

## Bologna enhances airport perimeter security

*Case Study - Bologna Guglielmo Marconi Airport, Italy*

*Bologna Airport chooses Navtech's AdvanceGuard to increase their perimeter security protection. The security team rely on the radar-based solution to continuously monitor the perimeter and automatically alert them to intruders.*



# The Challenge

*Protecting the perimeter at all times*

## Bologna Airport

Bologna's Guglielmo Marconi Airport is an important regional airport for Italy, with approximately 9.4 million passengers in 2019.

Situated on the main route between north and south Italy, 75% of goods transported in Italy pass through the city of Bologna.

Freight passing through the Airport's cargo facility has grown constantly over the last ten years, due in large part to its geographical position – it's a convenient

distance from the most important industrial areas of the country.

A key objective of the security team at the airport is to prevent actions that could endanger the safety of people, infrastructure and aircraft.

To enhance security at the airport, Guglielmo Marconi identified the need to increase the level of protection at the airport to prevent potential intrusions attempts from the external perimeter.



AdvanceGuard's scalability and adaptability meant the system was easily integrated into the airport's existing systems and infrastructure. This lowered the overall cost as no new infrastructure was required.



Due to their long-range, 360° detection, fewer radar sensors were needed for coverage of the entire site. This kept the overall costs of ownership low and boosted site security.



Any intrusions into Bologna airport are tracked and monitored on a simple, user-friendly interface. This shows the exact location of the intruder and their direction of movement. Camera integration provides added visual information.

# The Solution

## *Radar-based threat detection solution with PTZ camera integration*

Following an in-depth analysis of other surveillance technologies, Bologna Airport selected Navtech's AdvanceGuard radar-based detection solution. They turned to Crisma Security, an Italian system integration company that designs and installs innovative security systems for critical site protection, using cutting-edge technologies to design and implement an integrated solution.

### Automated real-time detection and tracking

At Bologna, AdvanceGuard is continuously protecting the airport's perimeter. Potential intruders can be identified and tracked across the entire airport grounds. The radar-based automated detection system works in all conditions from fog, rain, snow, day and night. Alerts detected by AdvanceGuard are displayed and managed on a user-friendly interface which pinpoints the exact location of intruders on a map of the airport.

### Wide area coverage

At the airport, AdvanceGuard's HDR311 radar sensor can detect a person up to 1km in all directions and has a range resolution of 0.155m. Due to the radar's long-range, Bologna is benefiting from achieving wide-area coverage using only a minimal number of sensors, when compared to other technologies.

### Camera integration

Crisma integrated PTZ cameras with the AdvanceGuard solution. The AdvanceGuard software then automatically directs the cameras towards targets.

### Configurable rules-based software

AdvanceGuard's highly configurable rules-based software accurately defines alarms and virtual detection zones, leading to very low false alarm rates. In commissioning, AdvanceGuard was set up to meet the precise requirements of the airport.

"AdvanceGuard works at a high frequency so it doesn't interfere with Air Traffic Control devices. Furthermore its reliability is higher than other systems. The system was calibrated to overcome site-specific issues such as signal reflection close to the perimeter fence and false alarms created by animals such as birds and hares. The system now has good reliability for these issues too." explains Luca Voltolini, Security Manager at Bologna Airport.



"We needed to protect the airport perimeter fence with a continuous monitoring system. We needed not only to detect intrusion attempts, but also to track the target. Then, we wanted a reliable system with few false alarms."

"AdvanceGuard's reliability is higher than other systems. We can definitely say airport security conditions are better than before and our patrol can be employed on other tasks than to control the perimeter fence."

**Luca Voltolini**  
**Security Manager**  
**Bologna Airport**



## Summary

The integrated solution designed by Crisma Security, a Certified Navtech Partner and representative reseller in Italy, has enabled Bologna Airport to operate with a high level of security and safety.

Using AdvanceGuard, operators are now automatically alerted to intrusions in real-time and can view the location of the intruder on an interactive map of their site.

In contrast to traditional systems that only protect the perimeter line, operators at Bologna can also track the position of intruders across the

whole of the airport grounds on the AdvanceGuard user interface, and assess visual information as the solution automatically directs the nearest camera.

The automated system offers continuous surveillance of the perimeter and internal area providing a solution that is far more effective than periodic patrols along the perimeter.

The radar-based system operates effectively in all adverse weather and light conditions such as rain, fog, snow, and works both day and

night, which means that the airport can rely on the detection system, whatever the conditions.

AdvanceGuard's highly configurable software allowed very precise mapping of rules-based alarms in line with the airport's security needs and has ensured an extremely small number of false alarms.

With AdvanceGuard, control room operators now have an effective tool to counteract and prevent potential intrusions to the best of airport security standards.

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