

Technical article

Industry Sector
Building Technologies Division

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Intelligent security for airports

With the right technologies and the integration of different security systems, even large and complex sites such as airports can be monitored and secured efficiently.

Security has become an ever-increasing feature of our daily lives, and nowhere is this more readily apparent than in the airport. While passenger and baggage screening understandably remains a high priority for airports, a more holistic approach is often adopted, bringing together the different security threats that are faced, and dealing with them through interoperable solutions using fully integrated systems.

From Perimeter to the Air

A key factor in effective security is to adopt an approach which seeks to recognise all the threats throughout the process, from the perimeter protection of the airport through to preventing thefts from the car parks, efficient and transparent passenger, luggage and cargo check-in procedures and on to general airport operation and air transport management. That is not to say that a single solution to airport security exists – it does not; but, by adopting an integrated approach, airport operators can better protect all operating and value chain processes, without gaps. In terms of security, this will typically include access control, video surveillance, intrusion detection, alarm management and evacuation. While many of these functions are being increasingly integrated, so too are fire protection, energy management and automation systems for the control of HVAC (heating, ventilating and air conditioning). This trend will continue, particularly given the need for airports to be economically sustainable, irrespective of their size, by 2030, which will require improved operational processes and intelligent energy management systems.

Intelligence Through Analytics

Returning to video surveillance, this is undoubtedly one of the growth areas in security. However, traditional problems include how to monitor a whole airport, leading to large

'video walls' of monitors showing live analogue video streams, hoping an operator will be able to spot something. Siemens has transformed this into a more automated digital approach with Siveillance SiteIQ, providing wide-area surveillance, able to transmit over wide areas using networks and to classify more than 50 simultaneous, but independent, objects per camera. The system evaluates and monitors all sensor and camera signals, using just one large screen to display only the live images in the case of an alarm or suspicious event. The operator can then investigate further to validate the event using the camera's pan, tilt and zoom controls, or playback the image to see what caused the alarm. This allows security personnel to focus on potential threats and stops attempted security breaches before they occur.

Coping with Increased Volumes

The sheer size of an airport and the range of operations carried out on a daily basis means that it is an extensive and complex site in terms of security provision. By employing image analysis to identify and automatically flag suspect objects and potentially threatening incidents, security personnel can focus on responding to and acting upon such threats, rather than simply monitoring the video channels. By integrating the video surveillance with other systems, many of the security requirements can be performed through a single system. Siemens has undertaken a lot of research into megatrends and the move towards large cities and urbanisation and has concluded that, by the year 2030, the majority of the world's population will be living in major cities and the surrounding areas. Ensuring that airports are able to continue to provide a safe and secure gateway to the world has therefore never been more critical.

CAPTION

Siemens_aeroplane zone with PTZ popup.jpg

Siveillance SiteIQ: intelligent wide-area surveillance

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