



SECURING PORT PERIMETERS

LAND AND SEABORNE THREATS

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Ports and terminals are a significant part of the UK's critical infrastructure, directly contributing almost US\$14.3 billion a year to the UK economy. However, with the increasing threats of trespassing, vandalism, theft and terrorism from both land and sea, ensuring the security of a port's border is becoming increasingly difficult. Ports represent a major point of vulnerability that could have a disastrous impact if breached, not only for the industry and businesses alike, but also human life. Port authorities are well aware that the first line of defence, the port's perimeter, must be impenetrable.

From a security standpoint, there are many environmental factors that must be considered when analysing a port's location and weighing up the resulting risk factors. Being exposed to the elements, such as wind, rain and fog can cause a number of difficulties when securing perimeters. Poor lighting, for instance, often means that identifying a breach, the precise source

and cause can be difficult without the correct technology in place to overcome it. Defining where a perimeter begins and ends can also be problematic, with threats from the land and sea both posing very different challenges.

THREATS FROM LAND AND SEA

The two main security threats to ports are generally classified as seaborne and landborne. Threats from the land are similar to those faced by many other businesses, including general theft, vandalism, trespassing, and many more. There could be many reasons for intruders to carry out such actions, from general nuisance and protesting, to something entirely more sinister. At a local level, the resulting effect could lead to a port shutdown, loss of profits or even loss of life.

In comparison to the threat from land, the water brings with it an entirely different set of challenges. This type of threat can often be varied and highly mobile in

nature, such as an unidentified individual swimming to gain access to a vessel or a small speedboat. Other potential threats include vessels being used to blockade a harbour, creating shipping and ferry delays that can have far-reaching consequences on trade and profit. A more concerning scenario involves the theft of a vessel, which in the wrong hands, could potentially be used as a weapon. Furthermore, the arrival of unchecked cargo containing a dirty bomb would likely lead to multiple port closures, which in turn would set off cascading disruptions throughout the global supply system leading to hundreds of millions of dollars of daily losses.

THERMAL IMAGING

Ports in the UK can vary significantly, and although some may have relatively low footfall numbers, they often still present a large geographical footprint with vast borders, making them difficult to secure. In addition, close proximity to the sea causes



extreme weather conditions – something felt by port security officers all over the world. Many are therefore looking to innovative technologies, including thermal cameras, to help overcome weather and lighting adversities.

Thermal imaging cameras are built with a harsh environment in mind, with day and night and all-weather capability making it the perfect imaging technology to secure a port facility. Thermal cameras are less sensitive to challenging light conditions, instead creating images based on the contrast in heat omitted from any object, be it a person, a vehicle or a container.

Historically, thermal imaging cameras have been thought of as purely ‘night vision’ cameras, however, a thermal camera not only outperforms a visible light camera in dark scenarios – it is also a great tool for detecting people and objects in 24/7 surveillance, from pitch dark areas to a sunlit container terminal. The technology is far less sensitive to problems associated with lighting conditions, such as shadows, backlight, darkness, camouflaged objects and water reflection. Contrastingly, when facing water, standard optical cameras will often struggle to compensate for light reflected from the water’s surface and are not able to detect at the same range as thermal cameras.

IP thermal cameras are the ideal platform on which to place most video analytics. Although historically the cost of thermal technology has been preventative for some users, recent tech-advances have led to a significant reduction in price, and

the simplicity and increased effectiveness of IP thermal cameras over their optical alternatives means that a lower camera count is often achievable, bringing down the total cost of ownership.

CONCLUSION

Port and terminal security is constantly under review in order to prevent incidents such as theft, vandalism, trespassing and the ever present threat of terrorism. Simultaneously, ports are under pressure to increase the efficiency of operations and reduce the impact of any unplanned events. Business

continuity is at the heart of any threat assessment and contingency plan. Effective intrusion detection in the shape of high definition cameras supported by robust analytics should be a fundamental element of any port security plan. The use of innovative technology, such as camera analytics and thermal imaging, capable of 24-hour detection in extreme weather conditions and all lighting conditions, has already been recognised as a key enabler and is likely to play a larger role as ports seek to better secure all aspects of their perimeter.

ABOUT THE AUTHOR

Lucas Young is Axis’ Business Development Manager for Northern Europe, responsible for the various transport verticals. Lucas comes from a risk management and security consultancy background and has worked extensively in the transport sector including ports, maritime and airport environments. His wide experience of working in both operational and strategic roles give him an excellent insight into the issues, challenges and potential solutions facing those who work in all aspects of transport security.

ABOUT THE ORGANISATION

Axis offers intelligent security solutions that enable a smarter, safer world. As the

global market leader in network video, Axis is driving the industry by continually launching innovative network products based on an open platform- delivering high value to customers through a global partner network. Axis has long-term relationships with partners and provides them with knowledge and ground-breaking network products in existing and new markets. Axis has more than 2,100 dedicated employees in more than 50 countries around the world, supported by a global network of over 80,000 partners. Founded in 1984, Axis is a Sweden-based company listed on NASDAQ Stockholm under the ticker AXIS.

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