



VIRTUA

This is us

Virtua UK Telecoms



We **connect people**.

We **innovate** with purpose.

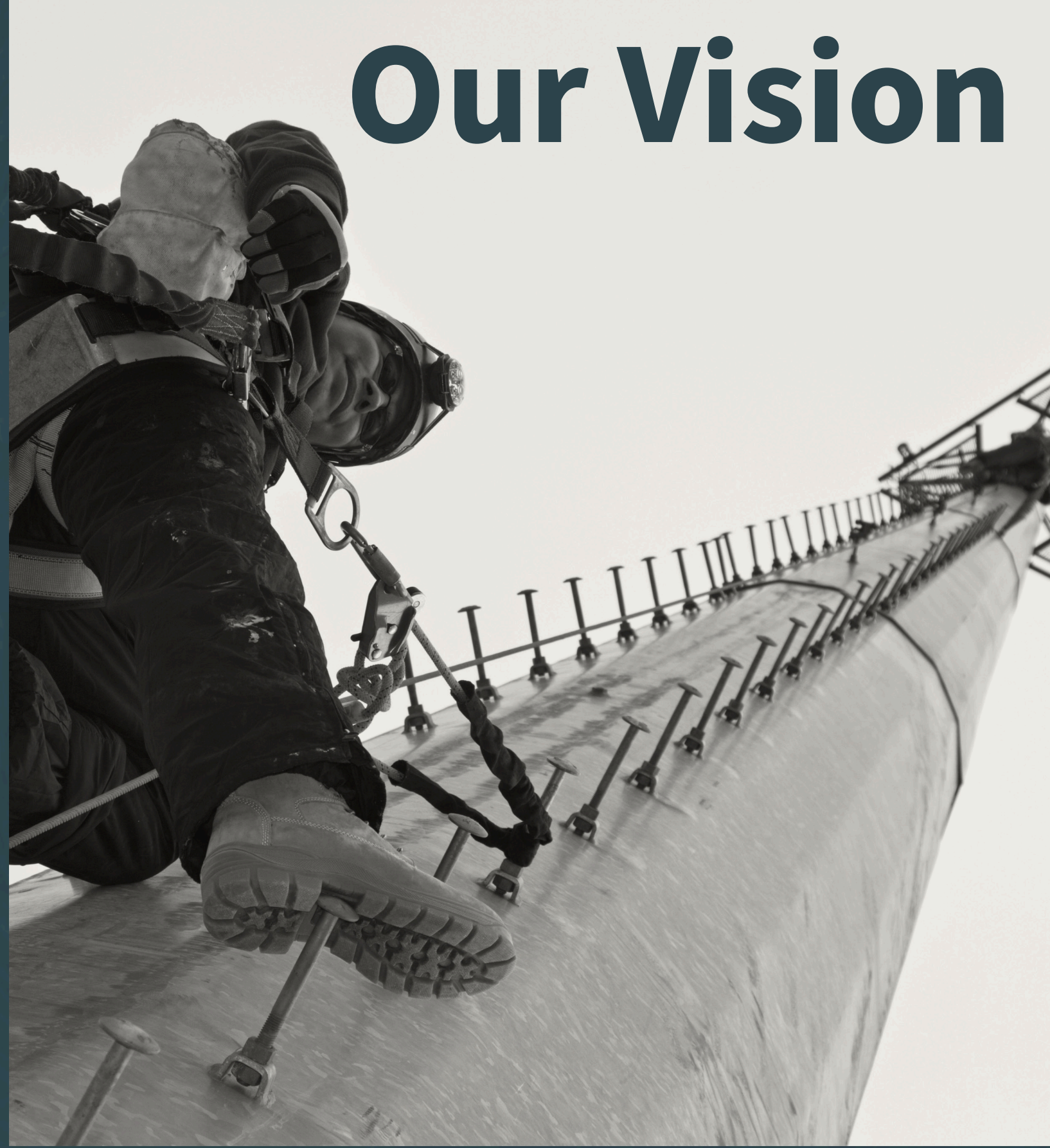
We empower our team to **shape the future**.

