- WinCC OA reporting feature provided a significant simplification and improvement
- Effective remote maintenance save costs and resources

AllTec is WinCC OA Premium Solution Partner and a general system integrator for automation and communication facilities. Since 1991, AllTec has concentrated its core competencies in automation, panel building and information technology.

SIMATIC WinCC OA PREMIUM SOLUTION PARTNER etm

ALLTEC

FWA FRANKFURTER WASSER- UND ABWASSER-GESELLSCHAFT mbH

Modernization of the automation system of the water union “Mürzverband”

Segment: Wastewater
End user: Mürzverband
System integrator: Siemens

The Austrian water union “Mürzverband” include 21 villages, with 75.000 habitants

Requirements:

- One control and supervisory system for all waste water plants
- Redundant Profibus FMS
- Automatic alarming via Pager and SMS

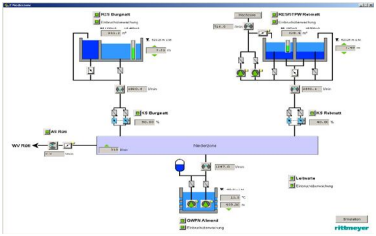
Solution:

- Connection via LAN (Twisted Pair, Hub) via fibre-optic ring
- High-quality reporting tool compliant with national legal requirements

Benefits:

- Quick and standardized engineering due to SIMATIC S7 water library and comprehensive symbol library
- Comprehensive telemetry functionalities

WinCC OA OEM Partner in water supply, hydroelectric plants and environmental technology



Segment: Water supply, hydroelectric plants and environmental technology
Systemintegrator: Rittmeyer AG (WinCC OA OEM Partner)

Requirements:

- Complete graphical visualization
- Object oriented process control
- Extensive process logging (message panel, operating hours, login/out log)
- Comprehensive alarm processing/process date archive

Solution:

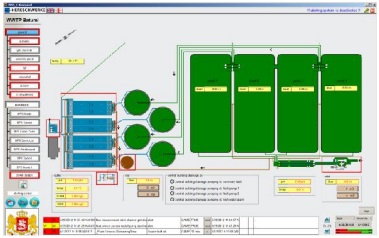
- Rittmeyer's visualization system RITOP is entirely based on WinCC OA

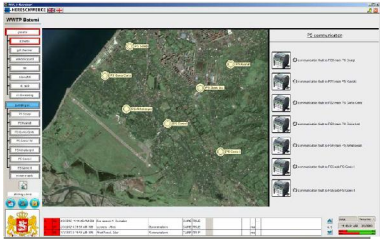
Benefits:

- A combination of Rittmeyer's sector expertise with the SCADA development competence of ETM
- More than 1000 WinCC OA licenses since 1999 confirm the successful partnership

Rittmeyer supplies modern measuring and control technology in Europe and measuring systems worldwide. Rittmeyer is a company of the BRUGG group, with around 1500 employees, 30 companies in 9 countries and offices in all major industrialized countries.

Waste water treatment plant Batumi





Segment: Waste Water
End user: Municipality of Batumi, Georgia
Main contractor: Hydro Ingenieure Consulting & Engineering
System integrator: Hereschwerke Automation GmbH
Realization date: 2012

Requirements:

- Automation & Scada system for newly built 200,000 PE sewage plant covering main pumping station, aeration, main treatment, final sedimentation, sludge treatment including thickening and dewatering

Solution:

- WinCC OA 3.10 Server, 2 operator stations, S7 TCP/IP driver
- 5,000 I/O's
- WinCC OA Report, WinCC OA Communication Center,
- SIMATIC S7 300 PLCs

Benefits:

- Quick and standardized engineering due to comprehensive symbol library
- Reliable and efficient operations
- High quality reporting meets national requirements

Hydro Ingenieure Consulting & Engineering was responsible for Design, Supply and Installation of the newly built treatment Plant for Batumi, Georgias second most important Black Sea port. Hereschwerke Automation GmbH was awarded as contractor for the electrical equipment

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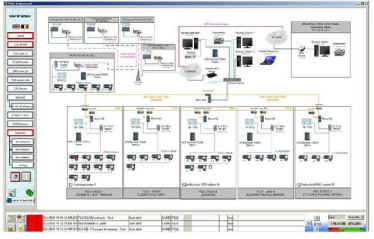
Waste water treatment plant Braila

Segment: Water & Waste Water
End user: Compania de Utlilitati Publice Dunarea Braila, Romania
Main contractor: Passavant-Roediger
System integrator: Hereschwerke Automation GmbH
Realrealization date: 2011

Passavant-Roediger was responsible for Design, Supply and Installation of the newly built Treatment Plant with a total capacity of 270,000 Population Equivalent (PE)
Hereschwerke Automation GmbH was awarded as contractor for the electrical equipment

Requirements:

- Automation & Scada system for newly built 270,000 PE sewage plant covering main pumping station, aeration, main treatment, final sedimentation, sludge treatment including thickening and dewatering.



