

**MIGRATION FROM FM ANALOGUE TO NEXEDGE NXDN
OPERATION PROVIDES CRITICAL COMMUNICATIONS
CAPABILITY AT BON SECOURS HOSPITAL GALWAY**



BON SECOURS HOSPITAL GALWAY®

NXDN DIGITAL CONVENTIONAL WITH NX-1000 SERIES RADIO DEVICES ENSURES 24/7/365 SYSTEM SECURITY AND AVAILABILITY



Bon Secours Galway is a private hospital that provides care to over 6,000 in-patients and 12,000 day-cases each year.

Bon Secours Hospital Galway is part of the Bon Secours Health System, Ireland's largest independent healthcare provider which incorporates a network of five modern acute hospitals in Cork, Dublin, Galway, Limerick and Tralee. Situated just one mile from Galway city centre, the 120- bed private hospital provides the highest quality of care and service to the people of Galway and surrounding counties and meets with internationally recognised standards with 'Accredited Hospital Status', awarded by Joint Commission International (JCI). The hospital has undergone significant development in recent years with expansion of the main hospital and development of a new state-of-the-art Interventional Cardiology Suite.

CHALLENGE

After providing over 20-years' service the hospital's KENWOOD two-channel FM Analogue system was starting to show its age. The nine TK-3360, five TK-3180 hand-portable radios and TKR-851 repeater had served the hospital well, but with a requirement for more radios, increased site coverage of the hospital estate and protection against the growing threat of cyber-attacks on hospitals, the hospital's management wanted to ensure that the new radiocommunications system could offer resilience and availability under all operational conditions including in emergency situations where GSM and IP services may be rendered inoperable.

Having established the hospital's current and future requirements, Colin Connolly, the hospital's Facilities Manager called in BP Multipage, one of Ireland's leading critical communications solutions providers to discuss the options available.

SOLUTION



Sean O'Neill, Sales Executive at BP Multipage recalls:
"Colin was very clear in what he needed to achieve with this upgrading of the existing radio

system – Improved security, increased site coverage, better audio quality throughout the coverage area, more channels, and the ability to programme the system to enable individual, peer-to-peer calls in private. He also wanted to achieve all this in a system that operates 'offline' without a requirement for connection to IP or GSM networks".

Having explored various options, the decision was made to migrate to the benefits of digital operation and NEXEDGE NXDN technology where its true narrowband 6.25kHz channel spacing and inherently lower Bit Error Rate (BER) can increase range by up to 15% and improve audio clarity over a 30% wider coverage area when compared to a 12.5 kHz analogue or digital technology. This combination results in a requirement for fewer repeaters, while the choice of employing the UHF spectrum in this application offers the hospital more channels and excellent site coverage, indoors and out, with just one UHF repeater.



The new NEXEDGE NXDN, digital conventional system delivered by BP Multipage is designed to be uncomplicated and is set up to offer three channels:

Channel 1: Main Channel offering individual calls only.

Repeater Channel 2: Emergency Channel offering group and individual calls.

Back-to-Back Channel 3: Peer channel offering group and individual calls.

To maintain availability of operations critical communications and the resilience of the system in all conditions, the repeater is supported by an Uninterruptable Power Supply which ensures operation continuity in the event of a power outage.

The system is flexible and can accommodate additional back-to-back channels as and when required. As commissioned, it employs:

Portables: 30 x NX-1300DE2 initially supplied for DMR operation but switched to NXDN mode (NX-1300 NE2 version) during trials as it provided improved coverage.

Repeaters: 1 x NXR-810E

BENEFITS

Hospitals today are increasingly dependent on electronically controlled medical devices and one of the additional benefits KENWOOD NEXEDGE NXDN technology brings to hospital and healthcare settings over other digital formats, stems from the Frequency Division Multiple Access (FDMA) air interface method it employs. Data sent over FDMA is transmitted continuously rather than in bursts, so it generates lower noise which mitigates the effect of radio frequency interference on medical devices such as pacemakers, apnoea monitors, electrically powered beds/wheelchairs, etc. Alongside the other benefits of increased range, clarity, spectrum efficiency and lower infrastructure, this characteristic of FDMA has made NEXEDGE NXDN a widely adopted technology in radiocommunication system used by hospitals around the world.

FINAL WORDS

Sean O’Neill of BP Multipage comments: “The choice of KENWOOD equipment was virtually a foregone conclusion as the hospital was very impressed with the longevity and support available for the analogue system over a 20-year period.

The new systems had to be simple so that it could effectively operate ‘off-grid and off-line’ should it be necessary, but without compromising on features, flexibility and performance. One of the great benefits of the NX-1000 Series radios is the multi-protocol flexibility it offers which allowed us, during the field trials, to very easily switch the DMR mode NX-1300 DE2 hand portables to NXDN operation, effectively converting them to NX-1300 NE2 specification – this key feature allows us to quickly adapt and tailor a radio system both around a customers’ needs as well as site conditions to optimise performance.

Thanks to our engineers, the transition from the old analogue system to full digital operation including programming the radios, installing the equipment, and commissioning the system was seamless.

The new NEXEDGE NXDN system has greatly improved the efficiency and effectiveness of the hospital’s radiocommunication capability and with the reassurance of UPS and a Maintenance Contract with us, the radio users at Bon Secours Hospital Galway can be sure of availability of radiocommunications whenever it is needed”.



Colin Connolly of Bon Secours Hospital Galway concludes: “The upgrade from our older radios to the new KENWOOD system was hassle-

free and the team at BP Multipage did a great job in helping make the transition quick and easy.

The engineers were very helpful in configuring the system, programming the devices and showing us how to get the best from the radios and system – we’re delighted, and certain the new NEXEDGE NXDN system will be able to grow and flex around our needs well into the future”.



BON SECOURS HOSPITAL GALWAY

Bon Secours Hospital Galway
Renmore Road,
Renmore,
Galway,
H91 KC7H
Ireland

T: +353 91 381 900
W: bonsecours.ie/galway



BP Multipage
Unit 15, Grattan Business Park,
Clonshaugh Business & Technology Park,
Dublin 17,
D17 TK50
Ireland
T: +353 1 670 8555
E: sales@bpmultipage.ie
W: bpmultipage.ie



JVCKENWOOD UK Ltd
First Floor, Gleneagles,
The Belfry,
Colonial Way,
Watford,
Hertfordshire
WD24 4WH

T: +44 (0) 208 450 3282
W: kenwoodcommunications.co.uk