We bring the world **closer**, one connection at a time.

Content

- Our Vision
- Specialties
- Networks
- FTTx
- Cellular
- In Building
- Professional Services
- Programme & Project Management

Our Vision



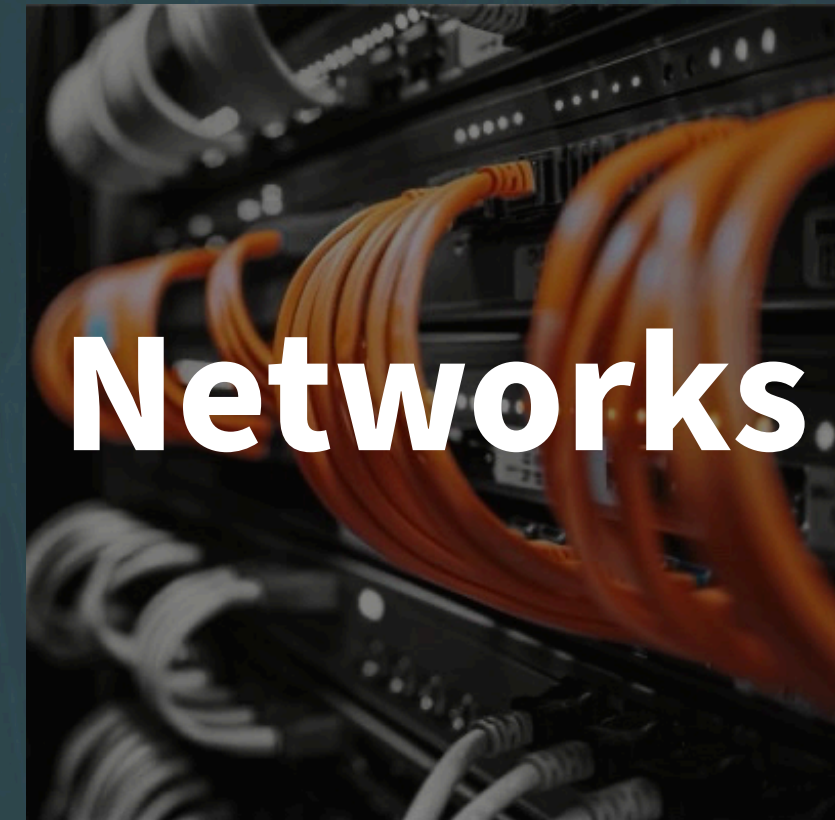
Specialties



FTTx



Cellular



Networks



**Professional
Services**

**WE PROVIDE OUR
SERVICES THROUGHOUT
THE UK AND EUROPE,
WHATEVER YOUR
COMMUNICATIONS
ENGINEERING PROBLEM,
WE CAN HELP YOU.**



In Building

Our History



Our People

At Virtua, our people are the foundation of our success. They are the driving force behind our continued growth and achievements. We are committed to their development, providing clear career pathways and access to cutting-edge training and development opportunities. Our organisational structure fosters close, meaningful relationships between team members and company leaders, promoting an open exchange of ideas. At Virtua, we believe in learning from everyone and value innovative thinking that challenges the status quo. We are dedicated to building the future, recognizing that the construction process begins long before work starts on-site. As we move forward, we continue to seek out the brightest minds to help us embrace technology and deliver projects with precision and excellence.



SECTOR HIGHLIGHT

Networks



Armed Forces Installation

Key Network Service Areas Provided:

- STRUCTURED CABLING
- FIBRE
- Wi-Fi
- ELECTRICAL SERVICES
- CIVILS
- LAN
- CYBER SECURITY
- REMOTE ACCESS
- CCTV
- ENTERPRISE AND TELCO SOLUTIONS
- UNIFIED COMMUNICATIONS
- ELECTRICAL - NICEIC APPROVED

SOLUTION

In the age of ever-increasing demands for bandwidth and connectivity, regardless of your type of organisation or location, users demand the best connectivity experience. Virtua staff undertake security clearance checks in line with government guidelines and have the relevant security cleared personnel for all security required environments.

