



Sheba Medical Center GETS CONNECTED

The customer: Sheba Medical Center, the largest facility in Israel

The need: to ensure cellular coverage for health professionals, patients and visitors anywhere throughout the facility

The challenge: transitioning from an existing, limited dual band DAS to a multi operator, multiband, and multiservice system cost-effectively and within short deployment time

The solution: deploying Optiway's AllAccess optical DAS to provide cellular coverage to the entire facility leveraging Optiway's optical multiplexing patented technology

The outcome: 80% cost saving comparable to alternative solutions and an extremely fast deployment

SHEBA MEDICAL CENTER

Located at Tel Hashomer, Israel, Sheba Medical Center is the largest and most comprehensive medical center in the Middle East. The Sheba center has 120 departments and clinics, 1,700 beds, and close to 7,000 healthcare professionals who provide almost four million treatments and medical tests to more than one million patients per year. Situated on a 150-acre campus on the outskirts of Tel Aviv, the Sheba Medical Center is Israel's leading hospital, recognized nationally and internationally for its excellence in healthcare and medical research.

THE NEED

As an emergency treatment center, all communication channels, in particular cellular voice and data must always be available to doctors, maintenance staff, patients' families, and other emergency medical personnel, in all areas of the medical center.

Several years ago, when only 2G services were available, there was poor coverage inside the campus buildings, especially in hallways, stairwells and underground floors. To address this situation, the Israeli cellular operators decided to deploy an In-Building Wireless (IBW) Distributed Antenna System (DAS) in order to extend the GSM 1800 and GSM 900 services from one operator and CDMA 800 service from a second operator in-building. The selected solution was limited due to a technical deficiency that prevented it from handling GSM 900 services together with GSM 1800 and CDMA 800 services concurrently. Consequently, the GSM 900 service was not available for usage in Sheba center facilities, resulting in revenue loss for the operator.

In 2008, the proliferation of 3G services, the addition of new bands, and the expansion of the medical center campus buildings, mandated the upgrade of the Sheba medical center IBW system. The challenge was to find an efficient and cost-effective solution in order to minimize costs and avoid deploying a new, in-building DAS.

The existing infrastructure was checked to determine whether it can be scaled up to support additional bands and cellular services. The result showed that while technically feasible, it would be very costly and time consuming. For example, in order to add GSM900 and UMTS2100 support services to the existing solution, additional fiber pairs and remote units must be installed and connected, doubling the number of remote units and fibers. Consequently the power supply, power backup, and the cooling system would have to be upgraded, which would mean additional investment and labor. Therefore, the operators decided to look for an alternative solution.





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THE CHALLENGE

To upgrade already deployed dual band DAS:

- To support additional bands, operators and cellular services
- To leverage existing architecture
- To upgrade the system in a cost-effectively manner and within a short deployment time

Total Cost of Ownership accounts for all direct (CAPEX) and indirect (OPEX) costs associated with the acquisition, installation, and operation of an active DAS solution

BENEFITS

One system which enables:

- Multi-band with ability to differentiate between multiple operators within the same band
- Transport agnostic - supports any type and mix of cellular service
- Total Cost of Ownership that is 80% lower than alternatives
- Low number of units required to provide coverage to the entire facility



WHY OPTIWAY

The operators conducted a thorough analysis of both the technical and commercial aspects of Optiway's AllAccess solution. Their conclusion was that **not only does Optiway's solution meet all the technical requirements, but it also delivers a Total Cost of Ownership (TCO) that is 80% lower than the cost of upgrading the current system.** The overall cost and the technical benefits of Optiway's AllAccess optical DAS were so attractive, that it was selected to replace the already deployed solution.

"We were impressed by the superior technical capabilities of Optiway's solution. With Optiway, we can support 4 different bands and any mix of cellular services from all 3 Israeli cellular operators over single optical DAS infrastructure concurrently", said Vladimir Rabinovitch, Radio Network Hardware & Indoor Solution Manager at Orange Israel.

Thanks to its flexible advanced design, the AllAccess branch unit slashed the network complexity and cost. This solution uses an active architecture that supports multiple bands and drives up to 20 antennas with no signal degradation – delivering the highest quality of service everywhere. One AllAccess branch unit replaces 4 remote units of alternative solutions. As a result, Optiway's AllAccess solution uses only 70 branch units to deliver always-on quality to the entire Sheba medical center, compared to 150 units that are required by the alternative solution. This allows the operators to **cut the investment by 55%** and simplify installation and maintenance thereby **decreasing the deployment time by 50%**.

Additionally, the project size demanded a distributed system that used fiber optic cables. The longer reach of a fiber system was needed, as there were many floors and special areas to cover within the building, including stairwells and hallways. Optiway's AllAccess optical DAS solution had saved more than 6 Kilometers of coax cable deployment, providing superior technical performance at a much lower cost.

THE OUTCOME

Optiway's AllAccess deployment has improved productivity and overall patient care by providing Sheba Medical Center's personnel with the latest wireless technologies, services and applications. Visitors and patients enjoy a great wireless experience and access to information while receiving the best medical treatment.



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ABOUT OPTIWAY

Today, cellular connectivity is expected virtually everywhere, especially indoors, where 70% of cellular calls are made. Optiway offers elegant, cost effective solutions that enable service providers and property owners to extend coverage and provide In-Building cellular communication.

Optiway's solution multiplexes sources from different technology standards and different operators on a single fiber. The company's products are technology agnostic and field proven with all common cellular technologies, in multiple frequency bands. As a result, Optiway delivers high capacity systems that are easy to design, deploy and maintain and drastically reduce the total cost of ownership.