

# Security Solutions Today

September / October 2018

**THE WORLD IS A  
DANGEROUS PLACE  
AND THE SECURITY ECONOMY IS  
BOOMING!**

## Cover Focus

Fear and the  
homeland  
security industry

## Inside Look

Microsoft  
begging for  
government  
intervention?

## Security Feature

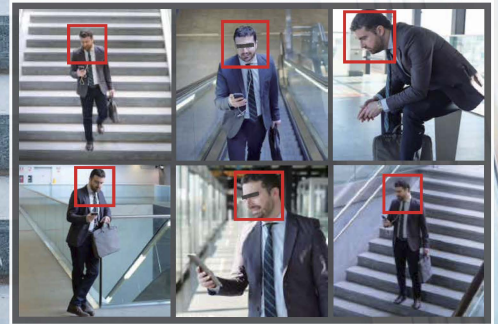
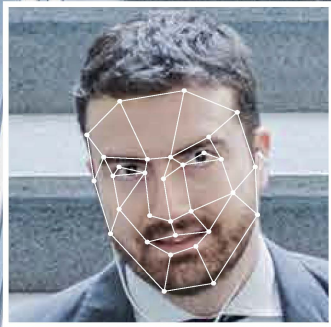
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Blacklist

Age:30



# AI Creates Value - Face Recognition

Dahua AI technology enables high performing face recognition applications

- **Blacklist Alarm:** Accurately match the suspect's face and trigger the emergency alarm. Match from multiple cameras can trace suspect's path.
- **VIP Recognition:** Rapid identification of VIP clients in the system. Assist operators to provide accurate and timely value-added services for VIP clients to improve customers' satisfaction.
- **Face Metadata:** Feature attribute information extracted from the targeted face which includes gender, age, glasses, expressions, etc. It is helpful to narrow down a query based on the feature search.
- **Face Search:** Exact searching by face image on massive database can instantly show the result.

## Recommended Models



**IPC-HF8242F-FR**

2MP Starlight Face Recognition  
Box AI Network Camera



**SDT5A404VA-2F**

2MP+4MP 4x AI Network  
Smart Capture Camera



**IVSS7008-1T**

2U 8HDD AI Network  
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**IVS-F7500-P**

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IFSEC Philippines 2018

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**Website:** [www.safetysecurityasia.com.sg](http://www.safetysecurityasia.com.sg)

**Email:** [ssa@cems.com.sg](mailto:ssa@cems.com.sg)

## OCTOBER

### Security China 2018

**Date:** 23 - 26 Oct 2018

**Venue:** China International Exhibition Centre (New Centre), Beijing, China

**Organiser:** China Security and Protection Industry Association (CSPIA)

**Telephone:** Tel: +86-10-6873 1701

**Website:** [www.21csp.com.cn](http://www.21csp.com.cn)

**Email:** [International@bizcspia.com](mailto:International@bizcspia.com)

## OCTOBER

### IFSEC Southeast Asia 2018

**Date:** 25 - 27 Oct 2018

**Venue:** Impact Exhibition and Convention Centre, Bangkok, Thailand

**Organiser:** UBM

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# ***EDITOR'S NOTE***

*Dear esteemed reader,*

**T**he world is a much more violent place today. Political violence and terrorism are on the rise and the ever-present and growing threat has seen countries around the world establish homeland security agencies. Following the 9/11 terror attacks, the homeland security industry boomed. In this issue, we look at the boom and its effect on regional homeland security markets.

Meanwhile how has this boom affected specific markets segments? Find out in our story on the professional video surveillance equipment market, which is enjoying a boost from increased homeland security spending across the globe. In this issue, we also scrutinise the perimeter security and people counter industries, both of which are essential to enhancing safety and security in the homeland.

Want to know why a tech company – one of the world's biggest tech companies! – is asking the government to regulate facial recognition technology? Read *Inside Look* to get the lowdown on what is it about the technology that got Microsoft worried – nay, terrified.

I hope you enjoy reading this issue of *Security Solutions Today*. We look forward to bringing you more industry developments in upcoming issues.

*Michelle Lee*

Editor



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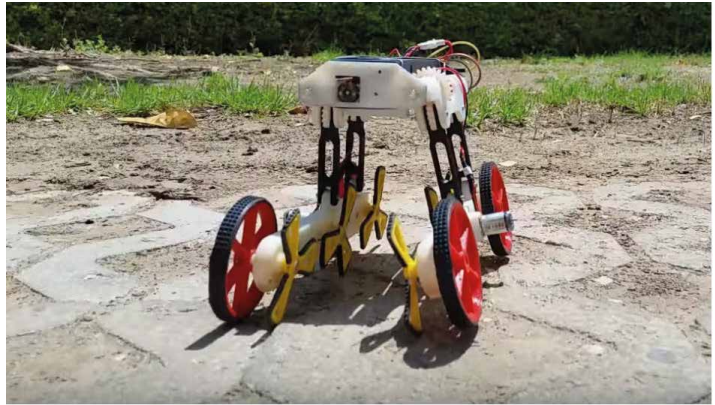
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# A Rescue Robot That Can Conquer Tough Terrains And Narrow Crevices

**R**esearchers at Ben-Gurion University of the Negev in Israel have created a robot that can carry out a search and rescue mission no matter how tough the terrain and how tight the space.

Named the Rising Sprawl-Tuned Autonomous Robot, or R STAR, the tiny robot continually reconfigures to get over obstacles such as high walls, narrow crevices and huge gaps and to move through tough terrains. It can even climb upwards, up narrow vertical passageways.

R STAR was first unveiled in May at the International Conference on Robotics and Automation in Brisbane, Australia.



R STAR is just 15-centimetre long but can travel more than 3 feet per second on hard flat surfaces. It also moves easily on soft or granular surfaces like thick mud or sand. A unique feature is the biology-inspired ‘turtle walk’, which allows the robot to crawl without using wheels.



R STAR. Photo source: CTECH

What makes the robot so manoeuvrable is its adjustable sprawling wheel legs, which are attached to a body that can move independently and reposition itself to run on flat surfaces and up tight spaces such as tunnels, pipes and narrow gaps. It flips itself to switch from round wheels to spokes.

The robot is designed by Professor David Zarrouk at the university’s Department of Mechanical Engineering and student Liran Yehezkel. Professor Zarrouk is also head of the Bio-Inspired and Medical Robotics Lab.

“R STAR is ideal for search and rescue operations in unstructured environments such as collapsed buildings or flooded areas, where it must adapt and overcome a variety of successive obstacles to reach its target,” said Professor Zarrouk.

The team is now developing a larger version that can climb over larger obstacles and carry more than four pounds of sensors and supplies. The idea is to have the smaller robot ride piggyback on the larger robot, with R STAR deployed in hard-to-reach areas. **SST**

*This article first appeared in CTech, a technology news site by Calcalist, Israel’s leading financial daily. CTech publishes real-time, high-impact stories from the Israeli tech scene.*

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## Versasec And Identiv Announce Technology Partnership

In July, Versasec, the leader in smart card management systems, announced its technology partnership with Identiv, a global provider of physical security and secure identification solutions.

The partnership will combine the strength of Identiv's uTrust SmartID Secure Access Credentials for converged physical and logical access control with Versasec's vSEC:CMS for smart card management.

The partnership will allow corporations to more efficiently and cost-effectively deploy enhanced security systems built around Identiv's uTrust SmartID Secure Credentials and Versasec's vSEC:CMS to visually identify employees, secure facilities and perimeter security, lock down IT networks, protect IP and data, and authenticate users, all while using a verified and trusted identity on one credential.

