Crystal Mountain Resort is Washington's largest winter and summer getaway. For over 60 years, the picturesque resort near Mount Rainier has drawn millions of sports enthusiasts around the world.

An early adopter of new technology, the resort was also the first in Washington to install a high-speed, detachable quad chairlift, Rainier Express.

Technology solution needed

As the resort's Director of IT, Perry Turner is in charge of protecting over 400,000 guests and 2,600 acres of land all year long. The resort is open for skiing and snowboarding from November to April, and summer activities with scenic gondola rides from May to September. This meant that any technology solution had to withstand snow and low temperatures during the winter and high humidity levels during the warmer months.

"*The elevation tops out at a little over 7,000 feet, so the weather conditions can get extreme. The technology we use needs to be able to withstand everything from snowstorms to 100 MPH winds*."

The challenges

Low-quality legacy cameras and limited connectivity led to gaps in coverage with lens fogging and weather-sealing issues

"*The combination of moisture and cold temperatures was wrecking our older cameras, which couldn't survive the harsh conditions.*"

Remote areas with limited infrastructure are difficult to wire and get power to. Low-quality legacy cameras and limited connectivity led to gaps in coverage, while lens fogging and weather-sealing issues led to malfunctioning cameras and poor visibility.
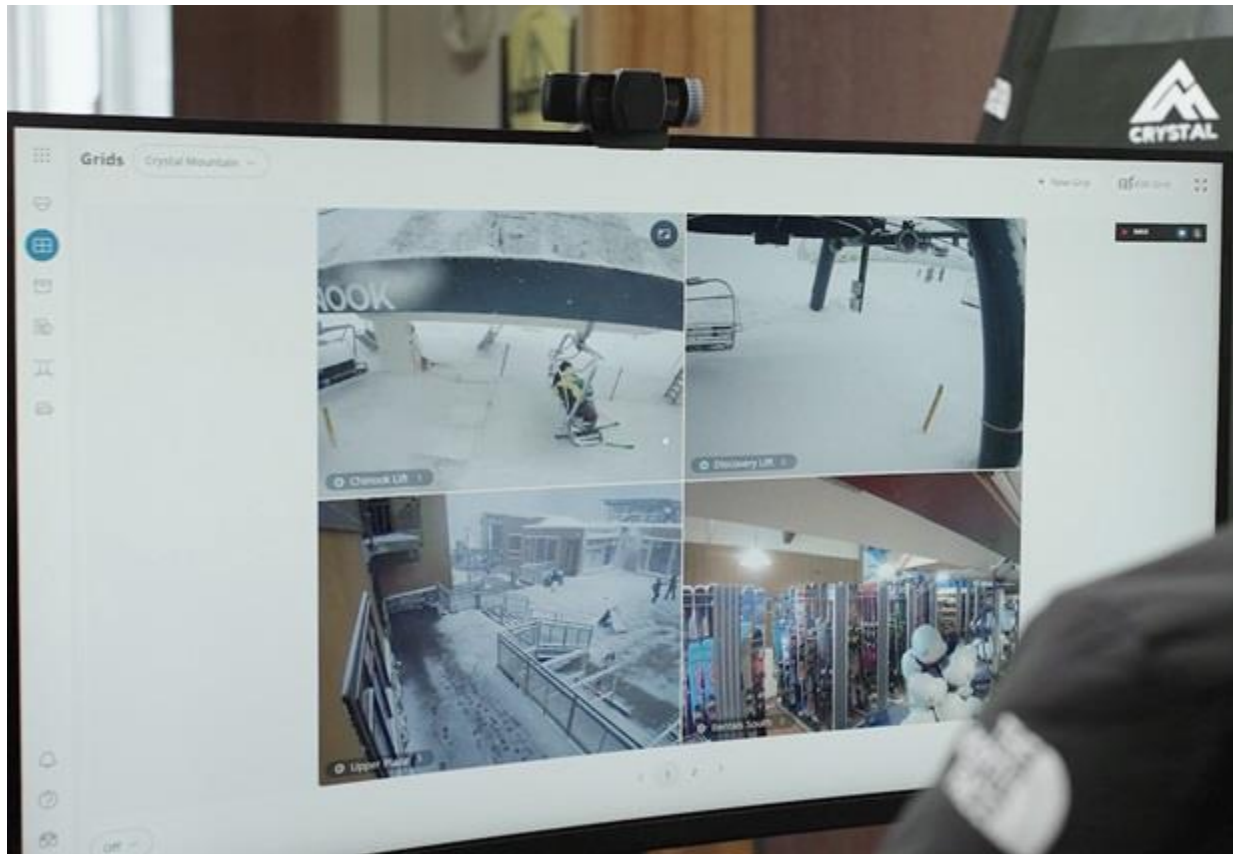
Loss of time in retrieving images

If footage was available, retrieving and sharing even a minute from two different network video recorder (NVR) systems was an excruciating process.

