



**Pan RF**  
Come *alive* inside

CASE STUDY

# MOBILE COVERAGE SOLUTION FOR LEADING SUPERMARKET

Retail parks offer the advantages of space, level access parking and competitive rents but being out of town and away from densely populated areas frequently means that they have may not been viewed as a priority in terms of ensuring mobile coverage. Pan RF has helped one of the UK's fastest growing supermarkets to overcome this challenge in order to take advantage of the trend to shopping apps in its out of town stores.

## ✓ SEAMLESS COVERAGE

Pan RF CellHUB ensures seamless coverage between the car park and the store.

## ✓ CUSTOMER HAPPINESS

Relieve customers of the security concerns of using Wi-Fi and the frustration of obtaining a mobile signal.

## ✓ APP UPTAKE

Good customer experience in accessing in store shopping apps will benefit uptake.



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We're all familiar with retail parks, groups of large shops nestled beside a dual carriageway halfway between a town and an outlying village or the next town, close enough to be convenient by car but a little too far to walk to or even cycle to. Frequently including a carpet shop or car accessories shop, pet store or drive thru fast food outlet, and with plenty of space to park, they are like the opening scene from Back to the Future.

Unfortunately, the other thing that typically characterises retail parks is poor mobile coverage. When network operators roll out a network they initially concentrate on providing coverage to the major cities and towns, then the arterial transport routes that link towns and cities and finally they address the final areas required to fulfil their obligation to provide coverage to 98% of the population. Retail parks, which are generally located away from residential areas, tend to fall into the final category.

To offer retailers a cost effective alternative to having a high street presence, developers buy out of town sites for retail parks and sell plots to retailers to site their retail sheds – buildings that can be erected, operational and contributing a return as quickly as possible. Generally, these generic buildings are long and low and constructed with steel and glass, which is an ideal solution to achieving quick construction but not great for radio signals. The low emissivity glass typically used is designed to be thermally efficient. Fluorinated tin dioxide (or SnO<sub>2</sub>) is added to the glass during its manufacturing process to improve the thermal efficiency. This glass keeps the heat in the buildings when it is cold as well as keeping the building cool during the hot summer months, but it is also very effective at blocking mobile signals.

Retailers taking advantage of the advantages of out of town sites who wish their customers or employees to have robust mobile coverage within their buildings are faced with the challenge of poor mobile reception outside made weaker inside by the building's fabric. The mobile operators charge tens of thousands of pounds to land their base station equipment and transmission to an inbuilding site, this is not a cost effective solution. This was the challenge facing the retailer who approached Pan RF for a solution.

## THE CLIENT

Pan RF's client is one of the fastest growing supermarket chains in the UK, with 12,000 stores across Europe and the USA. It has a reputation for providing good value, selling food more readily found in Europe as well as English brands of food, and wanted a good value solution for coverage in its stores.

## THE CHALLENGE

The client, which owns in the region of 800 stores in the UK, including out of town sites, was launching an in store app to develop customer loyalty and facilitate till-free payment. They understood that poor coverage in their stores could lead to poor uptake of the app, so Pan RF was asked to provide a solution. The challenge was to provide a suitable solution at a cost effective price.

While Pan RF would usually have carried out detailed cellular coverage surveys in all the client's supermarket stores, the urgency of the requirement meant that the client had asked an existing partner to complete a very basic survey of the existing mobile coverage for all four operators, to establish which stores required coverage, prior to Pan RF's engagement. The recorded results were basic and, effectively, binary, meaning the decisions were either a 'go' or 'no-go' result.

The client chose three stores, designated as requiring a cellular coverage solution, in the Buckinghamshire region for an initial trial. Each store was approximately 2500 m2 of steel and glass. Pan RF's detailed coverage surveys showed that one of those stores required a coverage boosting solution for Vodafone, O2, EE and Three UK, i.e. all four of the UK cellular operators, while the other two stores only required coverage for two of the four operators. Pan RF was able to tailor each store's solution to ensure the client had the right coverage where they needed it in the most cost effective way.

## ZERO DISRUPTION

CellHUB is a turnkey solution which can be installed with minimal disruption to stores

## TECHNICAL SUPPORT

Pan RF's Network Operations Centre provides 24 hour support 365 days a year for its CellHUB systems.



# Supermarket

CellHUB

## SOLUTION

The only viable solution to ensuring seamless coverage was to use an OFCOM compliant off-air repeater in each store.

To provide this solution Pan RF carried out a survey of each store and completed a detailed design. During the design process we established the following:

- Existing coverage in the store using TEMS.
- The location of likely donor sites
- The position of the donor antenna on the roof of the store
- Feeder cable routes
- Equipment location and power supply
- Internal antenna positions
- Detailed bill of materials

Once the detailed design had been approved by the client Pan RF arranged access with the client, providing the store manager with the scope of works and health and safety documentation to allow us to install the system safely and without interrupting to the day to day operations of the supermarket.

The system was installed and integrated in two nights with minimal disruption to the store's operation.

## OUTCOME / RESULTS

As a result of Pan RF's installation of an OFCOM compliant off air repeater, the supermarket now has seamless cellular mobile coverage throughout the stores, allowing customer to enjoy the use of the supermarket's app and without the hassle and security concerns of logging into public or the in-store Wifi.

The client was very satisfied with the result and enjoys continued support and monitoring of the system.

*“Over the past three years, Pan RF has proved to be one of our most reliable service providers. They have shown great care and attention to detail when designing and implementing radio frequency solutions. Their professionalism has been consistent throughout our working relationship, and I remain fully confident in their abilities to propose and deliver high quality services to the customer. Myself and my team consider Pan RF to be a solutions driven organisation. Working closely with their highly skilled representatives has been a pleasure and no doubt will continue to be in the future.”*

Client's IT Service Manager

## FULLY MANAGED SERVICE

- No initial capital outlay just budgetable monthly payments
- 24/365 monitoring
- Flexible support packaged

## SERVICES AVAILABLE

- Technical support
- Installation and setup
- Maintenance
- Application support
- Hardware support
- Guaranteed warranty

## ABOUT PAN RF

Pan RF designs and deploys in-building public cellular mobile connectivity and private mobile radio coverage solutions, providing the seamless coverage business demands, offering network solutions to support the IoT and realising the commercial potential and environmental benefits this offers.

For over a decade, Pan RF has delivered bespoke coverage solutions to clients across a wide range of sectors, creating connectivity-positive environments by designing and integrating effective distributed antenna systems (DAS).

As specialist systems engineers and neutral hosts, Pan RF works with building owners, managers and tenants to ensure total mobile coverage for end users, bolstering the attractiveness and revenue potential of their clients' assets with future-ready network coverage solutions.



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