Customers in the government, enterprise, consumer, education, healthcare and transportation sectors depend on Identiv's and Versasec's

access and identification solutions.

Designed for converged access, Identiv's uTrust SmartID Secure Access Credentials provides a single credential to access buildings and/or IT systems. Based on utilisation of digital certificates, these credentials provide trusted identity authentication, digital signatures, secure remote access, desktop login and data encryption/decryption. For physical access control systems (PACS), uTrust SmartID can combine high-frequency (ISO/IEC 14443/13.56 MHz) and low-frequency (125 kHz) technologies, leveraging different industry protocols including proximity, PKI at the door, PIV, Card Authentication Key (CAK), PLAID and more.

"Identiv's stellar global reputation in security solutions makes the company a perfect partner for us," said Versasec CEO Joakim Thorén. "As we continue working toward our goal of providing companies everywhere with the means for managing their security and identity management credentials through one system, vSEC:CMS, it's important

that we join forces with technology companies that can offer complete security management solutions that meet a wide range of use cases."

vSEC:CMS, Versasec's smart card management system product suite, provides the software tools to administer and manage smart cards in a secure and convenient way. By deploying vSEC:CMS, Identiv's customers can more easily manage uTrust SmartID Secure Access Credentials from issuance through termination, for both regular employees, mobile employees, and contract workers.

"The combination of Versasec's vSEC:CMS and Identiv's uTrust SmartID Secure Access Credentials enhances, protects and strengthens our customers' PACS and IT defenses against physical threats, cyber attacks, hacking and data breaches," said Dr. Manfred Mueller, Identiv COO and General Manager, Smart Card Readers and Credentials. "We are excited to partner with Versasec and offer our combined customers the strongest solution possible." *SST*

## Protecting Staff While Securing Evidence

In May, Edesix, a market leader in the provision of body-worn camera solutions, launched VideoTag VT-100, a recording device meant to be worn by retailers, lone workers and other public facing staff.

One of Edesix's smallest, lightest and most discreet incident recorders, VT-100 is robust and weatherproof, while remaining lightweight, unobtrusive, cost-effective and easy to use.

Incident recorders are proven to deter aggression, protect staff and provide secure evidential-quality footage on demand, states Edesix.

The advantage of VT-100 is that it combines the discreetness of an incident recorder with the longer recording times of a traditional body-worn camera.



VT-100 provides four hours of continuous footage, requires no extra training and streams live footage. It has a standby battery life of up to three months, which means users don't need to worry about charging the device often.

The VT-100 also provides complementary audio and video capture of incidents when utilised as part of a larger body-worn camera and CCTV security function.

Richie McBride, CEO of Edesix, commented: "The VT-100 will allow staff in public-facing roles, who are not always part of the security team, to create a safer working environment for themselves and their colleagues. It offers a cost-effective, secure and practical approach to wearable security for incident recording and workflow management." *SST*

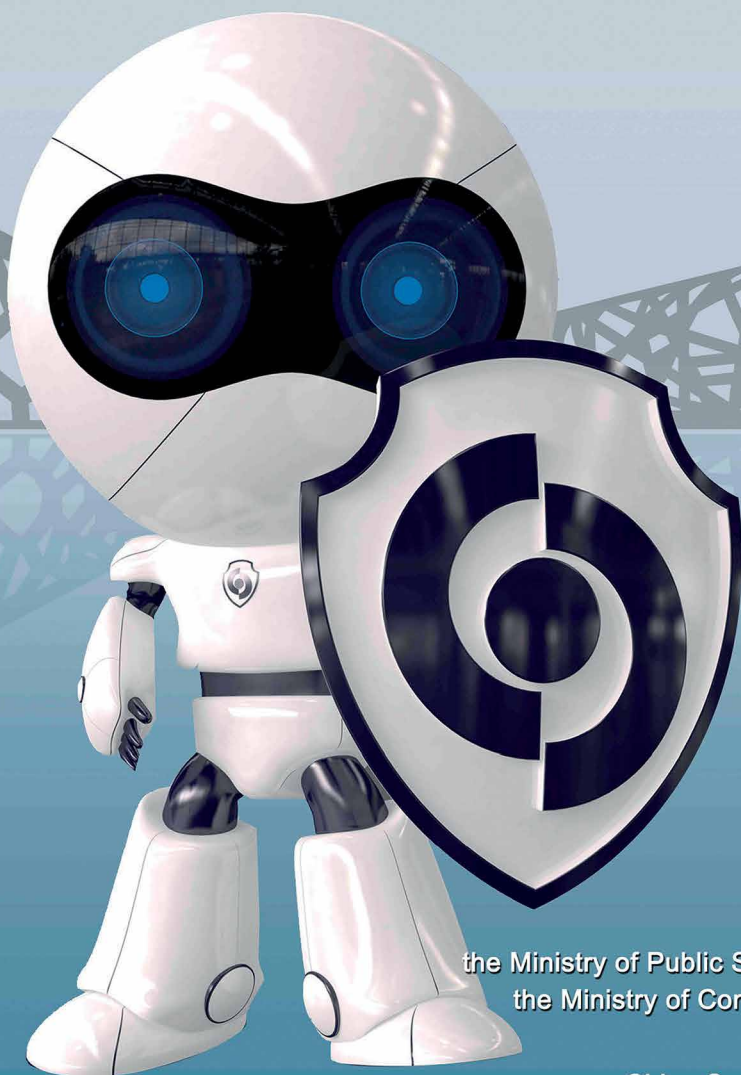


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## 360° Fisheye Camera Offers Great Vision And Enhanced Surveillance

**T**eleEye, a global leading supplier in video surveillance systems, has added the 360° Fisheye Camera to its extensive camera product line.

Outfitted with 6MP Sony CMOS sensor, MP5061E Fisheye Camera offers 180° horizontal viewing angle and 360° round view. This means continuous monitoring and greater over-seeing of security concerns and management of customer traffic.

MP5061E Fisheye Camera is also able to integrate with four different professional video management applications. This means that users can monitor sites in real time through different platforms, and video will be automatically adjusted to seamlessly fit into any video management platform.

In addition, users can follow objects and actions in four regional views through Pan, Tile, and Zoom (PTZ) functionality resulting in a greater freedom of monitoring view.

### One Fisheye Camera VS. Four Conventional Fixed Cameras

One MP5061E Fisheye Camera is able to provide the wide angle coverage that would take four conventional fixed cameras to deliver. In other words, MP5061E Fisheye Cameras can save installation cost, cabling and license fee. Further, MP5061E Fisheye Camera offers 360° surround regional views without missing any corners, unlike conventional fixed cameras which will have blind spots.



### Pan, Tile And Zoom (PTZ) Functionality Without Physically Manipulation

MP5061E Fisheye Camera is capable of remote directional and zoom control. Users can remotely control display and survey any corners in location by PTZ functionality without the need to physically operate a camera or position the lens.

### A Greater Freedom Of Surveillance

MP5061E Fisheye Camera can provide four different angle images (a wide view and three different PTZ views) to simultaneously monitor three corners and provide a full picture of a room. Plus, users can manually select angles of four pictures through PTZ functionality. Because of this capability, MP5061E Fisheye Camera lifts surveillance level and provides better situational awareness.

### No Matter Real-time or Playback Mode, PTZ Functionality Still Works

PTZ camera functionality does not only apply for real time surveillance but also apply in playback mode. With TeleEye's software or mobile phone app, users can recall any missing images at any time. Even if they miss out the image in real time, they can play back and use PTZ view to retrieve important images in playback mode.

