

Alta Opts for RFID Lift Tickets

The ski area finds the RFID-based system for lift tickets and chairlift access gates requires fewer employees to operate—and its customers enjoy the convenience.

By Mary Catherine O'Connor

June 4, 2008—Anyone who skied Utah's rugged, expert-friendly [Alta Ski Area](#) before the 2007-2008 winter season would likely have described many of its ski runs as being "advanced" or "technical," but would not have said the same of its operations. Lift tickets were very low-tech, color-coded stickers, and ticket checkers were notoriously lax, making it easy to poach rides on the chairlifts—that is, access them using a reused or fake ticket, or no ticket at all. And lift lines were often disorderly.

Not any more, says Michael Maughan, Alta's chief financial officer and the leader of a project to install an RFID-based system for lift tickets and chairlift access gates. "Several people have told me that it's the best thing we've ever done," Maughan told about 125 attendees at an RFID Innovations session during the [National Ski Area Association's](#) 2008 National Convention and Tradeshow, held on May 29 in San Francisco.

Such high praise came as a bit of a surprise, Maughan said, given that news of the resort's plans to install the system was met with opposition from some of the area's die-hard patrons, who accused Alta of becoming overly corporate and losing its homey feel. But after skiing the area last winter, he claimed, "even the most vocal opponents [to the plan] said that they were wrong, and they loved it."

When Alta first set out to modernize its lift ticket and chair access systems, Maughan told the audience, it weighed all of its options. Moving to bar-coded lift tickets would have been a significantly lower investment, he noted, but the RFID-based ticketing systems on the market offered more value to skiers, in terms of convenience and orderly lift lines, as well as to Alta's operations.

"We felt RFID [performance] would be more reliable than bar codes," he said, "and we felt better about RFID than bar codes in terms of security." Bar codes can get ripped, smudged or soaked in a skiing environment, making them difficult to read, but the research Maughan and his team performed—including multiple trips to European ski areas, where RFID-based lift-ticketing systems are common—showed that RFID tickets can be read quickly and reliably, whether by employees using handheld interrogators, or by fixed-position readers mounted in automated turnstiles (which also enables lower staffing levels over manual checking).

Another benefit of RFID-based cards over bar-coded ones, Maughan said, is that tickets can be checked at a greater distance from the skier. "We found RFID more customer-friendly," he explained. "No one comes at you with a bar-code scanner, invading your personal space. Many of our guests comment that [the RFID-based ticketing] system is a much more pleasant experience than [bar-code] scanning."

A third benefit RFID offers is the convenience to season-pass holders. Pass holders are issued hard plastic cards that they stow in a pocket or wear on a lanyard. With RFID, skiers need not dig out their passes from under multiple layers of clothing for ticket checkers to inspect. This is especially helpful during snowy days, when the area sees as much as 2 inches of accumulation per hour and skiers prefer to remain bundled up.

Finally, under the new system, skiers can keep the RFID-enabled card they are issued on their first visit of the season, then continue to use that same card thereafter by loading additional value onto it using a Web-based interface over the Internet, or a payment kiosk at the ski area. This means they can get to the chairlift more quickly upon arrival.

Two vendors, Skidata (see Aspen Signs With Skidata, RTP for Integrated RFID/POS System) and Axess, both based in Austria, vied for the Alta project. According to Maughan, Alta chose Axess for two main reasons: First, Axess offered back-end software that could control the RFID access gates and link the tag data with the resort's point-of-sale (POS) software. Because Alta offers a dual ski pass with access to Alta and the neighboring Snowbird ski resort, it wanted back-end software that it could meld with the latter's ticketing system.

Second, Axess was willing to develop a custom-designed access system for Alta that would not utilize a turnstile, which can be difficult to negotiate while wearing skis and carrying poles. Instead of a turnstile, the custom Axess system consists of a gate that swings outward to allow a skier to pass—more like a starting gate for a horserace, versus a turnstile entrance to a subway system—once the lift ticket is read and authorized by the reader embedded in the gate. Alta also requested that Axess build two vertical antennas into each gate—one on each side—that would ensure an RFID lift ticket would be read no matter on which side of the body a skier carried the ticket, or whether it was near the waist or closer to the neck.

What's more, because of the ski area's healthy snowfall—Alta just recorded its third-biggest snowfall in its 70-year history, with more than 700 inches—the gates needed to be easy to lift and move, to accommodate growing snowpack throughout the season, and to allow for snow-grooming machinery to pass underneath. Axess worked directly with Alta's operations team and snow groomers to design and install the gates, which are suspended from a gantry—an overhead beam that extends across the lift line. This allows the gates to be moved vertically, and to swung into and out of place to accommodate grooming, at each of the ski area's seven chairlifts.

Rather than issue RFID lift tickets that patrons would use once and toss in the trash, Alta decided to provide a more durable, thin plastic card that skiers could keep and use multiple times. For the first day's usage, a visitor pays \$59 at the ski area's ticket office and is issued a plastic card, which can be attached to a zipper or stowed in a pocket. The card's embedded high-frequency (HF) 13.56 MHz passive RFID tag complies with the ISO 15693 standard and is encoded with a unique ID number. After the ticket is purchased, its ID will open any chairlift gate that day.

To ski a second day, the visitor can bring the card back to the ticket office and pay \$54. The user can also renew the card at Alta's Web site by selecting the desired date, then keying in payment information and the unique ID printed on the card. When payment is received, the software controlling the gates enters the unique ID into a database of IDs that can be accepted on the day the skier will return. Reloading online means visitors can proceed directly to the chairlift upon arriving at the area, rather than stopping at the ticket office.

Also printed on each card is a bar code that bears the same unique ID printed on the ticket and encoded to the chip. This enables skiers who purchase an Alta-Snowbird lift pass (\$84 for the first-time purchase, \$79 per day thereafter when reloading card) to utilize the card either at Alta's RFID access gates or at Snowbird's chairlifts, where ticket checkers employ handheld bar-code scanners to read the tickets.

In addition, Alta outfitted nearby hotels that sell its ski lift tickets with RFID printer-encoders, allowing them to print out and encode the cards. All of the POS data, as well as the IDs encoded to the cards, are maintained centrally by Alta.

The chairlift ticket checkers—a staff that used to number 40 across the mountain but has now been reduced to just one checker at each lift—carry handheld RFID readers, which they use to randomly audit skiers moving through the gates. If the tag in a season's pass is read, the holder's photo, name and other information, such as zip code, appear on the small monitor built into the handheld, and the ticket checker can use this to ensure that the correct person is carrying the pass (using someone else's pass is another means of illegally accessing a chairlift).

RELATED_ARTICLES Maughan says the transition to RFID-based ticketing has greatly changed customer perceptions regarding ticket checkers. "They used to be the bad guys, checking everyone's ticket [and looking for frauds]," he says, but now they have the role of helping to get skiers through the gates quickly. When a gate won't open for a skier, he adds, it's usually because a cell phone that person is carrying is blocking the RF signals from the interrogator's antenna, preventing it from reading the tag. Ticket checkers help explain this common problem so skiers can remedy it by keeping their phone and ticket in separate pockets, and quickly be on their way.

Maughan says he's not yet been able to analyze whether the transition to RFID-based ticketing has led to increased revenue for the mountain. However, he states, it's clear that customer satisfaction is up.

Copyright ©2005 RFID Journal, Inc. All Rights Reserved