

The **best medical care** runs on high-speed cabling



Groeninge's new hospital complex in Belgium's Flemish region provides patients with home comforts and bedside data thanks to a combined copper and fibre cable network.

In 2014, following investments of nearly 345 million Euros, Belgium's highly populated West Flanders region will become home to one of the country's largest and most modern hospital sites. Each year, 34,000 patients and 54,000 outpatients will be taken care of in this highly sophisticated healthcare environment which will rely on over 900km of Nexans cabling to support all its data communications needs. Today, the first phase of the project has been completed.

The hospital's current 2,000 data outlets are supported by 320 kilometers of LANmark-6A double shielded copper cable.



FROM "FLANDERS' FIELDS" TO THE 21st CENTURY

What were once open fields is today home to an impressive new hospital of the AZ Groeninge group. Three different healthcare campuses that are spread apart in the city of Kortrijk will eventually concentrate their activities on a four-storey medical campus, except for some, mainly polyclinic activities, which will remain in the city center of Kortrijk.

The complex's first phase consists of an initial building with plans to expand this by up to three times the current size. Yet despite its clinical purpose and extensive growth, visitors do not feel like they're in a hospital at all – rather, its functional modern infrastructure creates a home-like atmosphere. All patient rooms are positioned so daylight can come through large windows. Wide-open areas provide huge spaces without supporting beams. Technical equipment is installed behind false walls instead of above a suspended ceiling. Lighting is controlled by sensors so corridor lights dim to 60% at dusk, and to 30% at night. Light levels increase again if the sensors are triggered by someone walking through the corridor. Active ventilation and air-conditioning

"The LANmark-6A F/FTP LSZH cable with Nexans Category 6A RJ45 connectors perfectly meets our expectations concerning operational safety, communication quality, capacity and endurance."

Wim Engelen

Manager of Technical Systems, AZ Groeninge.

provide fresh air during summer and warmth during winter thanks to many kilometers of pipes buried three to four meters into the ground that tap the soil's warmth or coolness, depending on the season. This significantly lowers energy costs.

This highly advanced technology also includes the building's cabling infrastructure. Patients can watch high-quality IPTV (Internet Protocol television) in their rooms or surf the web. Medical staff can quickly consult a patient's file online at the patient's bedside. The entire network infrastructure will eventually consist of about 900 kilometers of cables, taking voice, data, medical imaging and other health-related information to every corner of the growing complex to improve and expedite patient care.

MIX OF COPPER/FIBRE SUPPORT ALL COMMUNICATIONS

Wim Engelen, Technical Systems Management at the new facility, is pleased with the choices made during the hospital's planning stage. "We sought a network capable of delivering a bandwidth up to 500MHz. As a result, we chose a fully shielded cabling infrastructure that was robust, reliable and included Low Smoke Zero Halogen (LSZH) protection to avoid toxic emissions in case of a fire."

The LANmark-6A F/FTP LSZH is therefore the perfect match. Moreover the Nexans RJ45 connectors installed throughout the complex are of excellent quality and ensure maximum network uptime, even during intensive use."

At AZ Groeninge, the focus is always on the patient. In communications, this means access to the latest digital technologies at bedside, as well as expediting

Challenges

- Network preventing electromagnetic interference and alien crosstalk
- Protection against toxic emissions in case of fire
- Ensure maximum network uptime

Solutions

- LANmark-6A shielded cabling system
- LANmark-OF OM3xt optical fibre cabling with LC connectivity

Benefits

- Future-ready network
- High performance throughout solution lifecycle
- Operational safety guaranteed

care by giving physicians and clinicians the digital links they need to monitor a patient's progress and quickly acquire medical data. With multiple ports per room, each patient has a dedicated telephone connection, one for Internet-based streaming television, and three open outlets for medical purposes. The new network also has future-ready capacity to support additional outlets per patient room as the facility expands.

All patient and general, clinical connections run over copper cabling, with internal links to the hospital's main Data Centre and several remote data stations supported by LANmark-OF OM3xt LSZH fibre cables with LC connectivity. In the Data Centre itself both copper and fibre solutions have been installed.

"It's like a wheel with the Data Centre at the central axle and the data station connections as spokes" explains Wim Engelen. "We have placed a 10G glass fibre in the spokes which connect the data stations to each other, making the whole network resilient. The only zone linked by dedicated fibre lines are thirteen rooms in the hospital's surgical suite."

"As wireless communication gains more importance in our hospital, we have placed about 300 antennas in the entire building. Qualitatively, our signals equal those of a commercial mobile services provider. Because of this fast evolution, our cabling infrastructure had to keep pace in preventing electromagnetic interference along with alien crosstalk," emphasizes Wim Engelen.

DIGITAL 'CODES' ELIMINATE PAPER DOCUMENTATION

AZ Groeninge contracted Nexans installer Electro-Entreprise Gullegem (EEG) not only to put in the network but provide state-of-the-art paperless records of where

all connections lead and terminate. Codes assigned to various cables identify the corresponding data station as well as the exact location of data racks and patch panels at the central Data Centre.

This high-tech building also supports sharing medical data over great distances. The hospital's internal data infrastructure interfaces with the overall healthcare groups' medical network to continuously exchange information with other hospitals, AZ Groeninge, with its powerful cabling network, is ready for the future.

"Codes assigned to various cables identify the corresponding data station as well as the exact location of data racks and patch panels at the central Data Centre."

Franklin Forrez,

Project Manager EEG-Belgium.

Did you know...

In order to accommodate last minute user requirements in the office spaces, cable connections were often lengthened to allow for another work setup. The existing cable was then connected to an additional cable without any quality loss in the connection.



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