BLAST CONTAINMENT

Adam Walsh *explores how airports are arming themselves against possible terrorist attacks*

L ast year's terrorist attacks at Brussels Airport and Istanbul Atatürk Airport shook the world, prompting many in the aviation industry to sit up and take stock of the safety and security measures currently in place. These events came at a time when many airports were reporting record numbers of passengers, meaning the potential for more people to be harmed should an attack occur.

Addressing the security threat, while managing passenger flow in an emergency situation, is crucial. But the challenge is also to ensure that airport waiting times do not dramatically increase when the risks are lower, argues Adam Walsh, European business development executive at passenger journey specialist Tensator.

We live in an age where the threat of terrorism looms large and even airports, with their stringent security policies, are not immune from being attacked. In March last year, 32 people died and more than 300 were injured when militants targeted Brussels Airport using explosives hidden in suitcases. Three months later, suicide bombers at Istanbul Atatürk Airport were responsible for killing 41 people and injuring more than 230 others.

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These sobering statistics, particularly when considered alongside the casualty figures for other terrorist incidents in Paris, Nice and Berlin, demonstrate why security is so high on the agenda for airport managers and security officers. In the wake of such attacks, measures are put into place to catch any potential perpetrators and provide reassurance to the public. These include a higher police presence, a greater focus on identifying suspicious behaviour and increased bag and body searches.

The world often feels like a more dangerous place, but it is worth bearing in mind that atrocities like this are still incredibly rare. Nevertheless, airports, particularly those without a pre-screening process for passengers and luggage, are prime targets because they are global interchanges with high volumes of people

passing through each day.

The fact that the Brussels and Istanbul bombings took place before the assailants had been through security only emphasises how susceptible areas like the departure hall can be. In such cases, airports should make good use of intelligence and look for suspicious behaviour. As we tend to focus on the attacks that have actually happened, rather than those that haven't, it is sometimes easy to under estimate the importance of covert security operations and passenger surveillance. In 2006, for example, it was successfully used to stop a planned simultaneous attack on around 10 transatlantic airlines. The plot was halted after police and MI5 officers, who had been monitoring the offenders, swooped in a series of raids across London.

This heightened level of security comes at a time when air travel is more popular than ever, both for business and leisure journeys. Gatwick, Luton, Heathrow and Edinburgh Airports reported record-breaking passenger numbers for 2016 and this is expected to grow even further thanks to projects like the construction of Heathrow's third runway. It seems that the fear of terrorism is not enough to put people off taking international trips – but it can pose problems for staff responsible for managing passenger flow, both in an emergency and on a daily basis.

Of course, no form of travel is risk free. Even when security measures are scaled up it is impossible to anticipate and prevent every attack. With this in mind, it is essential that all airports are equipped to deal with any incident should the worst happen. In practical terms this involves being able to quickly mobilise staff so they can help members of the public to escape, thereby reducing the chances of serious harm.

Should an attack occur, it's important that airports have the technology in place to help minimise the impact as best as possible. Having equipment or technology that is able to withstand the impact of a blast is critical and will reduce the number of individuals affected by secondary blast injuries caused by flying debris or fragments.

During such situations, wayfinding becomes even more important as a means of managing the large numbers of people in the terminal, most of whom will be anxious and confused. Clear signage, which directs people to a place of safety, can dramatically reduce waiting times and prevent choke points in the passenger flow.

