

La Grande Arche

Bringing reliable connectivity to Paris' famous business hub



The Challenge

La Grande Arche is a 110m tall cube in the La Défense business district on the outskirts of Paris.

The building attracts around 250,000 staff and visitors each year. It is home to the French Ministry of Ecology, Sustainable Development and Energy, and the Ministry of Housing, Equality of Territories and Rurality. There is also a commercial restaurant space in the building, a conference centre and a roof terrace viewing bridge which is open to the public.

In 2016, renovation works began on the south side of La Grande Arche to improve and modernise the technical performance of the building, which included improving workspaces, energy efficiency and cellular connectivity. Although WiFi was available, it would not be capable of providing reliable connectivity to the number of visitors La Grande Arche attracts, so a cellular solution was required.

The project was of significant importance to the Ministries that occupy the south side of the building, but did not have a mobile operator on-board at the outset. The challenge was therefore to implement a multi-band system that could support whichever operators would connect to La Grande Arche in future.

The building itself also posed a challenge, as materials used to improve insulation prevented coverage penetrating into the building from the outside. Furthermore, different areas of the building had higher data throughput requirements due to the footfall in those areas.

The Solution

Cobham Wireless' DAS equipment was chosen to connect four sectors of the building, and implemented by French integrator Decimale.

Overview

The project involved providing robust cellular connectivity to La Grande Arche, a government building on the outskirts of Paris.

A solution was required which could deliver reliable 3G and 4G connectivity to workers and visitors to the building.

Challenge

The government organisations housed in the south side of La Grande Arche sought an effective solution for connectivity. Cobham Wireless and Decimale were tasked with implementing a system that could provide reliable, multi-band connectivity for whichever operators came on-board later.

As a publicly-funded project, it was important that all work was carried out as cost-effectively and efficiently as possible.

The Tech

- Based on multiple operator MBF technology.
- Three sections covered using 2100MHz and 2600MHz spectrum.
- Fourth section connected with 2100 and 2600 MIMO to provide a greater data throughput.
- Three SISO sections had a total of 13 remote units installed.
- The MIMO high-data section utilised three pairs of remotes.
- Over 100 indoor antennas installed in total.

DAS is a robust in-building and outdoor coverage solution, offering a cost-effective and energy-efficient means of delivering maximum coverage and capacity within even the most challenging environments. Energy-efficiency was a crucial consideration for La Grande Arche project.

DAS systems also provide longevity for operators and infrastructure providers by allowing for software-based, simple upgrades to meet new connectivity requirements rather than a rip out and replace approach.

Three sections were covered using 2100MHz and 2600MHz spectrum, with the fourth section connected with 2100 and 2600 MIMO, which provides a greater data throughput. The higher data throughput was required for floors with meeting rooms, as well as the refectory, allowing the workers and visitors to browse the web throughout the day.

The three SISO sections of the building had a total of 13 remote units installed. The MIMO high-data section utilised three pairs of remotes. Over 100 indoor antennas were installed to ensure effective coverage throughout the building.

The Benefit

La Grande Arche now supports 3G and 4G connectivity for three French mobile operators, providing seamless high-quality cellular services to both workers and visitors to the building. The equipment installed in La Grande Arche can also be easily upgraded to support 5G networks in future.

The project was delivered from initial commission to completion within five months, and all subsequent upgrades have been carried out without disruption to services.

“Decimale and Cobham Wireless have a long-standing relationship that stretches back more than 20 years. We have worked together on numerous projects in France, including within the La Défense area, so Cobham Wireless was a natural partner for this project” said Yorick Camprasse, CEO, Decimale.

“Cobham’s cellular connectivity and public safety equipment has proved to be consistently reliable and efficient, which were crucial considerations when working on such a high-profile and publicly-funded project.

“We look forward to working with Cobham Wireless in the future to deliver connectivity to indoor and outdoor environments.”

