KATHREIN

Case Study | Access control system

Ski Resort IoT Solutions

Source: Axess AG

Challenge: Ski tourism means both quality and quantity

Axess is a market leader in the global provision of access control systems for ski resorts. As a market leader, the company is committed to optimizing technological processes. The challenge that companies face in this respect is how to continuously **improve the safety and comfort (quality)** whilst also **speeding up the admission process (quantity)**. Here, the focus must always be on the behaviour of the user. A cold and highly frequented environment has a major impact on process reliability. In order to reduce admission times, Axess strives to use the latest technological developments. The aim was to enable a smooth and steady flow. This smooth **process should be independent of the skier's behaviour and the position of the chip card**.

Initial situation: IoT solutions were not available

Worldwide, almost all entrances and turnstiles in ski resorts use the same HF technology. The customer receives a credit card-sized ski pass. This card must be **actively held against a reader at the entrance** in order for the user to be authenticated. This active, albeit minimal, involvement of the skier is often the reason for long waiting times. With large crowds, there will be many short delays, which, in sum, lead to long queues.

Solutions: RFID transponders

Together with Axess, a UHF RFID transponder was developed for the ski pass, which functions reliably both in a very wet

environment and in case of extreme temperature fluctuations. The corresponding counterpart of the IoT solution was installed in the Axess modules, namely a UHF RFID reader module and special UHF RFID antennas. This means that **every ski pass can now also be scanned from greater distances**. At the same time, however, this is only possible **directly at the gate or the turnstile**. As a basis for the IoT solution, initial tests with our RRU4500 RFID reader and a setup of Kathrein Solutions' SmartShelf antennas were conducted. Following successful functionality testing, the reader module and antennas were customized for use in the Axess modules. In the course of this development, Kathrein Solutions **designed an RFID transponder antenna especially for ski resorts**, which was implemented in the new chip cards.

Result: IoT solutions improve both the qualitative and quantitative aspects of access controls in ski resorts

With Kathrein Solutions' UHF RFID technology, all skiers are reliably recorded. The positioning of the chip card no longer requires active involvement from the skier. The **admission time at the entrances has been significantly reduced, guaranteeing smooth processing as well as safety**. The modern IoT solution eliminates manual checks for the operator. At the same time, combining the HF and UHF in the systems allows operators to efficiently, smoothly and reliably implement a change of technology. The resources have been used optimally and make the skiing experience more comfortable for everyone. Together with Axess, a **smart and innovative IoT solution with technological perfection** has been put into practice.

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