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建筑

质量重于泰山

High-end video security,
low storage footprint

Customer story

New Changchun International Airport terminal
achieves legal compliance on video storage

When Changchun Longjia International Airport added a new second terminal building, the Chinese government's mandate for archiving video camera recordings for 90 days created a technological challenge: With over 1,000 installed cameras recording around the clock, how could massive amounts of video data be stored in an energy-efficient manner?



The challenges of 24-hour video security

Airports not only range among the world's most sensitive security areas but also have to meet the strictest legal guidelines. This is the case at Changchun Longjia International Airport in Northeastern China, where rapid economic growth and almost 13 million passengers per year required the construction of an additional terminal building. The state-of-the-art Terminal 2 building extends over 55,600 square meters and features around-the-clock video security according to Chinese government standards. Achieving this level of protection was not an easy journey. Since the year 2017, Chinese legislation demands mandatory storage of all video data from public areas such as airports for a 90-day period. Not an easy feat from a security manager's perspective, as buildings of this size require over 1,000 cameras recording 24 hours per day, preferably in high-definition.

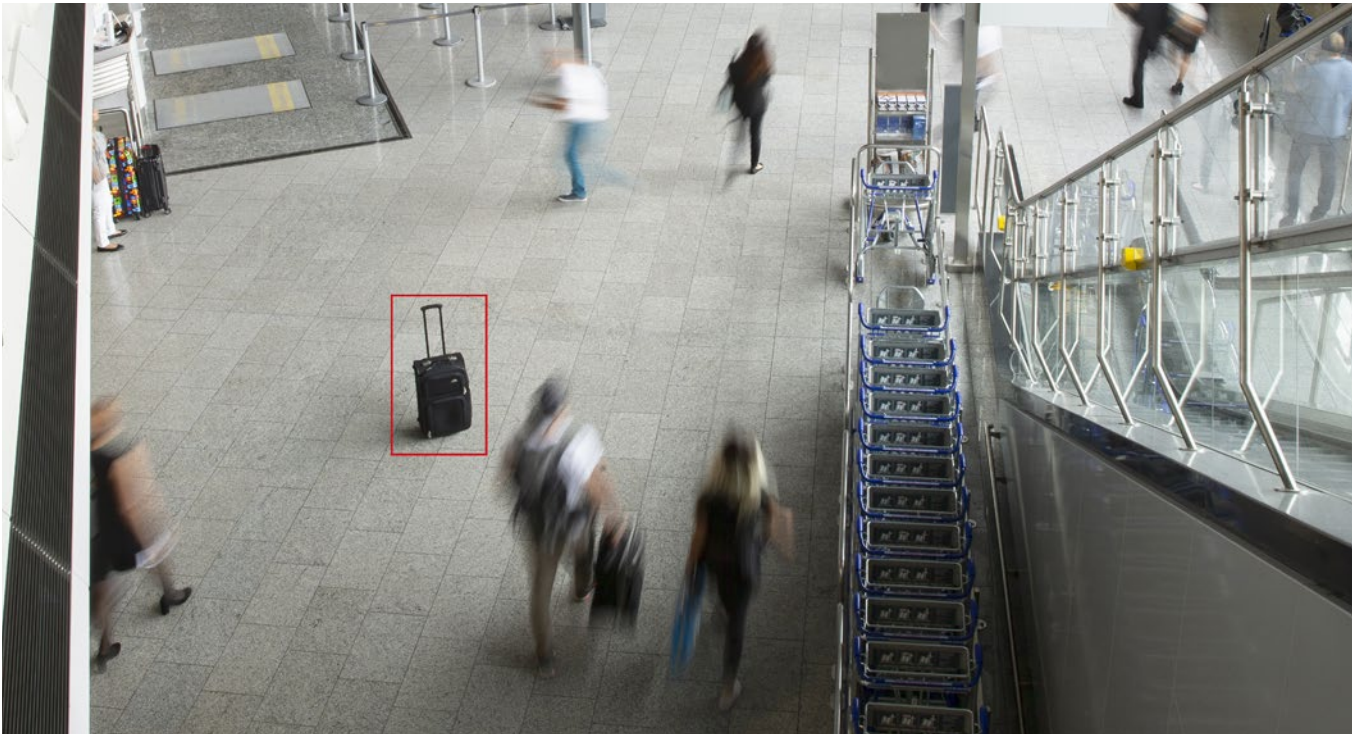


Reducing storage and energy consumption

On the backend, 24-hour video security produces large amounts of video data, placing a premium on adequate data storage. As a result, airport security managers in Changchun were looking to limit the amount of storage units on which video data is archived, as these devices are costly and consume significant energy for cooling. And with Terminal 2's construction running on a tight schedule, they needed a one-stop partner to guarantee that video security was operational – and legally compliant – from day one.

Meeting the client's requirements, Bosch designed a custom-fitted solution for Changchun Longjia International Airport, drawing on experience from large-scale airport security installations around the world. The team installed nearly 1,500 cameras inside and outside Terminal 2. The cameras not only deliver high-definition images and support security personnel by detecting threats automatically via built-in video analytics technology. The 'smart' cameras are also able to solve the challenge of video storage right out of the box.

Centrally managed on the Bosch Video Management System (BVMS), the networked cameras feed video data into storage units in a compressed format. They maintain a small data footprint while meeting the Chinese government's legal obligation for 90-day data storage by using built-in H.265 compression technology. Without compromising image quality, H.265 compression reduces data bandwidth and storage space by up to 50 percent. As a direct result, security managers in Changchun have been able to achieve cost savings by reducing the number of storage units while significantly cutting down on energy consumption and cooling cost for the server room.



“The reduced bandwidth leading to a fewer number of storage cabinets in the server room was a major reason why our client opted for the Bosch solution.”

Mustaine Hu, Technical Support Manager at Bosch Building Technologies



Government-grade security since day one

Beyond cost and energy savings, the security system at Terminal 2 answers to additional client requirements: The BVMS as the central interface supports quick searches of archived data, for instance when answering government requests. Facing the region's harsh winters, the new outdoor cameras are able to withstand temperatures down to -40 °C. Inside the terminal, the HD cameras interface with new access control solutions – also installed by Bosch and connected on the Building Integration System (BIS) – for an extra layer of security: At 350 doors across Terminal 2, a combination of card reader and video security eliminates the risk of non-employees accessing critical areas with a stolen card and allows seamless passage of authorized staff without additional screening.

Since the opening of Terminal 2 in October 2018, the Bosch system has been providing end-to-end security for travelers, personnel and property according to government requirements. It has also delivered substantial cost savings on video storage and power consumption since day one. In the bigger picture, about 200 of the country's 497 airports will require similar expansions over the coming years – all required to meet the same strict security guidelines – making Changchun an important reference for Bosch Building Technologies in the region.