



# Mobile Coverage for Staff and Patients at NHS Clatterbridge Cancer Centre

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# Mobile Coverage provided at Clatterbridge Cancer Centre - Liverpool

**Cel-Fi Quatra provides indoor mobile signal coverage at the new flagship cancer facility in the heart of Liverpool.**

When it was discovered that the state-of-the-art Clatterbridge Cancer Centre had little to no mobile coverage on many of the floors of the building, they reached out to Frequency Telecom to help them resolve the issue.



## **The Facility**

Clatterbridge Cancer Centre – Liverpool located in the heart of the city’s Knowledge Quarter opened its doors in June 2020. The 11-storey hospital brings state-of-the-art facilities and pioneering treatments to the 2.4m people living across Cheshire and Merseyside; an area with one of the highest rates of cancer in the country.

The spectacular building was uniquely designed to enhance wellbeing, healing, and recovery through a close connection to nature, despite its city centre location. Daylight permeates through the multitude of transparent and graduated glassed panels, giving the building a sense of light and space, even down in the lowest level where a Winter Garden can be found adjacent to the radiotherapy department.

The Clatterbridge Cancer Centre include six radiotherapy bunkers, chemotherapy, surgery, outpatient, and inpatient care with 110 fully ensuite patient bedrooms, plus dedicated facilities for teenagers and young

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adults, and bone marrow transplant. The upper levels which house inpatient wards and the chemotherapy suite, boast panoramic views across Liverpool and give patients, staff, and visitors access to external landscaped terraces.



### **The Challenge**

Cancer facilities are notorious for being immensely complex buildings. Buildings need to balance out providing a comforting treatment environment for patients and their families, with operational and research spaces. Radiology equipment requires protective shielding to practice nuclear medicine.

The Clatterbridge building's design called for modern and sustainable building materials to be used during construction. The sophisticated external skin was created by installing a layered façade of unitised cavity glazing made up of transparent, translucent, opaque, and graduated glassed panels. Thick walls were constructed inside the building, particularly on the lower levels where the radiology department is found, and protective shielding is required to practice this nuclear medicine.

Despite the central location of the hospital, the hospital suffered from very poor mobile coverage, particularly in level M3, M2 M1 and Level 0. The modern construction materials and thick walls were effectively preventing any mobile signal from penetrating the building.



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Patients who receive treatment or participate in clinical trials spend prolonged periods of time in the facility and the hospital acknowledged that using their mobile devices would in some cases enhance patient wellbeing and morale. With their primary focus being excellent patient care, the hospital set out to find a solution to improve indoor mobile connectivity.



### **The Solution and Result**

The IT team was referred to Frequency Telecom by Nextivity, the manufacturer of Cel-Fi products. Frequency Telecom is the master distributors of Cel-Fi products in the UK and Ireland and are the only mobile signal boosters available on the market that are OFCOM licence-exempt and fully meet the regulatory requirements of OFCOM and COMREG.

“The hospital IT team made it clear from the outset that levels M3, M2, M1, and 0 were the priority areas and any coverage solution proposed was to focus on those floors,” recalls Colin Giles, Account Manager. “After reviewing the floor plans and following several consultative sessions with the hospital IT team, preliminary budget costs for a Cel-Fi solution were put forward, subject to a site survey.”

Boost Pro Systems, one of Frequency’s enlisted Cel-Fi certified installation partners, was commissioned to perform the survey on the hospital premise. The survey results showed that there was sufficient mobile signal outside the building to be confident of deploying a robust in-building mobile signal solution. It was also identified during the survey that cable runs to the required coverage positions would be a challenge due

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to the construction of the building, something that was not obvious from looking at the site plans. The additional complexities in the cabling routing meant that the [Cel-Fi Quatra](#) solution, with its structured cabling capabilities, would be the only viable solution able to overcome such challenges and deliver a resilient and robust solution.

# CEL-FI QUATRA



Cel-Fi Quatra is a distributed antenna system (DAS) hybrid solution that combines the strength of passive and active DAS technologies to deliver high-quality mobile signal in buildings of up to 200,000 ft<sup>2</sup> in size. Cel-Fi Quatra provides mobile signal up to 1000 times stronger than before by utilising Quatra's digital technology and the capabilities of cat5e/6 structured cabling.

The Cel-Fi Quatra solution that was proposed to cover all four networks across the 4 lower levels of the hospital, consisted of:

- 8 x Network Units (NUs)
- 28 x Coverage Units (CUs)
- 4 x MIMO antennas

Once the proposal was accepted, Boost Pro Systems completed the professional installation within 3 weeks.

Upon testing the areas that prior to installation had little to no coverage, now enjoyed full coverage. The solution has allowed patients, staff, and visitors to use their mobile devices on any mobile network, to make and receive phone calls, access data services, and receive text messages whilst anywhere in this new progressive hospital.

The next phase of the project, due to commence in March 2021, is to extend the solution to provide coverage within the Clinical Business Lounge on Level 0 and the main boardroom on level M2.



Boost Pro has provided telecommunication solutions to thousands of sites across the UK since 2014. Working in sectors ranging from healthcare and construction to agriculture, Boost Pro Systems are at the forefront of the telecommunication industry. The team at Boost Pro pride themselves in always using the latest cutting-edge technology to provide innovative solutions to their clients.

Web: [www.boostprosystems.com](http://www.boostprosystems.com)

Email: [connect@boostprosystems.com](mailto:connect@boostprosystems.com)

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Frequency Telecom is the Master Distributor of Nextivity's Cel-Fi range of mobile signal boosters in the UK and Ireland. Cel-Fi products are license-exempt and fully meets the regulatory requirements in the UK (Ofcom SI 2018/399) and Ireland (ComReg S.I.No.283 of 2018). Frequency has successfully installed indoor mobile signal solutions at the NHS, Pure Offices, BBC, Hotel Chocolat, Lincoln Epic Showground, Premier League and many others.

Web: [www.frequencytelecom.com](http://www.frequencytelecom.com)

Email: [info@frequencytelecom.co.uk](mailto:info@frequencytelecom.co.uk)

Tel: +44 208 397 2222



Headquartered in San Diego, Nextivity Inc. develops the award-winning line of Cel-Fi products that optimize cellular coverage in homes, office and enterprise buildings. Cel-Fi products are self-configuring and leverage the advanced signal-processing and radio design of Nextivity's IntelliBoost chipset to deliver the industry's highest gain at the lowest cost per square foot. The Cel-Fi commitment is to protect the operator's network, deliver the best in-building mobile performance, and be the easiest solution to install.

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