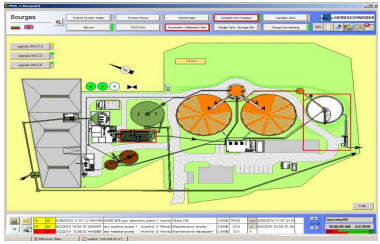
Solution:

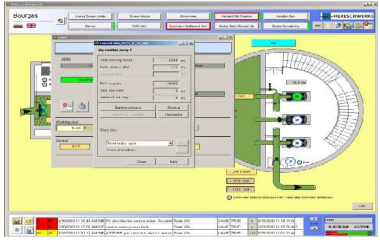
- WinCC OA 3.10 Server, 2 operator stations, S7 TCP/IP driver
- 6,000 I/O's
- WinCC OA Report, WinCC OA Communication Center
- 10 SIMATIC S7 300 PLCs

Benefits:

- Quick and standardized engineering due to comprehensive symbol library
- Reliable and efficient operations
- High quality reporting meets national requirements
- The project serves as a model for new plants in the region

Waste water treatment plant Burgas





Segment: Water & Waste Water
End user: Vik EAD-Burgas, Bulgaria
Main contractor: Alpine
System integrator: Hereschwerke Automation GmbH
Realization date: 2009

Requirements:

- Automation & Scada System for rehabilitation and extension of 500,000 PE waste water treatment plant

Solution:

- WinCC OA 3.8 Server, 2 operator stations, S7 TCP/IP driver
- 5,000 I/O's
- WinCC OA Report, WinCC OA Communication Center
- SIMATIC S7 300 PLCs

Benefits:

- Quick and standardized engineering due to comprehensive symbol library
- Reliable and efficient operations
- High quality reporting meets national requirements

Rehabilitation of sewage plant shall help to improve quality of life for 80,000 people in Burgas, Bulgaria. Hereschwerke Automation GmbH was awarded as contractor for the electrical equipment.

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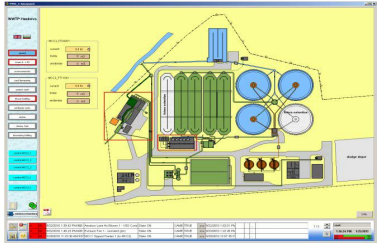
Waste water treatment plant Haskovo



Segment: Waste Water
Main contractor: Building Holding
System integrator: Hereschwerke Automation GmbH
Realization date: 2009

Requirements:

- Automation & Scada system for new waste water treatment plant for 98,000 PE sewage plant

Solution:

- Redundant WinCC OA 3.8 Server, 2 operator stations, S7 TCP/IP driver
- 5,000 I/O's
- WinCC OA Report, WinCC OA Communication Center,
- SIMATIC S7 300 PLCs

Benefits:

- Quick and standardized engineering due to comprehensive symbol library
- Reliable and efficient operations
- High quality reporting meets national requirements

New sewage plant shall help to improve quality of life for 75,000 people in Haskovo, Bulgaria. Hereschwerke Automation GmbH was awarded as contractor for the electrical equipment.

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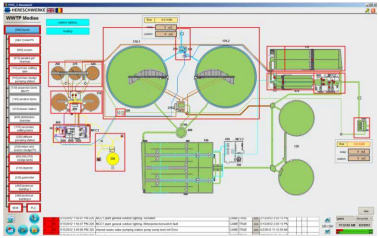
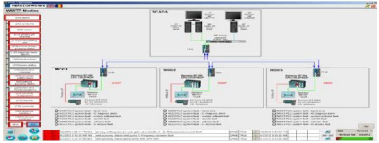
Waste water treatment plant Medias





Segment: Waste Water
End user: S.C. APA TARNAVEI MARI S.A.
Main contractor: HOCHTIEF Construction AG
System integrator: Hereschwerke Automation GmbH
Realization date: 2012

Requirements:

- Automation & Scada system for rehabilitation and extension of waste water treatment plant for 74,000 PE sewage plant

Solution:

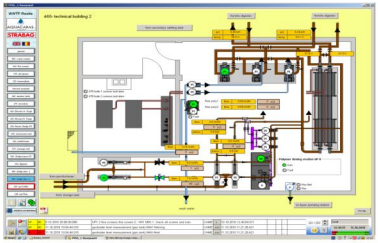
- Redundant WinCC OA 3.10 Server, 2 operator stations, S7 TCP/IP driver
- 5,000 I/O's
- WinCC OA Report, WinCC OA Communication Center
- SIMATIC S7 300 PLCs

