

Security in the skies...

...The events of September 11 brought the need to re-evaluate aviation security, creating an impetus for innovative technology and new practices. **Ian Johnson** looks at how the challenges have been tackled.

The need to deal with the increased threat of terrorism post September 11

has coincided with a requirement to cope with the growing number of airline passengers. European airport operators see around a billion passengers pass through their airports each year. The Department for Transport estimates that the number of UK air passengers will increase by 25% during the period 2000-2005 and a further 25% during the period 2005-2010.

Airport operators are in a unique and rather unenviable position. The focus of the Government, media and the public is firmly on their security levels, but they also find themselves in the firing line if significant delays arise from new precautions. Any measures have to be considered in this context, and this is something that I have to keep firmly in mind when advising airports and airlines.

The UK Department for Transport responded to the attacks in the USA with heightened measures at airports. These included:

- ▶ Random hand searching of hold baggage for flights to the USA prior to, or immediately after, check in (this is in addition to the requirement for hold baggage for all destinations to be screened);
- ▶ More searching by hand of passengers and their cabin baggage upon entry to the restricted zone, and a regime of secondary searching at the departure gate for flights to the US and Canada;
- ▶ An expanded list of articles which cannot be taken into the restricted zone or the aircraft cabin;
- ▶ Screening or searching of goods for retail upon entry to the restricted zone;
- ▶ Guards within the restricted zone for aircraft departing to the USA or Canada;
- ▶ Additional mobile patrols within the restricted zone;
- ▶ Tighter rules on the transportation of cargo.

Of course, terrorism is not the only consideration, with other problems including criminal attack, illegal immigrants, the mentally disturbed and generally rash behaviour. In May 2003 a security officer at Queen Alia International Airport in Jordan was blown up while examining a suspicious object in a Japanese journalist's baggage. He had taken this from Baghdad as a 'souvenir' of the Iraq conflict without being aware of its explosive character.

So how do airport operators tackle this array of threats? It is extremely important to establish systematic and coherent security policies rather than resorting to knee-jerk actions which have little practical benefit.



In my opinion, placing a requirement on all passengers in the USA to have their footwear searched because of 'the shoe bomber' would fall into that category. I feel that we are sometimes in danger of a brand of hysteria taking over that does no favours to the reputation of the security profession as a whole.

Three aspects of aviation security that are pivotal to the minimisation of risks are baggage screening, passenger screening and perimeter security.

BAGGAGE SCREENING

Passengers going through baggage checks may imagine that the process of analysing X-ray images is not that different from interpreting the appearance of anything else in one's environment, but that is not the case.

2D X-ray does not offer the type of depth cues provided by normal vision. This means that it is not entirely straightforward to interpret a group of tightly packed objectives. In addition, explosives today manifest themselves in a variety of guises. All the components may be split up, with the intention of re-assembling them on the plane.

Sheet explosives may look like paper or be barely visible at all. The operator requires a considerable amount of training to be able to detect threats accurately. Inevitably, there will be a considerable amount of false alarms, when the operator thinks something is suspicious and decides that a hand search needs to take place.

Recent technological advances aim to make the process of screening more effective. Systems now provide colour differentiation so it is possible, for example, to clearly distinguish between plastic and metal.

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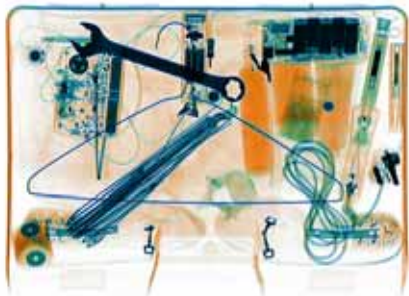


Image Scan Holdings has developed technology that offers real-time 3D screen images of baggage; this provides a much more realistic representation of objects, reducing the requirement for training as well as the number of false alarms. GE is now developing systems that incorporate explosive trace and vapour detection capabilities.

PASSENGER SCREENING

There are two different stages in passenger screening. The first of these is 'profiling'.

Profiling involves observing passengers' behaviour and documentation to assess whether something suspicious may be taking place. For example, the fact that an individual is sweating heavily, or appears nervous or agitated, might suggest that further investigation is needed. A passenger may be using forged or another individual's documentation; one practice is for papers to be passed to someone during the course of a journey.

To remove uncertainty surrounding identity, there are increasing moves towards using biometrics. There are now airports where the identity of frequent travellers, using fast track check-in, is being confirmed using retina biometrics.

A new technological development, called 'Portal' will provide valuable assistance in checking the authenticity of papers. It photographs passports and travel documents when they are placed on the check-in desk, verifying authenticity, analysing the route travelled and flagging up any discrepancies. Information is downloaded to the boarding gate and sent via the internet to the ultimate destination. It can, therefore identify situations where papers have been swapped or, as sometimes happens with asylum seekers, an individual starts out with documents and subsequently claims not to have any.

The next stage in the screening involves checking to make sure that the individual is not carrying anything dangerous on their person. We are all used to the traditional metal detector, but new screening technologies specifically for this purpose are currently under trial. This includes the 'Millimetre Wave Camera', which has attracted huge media interest as a result of its ability to see through clothing to detect hidden weapons or explosives.

However, with the privacy issues surrounding its use that are currently being assessed, it also reflects the kind of pros and cons that are constantly being weighed up by those involved with aviation security.

PERIMETER SECURITY

Effective access control systems, properly monitored by personnel and CCTV, are fundamental to ensuring that security is not breached. Preventing those with malicious intentions from getting into restricted zones is made all the more difficult as a result of the number of contract suppliers that airports use, over whose personnel they do not have direct control.

At the current time, all personnel who have a restricted zone pass must have a Criminal Records Check at basic disclosure level. Any staff who have a security-related role must also undergo a counter-terrorist check. However, those with dishonest intentions do not invariably have a record, which means that supervisors and managers must remain vigilant in respect of any unusual behaviour by staff.

HIGH CALIBRE STAFF

Key roles within airports, such as security officers, are not necessarily in high demand from job seekers, which can result in staff shortages and rapid turnover. And the mere fact that a candidate has got through all the vetting procedures does not mean that they are ideally suited for the job. There is a major challenge in getting and keeping the right calibre of staff, but this and appropriate levels of training are something that airport operators and contract suppliers have to work on constantly. In my experience, a high proportion of incidents are prevented as result of staff vigilance and professionalism, rather than through the use of technology.

Airports and airlines have to make difficult decisions about how best to cope with immense commercial pressures coupled with current risks and, despite increasing regulation post 9/11, uniformity of security levels and approaches has not been achieved. This has led to some strange anomalies, including the fact that some countries still do not routinely screen hold baggage.

The key for everyone involved is to develop an objective security policy, regularly reviewed and drawing on the best practice from around the world, but which is not overly influenced by the emotions arising from individual incidents. It is also vital to always remain open to the benefits of new technology, while carefully analysing its pros and cons in relation to particular situations, and to ensure that staff are motivated and well trained.

More information on this topic and other security issues is available from IJA on 01252 782664 or at www.ija.co.uk

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