### Seamlessly Integrated With Different Video Management Platforms

MP5061E Fisheye Camera seamlessly integrates with four different key video management platforms – TeleEye GN8 series DVR, sureSIGHT, sureGUARD and iViewHD. sureSIGHT is an integrated video management platform for IP cameras and DVRs. sureGUARD allows multiple operators to handle a large volume of video alarm events from up to 5,000 sites in 24x7 operations. iViewHD is the video surveillance app for iPhone, iPad, and Android devices. As a result, users can monitor their sites anywhere at any time through different video management platforms. **SST**

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## Dahua's New-generation Thermal Cameras: Improved Vision With Advanced Capabilities



Leveraging its experience in camera image analysis and intelligent algorithms, Dahua Technology has developed a new generation of thermal imaging devices with innovative functions that balance visible light with infrared, enabling users to effectively monitor an area under all lighting conditions. In addition, these functions include advanced capabilities such as intelligent temperature measurement and behaviour analysis, further extending the scope of surveillance applications such as perimeter protection or equipment predictive maintenance in substations.

Dahua Technology is a leading solution provider in the global video surveillance industry. In 2017, Dahua was ranked third in “Security 50” by a&s International. The company has more than 6,000 R&D engineers and technical staff working on cutting-edge technologies in camera lens, image sensor, video encoding and transmission, embedded processor, graphic processing, video analytics, software reliability, network security and other technologies.

Dahua’s new-generation thermal cameras adopt advanced uncooled infrared detectors with 400x300 effective pixels, which is a 40% increase over Dahua’s earlier generation of infrared detectors with-336x256 effective pixels.

The field of view has also expanded. For example, TPC-BF5400 with 13mm thermal lens has a 29.7° x 22.3° field of view, compared with older model TPC-BF5300, which offers 25° x 19° field of view with the same lens.

In addition, newer models deliver improvements in detailed information, contrast and other upgrades.

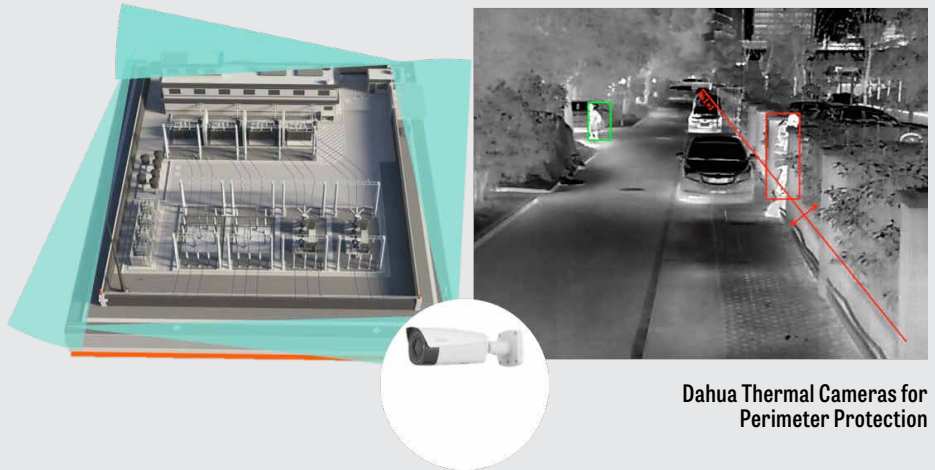
### A Reliable Perimeter Security Solution

Conventional monitoring methods are not able to deal with all kinds of threats. For instance, while conventional surveillance cameras may be capable of capturing video in daytime and well-lit areas, in a poorly lit area or at night, these cameras’ video capture abilities begin to diminish as sensors must compensate for the lack of light by increasing sensitivity, thus producing a noisy image, if one is produced at all.

Since clear day and night monitoring is an important benchmark in assessing a surveillance system's effectiveness, thermal imaging devices present a clear advantage in their ability to convert heat energy into an image visible to the human eye.

In particular, thermal imaging is probably the most reliable security solution for perimeter protection. A thermal camera is less sensitive to changes in the environment. And it detects moving people or objects even in total darkness, 24 hours a day and 7 days a week.

The Dahua IVS (Intelligent Video System) is a built-in video analytics algorithm that delivers intelligent functions to monitor a scene for tripwire violations, intrusion detection, and abandoned or missing objects.. The DH-TPC-BF5400-B13 model can be utilised to form a perimeter intruder detection system. When installed at the recommended height of 5 meters, one camera can cover a 100-meter long fence to act as an invisible wall. Whether day or night, as soon as someone enters into a targeted area, a warning will be sent to the control center.



Dahua Thermal Cameras for Perimeter Protection



Dahua Thermal Cameras for Remote Temperature Measurement

### Accident Prevention

A thermal camera is not just for video surveillance, it can also perform remote temperature monitoring for accident prevention. Thermal cameras provide users with real-time information about substation equipment efficiently, saving time and labour. If the temperature of a

piece of equipment or part of the station exceeds a preset threshold, the system will automatically trigger an alarm and alert management. SST



TPC-BF5300 Vs TPC-BF5400

## Accurate Active Deterrence Wi-Fi Camera For Homes Launched

**L**echange has launched LOOC, an active deterrence Wi-Fi camera for homes that drives away threats before it actually happens - a step better than most conventional consumer surveillance products. Lechange is the brand for Dahua Technology's consumer products.

With advanced PIR detector, built-in spotlight and 110dB security siren, LOOC provides proactive warning with accuracy and helps create a safer environment for households and businesses.

### More Accurate, Proactive Deterrence

Supported by high-quality PIR sensor with sensitivity up to 10m, LOOC enables long-distance detection in detail and effectively reduces false alerts. Also built-in motion activated spotlight and up to 110dB security siren will scare away unwelcomed visitors, proactively repulsing home threats.



### Clear Vision And Communication

Aside from providing 2MP resolution live monitoring, LOOC supports H.265 compression, enabling crystal clear video quality while also minimising storage space and bandwidth by up to 50%. Dual internal antennas improve 2.4GHz Wi-Fi, supporting smooth transmission. Meanwhile specially designed built-in speaker and MIC

enables remote communication with people in front of the camera.

### 7x24 Protection

LOOC provides sweet protection by alerting you with a notification to your smartphone, with live video available wherever there is Internet. Even in the night, automatically activated night vision mode and advanced IR algorithms deliver clear pictures in complete darkness.

### Diversified Storage

LOOC is open to diversified video storage, such as SD Card (up to 128GB), NVR or Cloud Storage, making it easier to access and use the footages.

With IP65 weatherproof design, multiple bracket options and durable silicon rubber skins in different colour options, LOOC can easily handle outdoor surveillance and blend into any environment. **SST**

## Industry Win And Mentions for Artec's Face Recognition Solution

**A**rteco Face Recognition has snagged one win and several mentions for its cost savings, innovation and efficiency. The intelligent face recognition solution is a product of Artec, a global provider of intelligent video management solutions. Artec provides a wide range of software and network hardware solutions that integrate with third-party systems such as video surveillance, video management and access control.

Buildings Magazine named Artec Face Recognition as one of its 2018 Money-Saving Products in the Life Safety and Security category for its cost-effective qualities and the features it offers to building owners and facility managers.

The product was also a finalist in PSI Magazine's 2018 Premier Awards for Software/Signalling Product of the Year. In addition, Artec Face Recognition was a "highly commended" nominee in North American Fraud Awards 2018 for Most Innovative In-store Solution.

These accolades attest to the product's ability to boost intelligence and situational awareness for an organisation.