"*If I had to pull 10 minutes of footage, it would take three to four hours to get the right clip and to download it. It would crash all the time, and I'd have to start the process all over again.*"
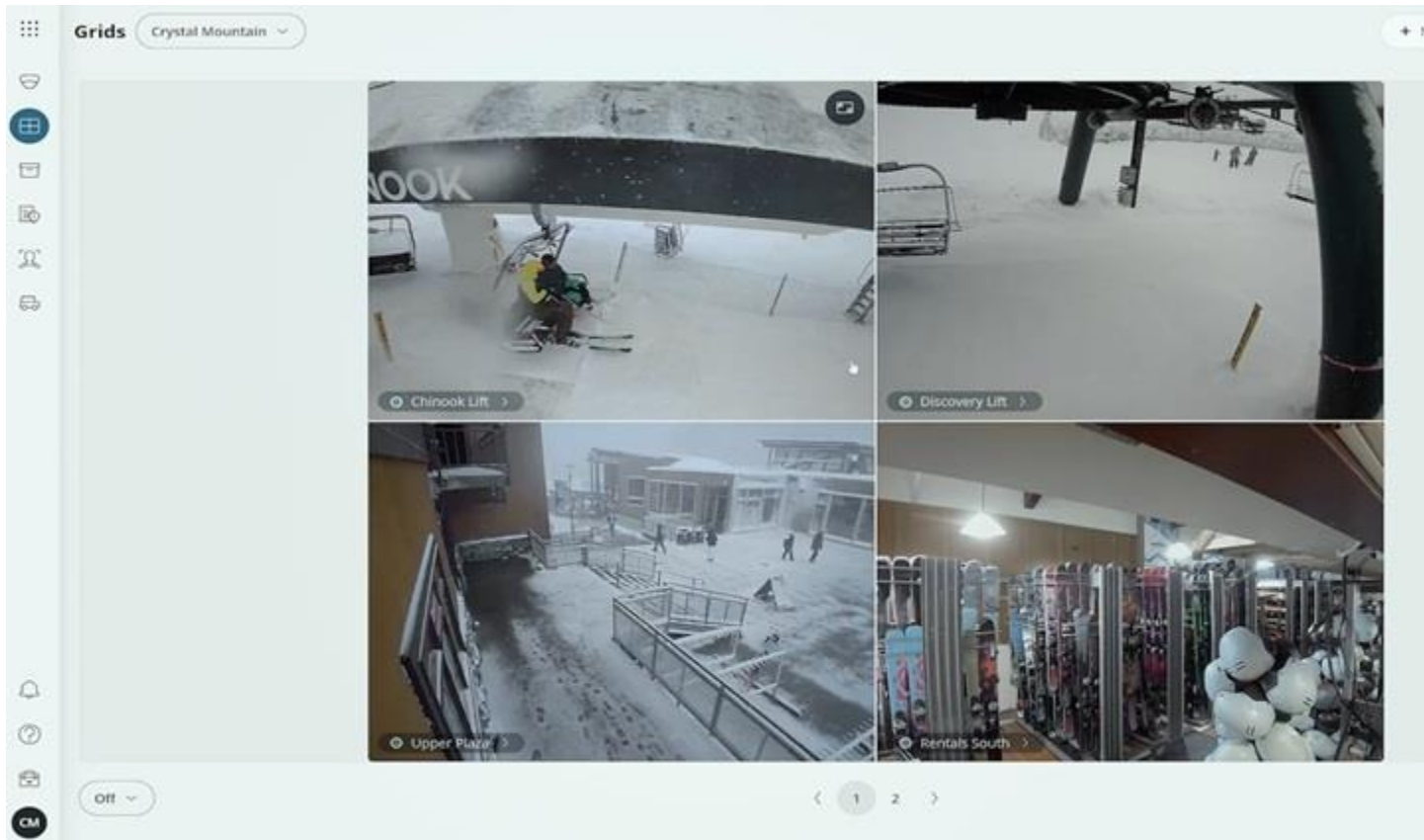
Why Verkada?

