CASE STUDY

Comba

ACTIVE DAS DEPLOYMENT IN MEXICO

New Wireless Network Enables High Efficiency Vehicle Testing

BACKGROUND

Comba Network collaborates with KLA Laboratories, Inc., a distinguished information technology integration firm based in Michigan, USA, with a local KLA Tech de México office in Monterrey, Mexico. A comprehensive turnkey solution has been successfully delivered to a globally renowned automotive manufacturer for their newly inaugurated production facility in Mexico. The facility, designed for flexibility, can accommodate up to 9,000 employees and boasts 4.2 hectares of protected natural green space.

This campus, which includes corporate offices, one of the largest engineering centers in Latin America, and top-tier amenities, showcases Mexican talent at the forefront of driving global transformation and modernization efforts within the customer's business model.

CHALLENGES

The site is located on elevated terrain, which resulted in inadequate indoor coverage with the outdoor-in approach. To resolve this issue, a dedicated in-building active Distributed Antenna System (DAS) has been deployed, enabling end-users to access wireless services from mobile operators and ensuring seamless mobile experiences. As a result, the mobile network created can support various tests performed by the customer engineering team along the automotive manufacturing line, improving operational efficiency.

The project presented significant challenges, primarily attributable to its size, necessitating meticulous planning for implementation. The design and simulation of the RF system coverage demanded careful attention to detail to meet the company's rigorous quality standards. Additionally, the solution had to achieve performance targets while preserving the aesthetics of the areas where the equipment was installed.

9,000
Employees

4.2
Hectares

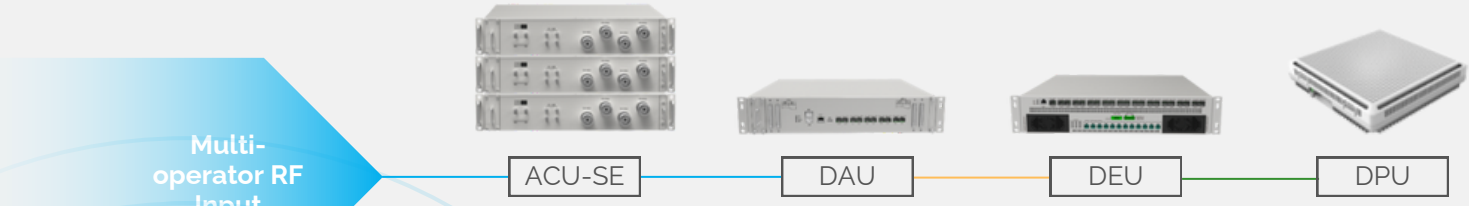
Elevated Terrain

SOLUTION

The proposed solution for these facilities is the ComFlex Pro Low Power, designed to support the requirements of the two main mobile network operators (MNOs) in Mexico, offering compatibility with 3G, 4G, and 5G services.

This solution is specifically designed to address installation challenges commonly encountered in traditional DAS setups. By eliminating passive components such as power splitters and couplers, the low power remote radio unit (DPU) is easily connected via fiber optic hybrid cable from the extension unit (DEU). The same hybrid cable also provides the DPU with DC power. This approach not only simplifies installation but also eliminates concerns about Passive Intermodulation, a common issue in passive DAS installations.

In the context of next-generation mobile communication, indoor DAS systems must evolve to support multiple data streams. Achieving this in passive DAS systems typically involves installing multiple parallel cables and antennas to form MIMO coverage. The ComFlex Pro Low Power offers a solution to this challenge, as the DPU has native support for MIMO, thus enabling a higher data throughput.



EXCELLENT INDOOR COVERAGE & SPEED

Thanks to the continued strong collaboration between Comba and KLA, we anticipate even more successful deployments on a global scale.