Artec Face Recognition allows security leaders to gain more intelligent data from investments in video surveillance platforms, scaling easily and economically with low system and storage requirements. It delivers rapid and accurate face

recognition capabilities to meet evolving security and safety needs, addressing common challenges in analytics, such as lighting, pose and motion. Designed to be easily deployed and managed, Artec Face Recognition empowers video surveillance applications across the globe, such as in retail for identification of known shoplifters, for the pre-empting organised crime events, for marketing strategy analysis and more.

“Face recognition capabilities are critical to helping enterprise organisations save time and effort identifying potential anomalies and investigating incidents,” said Giampaolo Sabbatani, CEO of Artec. “These awards demonstrate Artec Face Recognition’s ability to build an intelligent security



posture in a variety of environments, such as retail, where loss prevention professionals must stay one step ahead of the latest industry threats.” *SST*

## VIVOTEK Launches Ultra HD Cameras

**I**P surveillance provider VIVOTEK has launched four ultra-HD cameras that deliver up to four times the standard resolution.

The four cameras are FD9391-EHTV, IB9391-EHT, IP9191-HP and IP9191-HT. They provide 3840 x 2160 resolutions at 30 frames per second and 1920 x 1080 resolutions at 120 frames per second.

Compared to other devices with

standard 1080p resolution, the video quality in these cameras has seen significant advancement, delivering images of four times the resolution to viewers. They also provide users with higher levels of network protection, with Trend Micro’s anti-intrusion software embedded. The resultant combination means that this series of cameras are well suited for city surveillance, transportation and industrial monitoring.

Thanks to the unique combination of H.265 compression and Smart Stream III, video compression of these four cameras has also been brought to a new level, enabling savings on both bandwidth and storage consumption of up to 90%. This means that users enjoy detailed imagery while compression technology reduces the size of recorded data to a level below that of a 2-megapixel camera.

The FD9391-EHTV and IB9391-EHT also include VIVOTEK’s latest technology, Smart Motion Detection. Smart Motion Detection allows for the recognition of human activities with precise accuracy, without being affected by a change of lighting or other factors. In addition, the technology reduces time spent on configuration and fine tuning, thanks to its intuitive configuration panel and clear visual confirmation. Smart Motion Detection results in a significant reduction of false alarms and the continued protection of people in smarter ways. *SST*



## Easy-on-the-eye Card Reader That Can Be Any Colour You Like

**V**anderbilt, a leading provider of state-of-the-art security systems, has launched a new card reader that is easy on the eye.

“One of the really nice design features we have implemented with these new readers,” said Ross Wilks, Head of Marketing Communications at the company, “is that when the light bar is in rest mode, it can be configured to appear in a colour that suits the building’s interior design, or even the company’s corporate colours. There is also automatic mood lighting to ensure the readers are not too bright when it is dark. Subtle design features like that are why we feel the Vanderbilt VR mullion card readers are the slickest on the market.”

Designed for today’s bright, clean interiors, Vanderbilt’s VR mullion card readers are easy to install, use and

maintain. The reader, with keypad, maximises the user interaction with arming, access and messaging that results in enhanced user interaction “at the door.”

All models of the readers have three indicator LEDs and a multi-tone buzzer for audio verification. A multi-colour light frame enforces access status information. This can be configured to follow the indicator LEDs or any number of different options. Display brilliance is set automatically by an inbuilt light sensor.

Aesthetics aside, one of the key features in this new release from Vanderbilt is the inclusion of the highly secure OSDP (Open Supervised Device Protocol) to combat hacking.

“Ninety percent of all access control cards in the industry today are easily copied and cloned,” said Andrew Fulton, Head of Access Control Product Line at Vanderbilt. “Copied

credentials, fake credentials and card cloners can easily be ordered on the internet. This has created the growing realisation that most access control ID systems are therefore totally open to being compromised and seriously vulnerable to attack. Our solution to these latest hacking vulnerabilities offers a true high-security option that not only secures the cards and readers but also uses the latest OSDP to ensure that sniffing devices cannot be installed behind the reader or along the communications path.”

Designed to work with all of Vanderbilt’s systems, including SPC, Omnis and ACT, the card reader is also vandal resistant and tamper protected. “Our mullion readers were designed to perform in even the harshest environments. They have been successfully tested to withstand extreme weather conditions varying from -40c to +70c. The readers are manufactured with a high-quality zinc casted metal frame for extra durability and quality, and have been tested to withstand 5 joules, a feat you just won’t get with plastic readers,” summarised Wilks. *SST*



## Atex Infrared Beam Added To The Gjd Product Range

**G**JD, an award-winning manufacturer and designer of smart electronic perimeter detection and high performance LED illumination equipment, has launched an infrared beam set that reliably protects hazardous areas.

GS100, the external ATEX approved infrared beam set, is designed to be used in association with alarm annunciation equipment or other devices that provide a means of monitoring the voltage free relay alarm output, for example CCTV integration. The innovative technology is ATEX certified and is suitable for use within the petrochemical and oil sectors, as well as other similar industries where explosion, flame, weather or dust proof housings are required. GJD's Managing Director Mark Tibbenham said, "It is our sincere belief that GJD's perimeter detection equipment is at the forefront of security in terms of detection ability, reliability and freedom of false alarms. The inclusion of the ATEX approved Infrared beam technology further enhances our product offering."

A major advantage of GS100's design is the asynchronisation of the beam connections to provide high-level security allowing multiple sets of beams to be installed on the same site, or stacked above each other without 'cross interference'.

As well as providing covert detection and range programmable up to 100m, the cost-and energy-efficient GS100 has a bioptical beam transmission system to enhance the stability and reliability of the device.

### Key Features

- ATEX approval for zone 1 and zone 2
- Covert Infrared detection
- 100m beam range
- TX/RX beam set synchronisation and asynchronous connection
- Pulse modulated
- Heat strengthened plate glass aperture
- Tamper switch
- Bioptical beam transmission system
- Energy- and cost-efficient

## Upgrade Your Image Acquisition System While Keeping The Same Camera

The design of an imaging application nearly always begins with the selection of the camera. The vision interfaces used by the cameras often prevent upgrades such as adding cameras, moving cameras to more distant locations or acquiring images at a faster rate.

This obstacle has been overcome by Euresys through the introduction of the Camport Video Converters that can be used to connect cameras with previous generation vision interfaces such as Camera Link or PAL/NTSC to frame grabbers and other devices through the CoaXPress, GigE Vision and USB-3 state-of-art interfaces.





Image acquisition has advanced dramatically over the past decade with faster and higher resolution cameras, frame grabbers that support more cameras at higher frame rates and vision interfaces offering higher bandwidth and longer cable lengths.

Companies that are developing new systems from scratch have the luxury of selecting best-of-breed components based on the same vision interface standard that work perfectly together. However there are many other applications where companies are seeking improvements – faster processing speed, adding more cameras, operating cameras at a longer distance from the host and so on - but still want to keep the existing camera or detector despite the fact that it's based on an older vision interface such as Camera Link or the even older analog PAL/NTSC interface.

In particular, many Camera Link cameras are in use today with a maximum speed of 850 Megabits per second (MB/s) and maximum link length of 10 meters, far below the specifications offered by today's state-of-the-art vision interfaces. Furthermore, Camera Link does not offer error checking and only provides 4 watts of power over the cable to the camera.

It's not hard to understand why many vision integrators and end users are sticking with Camera Link and even PAL/NTSC cameras. The design of an imaging application nearly always begins with the selection of the camera based on properties such as optical response, frame rate, color accuracy, and sensitivity that are finely tuned to the specific application.

Many of the cameras used in these applications and many other were developed years ago to work with outdated vision interface systems. But the cameras themselves provide excellent performance and the developers and users often do not want to spend the money, take the time or run the risk of replacing them. But they often do want to upgrade the systems. Currently, the outdated vision interfaces used by the cameras often prevent these upgrades from being made.