"*The interface is excellent, the app is easy to use and the cameras are rock solid. The hybrid cloud infrastructure also helps with reliability. I don't need an on-premise device to handle all the recording since the camera does that. It's a lot less to maintain from my end.*"

Seamless operation

From a single pane of glass, Perry simplifies management and ensures the seamless operation of the resort. He was an early adopter and beta tester for the Verkada Cellular Gateway, a new product that allows him to deploy cameras in any location. With more coverage and connectivity solutions, he leaves no room for oversight – no matter how minute the detail is.

"*We have Verkada coverage in remote areas with access to power but no internet. Across our 2,600 acres, the possibilities are endless: up on the mountains, out in parking lots, over shuttle stops, and even gondola stations.*"

The results

- Cellular deployments in remote and hard-to-wire areas
- Cameras built to handle 100 MPH winds and -40°F
- Livestream ski conditions in high-image resolution
- A platform that saves time and reduces work
- Risk and liability prevention

1. Cellular deployments in remote and hard-to-wire areas

Until recently, Perry's camera deployments were limited to places where he could run ethernet cable. While cellular data was available, it would require him to piece together different components - an LTE router, a PoE switch, a NEMA enclosure, and a data plan - all sourced from disparate vendors.
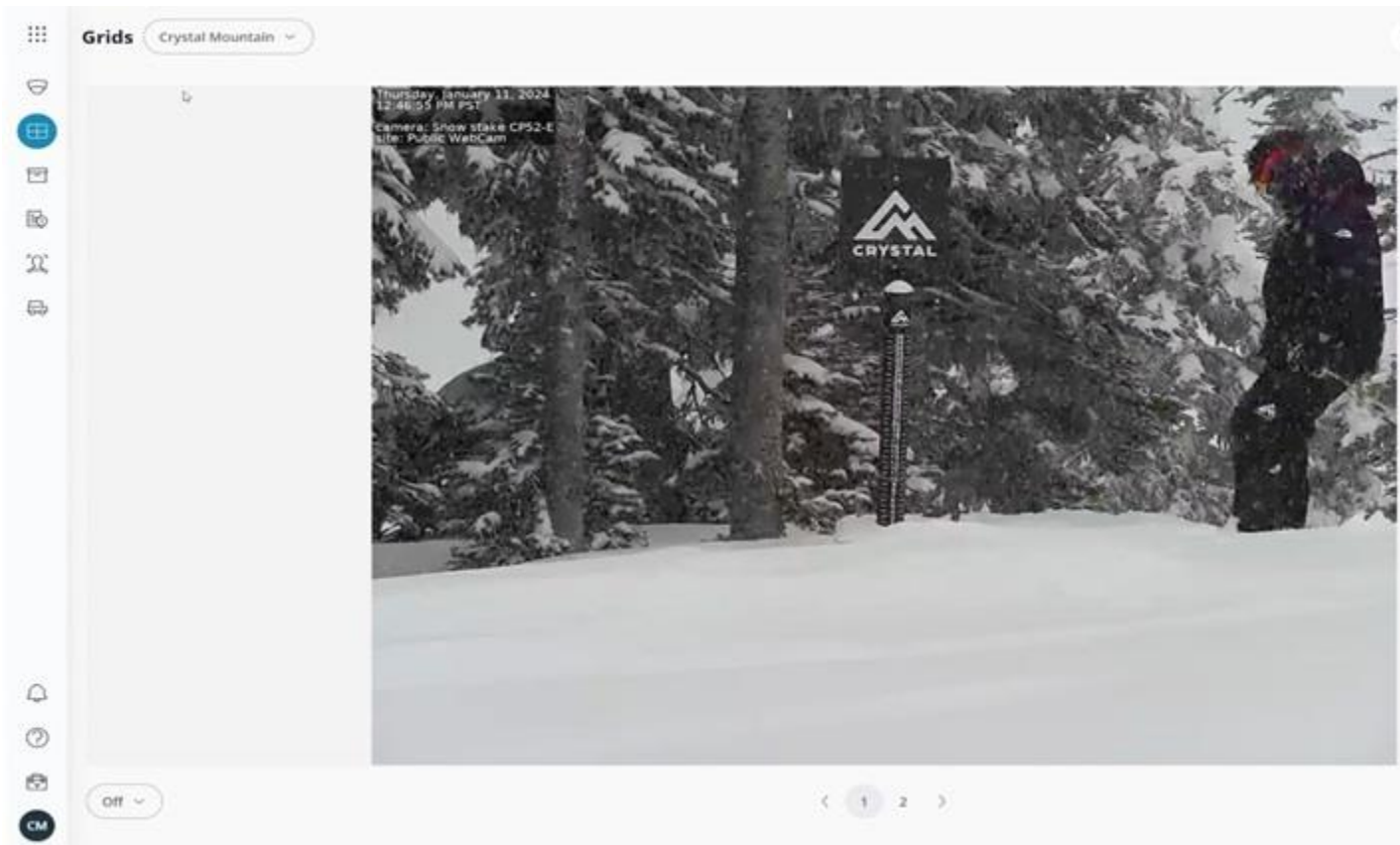
His GC31 Cellular Gateway combines all the above into a single device that provides both power and data to any Verkada device. The result is a simple, seamless operating experience with minimal setup needed.
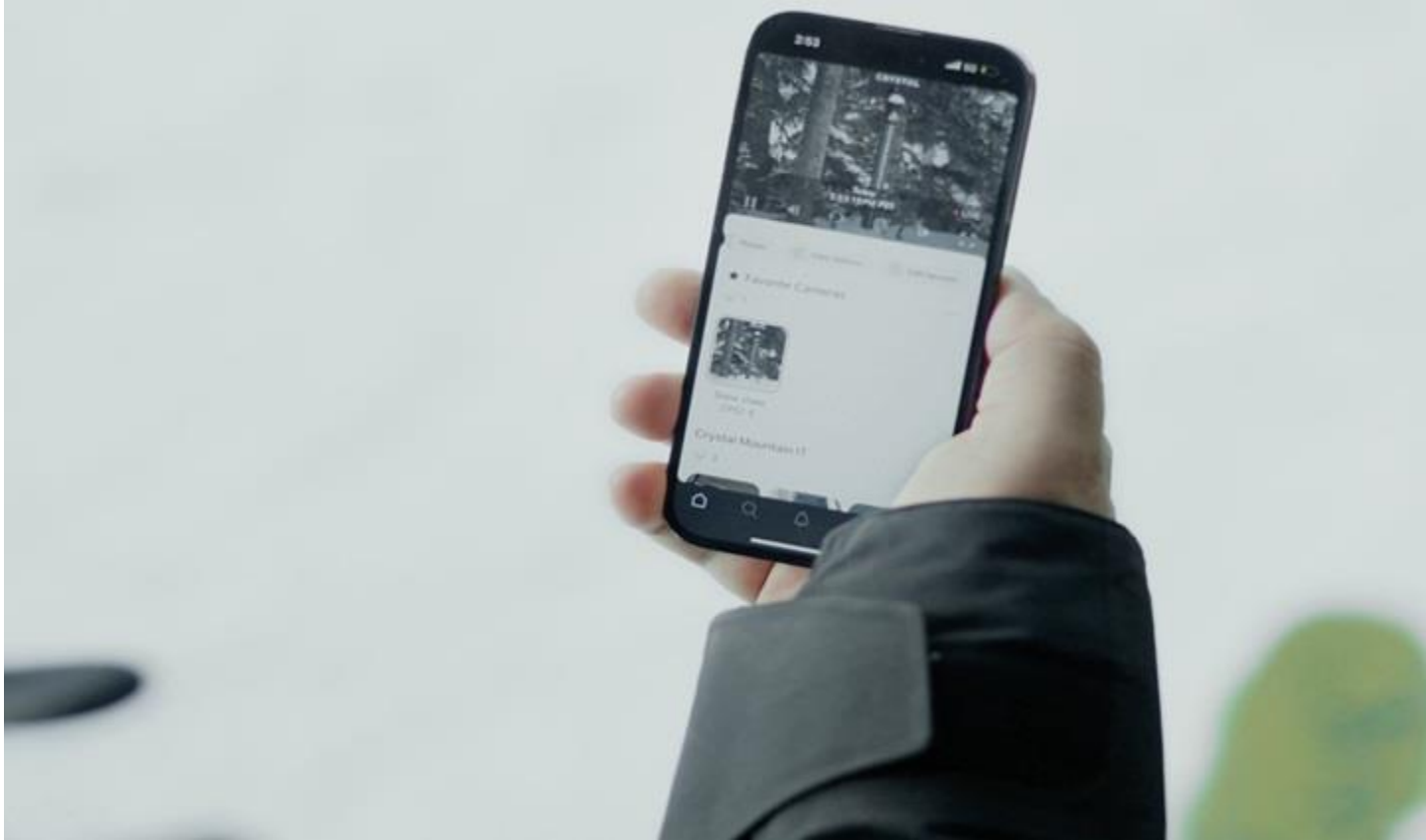

