

# CommScope helps bring fibre to every UK premise

Supporting countrywide rollout with fast, flexible, future-ready solutions

## Customer

A division of a leading national telecommunications company

## Country

UK

## Challenges:

- Grow UK full-fibre connections from 6% to 100% by 2033
- Deploy rapidly while keeping expenditure on material and labour low
- Introduce a high-density, easy-to-use fibre connectivity solution in the central office to meet immediate and future needs

## Solutions Included:

- FACT optical distribution frame (ODF)



## Building a future-ready network across the UK

The Future Telecoms Infrastructure Review (FTIR) issued by the UK Department for Digital, Culture, Media and Sport states that full-fibre broadband coverage should be available to every home in the UK by 2033. By 2025, 15 million premises should have full-fibre broadband. However, at the end of 2018, only 6 percent of homes in the UK had access to full-fibre connections.

The company which owns and maintains all telephone wires, ducts, cabinets and exchanges - connecting nearly all UK homes and businesses to the national broadband and telephone network - is playing an essential role in meeting this demand. By extending its ultrafast broadband footprint using Fibre to the Premises (FTTP) and G-Fast technology, the company is making faster, more reliable services available across the country, including hard-to-reach rural areas.

More than 27.6m premises across the UK can get speeds of over 30 Mbps. FTTP (fibre to the premises) should be available to four million premises by the end of March 2021, to be extended to 15 million premises by 2025. Currently, some 20,000 premises are being connected with FTTP each week. In addition, the company is starting to collaborate with its Telco customers on identifying the best way to migrate from copper to fibre infrastructure across the UK - and eventually shut down the analogue network.

## Quicker, simpler and tidier fibre management

To accommodate the move to the full-fibre network architecture, and meet the increased need for full-fibre deployment, a solution was required that would reduce time spent working on fibre frames in central offices.

- CommScope, a key partner to the national telecommunications company, was brought in to support this critical program. The key requirements were for an optical distribution frame with:
- Far greater connection density in the same footprint as the outgoing product, for rapid, simple, repeatable installation practices that save time and money
- Superior fibre management to reduce the risk of intervention faults, thereby optimizing service availability and continuity of revenues
- Innovative WDM cassette technology delivering fast and simple deployment of optical devices for existing and future PON architectures
- An optimized colour coded patch cord management system that limits scope for installation bad practice and aids the accuracy of record keeping and auditing of circuits
- Intuitive access to individual connectors to save time when repairing or replacing components
- Low weight to allow single operative installations, reducing total task time to lower the cost of deployment.

“With such a huge task ahead, the client is increasingly reliant on external partners to provide integrated solutions that match the precise needs of each project,” explains Scott Tovell, CommScope Field Application Engineer. “Discussions about replacing the existing optical distribution frames (ODFs) started in 2016. The solution in place used only spliced cabling and its layout made installation and moves, adds and changes very difficult and time-consuming. Setting up one rack took considerable time.”

The ODF is a key part of the network, providing the flexibility customers need to support current and future transmission requirements,” explains Geoff Buddington, Key Account Sales Director CommScope. “We’ve been working closely with the client to fully understand their needs, requirements and constraints. With this in mind, we have taken the building blocks of the FACT ODF and worked to develop a complete solution that will deliver the full functionality which they require for their fibre programme.”

“We proposed a solution that was not only far easier to work with, but which could also manage very high densities. Limited density was a particularly big issue with wave division multiplexing (WDM) connection. Following tests directly comparing the old and new solutions, the decision was made to equip new installations with CommScope’s FACT optical distribution frame, which offered both of the required functionalities. One of the main advantages of this ODF is the fact that it is fully connectorised. Splicing is only necessary during installation. Once the ODF is built, connecting services is as simple as plugging in patch cords.”

**“The CommScope FACT ODF is very easy and straightforward to put together. Furthermore, working on the ODF is much quicker. Splicing is reduced by 50 percent and patching is easy.”**

- Chief Engineer’s office

The FACT ODF meets the requirements of rapid deployment, ease of installation with plug-and-play connectivity, high usable density, and long-term value for the evolving fibre network. The infrastructure being rolled out today will satisfy residential and commercial subscribers’ fast-growing appetite for converged phone, data and video services for many years to come.

The ODF has been designed and dimensioned with significantly greater capacity in mind. This means it can manage 144 more spine fibres than both the optical consolidation rack (OCR) and optical fibre rack OFR, allowing for a total of 720 fibres from the external network to be presented. During comparisons between FACT ODF and the former solution, building a rack/frame and cabling and patching side ducts and mandrels was over 25 percent faster. Securing spine cables, breakout and fanning trays could be done in half the previous time and splicing spine fibres to LC connector pigtailed could be done in less than half the time. When rolling out fibre across an area as large as the UK, these savings – especially in combination with the use of pre-connectorised cables - add up enormously.

**“From the perspective of everyone involved in the selection process, two really important things stood out: firstly, the quality and feel of the materials and plastics and long term reliability and longevity, secondly, the features in the patch cord routing process that will enable tidiness and good housekeeping on the frames for many years to come.”**

*- Head of Re-engineering*

## Trusted advisor

CommScope scored highest in the key selection categories that had been defined for the project:

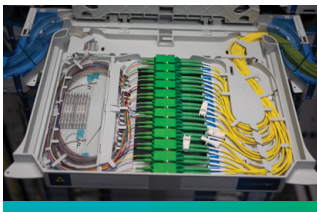
- Speed of deployment
- Plug & play installation
- Reliability of deliveries
- Short lead times
- Ease to scale up

as well as on 71 additional criteria and more subjective criteria, such as feedback from field engineers.