SECTOR HIGHLIGHT

FTTx



Civils & PIA

Key FTTx Service Areas Provided:

- WAYLEAVE & ROUTE APPROVAL
- SURVEY & DESIGN
- GPON & XGS-PON
- MDU'S and SDU'S
- OLT / ONT
- INSTALLATION; TRUNKING, SPLICING, CATENARY WIRING, MEWP, ABSEILING
- TESTING; iOLM & OTDR
- CIVILS & PIA
- OH & UG Cabling
- CLIENT INSTALL (LEAD TO CASH)

Our delivery spans survey, design, build and installation. Utilising our Network Solutions Division, we are also able to design and manage your core infrastructure to ensure this all links seamlessly together enhancing your on-boarding speed, driving increased Homes Passed statistics while ensuring your customers get the best service possible.

SOLUTION

Virtua provide a full turnkey solution to deploy your FTTx network, be it full fibre to the home, fibre to the premise or a multi campusfibre LAN solution. Virtua operate across the spectrum of fibre networks including GPON and XGS-PON technology.

SECTOR HIGHLIGHT

Cellular



5G Rollouts

Key Cellular Service Areas Provided:

- 2G TO 5G CAPABILITIES
- SITE ACQUISITION
- PPM AUDITS
- INSTALLATION
- COMMISSION
- CIVILS
- ELECTRICAL
- PYLON
- MAINTENANCE
- DECOMMISSION
- BENCHMARK TESTING
- MICROWAVE INSTALL & DECOM

Virtua has the capability to design solutions in line with your specific requirements, before deploying teams to site. Our in-house civils teams are highly experienced in the excavation and construction of new bases for cabins, towers and all necessary service supplies.

SOLUTION

From small equipment upgrades to vast network rollouts. Virtua's specialist engineers have the skills, capabilities and knowledge to complete all aspects of telecoms engineering including design, survey, rigging, RF, fibre, Power (AC/DC) and Microwave.

SECTOR HIGHLIGHT

In-Building



Stadium Installations

Key In-Building Service Areas Provided:

- SINGLE & MULTI-OPERATOR SOLUTIONS
- DISTRIBUTED ANTENNA SYSTEMS (DAS)
- iBWAVE DESIGN
- SMALL CELLS
- SURVEY AND OPTIMISATION
- DRIVE & WALK TESTING (4G/5G)
- NEUTRAL HOST
- MOBILE EQUIPMENT ROOMS (MER)
- MOBILE PRIVATE NETWORKS
- JOTS COMPLIANT
- VENDOR AGNOSTIC
- ELECTRICAL NICEIC APPROVED

SOLUTION

Virtua's In-Building teams survey, design and install complex solutions. We offer a complete service to Virtua's customers. Virtua has solutions for both cellular and Wi-Fi. These solutions are typically installed for expansive sites requiring coverage over vast areas such as hospitals, stadia and multi-story offices.

Virtua offers a complete turnkey service, from initial site surveys, design, build, test, commission, optimize and "go-live" activities.

SECTOR HIGHLIGHT

Professional Services



Engineering Resource

Key Professional Service Areas Provided:

- PROJECT MANAGEMENT
- BUSINESS TRANSFORMATION
- ENGINEERING TEAMS/INDIVIDUALS
- CONSULTATION
- SERVICE MANAGEMENT
- CLIENT MANAGEMENT
- DIGITAL TRANSFORMATION
- SALES SUPPORT

SOLUTION

With the ever-increasing pace of change and transformation within businesses, the challenge to keep a highly skilled workforce available to be stood up at short notice becomes progressively more complex and costly. Virtua can offer a solution to this problem. Virtua has a wealth of experience in managing and delivering professional services to its clients, be it a programme director, delivery manager, engineer, or an architectural team. Virtua can help support your requirements with dedicated, skilled resources.