- LTE coverage

"*It took only a few minutes to install the cellular gateway and connect it to our PTZ, which monitors our moving snow stake.*"

"*The snow stake has to be in a remote corner so it's not wind-affected, but we can now use the cellular gateway to take advantage of LTE coverage in the area.*"

- 24/7 technical support

Perry has Verkada's unlimited data plan on the cellular gateway, which comes with the 24/7 technical support he's used to from Verkada.

The cellular gateway bridges gaps in coverage and opens a new world of use cases for Perry, "*The GC31 allows us to install cameras along the road coming into the resort and at our parking lots. On busy weekends, we can easily monitor traffic and parking lot capacity.*"

2. Cameras built to handle 100 MPH winds and -40°F

The lack of issues with their hardware surprised Perry and his team. All the Verkada cameras onsite are enterprise-graded and are IP67 and IK10-rated.

Additionally, they come with an integrated temperature gauge and built-in heaters that automatically turn on once the temperature hits -20°C (-4°F). Verkada outdoor cameras are fully functional at sub-zero and high heat temperatures and can withstand temperatures ranging from -40°C to 50°C (-40°F to 122°F).

- 10-year warranty

Backed with an industry-pioneering 10-year warranty, Perry can install cameras anywhere at the resort – from the retail shops to the top of Mt. Rainier – and not have to touch them again.

"*We mounted a camera on top of a building that gets hit by 100 MPH winds and beyond freezing conditions, and it's had zero problems. We just set it and forget it.*"

3. Livestream ski conditions in high-image resolution

Low-quality images and footage are no longer an issue with Verkada. The cameras come with advanced image sensor technology, which allows them to produce crystal-clear footage.

Even in low-light conditions, like the resort's "Night Skiing" events, the built-in infrared LEDs make capturing footage in darker environments possible.

- Live video feeds

No matter the conditions or location, Perry and his team have a clear view of the people and property at the resort

No matter the conditions or location, Perry and his team have a clear view of the people and property at the resort. The Marketing department shares current skiing and snowboarding conditions on the website, and they have multiple cameras placed throughout the resort that share live video feeds.

"*Our website has live video feeds of the slopes, and as soon as we switched to our first Verkada camera, the jump in image quality was evident. The guests love it. The Marketing team now wants to add more for the public-facing side of things.*"

