



DNU - Det Nye Universitetshospital Denmark's fibre-based hospital of the future!



The New University Hospital in Aarhus, the largest hospital project in the history of Denmark, selects Nexans FTTO Switches for its IT-infrastructure to meet the future demands of technology, treatments and ways of working.

The Central Denmark Region has awarded Nexans a multi-year frame agreement for the delivery of 10.000 Ethernet FTTO Switches. These access switches are the key component in an innovative fibre based Local Area Network (LAN) cabling concept called "Fibre To The Office (FTTO)".

Challenges

- **highly 'digitised':** everything revolves around the WAN and the LAN
- **highly automated hospital:** 800 services (across treatments and processes) are running on the network
- **highly flexible hospital:** an office can be changed into an operating room or patient room if required

Solutions

- **Fibre To The Office** infrastructure ensures a future-proof network
- Intelligent compact Gigabit Switches ensure a powerful and secure network
- Special Nexans design allows redundancy and ensures a reliable available network

Advantages

- Improves the **quality** of care, **flexibility**, **scalability** and **TCO**
- Supports current/future systems
- **Eliminates recabling** to meet future needs
- **Wide bandwidth** accommodates voice, data, image, IP-TV, etc...
- 'IPv6-ready' switches mean long-term investment

Denmark is currently spending over five billion Euros on 14 consolidated 'super-hospitals' which will rely strongly on innovative healthcare IT. The first to be completed is the New University Hospital (DNU) Aarhus, the largest hospital project in the history of Denmark. Once completed in 2020, the hospital village will feature a wide range of state-of-the-art IT innovations which will make the IT significantly more **efficient** and **cost-effective**.

To accommodate a wide range of current and future services and applications, some 80,000 fibres will run to a vast number of Nexans FTTO Switches across the campus. The new network opens up all sorts of new possibilities, such as **PACS** (picture archiving and communication systems) data storage, transfer and analysis, **Electronic Patient Record**, video surveillance with high definition cameras, **Clinical** and **Service Logistics** as well as building management solutions, such as security, alarms, climate, heating.

Telephony, entertainment and WiFi also run on this network. Off-site medical consultants can advise or oversee medical procedures, operations or diagnostics. Physical and electronic signage and apps will guide visitors to the right location in the shortest possible time. Each patient will use a personal monitor to find information about treatment procedures, training, menus, entertainment and more. For the hospital, all this means more **ease** and **efficiency** at a **lower cost**.

Costs and Energy Savings

Besides reaching substantial cost savings, DNU has in addition ambitious sustainability targets aiming to reduce CO₂ pollution as well as energy consumption, to a large extent, thanks to a green IT Network.

Service & Clinical Logistics

Clinical Logistics provides hospital staff with a real-time updated and completely contemporary overview of patient flow, resources, treatment plans and work tasks for the individual department, entire hospital and other hospitals in Central Denmark Region. Service Logistics is a central tool allowing staff and IT systems to know the location of people, equipment and goods.

Picture Archiving and Communication System

PACS (picture archiving and communication system) is an evolving healthcare technology for the short and long term storage, retrieval, management, distribution and presentation of medical images (x-ray, CT, MR, etc)

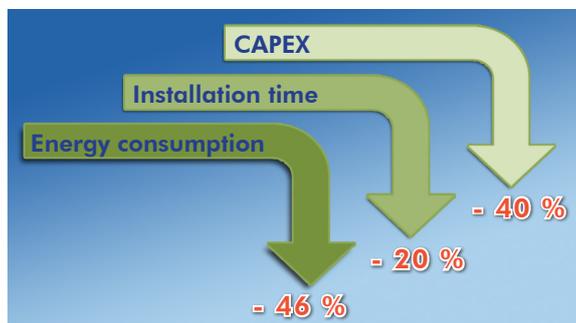
Electronic Patient Record

Wherever (and whenever) a patient is treated, there is a record of that treatment. Using information and communication technologies, these records can be made safer and available for other health professionals.



"Nexans provided the best balance between cost and effectiveness. We had reference meeting in Germany and France where Nexans had systems running in healthcare environments. Nexans has convinced us with the best in-class offering related to both product performance and value."

manifests Lars Ganzhorn Knudsen
(Central Denmark Region).



Two fibres run from one end of the campus, two more run from the other side. A double fibre ring with a large number of ports has been chosen for reliability and cost reasons. This makes a **high bandwidth** available and allows building **redundancy** into the wireless network so staff can check, monitor and communicate from any location. All IT infrastructure and in-building systems are located on level four, throughout all of the buildings. The system is intelligent enough to alert the IT department and prevents problems for occurring in the first place. Before something breaks down, people are aware of the danger.

This project will be finished in 2020, but the concept is so **flexible** that the building can be reconfigured when required in order to accommodate future changing healthcare demands.

This concept makes sense as it improves the quality of care, flexibility, scalability and total cost of ownership (TCO). The only real obstacle is the mindset of the healthcare decision makers and their suppliers.

Thanks to highly pro-active suppliers, a solution could be developed which matches DNU's needs precisely. Lars Knudsen (IT project leader, Det Nye University Hospital Aarhus) concludes: "We were also happy with the **easy installation**, made possible by the modular approach, as well as the support provided in this large, challenging project. The new concept provides us with the best possible **flexibility to design our new buildings** to respond to challenging requirements of modern health care institutions – and this at an **outstanding cost advantage** compared to more traditional infrastructures."



Nexans network solutions are used throughout the world and have proved their reliability in many different applications. Nexans products are manufactured in Germany on the basis of thoroughly selected components and in line with the current Quality Control Standards (ISO 9001).

Our customers include leading international companies and institutions, i.e. power utilities, hospitals, universities, ministries, railway companies, airports, industrial plants, banks and insurances. We have gathered over 25 years of experience in the research, development and production of FTTO Switches and in the design of the most sophisticated networks.

A LAN System which grows with the needs of its users has to be designed right from the very start with such a level of flexibility as to accommodate most easily all subsequent moves, add-ons, upgrades and changes.

We guarantee the exceptional quality of our products and provide our partners and customers with extensive support. Please get in touch with us for assistance with your FTTO project.

LANactive
Switch to the future

LANmark
Connect to tomorrow

LANsense
Take control of your network

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