

Using idDAS for one million partygoers

Partnering with Vodafone and Telefónica to keep Berlin connected on New Year's Eve 2015

COBHAM

Case Study

The most important thing we build is trust

Overview

Cobham Wireless worked with Vodafone and Telefónica to provision the world's first idDAS system, and provide one million partygoers with reliable coverage during New Year's Eve along Berlin's famous Fan Mile.

Challenge

The Fan Mile has traditionally proven to be an extremely challenging environment when it comes to the provision of reliable cellular coverage and capacity.

The area comes with strict planning regulations prohibiting the use of visible cellular equipment, yet it sees footfall from a huge number of attendees at the large events it plays host to throughout the year.

"We are immensely proud to lead the way with this new technology and provide our customers with high-bandwidth services no matter how challenging the environment. Following the successful launch of this service we will now look to expand the scope of the system to utilise the full capabilities of this technology, and shift the capacity from the base station hotel to other sites as required."

Enrico Schadock, Head of Local Planning, Vodafone



The Challenge

Stretching through the centre of Berlin, the Fan Mile is a mile-long length of road running between two of the city's most famous sites: Brandenburg Gate and the Victory Column. Although the Fan Mile is a fully functioning road on most days in the year, it turns into a huge gathering of people every time it plays host to public viewing events and celebrations, such as for the recent Brazil World Cup or to celebrate New Year's Eve.

The Fan Mile has traditionally proven to be an extremely challenging environment when it comes to the provision of reliable cellular coverage and capacity.

The challenge is two-fold; the area comes with strict planning regulations prohibiting the use of visible cellular equipment, yet it sees footfall from a huge number of attendees at the large events it plays host to throughout the year.

Leading mobile operators, Vodafone and Telefónica, wanted to provision seamless, reliable coverage along the Fan Mile, in time to help the assembled partygoers celebrate New Year's Eve – but faced with such challenges, they needed a solution that could overcome these restrictions while ensuring it was scalable and futureproof, and of course, all within budget.



The Solution

Vodafone and Telefónica chose to use Cobham Wireless's intelligent digital DAS solution – idDAS – to provide reliable cellular coverage along the length of the Fan Mile. Using idDAS for this deployment brought about a multitude of benefits to the operators and their customers alike.

The pre-existing system provided only single-band, single-operator coverage for Vodafone only, with no LTE. idDAS allowed for multi-band and multi-operator coverage, all on the same system. The solution meant that Vodafone and Telefónica customers would now receive UMTS and high-bandwidth LTE coverage on the route for the first time.

"This first deployment of idDAS perfectly demonstrates the abilities of the technology to supply high-bandwidth services to hundreds of thousands of people, while saving operators both CAPEX and OPEX costs."

"This revolutionary Cloud-RAN supporting technology has the power to bring inner-city cellular coverage to a new level, providing close to 100% coverage in areas traditionally suffering from environmental or capacity issues."

Ian Langley, VP and General Manager, Cobham Wireless

This solution was brought to our customers in collaboration with SXF-Plan – leading Berlin communications integration partner



With their experienced Berlin integration partner SXF-Plan, Cobham Wireless took a base station hotel 25km away from the site and connected it, via fibre cabling, to 27 idDAS digital remote units (idRUs) concealed from view in underground enclosures along the length of the street and around the Brandenburg Gate.

By utilising the innovative idDAS system, the fibre count was drastically reduced on the long distance link. idDAS allows a reduction from 2 x 27 fibres to a possible minimum of two fibres, providing significant reduction in fibre rental cost.

The system currently comprises of a total of 80 sectors, 40 per operator (20 UMTS and 20 LTE). However it has been designed to support up to 160-216 sectors, meaning there is plenty of flexibility for expansion in the future as the location requires it.



The Benefit

The system architecture used on the Fan Mile minimises both CAPEX and OPEX costs for each operator involved. The significant reduction in fibre means CAPEX costs have been drastically brought down compared to alternative solutions.

The architecture requires less equipment than comparable technologies, which in turn means less associated energy costs reducing the power consumption to the bare minimum. The solution uses environmental cooling for the BTS radio heads and enables the deactivation of radio bands during idle periods – both facilitating a more eco-friendly approach to coverage.

Also, as the system is inherently multi-operator, the cost of the entire system is automatically shared.

idDAS also totally eliminates the need for passive combining of multiple operators and technologies, avoiding potential PIM (Passive Intermodulation) problems by feeding each BTS signal separately and directly into the system.

idDAS is immensely flexible in its design, allowing Vodafone and Telefónica the ability to expand the system with more capacity and more frequencies, or to incorporate other carriers or route high-bandwidth services to nearby venues, as required. With the capacity-shifting capabilities that idDAS brings, there is the potential for other nearby venues to benefit from and share the improved cellular coverage now available. For example, during an exhibition at a nearby convention centre, the capacity could be shifted there to help serve the hundreds of visitors who will be attending the event at the planned peak periods. The capacity can then be shifted back to the Fan Mile once the exhibition has finished.

The system was tested to the full during its debut, with over one million people attending the New Year's Eve celebrations on the Fan Mile in Berlin – one of the largest NYE parties in the world! With a maximum throughput of 70Mbit/s measured during the party (and this figure is expected to grow with the planned MIMO introduction later this year), the system has proven to be a huge success for all involved and customers of Vodafone and Telefónica stand to benefit for a long time to come.