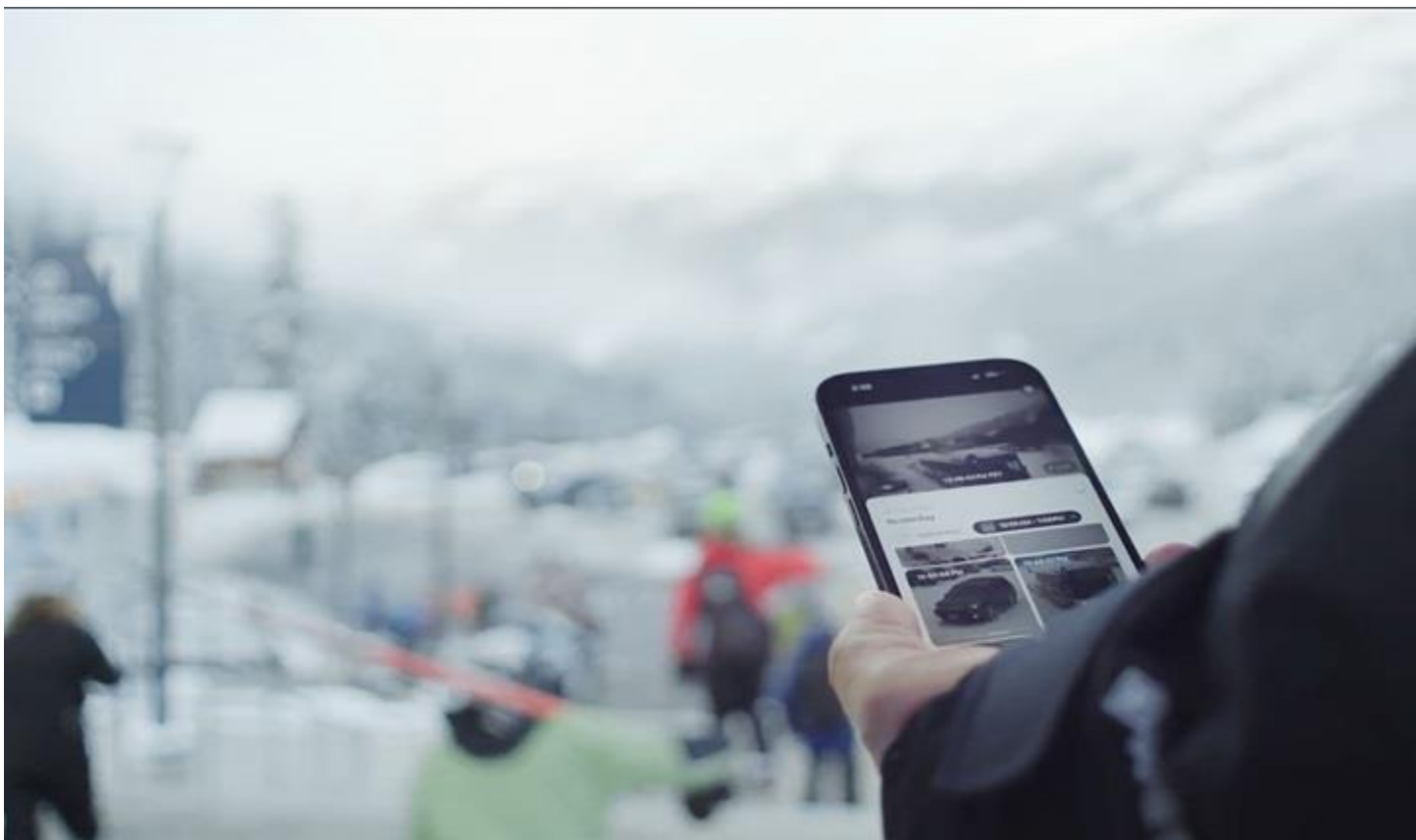## 4. A platform that saves time and reduces work

Verkada cameras come with built-in video storage capabilities of up to 365 days, removing the need for on-premise servers and all the associated work and time required to maintain them. Plug-and-play cameras are pre-configured and fully operational within minutes.

When it comes to pulling footage, the process is night and day.

- Footage on Command

  Before, there were a lot of requests for footage pulls from the Security and Lift Operations teams. These teams can securely access footage themselves on Command through their mobile phones, eliminating most of these requests. If Perry does have to pull and share a snippet of footage, it takes a fraction of the time it did beforehand.

  With Verkada, that process is straightforward and seamless. "*Pulling and sharing video footage now takes minutes, not hours. And when other teams need to pull footage, they can access it directly from their phones. This has removed multiple steps in our workflow and saves everyone a ton of time.*"

5. Risk and liability prevention

Placing Verkada cameras at vulnerable and high-risk areas at the resorts (including retail shops and chairlifts) has helped thwart thefts of thousands of dollars worth of ski equipment and dispute false claims. If an incident arises, Perry can corroborate the witness accounts with easily accessible footage to see how the facts line up.

Within Command, Perry can choose the camera he wants to view the history of, jump to a specific date and time, and review other data and analytics. Once he finds what he's looking for, he can share the footage with anyone through text, email, or a link.

- Guest safety

Guest safety is another key priority for the resort, especially on the slopes. The cameras positioned at and near the chairlifts help monitor that guests are seated correctly. Safety issues can arise if someone falls in the chairlift area so additional visibility is crucial to protect both the guests and the resort.

"*Verkada provides peace of mind and liability protection. We can quickly verify what happened with a past incident and address any security or safety issue as it's happening. If someone is in trouble at the chairlifts or on the slopes, we can respond immediately.*"

Looking Ahead

Crystal Mountain Resort's success in deploying Verkada cameras has led to rave reviews from various internal teams. They are exploring how they can leverage the platform to improve the customer experience at the resort.

"*We recently learned about the Occupancy Trends feature, and there are so many potential applications. Foot traffic is just one thing that we want to keep track of in our rental shops and restaurants.*"

Lower cost of ownership

Most critically, leadership loved the enthusiasm surrounding the platform and has performed further financial analysis. What they found were more possible benefits, including a lower cost of ownership.

"*The more teams interact with the platform, the more buy-in we've received from leadership. They realised that Verkada is more cost-effective in the long run.*"