### Connect PAL/NTSC Or Camera Link Cameras To Standard Coaxpress, Gigevision Or USB-3 Ports

The introduction of Euresys Camport Video Converters mean that cameras can now be connected to previous generation vision interfaces such as Camera Link or PAL/NTSC to frame grabbers and other devices through the state- of-the-art CoaXPress, Gige Vision and USB-3 Vision interfaces.

Simply connect the camera to the converter using the older style interface and connect the frame grabber to the converter with the newer style interface. The converters are designed to minimise latency by specially optimising transmission time to avoid delays.

Each of the three leading state-of-the art vision interfaces has different advantages and limitations and these should be considered in selecting the converter. GigE Vision has the advantage of using very inexpensive cable that provides a long reach of 100 meters. Another advantage is that inexpensive switches can be used to aggregate cameras into a single network where any of them can be accessed by the host.

1 or 2 Gigabit per second (Gbps) GigE Vision systems are readily available with a number of 10 Gbps systems now entering the market. USB-3 Vision is offering 5 Gbps speeds and easy plug and play installation. On the other hand, cable length with USB-3 Vision is limited to 3 to 5 meters and available power over USB is also quite low at 4.5 watts.

CoaXPress is generally considered to be today's highest performing standard because it offers high speeds and long link lengths. The CoaXPress interface currently offers speeds up to 6.25 Gbps, although converters normally are limited to 3 Gbps by Camera Link cameras. CoaXPress offers cable lengths up to 130 meters and up to 40 meters for full data rates. CoaXPress runs on coaxial cables, which are the best solution for high speed data transmission because they provide a higher frequency spectrum than twisted-pair cables. CoaXPress also provides up to 13 watts of power to the camera per cable and offers cyclic redundancy check (CRC) error checking.



### Military and Surveillance Applications

There are many potential applications in the military and surveillance fields.

Camport Video Converters are provided with the feature-rich Sphinx software development kit (SDK) that provides

the building blocks to quickly and easily design high performance video applications that use minimal central processor unit (CPU) resources. The SDK includes a filter driver and acquisition library for Windows and optionally Linux. The converters are also compatible with third party software libraries including MATLAB, LabView, Halcon, Sapera, VisionPro, StreamPix and TroublePix. **SST**

## Extremely Intelligent Camera For Extremely Difficult Conditions

**N**ature is notoriously unpredictable. However even in the midst of the most extreme weather conditions, there is something you can predict accurately and that's the quality of the data captured by the extreme MIC IP fusion 9000i moving camera from Bosch.

### When Things Can't Be Seen, One Camera Is There Capturing It All

All over the world, nature is wreaking havoc in unpredicted ways.

It could be a sudden torrential downpour that reduces visibility on the roads. Or a diesel spillage that creates an instant hazard. In these extreme instances, when objects become 'invisible', how can you guarantee that a camera will remain effective?

The answer lies in metadata fusion, a technology available on the Bosch MIC IP fusion 9000i. This unique built-in video analytics capability is made possible because the camera has two built-in imagers; optical and thermal. Should a situation arise where the optical imager is obscured - when smoke fills up a tunnel for example - the camera immediately alerts an operator.



Meanwhile video data including analytics (metadata) from the event will still be captured by the thermal imager, which operates in tandem with its optical counterpart. The camera then proceeds to fuse the metadata from both imagers to provide the most detailed information on objects that are barely discernable. This means that operators are able to fully monitor the situation.

This allows for the necessary response to be taken with full situational awareness and in the fastest possible response time.

### Keeps More Than An Eye On The Road

In a busy urban area, an accurate vehicle count provides city planners with statistics that are invaluable for keeping traffic moving freely and safely within the city. The MIC IP camera, however, does more than count vehicles. It brings traffic monitoring to an advanced level with its ability to identify vehicle class, speed, size, direction of travel and even colour, making it ideal for those seeking to monitor traffic flow with increased level of detailed data and for those seeking to collect associated metadata. It can be deployed along urban highways or on coastal freeways, inside tunnels or on bridges. **SST**

## Dahua Launches Deep-learning Powered Network Video Recorder



**V**ideo surveillance solution provider Dahua Technology has launched its first deep-learning powered Network Video Recorder (NVR). Called IVSS, the recorder offers advanced artificial intelligence features for a variety of applications.

The artificial intelligence technology enables faster video content inquiry and rapid discovery of target objects. This opens up new possibilities for danger prevention, along with real-time alerts.

### AI-powered Facial Recognition

In IVSS, deep-learning algorithms, industrial-grade graphics processing unit (GPU), and advanced Network Video Recorder are combined into an all-in-one artificial intelligence server. The integrated GPU module and advanced deep learning algorithms allow IVSS to perform powerful video structure analysis using metadata, to yield precise facial analysis. Powered by a Dual-core Intel processor, IVSS supports up to 4 channels of real-time facial recognition based on 20 face libraries with 100,000 face images each.

### Two Intruder Identification Modes

IVSS supports a stranger detection mode, where an alarm is triggered when a face not stored in the database is detected. IVSS also supports a Similarity Threshold,

which triggers an alarm when it detects a face that does not meet the minimum similarity level. The Stranger Mode and the Similarity Threshold are specifically designed for critical infrastructure sites, where access control is of vital importance.

### Optimised GUI For Easy Operation

The all new graphical user interface (GUI) of IVSS features a unified design for local and remote users, greatly improving usability and making it friendly and familiar to project-level customers. The unified GUI also significantly cuts down the cost and time it takes to train system operators. The addition of an independent PC client for remote access removes worries about browser compatibility and plug-ins.

### Variety Of Applications And Wide Compatibility

IVSS is ideal for environments where knowing who is coming and going is vital. These include business parks, schools, banks and prisons.

For system integrators, IVSS offers the advantages of lower complexity, better cost-to-performance ratio and fewer operator training requirements. As for users, IVSS improves real-time monitoring efficiency while providing an easy and efficient approach to pinpoint when and where a person of interest appeared. **ESST**

## Dahua Leverages The Power Of AI In Its Latest IP Cameras

In July, Dahua rolled out its deepsense series internet protocol cameras that are driven by artificial intelligence deep-learning algorithms.

The lineup by the world-leading solution provider in the video surveillance industry consists of AI-powered face detection network cameras and face recognition network cameras. The network cameras are DH-IPC-HDBW8242E-Z4FD, DH-IPC-HFW8242E-Z4FD-IRA-LED and DH-IPC-HFW8242E-Z20FD-IRA-LED. The face recognition network cameras are DH-IPC-HDBW8242E-Z4FR, DH-IPC-HFW8242E-Z4FR-IRA-LED, and DH-IPC-HFW8242E-Z20FR-IRA-LED.

### Powered By Dahua's Proprietary AI Facial Recognition Technology

Dahua deepsense series IP cameras are built on Dahua's AI-powered security technology as well as industry-leading wide dynamic range (WDR) technology. These technologies allow the cameras

to deliver high clarity face image snapshots even in the most difficult lighting conditions. In addition, the system supports six different facial attributes extraction from video. It extracts attributes including gender, age, facial expression (happy, calm, surprised, sad and angry), glasses, mouth masks, and facial hair (beards and moustaches). This makes searching and tracking subjects of interest more efficient.

With these technologies, these cameras offer accurate face capture and face attributes analysis for real-time monitoring, and are designed to meet the needs of business parks, schools, airports, banks, shopping malls and more.

