SAIA® DDC-PLUS as total integrated control system in a large leisure pool

PROFAX GmbH designs and builds technical facilities for the “Atlantis” swimming complex in Neu-Ulm
When it opened in December 1998, the Atlantis leisure pool in Neu-Ulm became the largest swimming complex in the south of Germany, with 60,000 m³ of enclosed space.

All technical facilities for bathing water treatment in its 8 pools, 25 attractions and sauna landscapes, plus the entire heating and ventilation systems, are controlled and regulated by a total integrated control system. The whole system is equipped with an interface for a combined heating and power station (CHP) and for receiving fire protection signals. An overriding process management system is provided, which also allows remote monitoring by the city’s department of works.

As a total integrated control system, SAIA®DDC-PLUS was selected with its S-Bus substations.

The main requirements of the specification were:
- uniform but open system platform for all the building technology
- energy-saving, economical operation
- convenient control and monitoring directly from the switch cabinet, centrally from a PC, and by remote modem transmission
- recording and logging of operating states
- fast, reliable fault location and removal.

SAIA®PCD2 substations are deployed directly in uniform-type control switch cabinets for the pool, heating and ventilation engineering. These 20 PCD2 substations control approx. 2000 data points for capturing the temperature, humidity or flow rate, including measurement signals from devices analysing pH values, oxidation reduction and chlorine gas. The PCD2 compares target and actual values and passes the results of its calculations on to the field actuators.

All substations are interconnected by SAIA®S-Bus and the LabView process management system.

All function states and any faults are also, of course, recorded by these PCD2s, enabling the integrated technology to be monitored centrally. They do this work completely autonomously, i.e. even when the master computer has been switched off or is faulty, the function of the whole installation is guaranteed. For this emergency operation, all PCD2 units have been additionally equipped with a local terminal unit. This means that all setting functions and function controls are also available directly from the switch cabinet at any time.

These terminals also prove useful for accessing the system on-site, without having to go to the master station. In addition, many routine maintenance procedures become unnecessary, as their use is only necessary when something actually has to be repaired.

Optimization of function processes by total integrated building automation with an open platform, due to the use of SAIA®DDC-PLUS substations

Excellent operating security

Simple manipulation of the whole installation by user-friendly control and visual display systems

Visual display of all technical equipment with remote transmission

Fast fault location and removal

Emergency manual control and rapid intervention with local terminal units

The modular structure enables simple expansion of the installation

Large number of function blocks available from the SAIA®BA library for quick and easy programming and commissioning

Very good price/performance ratio
Project:
Construction of all technical facilities for the largest swimming complex in southern Germany: “Atlantis”.
For the client: ABB Gebäudetechnik Süd

Technical data:
Capacity: 8 pools for 1200 people
Water circulation: 2200 m³/h
Air exchange: 159,000 m³/h
Thermal capacity: 1 MW
Electrical capacity: 1 MVA
System devices: 20×SAIA®PCD2
Binary data points: 1600
Analogue data points: 250
Network: SAIA®S-Bus
Programming and commissioning: with FUPLA function blocks
Process management system: LabView

Carried out by:
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We will be happy to send you further information on the SAIA®DDC-PLUS partnership concept for building automation or on automation systems for other areas at your request.

All technical details are based on information provided by companies carrying out the project.