SECTOR HIGHLIGHT

Programme & Project Management



Project Management

Key Project Management Service Areas Provided:

- DEDICATED ASSIGNED PROJECT TEAM
- PROJECT LIFECYCLE MANAGEMENT
- RISK ASSESSMENT & STRATEGY PLANNING
- OBJECTIVES & GOAL COLLABORATION
- WORK BREAKDOWN STRUCTURES
- PROGRESS UPDATES & REPORTING
- COMMUNICATIONS PLANNING
- PRINCE2 & CTPM QUALIFIED RESOURCES
- GATED DELIVERY PROCESS TAILORED TO SPECIFIC CUSTOMER REQUIREMENTS

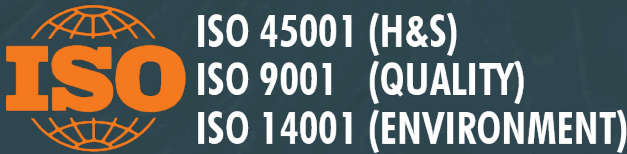
Attention to detail with a “nothing is too much trouble” approach, develops trust and provides assurances that all aspects of the delivery are qualified, assessed and managed so the project can be driven forward, achieving its milestones and expected results.

SOLUTION

The Virtua approach to Programme and Project Management is centred on the customers (and their customers’) goals, expectations and aspirations. Using tried and tested project management methodologies in accordance with its in house developed Project Management Roadmap ensures consistent lifecycle management and collaboration of all deliverables assigned to Virtua.



ACCREDITATIONS



Constructionline
Gold Member



firas

PARTNERS



Safety & Wellbeing

Virtua is committed to creating safe and healthy working environments for all members of our team. We uphold the application of good health and safety practice in the design, coordination and project management of all construction and maintenance activities.

DRA App

Bespoke Dynamic Risk Assessment application for on site teams to instantly report to the H&S department.

- Instant access to Competencies
- Instant access to Risk Assessment and Method Statements
- Instant access to Client Technical documentation
- TBT (tool box talks)
- Ability to report site issues instantaneously to QHSE Department
- Completion of Site Audits ability to take and upload photographs instantly

Lone Worker App

We use the industry standard Stay Safe application for our lone workers, to track and ensure their safety.

In House Team

QHSE is managed in house by our expert team, including a H&S Auditor and Compliance Manager. This enables us to continually develop and improve.

Expert Training

All staff receive the relevant and current training from fire safety to high mast works.

Responsibility

As well as looking after our people, we also have a commitment to looking after our planet. Wherever possible we reduce, reuse and recycle.

Our Sectors & Featured Projects



Our Sectors



MOD and MOJ



Entertainment Venues



Healthcare



Transport



Retail



Urban / Industrial



Residential



Education

Virtua Stadium 5G Solution

The Project

Partnering with an MNO (Major Network Operator), Virtua have helped to survey, design, install and test a new 5G solution for a large stadium in the UK. The solution would ensure full superfast 5G coverage for the operator's users throughout the venue.

Stats

- 5G Solutions
- 2km of co-axial RF cable
- 10 Months to complete
- 135 Ericsson DOT 4475 tri-band radios controlled by 24 IRU 8848 Indoor Radio Units.
- Speeds better than 1Gbps

The Solution

From the surveys and building plans, our RF Designers were then able to create the stadium in iBwave. Enabling them to view the building in 3D and create a viable solution for the premises. One of the main issues we needed to overcome was that parts of the building date back to the 50s, and already had a lot of other cellular equipment in prime antenna locations. As such we sourced new steelwork to house the new 5G antennas and radios. Our engineers and installation partners carried out multiple activities including; the fibre and data cabling, antenna rigging, RF cabling, abseiling and install and connection of all radios and inbuilding components for the DOT System.

