

Bristol Airport upgrades security as it expands

Case Study - Bristol Airport, United Kingdom

To ensure the security of the increasing number of passengers passing through their airport, Bristol Airport has installed AdvanceGuard. With a single radar, it is protecting the critical part and providing wide-area surveillance.



The Challenge

Protecting Critical Airport Infrastructure

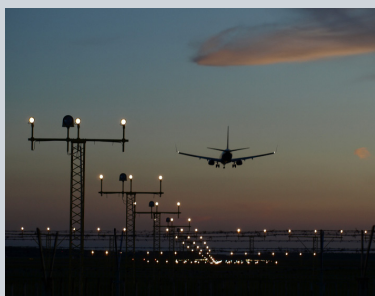
Bristol Airport

Bristol Airport has grown in both the size of its infrastructure and number of passengers since 2010. Passenger numbers increased from 5.5 million in 2009 to 6.1 million in 2013. The airport has likewise expanded on a similar level. With the new expansion, it has been hard for Bristol to balance high-security levels restricting movement and an open, friendly and welcoming customer experience.

The redesign of the security infrastructure led to a critical point boundary being identified in close proximity to an area of open ground. This area during the summer months was used as an overflow car park and is also adjacent to a local aeroplane club. It meant

that the critical point was a potential security hazard as anyone could easily cross the open area, either in a vehicle or on foot, and gain access to the airport.

This part of the airfield was previously monitored by manned guards, but the Department for Transport indicated that this form of security was outdated and the system needed to be upgraded to provide a more comprehensive surveillance of the whole area. A fully automated wide-area surveillance system was chosen, which resulted in significant operational benefits and reduced on-going costs.



The objective of the project was to secure a specific critical point within the airport. Just one radar sensor installed gave Bristol airport a large proportion of coverage. AdvanceGuard also automatically controls thermal cameras, providing additional visual information.



Using AdvanceGuard's rules-based software, a virtual alarm zone was specified encompassing the critical point area and surrounding open land. Anything that enters the area generates a visual and audio alarm depending on whether its behaviour breaches pre-programmed rules.



Traditional detection technologies require the construction of physical barriers which involve major investments and restrict movement. Navtech's virtual perimeters provide more accurate asset protection and also do not affect the free movement of people and equipment.

The Solution

Advanced Airport Safety

Automatic surveillance

Schneider Electric, system integrator, trialled vision-based systems and video analytics, as well as radar technologies. Due to the thick fog and wet weather Bristol experiences, video and visual solutions were discarded. They were incapable of detecting and tracking all movements within the restricted zone. AdvanceGuard was installed subsequently. The system had the lowest false alarm rate and offered superior track and trace capabilities.

One radar was installed alongside PELCO Espirit T1 thermal cameras to cover the critical area. The radar's range of 600m with a resolution of 25-50cm scanning 360° every second meant that one sensor covered a large proportion of the site, inside and outside the critical area.

Using AdvanceGuard's rules-based software, a virtual alarm zone was specified encompassing the critical point area and surrounding open land. Anything that enters the area generates a visual and audio alarm depending on whether its behaviour breaches pre-programmed rules. The target is also classified as a vehicle or person using complex algorithms. The system automatically controls the thermal cameras to follow the threat, providing continuous visual information to the operator with no required interaction.



"The system's very low false alarm rate, which was proven during testing, and its ability to work in fog have confirmed the choice of technology"

"Navtech delivered high-level support both on-side and remotely, which helped to smooth the installation process.

**Chris Ware,
Bristol Airport**



Summary

Bristol has been provided with increased security whilst eliminating the cost of manned guarding in the critical area. The system is flexible and easy to use with its operational benefits including multi-target simultaneous tracking capabilities and flexible rule and zone setting.

Irrespective of the weather conditions, the radar will continually track a detected

target, updating the operator every second on the exact location and direction of movement. This information is relayed to a response vehicle and can greatly assist in quick and efficient apprehension of an intruder.

AdvanceGuard gave Bristol Airport the flexibility of unrestricted but monitored movement of vehicles and people within the surveillance area. Not all breaches constitute a

risk and AdvanceGuard categorises intruders as 'friend' or 'foe'. All alarm and track history is stored for easy retrieval and post-event analysis.

Visit our website to find out more about AdvanceGuard, the radar-based security solution when high performance in all conditions is essential.

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