The Burj Khalifa

Providing TETRA coverage to the world's tallest building

Case Study

The most important thing we build is trust

Overview

Working with ATLAS Telecom we provided a public safety TETRA system to the world's tallest building, while utilising the existing fibre backbone within the building.

Challenge

Being the tallest building in the world standing 828 metres and 16 stories high poses the biggest challenge. In addition we had to custom design a system that could utilise the existing fibre backbone.





The Challenge

The Burj Khalifa is not only the world's tallest building, but an astounding feat of engineering. Located in Dubai, it stands at over 828 metres high and consists of more than 160 stories.

Cobham Wireless was commissioned by ATLAS Telecom to develop a fibre repeater system for TETRA public safety with redundant fibre ports. The system would need to utilise the existing fibre backbone already installed as part of the initial construction of the building. The network needed a fully customized design that was completely redundant and provided automatic switch-over between the two base stations feeding the system.

The Burj Khalifa is an iconic cultural symbol of Dubai's growth and success, and it houses both enterprise and residential elements. As a result it was critical that the TETRA coverage within the building was seamless, uninterrupted and built to very strict requirements to ensure the safety of all those inside.

The Solution

Some of the main providers of coverage solutions were approached about this project, but only one supplier had the capability of providing the fully customized system that was designed by ATLAS Telecom to fulfil all the requirements and achieve the coverage for all vital services. ATLAS Telecom selected Cobham Wireless to develop and supply the safety critical fibre repeater equipment for the building.

Due to the complexity of the requirements, a fully customised fibre repeater system for TETRA public safety was the solution and it needed to utilise the existing fibre backbone already present within the building. The system consisted of fibre distribution to two master sites and seven optical remote units. The fibre hubs and remote units were each fully customized with dual optical ports.

Each master hub was connected to a base station to provide system redundancy which is critical to a public safety network. Each remote unit was also connected to both master hubs with automatic switching from main to standby, in the event of main failure.



"We installed a fully customized solution within the Burj Khalifa and the equipment developed and supplied by Cobham Wireless was central to that deployment. The requirements were particularly demanding on this project and we were pleased to work with Cobham Wireless who are one of the industry pioneers in this field".

Henrik Rajala, CTO, ATLAS Telecom

The Benefit

ATLAS Telecom partnered with Cobham Wireless to ensure that the Burj Khalifa had a fail-safe public safety communications system of the highest standard. The building now operates a fully redundant TETRA network throughout.

Henrik Rajala, CTO of ATLAS Telecom commented "We installed a fully customized solution within the Burj Khalifa and the equipment developed and supplied by Cobham Wireless was central to that deployment. The requirements were particularly demanding on this project and we were pleased to work with Cobham Wireless who are one of the industry pioneers in this field".

Cobham Wireless is proud to have one of the most experienced TETRA engineering and design capabilities in the industry and are regularly called upon by network operators, public safety systems integrators, base station manufacturers and public safety authorities to help solve challenging coverage issues like this one.

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