The Benefit

The newly installed MNO 5G solution now offers their users a superfast connection, with speeds better than 1Gbps. It is also high capacity and is able to handle thousands of users all connecting at once.



5G Automation Technology

The Project

Working on behalf of our customer we helped to survey, design, build and test a new 5G trial solution. The project was to install a 5G solution within a large port in the UK. The cellular network would be private, covering the container storage and crane operating areas of the port.

Stats

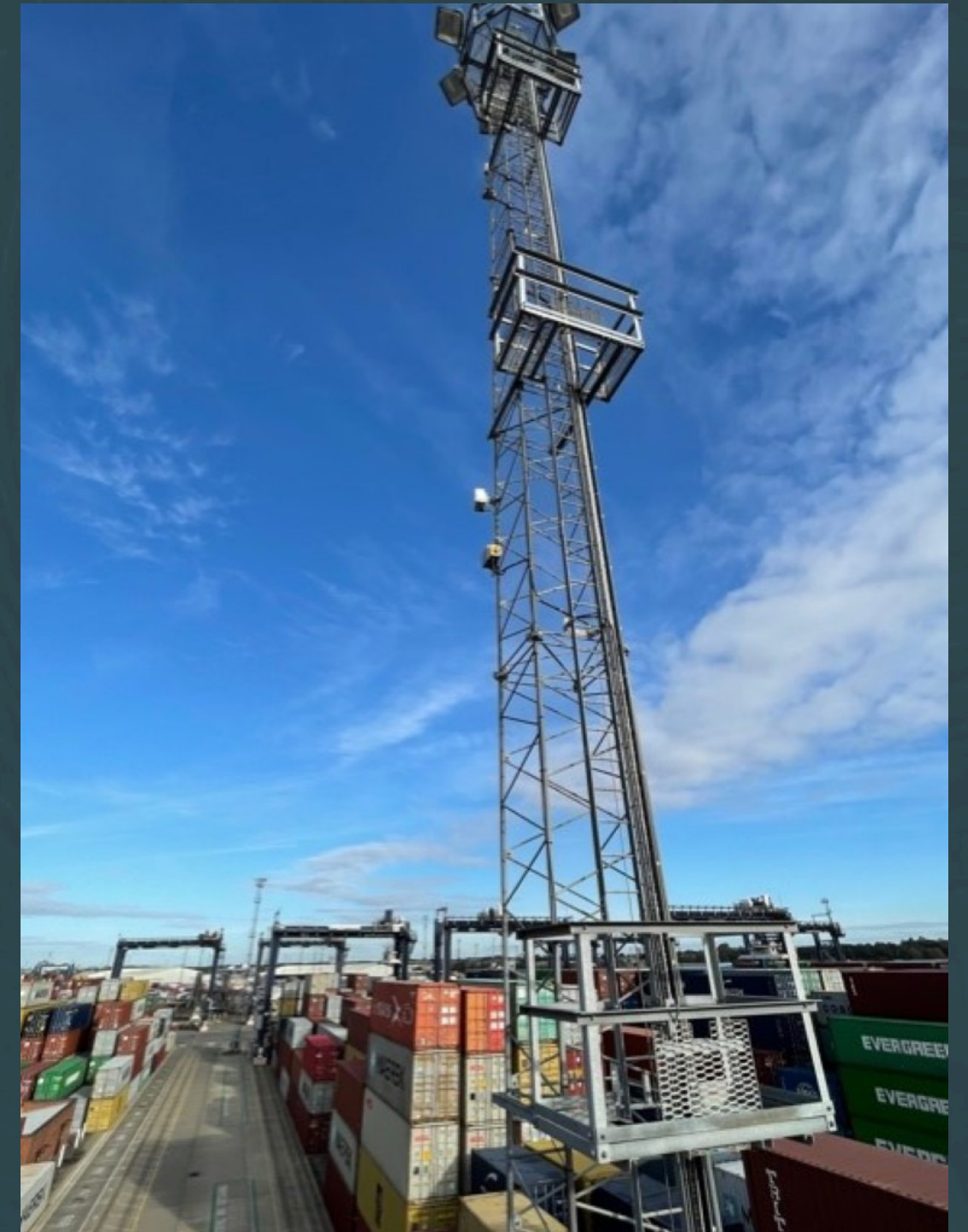
- 5G Solutions
- 22m Rigging height
- 7 Months to complete
- 5 sectors of Ericsson 4408 Micro radios
- No service disruptions

