

NEXEDGE NXDN DELIVERS CAMPUS-WIDE COVERAGE AT TRINITY COLLEGE DUBLIN



Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

NEXEDGE NXDN IP SITE CONNECT WITH SITE ROAMING CONNECTS TRINITY COLLEGE CAMPUS



Founded in 1592 in the centre of the city, Trinity College Dublin is closely related to Oxford and Cambridge universities and the only one of the seven “ancient universities” of Great Britain and Ireland which date back to before the year 1600 located in Ireland.

The main campus covers approximately 47 acres (19 hectares), with close to 200,000 m2 of floor space, spread across both the older buildings, basement spaces and modern buildings.

In addition to being a prestigious international seat of learning and one of the top 100 universities in the world, Trinity College is also one of Ireland’s most popular tourist attractions, with more than 2 million visitors every year.

Most of the buildings within the main campus face inwards and are typically arranged in quadrangles or squares which along with few public entrances to the

site, create an intimate and cloister-like environment conducive to learning.

The campus features many landmarks and includes a library which serves as a legal deposit library for Ireland and the United Kingdom and is legally entitled to a copy of every book published in Great Britain and Ireland. It receives over 100,000 new items every year and is currently home to about five million books!





CHALLENGE

The existing radio system employed at Trinity College Dublin used a mix of analogue and digital channels serving three different departments. The main shortcomings of this system, which evolved piecemeal over time, was that it offered no crossover or connectivity possibilities and was incapable of providing full site communications coverage due in part to construction works over the years.

Two departments (the Library and Business School) were on peer-to-peer channels while a third (Security & Attendants) used a single repeater site which gave minimal coverage of the campus, most notably in the extensive basement areas, some of which extend to 3-levels below ground.



REQUIREMENTS

Given the coverage and flexibility issues which impacted on the safe and efficient operation of the university, the decision was made to replace the old radio system with a new multichannel digital system to meet four key requirements, namely:

1. Increase in repeater channels.
2. Provide full site coverage in newly built areas.
3. Connect radio users between different departments such as Library, Security, Attendants and Business School.
4. Provide connection to a remote building away from the main campus.



SOLUTION

Critico were called in by Zachary Chambers, Security Operations Manager at Trinity College to review the existing system and put forward recommendations for a new system to meet the stated requirements. The first step for the team was to carry out a thorough coverage test throughout the site to establish which key areas required a radio site comprising a repeater plus antenna to deliver the intended coverage to numerous separate buildings and in multiple level basement areas on and around the main campus. then discussing channel design and radio setup post inspection.

Following extensive on-site testing and evaluation, the engineering team of Stephen Ivers and Stuart Brown, supported by Jason Sharlott, Critico's Radio Engineering Manager, recommended the NEXEDGE NXDN digital air interface as it employs native narrowband technology for increased coverage with lighter infrastructure and was able, operating in UHF frequency, to provide the best overall coverage and wall penetration required for full RF coverage throughout the campus both above ground and in basement areas.



The four-site system allows the radios used by the Security and Attendant teams to roam between the repeaters for seamless coverage as they do their patrols and respond to threats and incidents.



For enhanced worker safety, all of the portable radio devices in use by the Security and Attendants teams were programmed to offer Man Down and Emergency functions which trigger an alarm and priority call to all radios when activated.

Emergencies calls from all other departments are directed back to the Control Room to be managed by the Security team discretely without disturbing or causing unnecessary duress to other radio users.

THE SYSTEM

The 4-site, 8-channel NEXEDGE NXDN digital conventional IP linked system employs KENWOOD's compact and powerful NXR-1800 Repeaters connected to new antennas, Bluetooth equipped NX-3820 Mobiles used as base radios in the Security Control Room and TTEC and NX-3320E2 Hand Portable radios with displays for Caller IDs, Man Down and Emergency alerts, all operating on the UHF frequency.



Hand Portable Radios: 100+ x NX-3320E2/3

Mobile Base/Radios: 2 x NX-3820E

Radio Repeaters: 4 x NXR-1800E

Other devices/Accessories: 6-way Battery Chargers, Earpieces, Spare Batteries



BENEFITS

The new system provides coverage throughout the entire campus and gives Trinity College sufficient channels for departments to speak within their group independently while also having the ability to call all radios in the event of an incident or emergency. As part of the new system upgrade, Trinity College also opted for a Full Cover Maintenance Agreement which ensures the system is operating at its optimum and critically, available to users at all times.

FINAL WORDS



Sean O'Neill, Sales Executive at Critico comments: "The new radio system at Trinity College has been designed to overcome the communication blackspots of the previous system and enhance communication across the entire campus, ensuring that Security, Library and other departments can connect effortlessly."

Our new KENWOOD NEXEDGE NXDN digital system employs KENWOOD's new NXR-1800E Digital Repeaters, providing crystal-clear audio and an impressive range.

Additionally, the new system was designed with versatility in mind. It supports multiple channels, allowing for organised and focused communication tailored to the needs of various departments. It's also important to mention that we've also enabled features like Emergency and Man Down Alerts which when activated will automatically override any ongoing broadcasts to inform the Security team immediately of threats or incidents. We're really proud of this installation and excited about how it will help improve the operational efficiency at Trinity College". Sean concludes:

"On behalf of Critico, I'd like to extend a big thank you Zachary Chambers and the staff at Trinity College involved in this project, and also to our dedicated radio engineers who delivered this effective, futureproof solution so efficiently".



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