Renovating entire building automation of the Twenteborg Hospital, Almelo (NL)

with the SAIA® DDC-PLUS cross-facility automation system
### Tasks and Objectives

Almelo is a town of approx. 70,000 inhabitants in eastern Holland. In 1985 the Twenteborg central hospital started its expanded operation with 650 beds. In 1998 considerable shortcomings were identified in the building technology and millennium compliance was also not guaranteed. For these reasons it was decided to renovate entirely the control and regulation devices for heating, cooling, ventilation and monitoring of the electrical network. With the latter to include an emergency power group. At the same time, sensors and actuators were to be extensively reupdated and controllers accommodated in existing switch cabinets.

The call for tenders stipulated equally that, throughout the renovation phase from February to November 1999, it should be possible to continue normal hospital operation without interruption.

### Implementation

UNICA opted for the open, cross-facility building automation system SAIA®DDC-PLUS together with its own building management system: UNIVIEW. Another reason for this decision was the fact that SAIA-Burgess is not a market competitor of its system partners.

In existing switch cabinets, modern PCD2 DDC controllers were installed in place of the old hardware control components, resulting in large reserves of space. By connecting manual control modules for all the main outputs, it was possible to carry out commissioning gradually and in a greatly simplified manner.

Even today during normal operation it is possible for the technical department to take at any time and without expense a specific function out of operation or else, for a certain time, leave it running permanently. The analogue manual control modules even allow the permanent checking of analogue values via a display directly on the module or, if necessary, their quick manual adjustment to another value.

### Advantages

**SAIA’S-Bus, the universal network**

All 60 DDC controllers with over 6000 data points, spread over 13 wings of the building, are connected to each other via the S-Bus. This large network is divided into 4 segments by PCD7.T100 repeaters. A master gateway, also a PCD2, is used to produce the connection with the management level. This consists both of the UNIVIEW supervisory and management system and a second controller on which, alongside the visualization, the SAIA®PG4 programming package is also installed. The S-Bus not only provides both systems with access to all 60 DDC controllers, but also enables the programming station at any time to modify parameters or, if necessary, entire program sections in a specific station.

**Open system for cross-facility building automation.**

This made SAIA®DDC-PLUS exceptionally suitable for upgrading existing installations.

**Smooth link-up of PCD2 substations to the planned management system: UNIVIEW.**

The UNIVIEW control and visual display system has proved itself in practice over 10 years to be a reliable and fully evolved software package.

**SAIA’S-Bus is the universal communications path**

That makes exchanging process information easy and across which, with PG4 programming software, each DDC controller can be accessed directly.

The manual control modules proved excellent, especially for replacing the old controller during the commissioning phase, and remain available in continuous operation to the technical department for occasional process interventions.

A major advantage of using SAIA®DDC-PLUS lies in the fact that SAIA-Burgess as a system supplier does not compete on the market with its system partners.
Project:
To retrofit, without interruption, the entire building automation of the Twenteborg Hospital, Almelo (NL) from an obsolete system to an up-to-date programmable automation system.

Use of SAIA®S-Bus as the communications path between 60 DDC controllers and the UNIVIEW management system.

Technical data:
- Installation: Hospital of 650 beds in a building with 13 wings
- Building automation: Heating, cooling, ventilation, monitoring of electrical network (the latter including emergency power group)
- System devices: 60 DDC stations, type PCD2, with manual control modules connected over 6000
- Data points: SAIA®S-Bus and Ethernet TCP/IP for master computers
- Management system/visual display: UNIVIEW from UNICA Regeltechniek B.V.

Client:
The Twenteborg Hospital

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