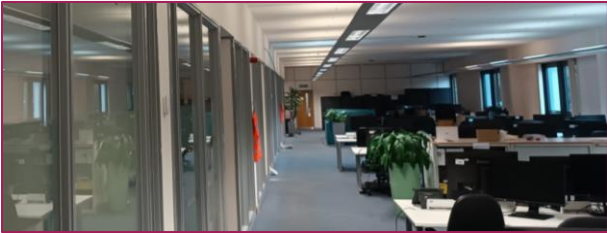


Case Study for Outdoor/Indoor Mobile Booster (Worcestershire County Council (WCC) - Wildwood)

PROBLEM



Wildwood is a modern open plan office managed by WCC. It features hot desks and state-of-the-art meeting rooms throughout. Penetration of a mobile signal into a corporate environment without assistive technology is often limiting. This can be due to the size, layout and orientation of the building as well as the types and depth of construction materials used.

Table 1: data prior to solution – connecting to the mobile signal outside Wildwood.

	Av. Download	Av. Upload	RSRP
EE	4.30	0.78	-112.17
O2	0.07	0.01	-119.59
Three	1.31	0.21	-111.90
Vodafone	2.47	0.33	-113.88
Blended	2.04	0.33	-114.39

Wildwood is a great co-working space, but mobile phone signal coverage, as can be seen in Table 1, was virtually non-existent. Poor connectivity can impact greatly on staff productivity, practices and welfare.

- **Connectivity hotspots:** Staff would have to find 'hotspots'. Normally outside the building or away from their workstations.
- **Internal comms:** Reliance by staff on mobile phones across WCC sites to contact each other is very difficult at Wildwood.
- **Missing calls:** Incoming calls from stakeholders and service users missed.
- **Mobile setup:** Testing mobile device setups by ICT was difficult within their secure location within Wildwood.

SOLUTION



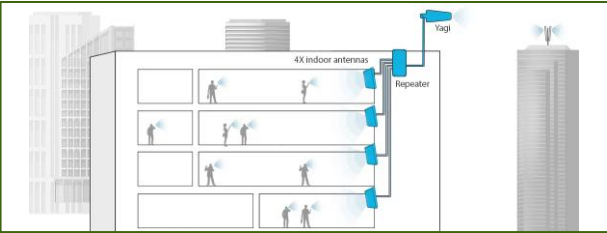
Advanced
Wireless
Innovation
Region

Rhanbarth
Arloesi
Di-wifr
Uwch

WCC led on the Public Sector stream within the River Severn Partnership (RSP) Advanced Wireless Innovation Region project (RSPAWIR) funded by Department for Science, Innovation & Technology (DSIT).

As part of this work, WCC secured funding to trial an outdoor to indoor mobile signal solution.

Once in place and the trial completed, the requirement was to share the learning with other organisations within the RSP area. DLP CoNNex, providers of the 'Stella Doradus' outdoor-to-indoor booster setup were selected by WCC, to provide a solution taking the external mobile signal and passing this throughout the co-working spaces at Wildwood.

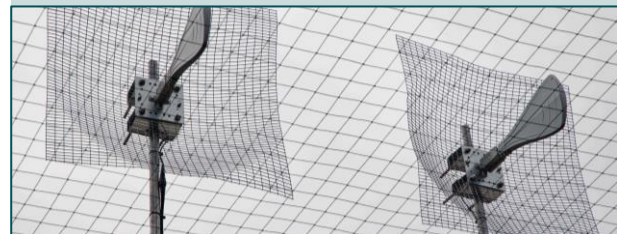


All WCC areas are now serviced by the internal network. As there are no firewalls or log ins to navigate, the solution simply allows connection to all the Mobile Networks throughout the co-working spaces. This included providing access to visitors on site – business or service user.

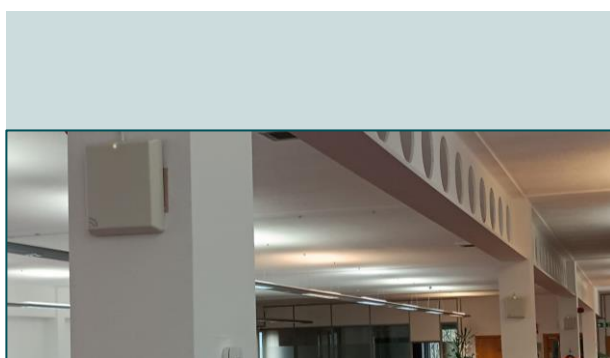
Table 2: data post solution deployment – connecting to the internal solution. Before and after measurements were done by Streetwave.

	Av. Download	Av. Upload	RSRP
EE	17.90	10.99	-93.39
O2	7.89	2.34	-106.54
Three	19.31	9.57	-89.75
Vodafone	13.32	6.45	-105.68
Blended	14.61	7.34	-98.84

APPROACH



DLP CoNNex completed an on-site review, including external and internal mobile phone signal analysis. The data captured through the visit was inputted into their planning tool to ensure optimal mobile coverage internally via the identified locations for the repeater nodes within the required deployment areas. Directional antennas were installed on the roof to receive the strongest possible signal from the nearby cell towers for each of the MNO networks. The signal was then transferred through the internal setup through riser spaces and ducting to nodes strategically placed throughout the co-working space, as well as the open reception area.



DLP CoNNex understood that Wildwood was a hub of activity during office hours with many services being conducted via online meetings and calls.

DLP CoNNex provided WCC with a deployment plan and the install took place out of main office hours, over a weekend, to minimise the disruption to staff.

Following the installation of the equipment and network both DLP CoNNex and WCC conducted an internal cellular signal test to ensure a successful deployment. Table 2 shows the post deployment results which can be judged against Table 1 pre-deployment.

SO WHAT?



Now that the DLP CoNNex solution has been deployed, it is clear to see the benefits that the outdoor-to-indoor solution brings to the workforce and visitors that frequent Wildwood.

Staff immediately saw the benefits that the solution provided them as they had stable and clear communications within all WCC areas of Wildwood, enabling them to work more efficiently.

As part of the RSPAWIR funding requirements, WCC held an open day showcasing funded usecases to other public and private bodies. This has led other councils to have conversations with the market.



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"We have definitely benefitted from the signal improvement as my team are responsible for setting up mobile phones for end users. The team are able to fully test and make sure the phone and SIM are working without having to go to an area of the building that has phone signal"

*ICT Manager,
Worcestershire County Council*

"I am able to receive and make calls without going outside which is a god send especially when it is about something important. Best thing that has been put in place"

*Member of staff,
Worcestershire County Council*

