

Orbis Medisch Centrum, Sittard (NL)

Better care, greater comfort, lower costs



Orbis Medisch Centrum (OMC) in Sittard, the Netherlands, is one of the most modern hospitals in Europe. With 425 private rooms and 2,000 staff members in 130,000 square meters of space, it is a hospital of superlatives, one that focuses on the patient.

■ Hospital of the 21st century

The new OMC has transformed itself into the “hospital of the 21st century”, where the latest technology improves patient well-being and the quality of care. Patients are considered “guests” and have a wide range of options for controlling the environment in their rooms. At the same time, the medical and administrative staff can perform their work with optimum efficiency. Investments pay off quickly. OMC can therefore offer high-quality care over the long term at low cost.

■ Technological challenges

The specific disciplines for building automation, fire safety, and security had to be integrated into a single system. The hospital’s open structure also imposed specific requirements on the safety of patients, visitors, and staff. As a result, everyone was to have individual access rights and a badge. Medical staff, for example, can use their badges to access patient data from every point in the hospital. In addition,

patients were supposed to be able to adjust room conditions from their beds, open and close blinds, adjust the lights, and operate the audiovisual equipment.

■ Technology that pays off

- Patient terminals and electronic medical records
- Patient monitoring via RFID chips
- Fire safety system with fire alarms, evacuation, and extinguishing
- Security installations such as access control, intrusion detection, and video surveillance
- Danger management system for central monitoring of security-relevant functions
- Building automation for heating, ventilation, and air conditioning
- Central evaluations using the Energy Monitoring and Control system (EMC)
- Installations for monitoring room parameters in the OR and in clean rooms – efficient OR operation due to customized scenarios

Answers for infrastructure.

SIEMENS



The hospital of superlatives

- 425 beds, all in private rooms
- 2,000 staff members
- 350,000 outpatient treatments per year
- 17,000 inpatient admissions per year
- 22,000 treatments per year in the day unit
- Atrium measuring 265 meters long and 25 meters high
- 14 stores, from the pharmacy to the hearing aid studio
- 1,050 parking spaces
- 370 million euros in total investments

More safety and security – for people and equipment

At Orbis Medisch Centrum, a customized danger management system monitors all safety-related functions. This includes fire safety and access control as well as intrusion detection.

■ Integrating security and fire safety

It is particularly important for hospitals to detect fire as early and reliably as possible in order to take the proper action, since patients with limited mobility and cognition cannot save themselves. In addition, interrupted treatment poses enormous health risks. Siemens therefore integrated multiple security systems as well as a fire safety system into an MM8000 danger management system. These systems are displayed, monitored, and operated from the hospital's control center.

The Sinteso™ fire alarm system provides reliable, foolproof detection and fast fire alarms. In the event of a fire, optical and acoustic alarms alert patients, visitors, and staff, while visual guides, emergency lighting, and voice announcements guide them to a safe exit. The access control system can be flexibly adapted to these processes. In normal situations, complex access patterns enable staff to enter only the rooms they need to access in order to perform their work. In an emergency, however, these patterns can be changed immediately in order to safely evacuate all staff. Doors along the escape routes open

automatically, while fire doors close. Elevator fire safety protocols are activated, ventilation systems switch to safety mode and smoke extraction systems start up. Cameras at OMC provide visual identification of the danger zone.

■ Locating people and equipment via RFID

An RFID* people and asset tracing system guarantees the safety of patients and staff members within OMC. For this purpose, patients wear a transmitter on their wrists. Readers report the transmitter's position and identity to a central server.

In the department for restless, elderly patients, the system automatically closes the doors when a wandering patient approaches. This gives patients maximum freedom of movement, while medical staff can concentrate on their core processes. In the psychiatric department, the system protects medical personnel against attacks. When staff members are attacked by patients, they can use their badges to trigger an alarm. RFID technology enables their colleagues to determine the room from which the alarm is coming.