Barriers are essential for containing flying debris in the event of an explosion

Thinking more specifically about the problems that can occur following a blast, we developed the Tensator Micam Protection (TMP) panel system, which has already been rolled out at number of UK airports. Like the Tensabarrier, which is already widely used in a range of public venues including airports, the TMP system can be used to manage queues, ensuring they move as quickly and safely as possible.
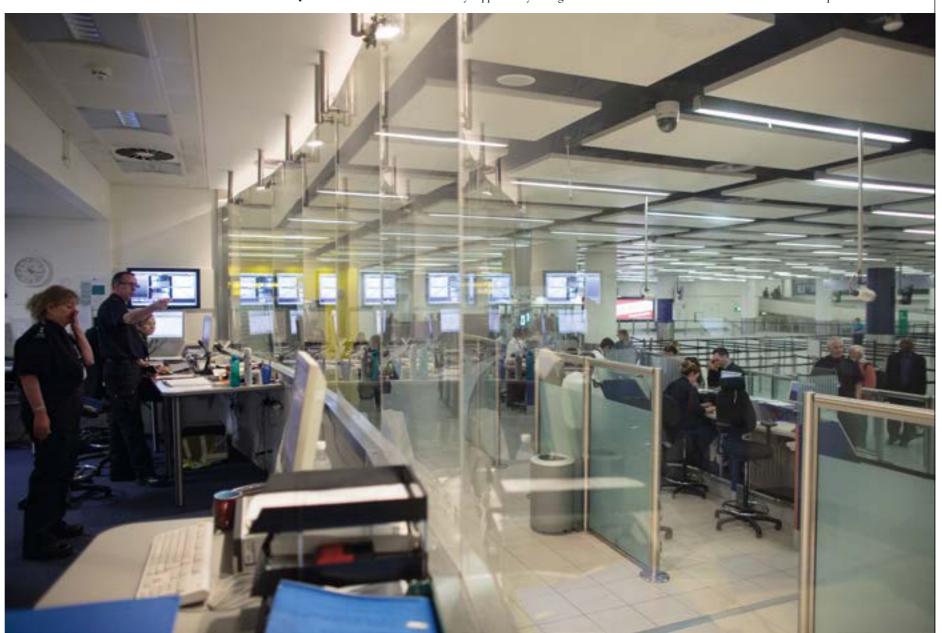
In response to the terrorist threat, the TMP system has been designed with blast-resistant Micam panels that can absorb the force without shattering into hazardous pieces. They will remain in place even after a blast so that people can be guided with minimum panic. Engineering consultant, Crossley Consult Ltd, has rigorously tested the solution and the development process has proved that the TMP system does not increase the lethality of the Person Borne Improvised Explosive Device (PBIED).

Reducing the incidence of flying debris usually correlates with a reduction in the number of injuries following a blast. This makes investing in all areas of blast containment even more important.

It goes without saying that solutions like these must be fully supported by strong and consistent

communications throughout the terminal. Passengers need to be informed if a flight has been delayed or cancelled because of an alert and, in more serious cases, what they should do to get out of danger. Clear signage is critical in situations such as this, but having precautionary measures that allow for a fast exit is also vital. When retractable barriers are in place, for example, panic break tape ends should be installed whenever possible to allow people to escape any confined area as quickly as they can.

Solutions like the TMP system can, of course, be invaluable in a crisis but the challenge is ensuring it works effectively during usual service. When safety measures are stepped up, passenger waiting times inevitably increase, resulting in crowds of people being stuck in queues around the terminal. At best, this might overshadow their holiday and at worst it could be distressing for vulnerable passengers.

While many passengers will be sympathetic to the process, particularly when attacks are still fresh in their minds, it is still important to ensure they do not have a negative experience. Terrorists thrive on disrupting the lives of ordinary people and creating a climate of fear. The natural response to the threat

could be a greater armed or military presence – but this can perpetuate some travellers' concerns around flying and may even push them towards another form of transport. As a result, airports can suffer commercial losses so efforts should always be made to mitigate these.

In essence, it all comes down to ensuring passenger needs are met, while never compromising on safety. More and more, airport managers are looking for flexibility within the terminal so that they can quickly deploy a disaster plan, ensuring the smooth running of the airport each day.

When investing in any kind of technology, it is important that it is useful at all times and that performance is not undermined if needed for another purpose. As we have found with the Micam panels, made from a glass-fibre reinforced laminate material, the safety features do not need to be noticeable nor detract from the day-to-day function of the airport; instead they are often only ever seen when needed. This is valuable not only from a day-to-day operational point of view, but also a commercial one to limit anxiety levels among passengers.

There is also much that can be done behind the scenes to safeguard passengers and personnel, as is the case at Israel's Ben Gurion airport in Tel Aviv. This is the country's main international airport, and due to the on-going Israeli–Palestinian conflict is seen as a major target for radical groups. Unsurprisingly, there are many overt security checks at Ben Gurion, however, there are many that passengers do not necessarily see. These include cameras in all parts of the airport, including areas that members of the public do not visit and tighter checks for aircrews and baggage handlers.

AIRPORTS, PARTICULARLY THOSE WITHOUT A PRE-SCREENING PROCESS, ARE PRIME TARGETS

The result of this has been that no flights leaving Ben Gurion have been hijacked and nobody has ever been killed or wounded in an attack.

Security will always be top of the agenda for anyone that works in aviation and there is little doubt that we will see more innovation in the years to come. But to stand any chance of success, these solutions must prove their worth on an everyday level to avoid becoming costly white elephants ●

Adam Walsh is European Business Development Executive at Tensator Group and is responsible for rolling out the TMP barriers at airports across the continent. The barrier is Aviation Security in Airport Development (ASIAD) compliant and is constructed using HSE-approved Micam panels.

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