### Higher Performance At Less Storage

Dahua's new IPC cameras take pictures rather than record videos. This effectively cut bandwidth requirements.

Also, when a blurry or angled picture is detected, it is automatically discarded. This means that only the clearest, most suitable images are sent for analysis, further saving bandwidth and storage space. Moreover, supported by advanced video encoding standards (H.265 & H.264), the new series saves up to 70% storage while maintaining high quality video compared to standard video compression standards, greatly reducing total operation cost for users.

### Customised For Specific Needs

Dahua's deepsense IP cameras allow for customised settings. For example, users can make use of additional functions such as black/white lists and stranger mode, where those recognised as strangers or blacklisted people will immediately trigger an alarm. Users can also set their preferred similarity threshold, where face comparison are conducted at a level suited to the user's specific needs. **ESST**



## Smart Buildings And Smart Cities Driving Growth Of Access Control Market

Smart cards have become synonymous with the access control market; these days smart cards are used across a variety of end markets including healthcare, warehousing and storage, education, lodging, and mercantile and office spaces.

Ahead, smart cards will remain the predominant form factor used within the access control market, with over 250 million shipment units by 2022, according to ABI Research, a market foresight advisory firm.

However market evolution is pushing access control implementers toward technology convergence. This has seen the incorporation of RFID, NFC, Bluetooth and biometrics technologies into smart cards as well as smart devices including mobile phones and wearables.

From smart cards with integrated fingerprint scanners to behavioural scanner access gates, the range of technologies is extensive.

Today the access control market is evolving from a simple yes/no check gate response system to one that can be integrated to include other services and systems. What is driving this trend

is the rise in smart homes and building automation, which has given rise to new ways for access control credential to be used as a central identifier to tie into other services and systems (such as Alexa, music devices, shutters, heating and lighting).

There is opportunity for access control to tie-in and converge with other technologies and services, most notably within the smart cities and building automation domains. Access control credentials are being capitalised on as a means of further automating systems and personalising experiences. This presents the opportunity to deliver tailored and individualised preference enablement.

“Multiple-application smart cards and BYOD (Bring Your Own Device) solutions will prove to be crucial elements in enabling convergence with other applications including payments or ticketing,” said Jonathan O’Flaherty, Research Analyst at ABI Research. In addition, technology coexistence is driving new innovative and personalised services. “Market convergence is the natural evolution of the smart card market, be it from a payment, transport ticketing or ID standpoint. As such, using an

access credential as the enabling identifying anchor point can lead to large-scale multi-application service enablement.”

The drive toward personalisation is also further underscoring the need for secure individualised identities.

In particular, biometrics continues to gain a considerable position in the access control market, whether used as a standalone authentication solution or in conjunction with other technologies and devices for MFA purposes. The continual migration and growth of biometrics will add further value to the smart access control market because it enables secure seamless authentication and delivers ease of use. Biometrics will be used widely and securely in more public use cases.

Many companies such as Gemalto, IDEMIA, NEXT Biometrics, Fingerprint Cards and IDEX Biometrics are currently exploring and expanding the ways to authenticate an individual using biometric information and the application of the technology. **SST**

*The findings are from ABI Research’s Next-Generation Physical Access Control Technologies and Opportunities Report.*

## Alibaba Invests in Smartrac to Enhance Brand Protection

Alibaba is investing in Smartrac Technology Group to strengthen its brand protection strategies. Smartrac is a leading vendor of RFID products and IoT solutions, providing both ready-made and customised offerings. It makes products smart and enables businesses to identify, authenticate, track and complement products and

solutions. Its portfolio is used in a wide array of applications such as animal identification, automation, automotive, brand experience, industry, library and media management, laundry, logistics, retail and supply chain management.

Smartrac has developed a comprehensive suite of RFID-

based solutions that utilise the company's Internet of Things platform, Smart Cosmos. Smartrac's IoT solutions enable brand product manufacturers to securely create and embed a unique digital identity into each individual product at the point of manufacture, at scale. This product identity can only be issued by the brand and can't be faked, copied, stolen or lost. Thus, it provides full control and visibility of each genuine product throughout its product lifetime.

In addition, brand owners can deliver exclusive and dynamic content to their consumers to increase customer engagement, loyalty and satisfaction, at the simple tap of a phone.

"At Alibaba, we are continuously innovating and partnering

to provide market-leading solutions and highest levels of brand protection for our clients," said Michael Evans, President of Alibaba Group. "We are thrilled to support Smartrac and together provide brands with innovative product authentication solutions at scale." Evans will join Smartrac's Supervisory Board.

"Smartrac provides premium product manufacturers and their customers with ultimate yet scalable solutions to protect and enhance brands", said Christian Uhl, CEO and Chairman of the Management Board, Smartrac Technology Group. "We feel honoured by Alibaba's confidence that our technological expertise will provide brands and consumers with best-in-class product authentication and customer experience solutions". **SST**

## Artificial Intelligence Giant Enters Singapore

**I**n June, SenseTime make its debut in Singapore with the signing of a memoranda of understanding with three leading Singaporean organisations: Nanyang Technological University, National Supercomputing Centre (NSCC), and Singapore Telecommunications Limited (Singtel).

The Chinese technology company is regarded as the world's biggest startup company in artificial intelligence. SenseTime has offices across China, Hong Kong and Japan – and now Singapore. It specialises in artificial intelligence and facial recognition and its products serve a wide range of industries including security, finance, smartphones, mobile Internet, robotics and automobile.

The signing ceremony was hosted by Singapore Economic Development Board and attended by SenseTime Founder Professor Xiao'ou Tang; Kiren Kumar, Assistant Managing Director of EDB; Peter Ho, Chairman of NSCC Steering Committee; Professor Lam Khin Yong, Vice President (Research) of NTU; and Arthur Lang, CEO of Singtel International.

All parties will collaborate broadly, leveraging on each other's strengths and customer base, to advance AI research, accelerate digitalisation for both established corporates and SMEs, and develop AI-based solutions catering to industrial and institutional needs, both in Singapore and Asia.

With Singapore's strong commitment to advancing AI research and applications, SenseTime views its footprint in Singapore as a critical step to the company's international expansion. With the recent launch of its Singapore operations, SenseTime aims to join hands with government, academia, research, and industry.

Martin Huang, Managing Director of SenseTime Singapore, described the MOU as a key milestone. "Nanyang Technological University, National Supercomputing Centre of Singapore and Singtel are all leaders in their own areas; it is our honour to have the opportunity to partner with them all on AI research, development and applications. As Singapore serves as SenseTime's international hub, we're committed to building an AI ecosystem with our local partners and servicing our customers with leading AI technologies. We look forward to promoting the development of AI in the ASEAN region with their partnerships."

Professor Lam Khin Yong said, "As one of the top universities in the world for artificial intelligence (AI) research, we are confident that our partnership with SenseTime to set up a joint research centre will lead to the development of cutting-edge technologies and skilled talents in the field of AI. This collaboration is also very timely as NTU seeks to become a Smart Campus - a living testbed for the technologies of tomorrow, in line with Singapore's drive to become a Smart Nation. Given NTU's and SenseTime's complementary strengths and expertise, we can look forward to innovative AI-based solutions for better living and learning, to benefit people, communities and businesses in Singapore and beyond."

NSCC's Chief Executive Associate Professor Tan Tin Wee expressed a similar level of enthusiasm. "As the largest provider of AI algorithms in China, SenseTime has been at the forefront of AI research. We are excited to work with SenseTime in the areas of research, development and industry adoption. With this partnership, we will build upon and extend NSCC's existing petascale distributed HPC infrastructure. We hope to achieve and bridge the HPC ecosystem by setting up a GPU-accelerated, AI-centric, supercomputing infrastructure and platform."



