Integration – the watchword in airport security

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One of the most important factors to recognise when looking at the security requirements of any airport is the vital role of integration. If the potential solutions - be they access control, perimeter protection, intrusion detection, video surveillance or a combination of them all - are considered in isolation, this will inevitably lead to gaps in the security provision.

Command & control

A central feature of this integrated approach is how to manage all the different inputs and alerts which may occur, often simultaneously, in the event of an incident. For an airport this is particularly key given that these inputs will come from security measures employed over a large area - what the security industry would term as wide area surveillance. For example, right at the outset of an incident simple questions must be answered, such as "who is in charge?" - police?, security staff?, fire officers?, as well as which measures should be adopted in the case of an incident? If an integrated approach is adopted, such as "Command and Control" systems from Siemens, this provides a centralised overview and control for the protection not only of an airport's passengers and employees but also of its assets. Such a command and control system integrates a wide range of disciplines, not only security functions such as intrusion, access control and video surveillance, but also fire, public announcement systems, flight information displays, building automation systems and other relevant security equipment. This provides one central point through which all the various alerts can be monitored. Command and control systems also guide the personnel who need to respond to an incident as to what actions to take, a vital factor in what is invariably a stressful situation.

Meeting changing requirements

This managing of systems through a central point is one of the greatest challenges faced by airport operators. The challenge is made even greater by the ‘organic' nature of an airport. As it evolves,
it is typical for an airport to expand existing terminals and build new terminals, therefore adding new elements to its security, fire, electrical power distribution, heating ventilating & air conditioning and building automation systems. Legacy issues need to be considered whenever new additions are made and the management of these often disparate systems, third party equipment and a host of different resources throughout the lifecycle of the facility is crucial. As an airport grows and its requirements change, this growth needs to be managed efficiently, securely, safely and in a way that is compatible with the environment.

Through research and development facilities in 30 countries throughout the world, employing around 30,000 people, Siemens continues to develop and roll out a portfolio of tested and proven applications to integrate disciplines at an airport.

Siemens solutions are operating in hundreds of airports throughout the world

Worldwide examples

Siemens solutions are operating in hundreds of airports throughout the world, from national airports such as Bodo in Norway, to international airports such as Dubai, New York JFK and Munich. An example is Bengaluru (Bangalore) International Airport in India, handling over 9 million passengers a year with around 27 aircraft movements per hour. Siemens was one of the few, if not the only companies worldwide, with the expertise to offer a comprehensive portfolio of solutions and airport-related services and processes, providing an integrated package of: power supply, IT systems, communications, security systems, baggage handling systems, X-ray inspections, check-in systems, and airfield lighting, from consultation to operation. Siemens also supplied the security for the largest infrastructure project created in the Catalan region of Spain in the last 20 years. The new Terminal 1 at Barcelona International Airport (also known as El Prat de Llobregat Aeropuerto), the second largest airport in Spain, was inaugurated on 17 June 2009, consolidating Barcelona’s place amongst the most important air hubs in Europe. Siemens installed the security, fire detection
and lighting systems in the new terminal, along with video surveillance systems with video analytics technology and access control systems. Also, the other large hubs in that region - Madrid Barajas and Lisbon Airport - are equipped with Siemens solutions.

Megatrends

Returning to the issue of managing growth, this will become an ever more important consideration for airports as they strive to accommodate increasing demand for air travel. Megatrends such as globalisation and urbanisation, along with growing and aging populations, continue to be an impact worldwide. By 2025 nearly two-thirds of the world's population will live in, or very close to, the major conurbations. As airports provide a global transportation network between cities, they are important hubs and have considerable regional, economic significance - giving the cities they serve great commercial advantages over those that do not. This growing urbanisation means that airports will undoubtedly continue to grow in number and that existing airports will continue to grow in size in order to satisfy the increasing demand for mobility. The systems employed to protect them therefore need to accommodate such growth, with a smooth migration path to allow systems to expand easily.

Environment

Transportation is certainly a prime focus for green initiatives as we all look for a more environmentally sustainable approach to travelling and better ways to reduce energy usage. This is certainly true of airports where 'green' is a vital consideration, from the use of LED technology in airfield lighting to the introduction of electric vehicles in apron applications. In terms of building technologies, with security an integral part of that equation, significant opportunities also exist here for energy saving measures in an airport's building infrastructure. In the terminal, creating the right environment is an important factor in what is an increasingly competitive arena. An airport's success depends upon loyal and happy customers and this is not just about efficient logistics and timely operations, but also the safety, security and comfort of the airport's buildings and facilities.

Major energy consumers of an airport are the movement of passengers and their baggage and
maintaining the comfort and well-being within the airport buildings. Green airports typically ensure optimum levels of fresh air, the best use of natural resources and daylight, energy savings through low voltage solutions in building management systems and greater passenger and staff comfort to create a more hospitable environment. When choosing a partner to design and implement such solutions, it is important that they understand the specific challenges faced by airports as well as the wider regional, societal and economic framework in which an airport operates.

Click here for more information on Integrated Airport Solutions from Siemens.