■ Compact Monitoring Technology

More and more hospitals are recognizing the importance of a reliable monitoring system in order to ensure that patients receive high-quality products. The law also requires the manufacture of medical products to be monitored in critical areas. This is why OMC uses Compact Monitoring Technology (CMT) from Siemens. It provides reliable monitoring of the ambient conditions required in the manufacture of ready-to-use cytostatic solutions in the hospital's in-house pharmacy. A total of 15 temperature values, eight relative humidity values and nine differential pressure values are displayed online and archived.

CMT monitors aseptic preparation, packaging/storage, and the personnel security gates – and it does this with minimal down times, thanks to an uninterruptible power supply.

* Radio Frequency Identification



Henny van Laarhoven,
Director
Shared
Service
Center Orbis,
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Netherlands

"Technology from Siemens has enabled us to make far-reaching improvements in the quality of our care."

From patients to guests – maximizing comfort

Cutting-edge technology contributes to the sense of well-being at Orbis Medisch Centrum. Doctors and nurses have more time for their patients. As comfortable as a hotel, OMC not only refers to its patients as guests, it also treats them like guests.

■ Comfortable stay in a private room

At OMC, patients can maintain contact with the outside world and use familiar entertainment and communication media such as the Internet, telephone, and TV. To this purpose, all hospital rooms are equipped with terminals developed by Siemens, which offer convenient ways to operate these media. In addition, patients can use the touch screen to comfortably adjust important room conditions such as temperature, blinds and lights right from their beds – without outside assistance. The terminal also supports the hospital staff. Doctors can use their badges to access the patient's medical records right

at the bedside and discuss X-ray images. This simplifies everyday work, while patients can rest assured that the medical records are really their own and not those of another patient.

■ Reliable and energy-efficient power supply

To maintain ongoing operations, hospitals have to provide power 24 hours a day, 365 days a year. Uninterrupted power supply is also needed to operate the HVAC systems in order to maintain a constant room climate and to minimize air contamination caused by dust and microorganisms. This increases energy consumption.

The systems from Siemens at OMC therefore provide reliable power supply and energy-efficient functionality.

■ Individual temperature and clean air for a sense of well-being

With the aid of the DESIGO™ building automation system, users can individually adjust the temperature of each room throughout the entire building. The system also provides sophisticated climate control for multiple temperature zones, while generating an air current that removes dust and bacteria from the operating rooms. Convenience for technical services: The DESIGO INSIGHT control system for OMC was designed to monitor every installation within the hospital. It is networked with the security and fire safety system and gives technical service personnel a complete view of data such as energy consumption and building temperature.

■ Faster help for patients

Call buttons and flashing room numbers in ward hallways are things of the past. Patients now reach nurses directly on their mobile phones. As a result, staff members save time and patients get help faster.





Max Wellens
Process
Manager
OMC,
Sittard, the
Netherlands

“Thanks to modern technology from Siemens we reached our goal of achieving greater efficiency with fewer people and simultaneously increasing the comfort of our patients.”

An integrated hospital solution

Technology from Siemens supports medical, nursing, and administrative workflows and improves patient care at Orbis Medisch Centrum.

■ Optimized workflow improves cost efficiency

Complex treatments, changing administrative staff and a growing number of multimorbid older patients, combined with deep budget cuts: healthcare developments require integrated processes, along with a seamless exchange of information. Data must be collected quickly and made available at any time. It must also be trackable. Using extensive digitization and cutting-edge technologies, Siemens helps OMC's operators achieve the profitability they need and offer competitively priced healthcare services.

■ A universally networked solution

Siemens networks the entire hospital complex – including incoming mail digitization, identity and access management, integration of bedside terminals, workstation virtualization, IP networks and IP telephony. Electronic medical records and a state-of-the-art customized document management system with revision-proof archiving make OMC the first nearly paperless hospital in Europe. Treatment records no longer need to be transferred from one department to another – a task that used to take valuable time.

Highlights

- Optimized patient care and higher patient throughput with fewer resources
- Better overview and central operation of all building technology installations
- Higher patient satisfaction, thanks to a wide range of control options
- Greater security for patients and medical equipment
- Greater flexibility and efficiency, due to adapted ICT architecture

The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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