

Brussels University Hospital Using patient-worn monitoring to advance cardiac care

One of the most celebrated hospitals in Europe, Brussels University Hospital has achieved international renown due to reference treatment centers such as its Cardiovascular Center. In specialty areas such as this, the hospital relies on the latest medical technologies to advance its quality of care.



Brussels University Hospital (Universitair Ziekenhuis Brussel) needed to replace aging telemetry devices in its Cardiac Rehabilitation Unit and Post-Cardiac Surgery Unit. The hospital team, which consisted of clinical, IT and biomed specialists, evaluated two telemetry systems: Infinity® M300 patient-worn monitors from Dräger and the newest version of the current vendor's telemetry devices. Because the hospital had recently deployed a Wi-Fi network to support PCs on trolleys, the team chose the Infinity M300 system, which is based on industry-standard Wi-Fi – rather than the other telemetry solution, which was UHF-based. The hospital decided to roll out the M300 system in its cardiac rehabilitation unit (Unit 64).

According to Prof. Dr. Danny Schoors, Chief of Cardiology at Brussels University Hospital, "The perfect telemetry system would have no cables – but that doesn't exist. So you have to look for a partner with whom you can work. We decided to work with Dräger because they are moving in the right direction."

Supporting quality of care

Unlike traditional telemetry devices that collect patient vital signs data and transmit it to a central monitor for surveillance, Infinity M300 monitors have a built-in color display and integrated alarming. As a result, clinicians can

see what's going on with the patient without having to step away to the central nursing station. According to Geert De Meyer, Head Nurse of Cardiology, "Because of the M300's display, nurses are not blind anymore – which was the case with traditional telemetry."

De Meyer continues, "Quality of care is our main concern. With the M300, the patient is continually being monitored – on the Infinity CentralStation when they are on the ward and on the monitor when they are off the ward. If there is an alarm, we can see where the alarm is and go directly to the patient, so we don't lose time by having to go to the central and then back to the patient."

The unit also uses Infinity Gateway with the pager option, so alarms from the M300 devices are automatically sent to the nurse's pager over the Infinity Network. As a result, the nurse can see which patient is having an alarm and go directly to him or her.

While traditional telemetry devices use disposable batteries, the M300 has a built-in rechargeable battery. "Battery changing is very expensive and time consuming," says De Meyer. "Now the nurses or the patients dock the monitor at night, and then during the day there is no problem with batteries – it's very easy," says De Meyer.



Prof. Dr. Danny Schoors, Chief of Cardiology

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“We’ve used the M300s for two years now and we don’t have any dropouts. It’s a very reliable product,” continues De Meyer. “It supports patient safety because it allows us to continually see the patient’s heart rhythms. So for us, the M300 has resulted in both cost savings with the battery design and workflow improvement because of the screen and alarm. All of this contributes to quality of care.”

Streamlining network administration costs

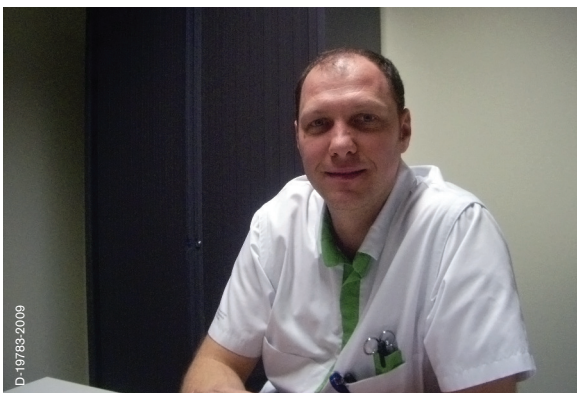
Infinity M300 devices connect to the hospital’s wireless network via Dräger’s Infinity OneNet infrastructure, which lets the hospital securely move life-critical patient data on its existing Wi-Fi network. This eliminated the need to install additional network components – thus streamlining network management and saving the expense of maintaining a separate wireless network for the telemetry system. Coordination between the hospital’s biomed and IT was a key part of the successful deployment.

Another benefit of the M300 being Wi-Fi based is that it is now possible for the hospital to use MAC addresses to track the location of the person wearing the M300 in real time.

