

Fiber-Span Announces Delivery of RF Wireless Coverage For Use In Subterranean Tunnels in Buenos Aires, Argentina.

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Fiber-Span has successfully installed RF Wireless Coverage in Buenos Aires, Argentina Subterranean Tunnels for a Tier I carrier. The Phase I project consisted of the Subterranean B-Line from the First Station L.N. Alem to the Last Station Los Incas and thirteen stations in between has RF Wireless Coverage for the Tier I customers. The system design of the tunnel consisted of a Fiber Fed Bi-Directional Amplifiers (FFBDA) with a Distributive Antenna System (DAS) in each station. RF Wireless Coverage included the vestibules and platforms of all the stations.

The project goals were to use the minimum amount of fiber strands. Fiber-Span's solution used two 9/125 um single mode fiber strands for the entire length of the Subterranean B-Line from the Head end to the furthest station Los Incas. The length of the Subterranean exceeds 10 Kilometers. Our competitors design used four 9/125 um single mode fiber strands. Fiber has to be leased in order for the customer to have access to the strands. Therefore, proposing and achieving the goals of using half the amount of fibers is a very appealing proposition since within a year the system would pay for itself.

The two fiber strand design was achieved by using Dense Wavelength Division Multiplexing (DWDM) technology. Strategically cascading the DWDM-FFBDA in such a way that the light sources would not collide with each other enabled many wavelengths to travel through the same fiber strand. At the same time, all optical wavelengths travel upstream and downstream via the same single fiber strand.

Optical Add Drop Multiplexing (OADM) technology was implemented to achieve these goals. Each Fiber Transceiver Unit (FTU) channel and Remote Repeater Unit (RRU) combined with OADM technology allows only the dedicated optical wavelength to its destination while filtering the other optical wavelengths. By configuring the system with such filtering, it allowed the use of a single fiber strand. Care has to be taken that the same optical wavelength does not exist within the same single fiber strand.

By completing phase I on time and exceeding customer requirements, Fiber-Span was awarded Phase II which consisted of providing wireless coverage to the additional subterranean tunnels A, C & E. Phase I project commenced in October 2007 and both phases were completed by May 2008.

Carriers have long considered tunnels and other subterranean environments dead spots that present coverage barriers, but now think of them as opportunities. By providing coverage in tunnels, trains and metro stations, it increases the opportunity to become more competitive and even gain new subscribers. Applications for Subterranean Tunnels can benefit using fiber and Fiber-Span has the solution and products that will accommodate your needs.

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