



White Paper: **Airport Perimeter Security**





Airport Perimeter Security

– Moving to 2025 without passing GO

Airports around the world have been sharing information, experiences and best practices for many decades now. Together with aviation authorities, security experts and law enforcement agencies the world's airports look nothing like the time when grandma and grandpa went on their first charter tour.

PROTECTED TRAVELERS

By now, the frequent air traveler knows the routines lying in wait up ahead. Parking is done well away from the terminal. Police, bollards and cameras stand to greet before and inside the entrance. After routine check-in questions a variety of electronic scanning devices, operators and search personnel eagerly awaits the chance to let you know that you must now take your shoes off and try again. A last row of armed officers make sure that you feel safe on your journey through to your gate – safe in the knowledge that nothing and nobody will disturb your day. Finally, at the gate you quickly whip your belt off for the last x-ray machine, wishing that you had indeed chosen the tight fit jeans rather than the preferred comfy loose fits you love to travel in. Standing ready to board you will be forgiven for thinking that you are in an elite company of world class protected citizens – mainly because you are. Or are you?

That will depend on which airport you decide to travel from and to. The gap between the best and the worst airports in the world in terms of security is still very large. No doubt, some airports receive more funding but the differences can also be felt in areas such as planning, execution and efficiency where funding has been available. In some countries the process is halted at the hands of slow moving bureaucracy, interdepartmental rivalries, numerous 3rd party stakeholders unable to find common ground and even the lack and availability of experienced personnel to fill key roles.

THE WEAKEST LINK

Looking out of the glass window of this modern day castle that you have just “forced” your way into you might sense the outline of the airport perimeter fence. This place is huge. You passed it on the way to the terminals. Took all but 10 minutes of driving to get around it? Wow. Chain link wasn't it? Same as a chicken farm that you passed half an hour earlier - except for a couple of strands of barbed wire at the top. Surely not?

Security experts are constantly trying to find the weakest link in any protection plan. In today's airport threat environment, the weakest link is now, in many cases, the airport perimeter. It is estimated that there are numerous airport perimeter breaches in the US alone each year. Most are minor incidents, many

have a safety impact, several disrupt airport operations and a few have been serious attempts to cause damage to both lives and property. Driving through an airport fence or crash gate still remains perhaps the quickest way for a criminal or terrorist to get close to an aircraft without having to engage first with security personnel. Reaction times to get to the opposite side of a busy runway within a 25 km² area can in most cases be minutes and not seconds. Bad weather and darkness does not help.

SITUATIONAL AWARENESS

The problem is no longer detecting the breach. It is continuously understanding the situation as it unfolds and then trying to delay and defeat a known threat with more force. Today's electronic perimeter fencing systems have all improved in recent years but still carries the huge disadvantage of only providing “single footprint alarms”. Such alarms tells you that something has happened at a particular sector but as it is dark and raining the allocated cameras cannot provide any real clues to substantiate the alarm or help keep track of an unfolding event.

With the continued focus on improvement of airport perimeter security, today's best airports are therefore looking beyond the realms of traditional CCTV monitoring and fence sensors along the perimeter line. They are looking to completely control their environment down to the last meter.

In 2010 Terma took the decision to try and solve some of the perimeter problems that airports face today. Having delivered surface movement radars to nearly 85% of all the world's major airports in the past two decades the company believed it had the knowledge to develop an inexpensive radar system that could also detect small moving objects in all-weather conditions across large areas.

USER FRIENDLY

But the problem needed another dimension in order to be complete. Something that would combine the all-weather detection ability and translate it into something that would be an automatic and intelligent assistant to the person responsible at 3:12 on a foggy morning.

Terma, being Denmark's largest defense company set about the task by looking into their tool bag of military command and control systems. The company has over 30 years of delivering large mission-critical C2 platforms to allies around the world. But a military platform is not necessarily compatible with the demands of the civilian market although it could act as a foundation for it, so the first task was to make it more user friendly.