The Solution

After the survey and creation of design, our build team installed 5 sectors of Ericsson 4408 Micro radios, located on two lighting towers. The radios connect over fibre to a 6630 baseband unit in one of the customer's comms rooms. For the radio install, we utilised two lighting towers. The radios all needed power and fibre connectivity which our team installed, involving rigging at heights of 22m.

The Benefit

The newly installed system can now detect anomalies in the cranes and alert the operators in real time, fixing faults before they even happen. Now installed the innovative technology can be monitored for its effectiveness and for future 5G rollouts. Virtua are privileged to have been involved in a forward thinking project, one that hopefully we will see rolled out.



20 Fenchurch Street

The Project

The Virtua team were awarded the opportunity to support Canary Wharf Group and Land Securities the owners of 20 Fenchurch Street in London, to implement a dedicated in-building cellular solution for the whole building.

Stats

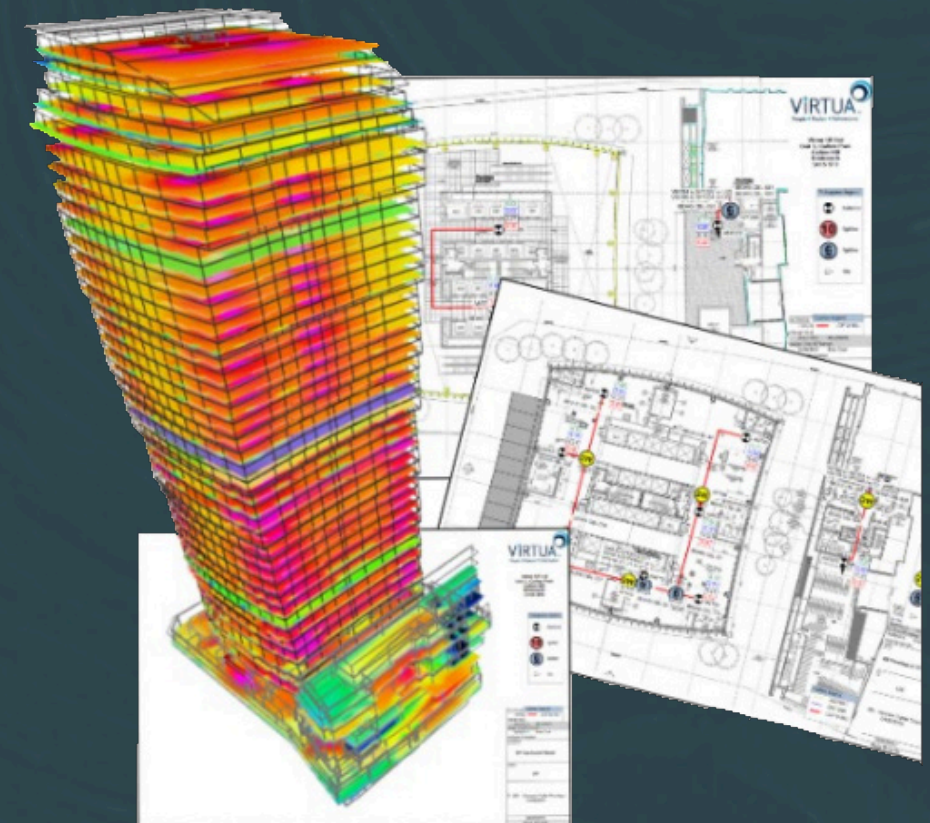
- 254 Internal antennas
- 37 floors, 160m high
- 7 Different Technologies
- 8 Cellular sectors throughout
- Deployment of the UK's 1st-intelligent lift coverage solution

