

HOW TO PROTECT 3 CRITICAL AIRPORT AREAS FROM FIRE WITH EARLY DETECTION



Early smoke detection is key to preventing fire incidents in airports, which can pose a serious threat to the safety of people and the continuity of operations. But the unique environments that airports consist of present many challenges for the people who specify, maintain and install the devices. The detectors need to be able to recognize the first signs of a fire to enable a quick response. Yet they need to be sophisticated enough to minimize the risk of costly and disruptive false alarms. Here are some tips on how to optimize smoke detection in three key areas.

1. TERMINALS

The sheer size of a typical terminal hall can make early smoke detection difficult. Any smoke can be quickly diluted in the large open space, causing it to be missed by conventional spot detection devices. Mechanical ventilation systems can also prevent smoke from reaching these detectors, especially if they are located high up on the ceiling. Smoke from other sources, such as restaurant food preparation, also heightens the risk of nuisance alarms.

TIP: Opting for an aspirating smoke detection solution throughout the area, featuring continuous air sampling, provides a consistent level of monitoring and offers the earliest possible warning. Multi-level warnings can be set up for different risk levels, enabling the appropriate action to be taken immediately to minimize disruption to passengers or airport operation. Ceiling-mounted aspirating smoke detection can be complemented with beam detection, using devices mounted on posts and columns across the terminal, and safety can be further enhanced with detection points on return air grilles and in any lifts or escalators leading to the terminal.

2. BAGGAGE HANDLING SYSTEM



Continuously-operating baggage handling systems are essential for the efficient operation of an airport. If they suddenly come to a standstill, they will cause major disruption to airport operations so avoiding fire incidents in this area is a must. Detecting the early signs of a fire can, however, be tricky. Smoke detection may, for example, be obstructed by conveyers, ductwork and mezzanines or lateral movement caused by moving conveyers. Smoke can also be diluted and dispersed due to unique airflow conditions.

TIP: A distributed smoke detection system with multiple sampling points is recommended for this type of applications. Sampling pipes located at the ceiling and intermediate level of the baggage handling area can help detect smoke despite obstructions such as overlapping multiple levels of conveyers or low perforated mezzanines. In addition, applying 'high-low' detection, with sampling holes distributed along a drop-down pipe installed on posts and columns, help detect smoke even if it moves laterally due to surrounding air movements.

3. AIR TRAFFIC CONTROL CENTER AND TOWER



As air traffic control manages all departures and arrivals, even a minor disruption at the tower can have a major knock-on effect throughout the airport. However, the structure of the tower, and the equipment and concealed spaces inside it, can make detecting smoke at an early stage a real challenge. The cooling systems required by the high density of electronic equipment housed in the tower can also affect airflow, further delaying smoke detection.

TIP: Strong airflows from the cooling systems can dilute smoke and move it away from the ceiling detectors. Adding very early warning detection points on return air grilles and inside return air ducts can be an effective

way of capturing the first signs of a fire. Safety can also be further improved by adding sampling points in areas that have been identified as high risk, for example, within electrical cabinets or directly above them.

To find out more about how aspirating smoke detection can help optimize safety and facilitate easy maintenance and installation across airport facilities, download our Airports Application Guide [here](#).



ABOUT XTRALIS



Xtralis® is the leading global provider of converged solutions for the early detection and remote visual verification of fire, gas and perimeter threats.

Our technologies prevent disasters by giving users time to respond before life, critical infrastructure or business continuity is compromised. We protect high-value and irreplaceable assets belonging to the world's top governments and businesses. Our brands include the VESDA-E – the next generation of aspirating smoke detection technology; VESDA® – the world's leading very early warning aspirating smoke detection (ASD) systems; ICAM™ for flexible ASD; ECO™ – Gas detection & environmental monitoring modules for VESDA & ICAM systems; and, OSID™ – easy to use smoke detection for open areas.

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