Said Arthur Lang, CEO of International Group at Singtel, "We look forward to collaborating with SenseTime to grow our AI capabilities and drive the adoption of AI technology across Asia. Given the Singtel Group's regional footprint and digital eco-system, we see many opportunities to leverage AI -- from innovative retail technology solutions to smart city projects."

The signing of these MOU is significant for SenseTime's Singapore operations as well as the company's international expansion. Spanning across a wide

range of academia, industry and government agencies, these partnerships will likely play an important role in accelerating AI developments in Asia.

Last September, Singapore Prime Minister Lee Hsien Loong visited SenseTime's Beijing office and exchanged thoughts and ideas with SenseTime Founder Professor Xiao'ou Tang. He also experienced the company's AI technologies such as facial recognition and image recognition capabilities. SenseTime was the only company that PM Lee stopped over during his China visit. In April this year, SenseTime raised US\$600 million in its Series C round of financing, in which Singapore sovereign fund Temasek was one of the major investors. **SST**

## Hikvision AI Tour Landed In Singapore

Leading provider of security products and solutions Hikvision brought its experience, knowledge and insights to the world on its Global Artificial Intelligence Tour.

Its first stop in the Asia Pacific region was Singapore. Hikvision had invited its key integration partners from Singapore as well as government and corporate users to the July 26 conference, and over 350 customers and partners took up the invitation.

At the event, Hikvision and partner representatives shared their knowledge, experience and opinions about the current and future applications of AI technology and solutions. One of the highlights of



the event was a demonstration of Hikvision's innovative Intelligent Traffic System which can help reduce traffic congestion and identify violators with a smart, data-driven approach.

"AI is emerging as a fundamental technology of our future society.

Working closely together across our industry is required to realise the full potential of AI," said Felix Fu, General Manager of Hikvision Singapore.

The tour will continue for the rest of 2018 and includes events in around 40 countries across Asia, Africa, Middle East, Oceania and Latin America. **SST**

# ST Engineering Launches CitySense Brand To Conquer Smart City Global Market

**S**T Engineering intensifies its global smart city expansion plans by launching CitySense, the brand for its integrated Smart City solutions suite aimed at city planners who need customised, reliable and safe technology solutions that are weaved seamlessly into urban planning and development.

CitySense addresses issues such as city congestion, lack of physical and cyber security, energy inefficiencies and utility wastages. It is wide ranging in digital capabilities such as data analytics, artificial intelligence and robotics, and has been adopted by clients in transportation, urban development, security, utilities, aviation and the maritime industry across the world. Singapore-based ST Engineering is a global technology, defence and engineering group specialising in the aerospace, electronics, land systems and marine sectors. With two-thirds of ST Engineering's growth over the next five years projected to be from overseas, ST Engineering is intensifying its Smart City expansion plans in the US, South East Asia and the Middle East.

ST Engineering has implemented more than 500 Smart City projects across 70 cities worldwide. Latest developments include its Memorandum of Signing (MOU) with Keppel Urban Solutions to design and execute Smart City

Masterplans in cities across Asia. The Group also signed a MOU with JTC to design, build and deploy customised Smart City solutions on an Open Digital Platform for Punggol Digital District, a 50-hectare district landmarked as a key element of Singapore's Smart Nation vision. JTC is the lead government agency in Singapore responsible for the planning and development of industrial infrastructure. Apart from these, ST Engineering is also an invited Smart City solutions provider in the government-initiated ASEAN Smart Cities network.

"Cities were not built to accommodate the current scale of mass urbanisation and the rate at which the population around the world is ageing. This is why Smart City technologies need to, at its core, be people-centric, built to design and custom-made to address each city's unique requirements, from its demographics to physical, social and economic conditions," said Chew Men Leong, Chief Marketing Officer of ST Engineering.

"ST Engineering's advantage in Smart Cities is not just our solid track record nor integrated technology and engineering expertise. We also have the ability to create strong and differentiated IP, and adapt our business models to best suit our customers." **SST**

## Make Your City Smarter

**CitySense**

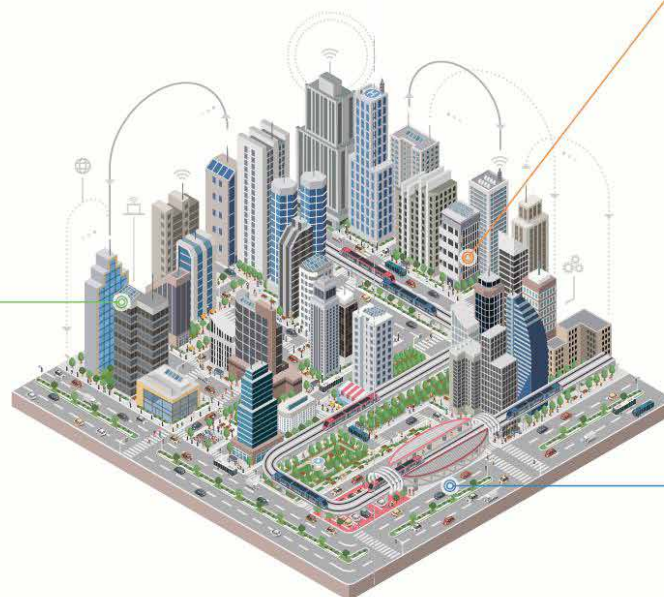
What is our process of creating value for over 500 projects in more than 70 cities globally?

- **Collaboration** with key stakeholders to formulate future-focused problem statements.
- **Customisation** of robust solutions to meet short-term and long-term needs.
- **Continual enhancements** as technology advances to keep cities future-ready.

### SMART ENVIRONMENT

Optimise municipal services and manage water and waste more efficiently

- **IoT Solutions for Municipal Services**  
Comprising smart street lights, smart utilities, smart lift monitoring, smart bins and smart environment monitoring.
- **Smart Water & Waste Management**  
Spanning water and wastewater treatment, water recycling as well as solid waste management.



### SMART SECURITY

Ensure the safety and security of citizens in your city

- **Cyber Security Solutions**  
Encompassing security operation centre, trusted enterprise solutions as well as training and professional services.
- **Physical Security Solutions**  
Including emergency response system, perimeter intrusion detection and integrated security management system.
- **Drone Network Solutions**  
Featuring autonomous interconnected drones remotely linked to a centralised control hub with real time video analytics and data sharing.

### SMART MOBILITY

Strengthen reliability and efficiency of land transportation in your city

- **Rail Electronics Solutions**  
Including platform screen doors, smart metro centre, passenger information system, automatic fare collection and enterprise asset management system.
- **Traffic Management Solutions**  
Featuring utilisation of intelligent transport sub-systems for surveillance, incident management, smart junction management, etc.
- **Autonomous Solutions**  
Spanning autonomous vehicles, autonomous mobile robots and outdoor robotics.

CitySense is powered by a range of digital capabilities:  
• Analytics & Artificial Intelligence • Digital Connectivity • Robotics

# ST Engineering Debuts Gateless, Hands-Free Fare Collection System

**S**T Engineering has developed the region's first gateless hands-free Automatic Fare Collection (AFC) system.

Incorporating long-range radio-frequency identification (RFID), facial recognition and stereoscopic people-counting camera technologies, the system allows commuters to walk through barrier-less fare passageway without needing to tap fare cards. The payoffs: the system lifts operational efficiency by more than 50% and enhances commuter experience by delivering a seamless traveling experience.