The Solution

Virtua was tasked with implementing a dedicated in-building cellular solution for 20 Fenchurch Street in London, providing 2G, 3G, and 4G services from day one. The team designed a 254-antenna Distributed Antenna System (DAS) capable of supporting all UK mobile operators, ensuring full coverage throughout the building. The design process included 3D modeling and RF testing to ensure the system's effectiveness. Alongside the main system, Virtua also developed a custom solution to provide seamless coverage for the building's 12 high-speed lifts, overcoming significant technical challenges during installation.

The Benefit

By installing a dedicated in-building system 20 Fenchurch Street now benefits from continuous, seamless and robust cellular coverage which is critical for workers to be efficient and effective.



Heathrow Airport T2

The Project

The design and installation of critical communications systems to provide cellular, WiFi and emergency services within the new Terminal 2 and its associated infrastructure buildings.

Stats

- 500 Antennas and APs
- 25 km of radiating, distribution and infrastructure cabling.
- 30 person engineering team
- largest In-building coverage solution to date

The Solution

Virtua deployed the systems which provide PMR, emergency services, cellular and WiFi coverage for the terminal and its network of supporting infrastructure buildings including power stations, baggage process areas and car parks.

Virtua's specialist engineering team were deployed to install the Distributed Antenna System (DAS). After installation, our test team surveyed the area to ensure the signal was behaving as predicted and that coverage within the building was fully optimised.

The Benefit

By installing our dedicated inbuilding solution, Terminal 2 and its surrounding buildings now provides robust cellular and wireless connectivity throughout.

- Europe's largest In-building coverage solution to date.
- 500 distribution antennas and wireless access points fed by over 25km of radiating, distribution and infrastructure cabling.
- Embedded project management from Virtua's Heathrow Airport office.
- 30-strong team of Virtua engineers, fully trained, accredited and insured to work within the secure airside environment.

Providing Homes with Fibre

The Project

Virtua UK Ltd has partnered with Hyperoptic since 2018, helping to install their superfast fibre connectivity to over 10k homes throughout the UK. The majority of our work with Hyperoptic is based in London, like this particular estate – Landsdowne Green in central London. The objective was to provide 695 premises on the estate with Hyperoptic’s superfast broadband.

Stats

- 695 Homes
- 10k Homes already finished
- 4 Weeks to complete
- 1 GB speeds

The Solution

The estate involved a full turn key solution, from the design through to build and testing. Our engineering teams undertook several activities including:

- PIA Cabling
- Civils
- External Access Cabling
- External Connectivity Cabling

Our project management and engineering teams worked closely with both Hyperoptic and the estate managers to ensure we provided a quality install, safely and without interfering with the general public. As such we organised a SSOW (safe systems of working) demonstration for Hyperoptic, focusing on the workings of the Tetra triple ladders. This helped both our customer and engineers understand how to best install external cabling, especially when roofing issues caused abseiling to not be a viable solution.

The Benefit

Now complete the residents at the estate can access Hyperoptic’s FFBH connection, with speeds up to 1GB. The whole estate took 4 weeks to complete, to which our teams now move on to the next project with Hyperoptic.



Connecting a major city Hospital

The Project

Virtua UK Ltd are proud to have helped design and deploy a multi-operator cellular solution at this regional hospital. The modern university hospital comprises of 18 stories and over 900 beds. The hospital suffered with very poor existing coverage that was only heightened during the pandemic. This was especially clear when the hospital became a nightingale hospital, helping those with covid-19.