Documenting care unit activity

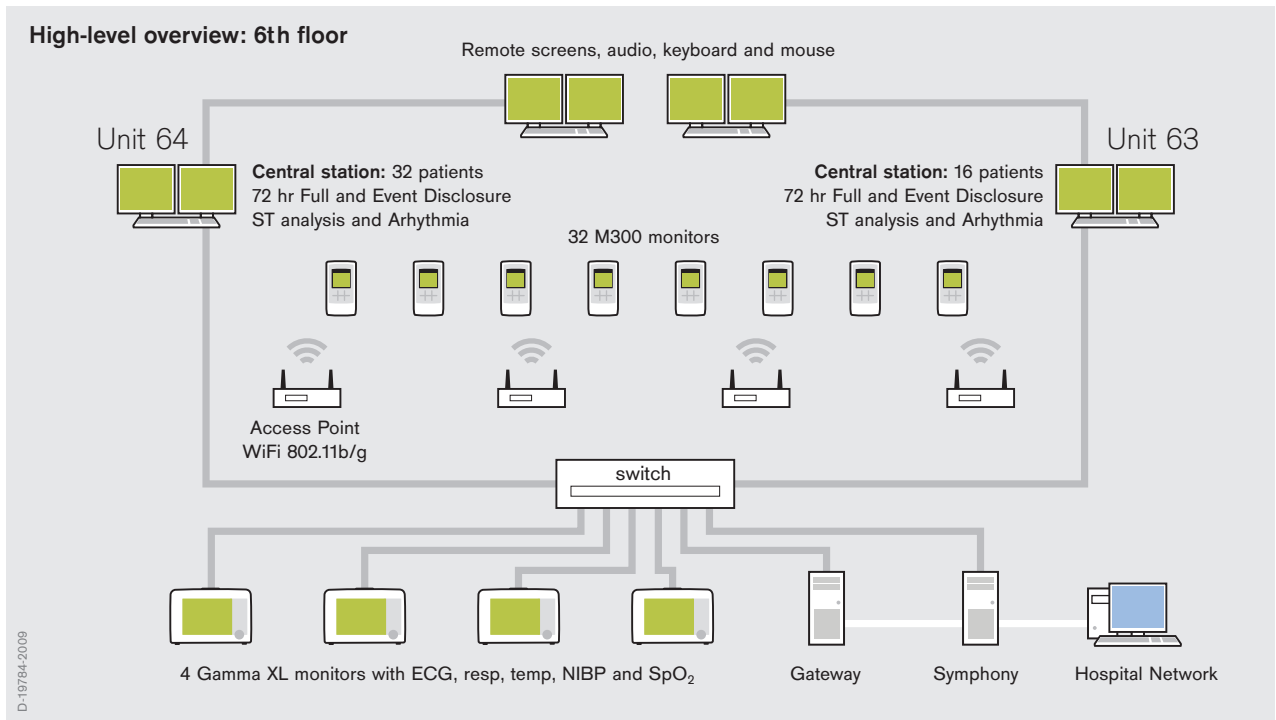
To efficiently document the activity of the care unit and create quarterly PDF reports, De Meyer uses Infinity Symphony – a Dräger application that provides remote access to information stored at the Infinity CentralStation. The hospital is looking into implementing Symphony so that doctors can remotely view patient vital information.

A longstanding Dräger customer, Brussels University Hospital has four high-acuity ICUs, all of which use Dräger’s Infinity Omega monitoring solution and Evita® 4 and Evita Plus ventilators.



Mr. Geert De Meyer, Head Cardiology Nurse

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Looking ahead

Based on the success of the Infinity M300 telemetry system in the Cardiac Rehabilitation Unit, the hospital will also implement it in the 16-bed Post-Cardiac Surgery Unit (Unit 63), which will include 12 Infinity M300 devices and four Infinity Gamma XL bedside monitors for higher acuity, non-ambulatory patients. The hospital is also considering installing the M300 system with an Infinity CentralStation in its Pediatric Unit.

Brussels University Hospital

Founded in 1977, Brussels University Hospital (Universitair Ziekenhuis Brussel) is one of Belgium's premier centers of excellence in healthcare, biomedical research and medical education. Closely associated with Brussels University (Vrije Universiteit Brussel), the institution has gained recognition at national and international levels as a top-level hospital. With 700 beds, Brussels University Hospital delivers healthcare services to approximately 30,000 inpatients and 500,000 outpatients each year.

Brussels University Hospital is known for its legacy of innovation, which continues today with state-of-the-art clinical programs in virtually every medical specialty, including reference treatment centers such as the Fertility Clinic, the Cardiovascular Center and the Oncology/Radiotherapy Department.



Infinity M300 patient-worn telemetry monitor

This Wi-Fi based telemetry system provides access to vital signs data, both at the patient site and the Infinity CentralStation – enabling rapid assessment and decision support to achieve the best patient outcomes. Supporting adult and pediatric patients, Infinity M300 has a color display that shows ECG, heart rate and SpO₂, integrated alarming that enables alarms to be heard and controlled at the patient site, and a built-in rechargeable battery. Two-way communication with the Infinity CentralStation, which is fully networked with the hospital information system, supports comprehensive data sharing.

THE CHALLENGE:

The hospital needed to replace the aging telemetry system in its Cardiac Rehabilitation Unit and was looking for a patient monitoring solution that would support the highest level of care possible.

THE SOLUTION:

Dräger Infinity M300 patient-worn telemetry monitors, Infinity CentralStations, Infinity Symphony and Infinity Gateway with pager option were implemented – all running on an Infinity OneNet installation.

THE RESULTS:

Patient safety

- Faster response to patient alarms
- Continuous monitoring of patients, even when out of networked area

Cost effective

- Leverages the hospital's existing wireless infrastructure
- Eliminates need for separate telemetry network

Time savings

- Built-in rechargeable battery saves time of checking and changing disposable batteries

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