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An holistic Approach to Airport Protection

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One of the biggest challenges faced by an airport is how to integrate the various systems that it employs to ensure that the security, the comfort and the convenience for passengers is maximized.

The nature of an airport means that it typically develops organically. As the demand for air travel grows, with the megatrend towards urbanization gathering pace and the role that airports have to play in that process increasing, so airports will expand accordingly. They will build new terminals, expand facilities within existing buildings and perhaps even construct new runways to extend their capacity to accommodate more passengers and freight. All of this involves the addition of new elements to security, fire, electrical power distribution, heating ventilating and air conditioning, and building automation systems. This may well involve different technologies which are not necessarily cross-compatible with existing systems, as well as different contractors to undertake the work. Legacy issues need to be considered whenever new additions are made. 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.

Emergency planning

In terms of emergency planning, the need for integration is particularly acute. In the event of an incident, it is vital that those tasked with responding have all the relevant information to hand. This information has to be in a format that enables them to act quickly and efficiently, as well as in a structured and pre-defined way. Even a relatively small provincial airport will have security and

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safety measures employed over a wide area and the key to responding effectively is to manage all the different inputs and alerts which may occur. For large international airports, this is obviously even more critical. In an emergency situation, information can be supplied from a wide range of different sources including fire, intrusion, access control, video surveillance and building automation systems. Command and control systems have a vital role to play, providing a technical integration platform linked to all sub-systems and offering a central means of monitoring the various inputs. Security personnel receive live, real-time video on a single screen automatically and, through a fully integrated graphical representation of the airport in either 2D or 3D, the location of an incident can be immediately pin-pointed. Resources can then be deployed to the given location, with systems available that feature a routing engine to calculate and display the optimum routes to the incident. Additional safety and security infrastructure, such as the location of fire hydrants and emergency evacuation points, can be also be built into the display.

With all of the information assembled in one place, Command and control systems also guide and support the personnel who need to respond, managing often complex co-ordination and communication requirements in crisis situations and emergencies. By their very nature such situations are stressful. Having a set of clear actions to follow for a number of different scenarios, with the relevant contact details and processes automatically displayed, is the most effective means of deploying internal resources – and also co-ordinating with intervention forces such as fire brigades, police, ambulance and security services if required.

Learning from experience

Gathering all the available information and providing the means to act upon it in the event of an emergency is the vital factor in ensuring the optimum and appropriate response. Learning from an incident and how those lessons can be applied in the future is also important. Verbal reporting from those involved in an incident is, of course, invaluable. Command and control systems can support the post-event evaluation process with reports containing specific information and data that is unclouded by emotion or the failings of human memory. By adopting Command and control, airports can take a more holistic approach to protection and one that ensures that the response to any incident is made with complete situational awareness.

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