Case Study

Major Ski Resort Innovates the Guest Experience with American Tower

Wireless Network Keeps Guests Connected Anywhere on the Mountain

For winter sports enthusiasts, winter storms recharge world-class resorts with steep, powdery delight. But a few years ago, executives at a major resort company with multiple premier resorts in North America saw a new storm brewing that could cloud the guest experience. It entailed a change in the expectations of their high-end guests, who wanted their cell phones to work on the mountain all the time. Lack of wireless coverage was one of the top issues reported by guests, and developing a wireless network in some of the most rugged conditions on earth would be a challenge.

In some ways, the exceptional levels of customer service provided by the resort company reinforced the expectation of ubiquitous wireless coverage. Guests increasingly required mobile connectivity with family, friends and for business obligations.

The company wanted to approach this new challenge with an innovative solution that would provide them a competitive advantage. However, the roadblock was in trying to be its own wireless solution provider. Wireless carriers were approaching the company to build their own towers on resort properties. The demands of dealing with each of them, different construction requirements, regulations and other issues were overwhelming. It became clear that the resort company needed a single venue-solution provider to engineer, deploy and manage infrastructure that could be used by multiple wireless carriers.

Our Customer

The American Tower ski resort customer profiled in this case study is a leader in luxury, destination-based travel at iconic locations. The company owns and operates many resorts, hotels, lodges and golf courses primarily in North America.
The new approach used shared infrastructure as a way to simplify reaching the resort company’s goal and streamlining interactions with carriers. The requirements included a solution provider versed in all wireless technology options and one who could also:

› Perform all engineering for towers, nodes, hubs and other infrastructure
› Guide the permitting process and other regulatory demands
› Construct and deploy the infrastructure
› Broker operating agreements with all wireless carriers
› Manage everything for years to come

The resort company chose American Tower because it could do all these things in the demanding context of a ski mountain.

Implementing the Resort’s DAS Solution

The partnership between the resort company and American Tower was designed as a long-term, multi-year engagement. Two resorts were selected for the first deployments of the Distributed Antenna System (DAS) networks. One of these was strategically critical, as it was hosting a major ski championship event with athletes from around the world, a huge audience of guests, intense media coverage and a global television audience.

The service-level agreement for the wireless networks was to cover the major congregation areas of ski resorts to offload network traffic and improve performance. These areas are typically located at either the top or bottom of chair lift or gondola runs and popular dining locations. Total coverage was to include chair lifts and gondolas, ski runs and anywhere else guests, employees and contractors would be on a resort property.

Operational requirements for the DAS network included compressed timelines for deployment in order to minimize disruptions to year-round resort operations—these compressed timelines meant deployment needed to happen in as little as three or four months versus years, which is how long it could normally take.

Close collaboration between the resort company and American Tower teams helped the DAS deployments to address unique requirements of working on a ski mountain. A steering committee was established, including senior leadership from the customer, the lead wireless carrier and American Tower, to provide a framework that ensured the program goals and risks were identified and agreed upon up front, which allowed for managing risks in real time. Cross-functional teams would work based on the established project plans where there was accountability for each party.
For example, due to aesthetic requirements, most of the resort’s wireless transmission towers are disguised as pine trees or are built into the architecture of existing structures, such as ski lodges and signs. American Tower engineers used a state-of-the-art methodology to calculate unique requirements for each tower and node: structural; topographical; wind, snow, ice and other weather-related issues; transceiver and network control equipment; interface with the fiber-optic backbone and hub; and power (see illustration below).

One of the reasons the resort company chose American Tower was because American Tower relied on the resort company’s expertise in working with the nuances unique to ski resorts.

The DAS nodes at the resorts required physical connections with fiber-optic cable to the hub for transmission within and out of each venue’s network. The rugged mountain environment posed challenges for deploying the fiber. For example, some nodes are located six miles away from the hub. These nodes required burial of fiber runs uphill with minimal windows of opportunity for execution. Elsewhere, American Tower ran the fiber up the main gondola run to connect the top-of-mountain node with the hub.

Another key aspect to the DAS deployments was American Tower’s role as owner of the neutral-host networks, which can be shared among the major wireless carriers. Having American Tower as the single point of contact for all carriers provided a big, time-saving benefit for the resort company. The carrier-interface process includes:

- Matching the properties with communications sites sought by carriers
- Coordinating network design with technical requirements of each carrier
- Negotiating, executing and administering contracts
- Developing the neutrally hosted network beginning with the first “anchor tenant”
- Expanding use of the network for a broader guest audience by adding additional carriers’ service to the existing shared infrastructure

American Tower is continuing to provide these services to the resort company in an ongoing, long-term role.

Case Study: Major Ski Resort

American Tower engineers used a state-of-the-art methodology to calculate unique requirements for each DAS node. Design highlights for a “monopine” antenna tower used in a major ski resort’s DAS are shown above.
Initial DAS Deployments

Resort #1 DAS
› 7 nodes
› 1 hub at base of the gondola
› All antennas are monopines

Resort #2 DAS
› 8 nodes
› 1 hub, including a new-build shelter
› Antennas include multiple monopines, building attachments and some hidden under roof rafters

DAS Antennas at the Resorts

Initial deployments were completed on time, meeting requirements at both resorts. Preparations are currently underway for deploying a DAS at another of the company’s resorts this year. Wireless coverage for other ski venues owned by the major resort company is also being planned. The company’s vision is to have American Tower as the go-to wireless solution provider for all its resorts.

Innovating with DAS on the Mountain

A significant milestone for American Tower was successfully completing the initial DAS deployments for the major ski championships being held at the resort. American Tower was a critical partner in providing solid wireless coverage by all carriers.

However, as a service-driven business, the resort company has other measures of success beyond simply providing ubiquitous wireless coverage. The resort company’s concept was to improve the guest experience as a cycle: contemplate, research, purchase online, travel, arrive, participate in an experience (lodging, skiing and dining), travel home and reminisce. The company created a mobile app allowing guests to see and share what they have done at a resort; the app is a key component of the reminisce stage. Measuring guests’ direct interactions with the app while they ski is how the resort company is able to judge success. On the mountain, having the DAS network is vital to making the app work and is an integral part of the guest experience. The app also allows guests to automatically share their mountain experiences on social media.
Enhanced connectivity, provided by the DAS networks, also helps make the resorts safer by allowing visitors to call for help if they encounter an accident or require assistance. The company is still expanding use of the DAS shared infrastructure as its value grows for all stakeholders. American Tower has become a strategic partner in meeting the resort company’s service standards.

American Tower Innovates for Your Success

Large venue owners and operators can reap many benefits by partnering with American Tower for wireless venue solutions. As the nation’s leading operator of in-building, neutral-host, multitenant DAS, we have exclusive DAS rights to more than 1,000 malls, campuses, hospitals, airports, resorts and casinos. Our public utility status in most states and access rights across most of the U.S. allow use of public right-of-ways to install wireless communications equipment. Our long-term commitment is to work with venues to create a customized solution that provides the voice and data services guests demand—whether by towers, rooftops, in-building or outdoor DAS, Intelligent Core Network (iCN)™ or using a hybrid approach.

For More Information

americantower.com/venues

To learn more about American Tower’s DAS solutions for your venue, please contact:

877-409-6966
leasing@americantower.com