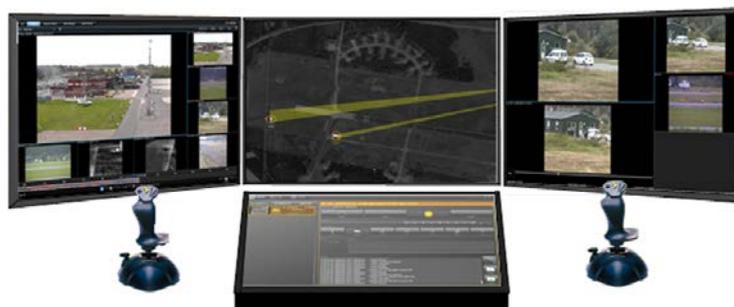
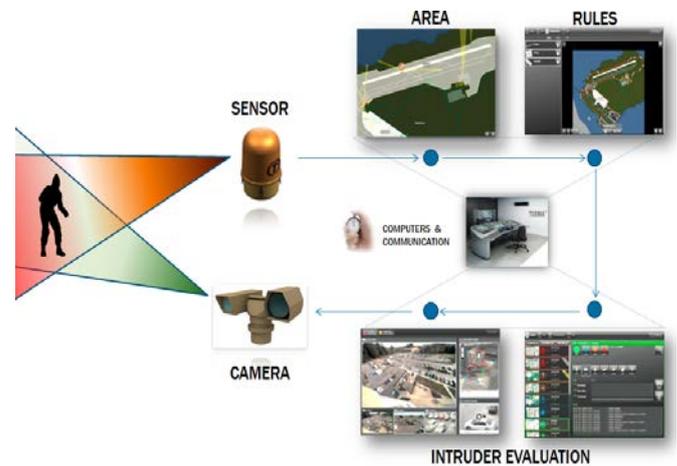


After meetings with some of the major airports and studying daily commercial security operator routines, Terma began the project of designing the world's most advanced wide area perimeter system to date. Included in the scope were a few key parameters:

- How to combine data from a wide range of geo-positional sensors into one complete picture of activity.
- Making sure that a single object would never create more than one alarm despite being tracked by multiple sensors.
- Ensuring that any camera in the system could be used automatically to track a subject depending on its position in relation to the target.
- Finding an intelligent way in which cameras could automatically hand-over tracking to each other in order to free up the operators hands.
- Disconnecting standard camera features such as zoom and focus in order for the system to use them instead – allowing cameras to be sharp on target simultaneously with turning to avoid losing valuable seconds.
- Building single-touch functionality on key actions such as instant playback of a scene in progress and switching between multiple simultaneous alarms.
- Safeguarding operations from both internal and external threats.
- Using existing cameras and infrastructure to maximize investment return.
- Directing non-lethal sensors towards targets to discourage further advance
- Allowing own personnel and vehicles to be automatically identified.
- Creating an advanced multilayered rule engine in the simplest possible way to allow layers of unique user rules to minimize the risk of nuisance alarms and intelligently warn of any behavior deemed to endanger operations.
- But above all, creating the simplest user-interface ever seen in a perimeter protection system.

Using a robust software platform as a base, has allowed Terma to create the world's most user friendly and stable intelligent wide area perimeter system too date, including hands-free operations in highly stressful situation, like when an attack takes place and the security officer's primary task is not to lose track of multiple simultaneous intruders or rule breakers as he calls for help.

Terma has named the system T.react CIP. Read more about this and Terma's ground surveillance radars at www.terma.com.



Operating in the aerospace, defense, and security sector, Terma supports customers and partners all over the world. With more than 1,300 committed employees globally, we develop and manufacture mission-critical products and solutions that meet exacting customer requirements.

At Terma, we believe in the premise that creating customer value is not just about strong engineering and manufacturing skills. It is also about being able to apply these skills in the context of our customers' specific needs. Only through close collaboration and dialog can we deliver a level of partnership and integration unmatched in the industry.

Our business activities, products, and systems include: Command and control systems; radar systems; self-protection systems for ships and aircraft; space technology; and advanced aerostructures for the aircraft industry.

Headquartered in Aarhus, Denmark, Terma has subsidiaries and operations in The Netherlands, Germany, Belgium, UK, India, UAE, Singapore as well as a wholly-owned U.S. subsidiary, Terma North America Inc. Terma North America Inc. is headquartered in Arlington, in the Washington D.C. area, with other offices in Georgia, Texas, Alabama, and Virginia