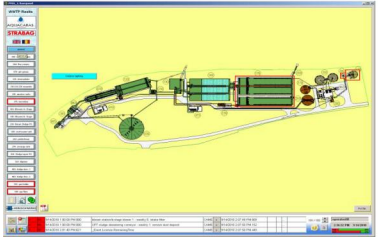
Benefits:

- Quick and standardized engineering due to comprehensive symbol library
- Reliable and efficient operations
- High quality reporting meets national requirements

Rehabilitation & extension of sewage plant shall help to improve quality of life for people in Medias, Sibiu County, Rumania. Hereschwerke Automation GmbH was awarded as contractor for the electrical equipment.

Waste water treatment plant Resita





Segment: Waste water
End user: SC Aqua Caras SA
Main contractor: STRABAG
System integrator: Hereschwerke Automation GmbH
Realization date: 2010

Requirements:

- Automation & Scada system for rehabilitation of waste water treatment plant for 85,000 inhabitants of Resita, Romania

Solution:

- WinCC OA 3.8 Server, 2 operator stations, S7 TCP/IP driver
- 5,000 I/O's
- WinCC OA Report, WinCC OA Communication Center
- SIMATIC S7 300 PLCs

Benefits:

- Quick and standardized engineering due to comprehensive symbol library
- Reliable and efficient operations
- High quality reporting meets national requirements

Rehabilitation of sewage plant shall help to improve quality of life for 85,000 people in Resita, Romania. Hereschwerke Automation GmbH was awarded as contractor for the electrical equipment.

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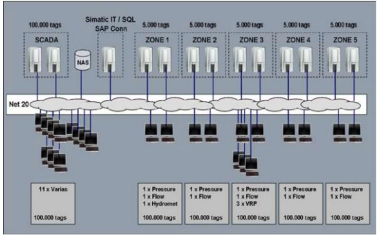
SIMATIC WinCC OA PREMIUM SOLUTION PARTNER etm

HERESCHWERKE

WinCC OA for the water supply of Bogota City



Segment: Water & Wastewater
End user: Empresa de Acueducto y Alcantarillado de Bogotá EAAB (CO)
System integrator: Electrohidraulica
Realization date: 2011 - 2012

Requirements:

- Migrate Wizcom SCADA
- Object oriented software
- Realization of the historical data management with MS SQL Server
- Software license via hardware key or digital license via keyboard

Solution:

- 1 pair of redundant servers 65.000 tags, 5 pairs of redundant servers 3.000 tags, 40 clients, 23 standalone stations, training servers, development servers, 25 web clients
- Communication with about 600 RTU using different protocols: BSAP, DNP 3.0, Modbus TCP, Simatic S7, RUG-9, IEC 60870-5-104, OPC
- Simatic IT Historian, Reporting Framework and SAP Connector

Benefits:

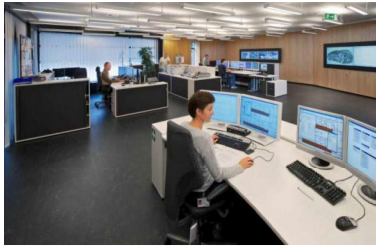
- SAP Connector with Simatic IT
- Engineering execution with support from US CoC HMI

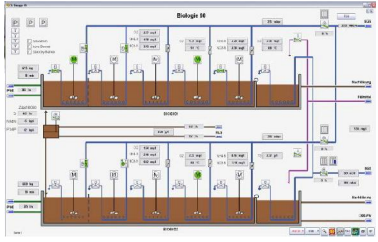
Siemens Colombia has a partnership with the main contractor Electrohidraulica.

electro hidráulica s.a.

acueducto AGUA Y ALCANTARILLADO DE BOGOTÁ

Modernization of waste water treatment ARA Werdhölzli, Zurich





Segment: Waste water
End user: City Zurich, Waste management and recycling
System integrator: Rittmeyer AG
Realization date: 2010 - 2014

Requirements:

- Industry specific functionalities
- Realization of a migration concept for an uninterrupted replacement of SINAUT LSX to RITOP

Solution:

- 3 redundant distributed RITOP systems (in total 26,000 I/O's)
- 20 work stations
- 40 SIMATIC S7-400/300 PLC's
- Integration of sewage system with 30 remote stations
- Industrial Ethernet optic fibre ring

Benefits:

- Continuous concept from process control system up to field level

Rittmeyer is WinCC OA OEM partner and develops, manufactures and installs equipment, instrumentation and process control system solutions for the water and energy sector. His control system RITOP is based on WinCC OA.

The waste water treatment plant Werdhölzli purifies the waste water of the city of Zurich and further six communities (in total 670.000 PE).