Stats

- 5G Solutions
- 6 Bassband Controllers
- 3 Aggregation Switches
- 14 Access POE (Power of Ethernet)++ switches
- 82 x RP5000i OneCell Antennas
- 18 Floors covered

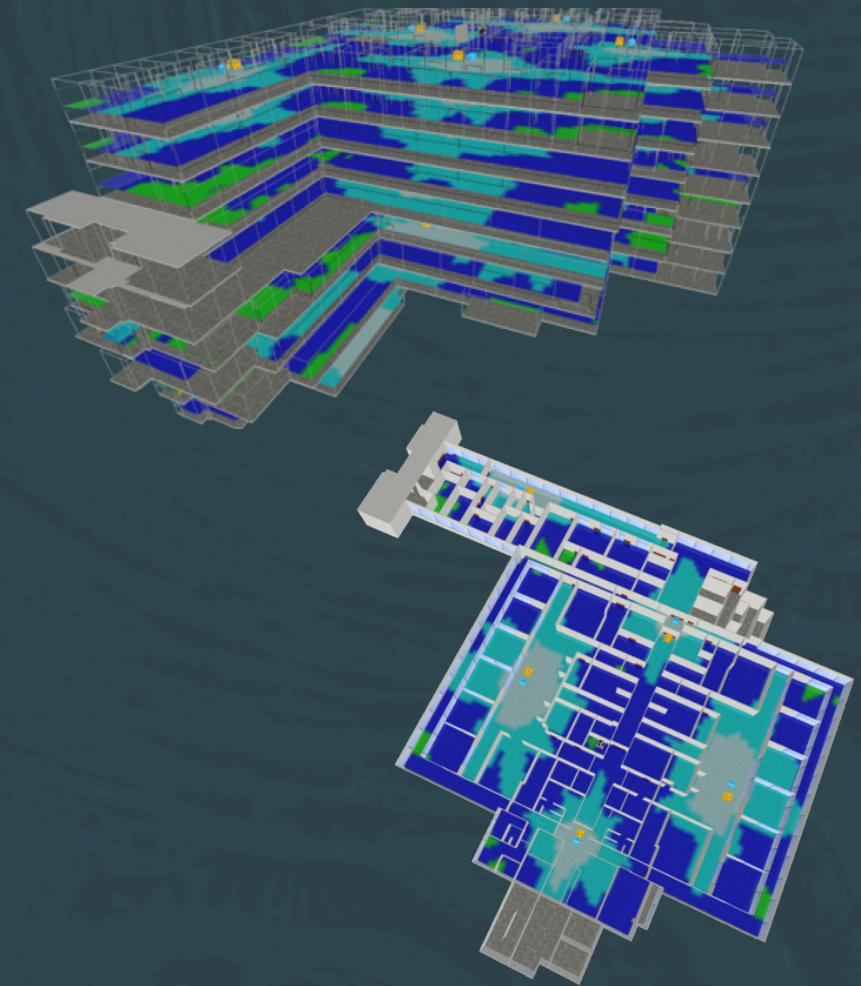
The Solution

Utilising Commscope's Onecell C-RAN LTE/(5G)NR Architecture our design teams fully utilised the capabilities of iBWave Enterprise. Not only building an accurate model but testing, calibrating and later validating those simulations produced. Once complete, the entire solution was then commissioned and tested in-line with the system design parameters, budget performance and design test criteria outlined within the JOTS guidelines. To validate the overall solution a thorough "walk test" was undertaken by our optimisation team – under simulated and controlled conditions. The data collected during this exercise was then processed, analysed and compared against the design propagation plans to verify and validate the solution.

Finally, a detailed handover pack was produced and submitted to our customer. This pack covered details such as cabling routes, equipment location floorplans, cable test results, installation photographs, product serial numbers and validation results.

The Benefit

Now complete the residents at the estate can access Hyperoptic's FFTH connection, with speeds up to 1GB. The whole estate took 4 weeks to complete, to which our teams now move on to the next project with Hyperoptic.



Private Networks

The Project

Creating link to link networks

The Solution

TBC

The Benefit

TBC

Stats

- TBC

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