“Building blocks” and processes are highly standardised, but the system offers ample flexibility to create a tailor-made solution. Factory-tested components and pre-terminated cable are improving network build quality and speeding up installation, because there is no need for specialist fibre splicing skills and equipment. CommScope employees held regular meetings with the company’s engineer and inspections to keep improving the solution’s performance and implementation.



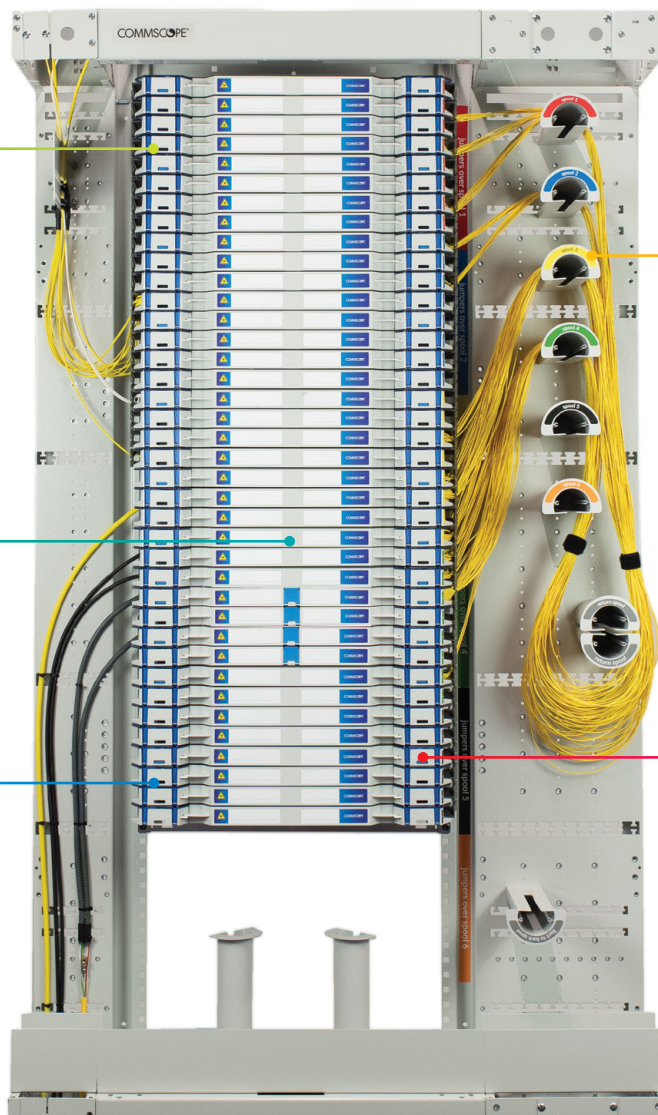
The FACT chassis’ unique fibre routing system reduces movement and disruption of the fibres when opening and closing the shelf due to the well thought out S-bend design.



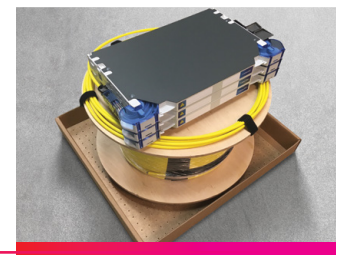
Each element supports two hinged trays that provide full front access to both sides of all connections and clear visibility of all ports. Four chassis types—patch-only, patch-splice, pre-cabled and NG4.



The CTU’s (Cable Termination Unit) simple and toolless system enables fast and flexible transition from cable to tubing onto the FACT Shelf.



The patch cord management colour system enables you to install, locate and trace individual fibres along easy-to-follow cable routing paths.



The FACT shelves with Pre-terminated cable enables splicing time saving at the ODF covering fibre counts up to 144f and cable lengths of up to 350m. The Lazy Susan style drum facilitates deployment and installation to the cable chamber.



"We are proud to have been selected as a trusted advisor on this project," concludes Johan Van den Hende, CommScope Product Manager. "Our engineers carry out hundreds of visits to central offices every year. This helps us to understand and define solutions for future requirements of a wide range of different FTTH and convergence network topologies. We're happy that with our highly modular FACT product line, CommScope could help design and configure an easy-to-install solution with high usable density and low in OpEx that will cover the needs of the network for at least five to 10 years."

"CommScope is proud to help achieve the goal of connecting 15 million homes by 2025 throughout this process, helping the company move from initial deployment to the mass rollout phase and continuing to support them in all parts of the network - across platforms and technologies. We look forward to helping provide reliable, high-speed next-generation PON networks across the UK."

**"CommScope's products and services have been crucial to our rollouts. Our jointly developed innovative solutions allowed us to increase the density of fibre frames. Exterminated cable has saved an enormous amount of manual labour and splicing, allowing us to build more frames in more exchanges and reach more customers faster."**

*- Head of Re-engineering*

CommScope pushes the boundaries of communications technology with game-changing ideas and ground-breaking discoveries that spark profound human achievement. We collaborate with our customers and partners to design, create and build the world's most advanced networks. It is our passion and commitment to identify the next opportunity and realize a better tomorrow. Discover more at [commscope.com](http://commscope.com)

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