To use the system, commuters need to register for an account and take a photo at the Interactive Traveller Terminal. They will then get an RFID card, wristband or key tag. Commuters can place this RFID card, wristband or key tag in their bags or pockets. The system will detect the RFID cards carried in the pockets and bags of passengers, at the

same time capturing and verifying their faces as they approach the passageway.

It takes less than one second to verify each commuter at fare gates. Once a commuter has exited through the gate, the passageway will light up in green or red to indicate valid or invalid access. Should an unregistered passenger walk through, the barrier-free gates will light up in red and the face of the passenger would be captured. This data can subsequently be used for enforcement actions.

The enhanced AFC system also contains heightened security features to facilitate enforcement action against errant commuters and against activities such as tailgating and payment evasion.

ST Engineering will partner the Land Transport Authority to test out the system at Redhill, Tiong Bahru, Kembangan and Bedok Mass Rapid Transit train stations, with the goal of allowing people with disabilities to

enter and exit stations with ease.

Said Ravinder Singh, President of Electronics, ST Engineering, "The rail industry is readily embracing digital transformation to keep pace with urbanisation and increasing commuter demands. Global rail operators are intensifying efforts to enhance passenger experience while having to ensure that train operations and infrastructures stay secure, reliable, as well as easily maintained. Having helped international metro operators solve land transport challenges through the innovative use of technology over the past 30 years, we are pleased to be able to do so again with the launch of the region's first barrier-free AFC." **SST**



**Do you have news for us?**  
**Good!** Email us at [sst@tradelinkmedia.com.sg](mailto:sst@tradelinkmedia.com.sg)

## Strong Demand For Safer, More Secure Cities Drives ST Engineering's Contract Wins

In the second quarter of 2018, ST Engineering's electronics arm secured S\$764 million worth of contracts, with public safety and security cited as one of the drivers behind the wins.

ST Engineering is a global technology, defence and engineering group specialising in the aerospace, electronics, land systems and marine sectors. The group serves customers in the defence, government and commercial segments in over 100 countries.

The group is benefitting from strong demand for safer, more secured cities. In Brazil, for instance, the group's electronics sector was awarded a project to install its state-of-the-art radar solution to secure Itaipu Hydroelectric

Dam, the world's second largest hydropower and a strategic energy resource for both Brazil and Paraguay.

Enforcement agencies also awarded the group contracts to supply an incident response trainer, automated biometrics systems equipped with video analytics capabilities and a Cybersecurity Operations Centre to enhance their security capabilities.

In defence solutions, the group landed contracts for managed services; Command, Control, Communications and Computers (C4) solutions; Unmanned Surface Vehicle (USV); network training; and ship handling simulation. All the projects will be completed progressively up to 2023.

SST

## Makati Lifts Traffic Safety With Live-streaming Bodyworn Cameras

The city of Makati in the Philippines is arming its traffic officers with live-streaming bodyworn cameras to enhance emergency response and ensure the safety of these officers.

One of the 16 cities that make up Metro Manila, Makati has the highest concentration of multinational and local corporations in the country. About 600,000 vehicles move through downtown Makati on a typical weekday.

By enabling the live-streaming of footage from cameras back to a central control centre, the financial centre hopes to deter attacks from violent motorists and respond more efficiently to traffic accidents. The bodyworn cameras are able to run for a full shift of eight hours and are equipped with a panic button to give traffic officers an extra layer of protection.

The technology powering the live streaming is Digital Barriers' EdgeVis Live solution. Initially developed for the highly demanding world of military surveillance, EdgeVis Live provides real-time video streaming from anywhere to anywhere, even over wireless networks. It also saves data costs by using 60% less bandwidth than standard technologies.

Makati selected EdgeVis Live over dozens of other solutions because the technology was the most robust and able to deliver in real-world conditions, even in areas of constrained bandwidth. Based on patented TVI video compression technology, EdgeVis Live provides a secure, scalable video transmission platform that is trusted by users in the defence, law enforcement, transport, energy and public safety markets in more than 30 countries worldwide.

Abby Binay, Mayor of the City of Makati, said, "The implementation of the first live-streaming bodyworn camera has been a success and our officers are already enthusiastically utilising this technology in order to ensure their safety and support disaster management in the city." SST





***COUNTRIES ARE  
UNDER ATTACK LIKE  
NEVER BEFORE.  
HOW IS IT SHAPING  
THE HOMELAND  
SECURITY  
MARKET?***



## Terrorism is always in the picture these days.

**S**ince 2014, Europe has seen an increase in Islamic terrorist activity. In 2016, 363 terrorist attacks took place in Turkey with 139 people killed, making it the most affected country in Europe. In 2017, 22 men, women and children were killed in Manchester, UK. France has also been a critical target within Europe. Other notable targets in Europe have included Germany, Belgium and Spain. In Italy, almost 65% of Italians reported being worried about a terror attack in 2017, according to Statista, the statistics portal.

Across 29 countries (other than Iraq and Syria), Islamic State has conducted or inspired more than 140 terrorist attacks since 2014. Those attacks have killed at least 2,043 people and injured thousands more.

Terror attacks have taken lives inside churches, on busy streets, in hotels, in financial districts, in office buildings, in airports and at tourist hot spots.

According to The One Brief, in 2016 the number of terrorist attacks increased worldwide by 14%. The risk is also spreading: 43% of countries are now at risk from terrorism. That amounts to 87 countries facing a terrorism and sabotage peril — up from 78 two years ago.

The world is a much more violent place today. Political violence and terrorism are on the rise and the ever-present and growing threat has seen countries around the world scramble to set up homeland security agencies.

Homeland security is the national effort to keep a country safe and protected from threats. The goal of homeland security is to avert any terrorist attacks on the homeland and to provide resilience in case of an attack. It also has to secure the

nation against cyber fraud and cyber espionage and provide detection and protection capabilities against chemical, biological, radiological and nuclear (CBRN) threats. The umbrella term of homeland security covers the wide variety of initiatives and plans undertaken by government bodies to protect their country from threats. It includes agencies such as aviation, marine, mass transit and border that can be targeted by terrorists and other illicit activities such as human trafficking.

### The Homeland Security Market Is Flourishing

Following the 9/11 terror attacks, the homeland security industry boomed. In 2013, the market was valued at US\$245.72 billion, according to Transparency Market Research. By 2024, business consulting firm Grand View Research expects the market to grow to US\$452.46 billion.

According to the “Global Homeland Security & Public Safety Industry, Technologies & Markets – 2017-2022” report, the market will go through a growth period, sustaining a 2016-2020 compound annual growth rate (CAGR) of 5.7%.

Government initiatives undertaken to manage increasing terrorist threats and cross border insurgency is the primary factor behind the growth of the homeland security market. Countries in the Middle East, Europe and the Asia Pacific are also increasingly facing separatist movements. Other critical factors driving growth include illegal immigration, human trafficking, drug trade, cybercrime and internal dissent. Increase in demand for safety equipment and solutions across several industries such as aviation, maritime, cyber and border security will continue to drive the market from now to 2024, foresees Grand View Research.

**“ The world is a much more violent place today. Political violence and terrorism are on the rise and the ever-present and growing threat has seen countries around the world scramble to set up homeland security agencies. ”**

By geography, the global homeland security market is segmented into North America, Europe, Asia Pacific and rest of the world (RoW). The North America market covers the United States, Canada and Mexico while the Europe market covers UK, Germany, France, Italy and others. The market encompasses China, India, Japan, South Korea and other countries in the region. Rest of the world refers to South America, Middle East and Africa.

Key players in the global homeland security markets include Elbit Systems, FLIR Systems, General Dynamics Corporation, Harris Corporation, IBM Corporation, L-3 Communications Holdings, Inc., Leonardo S.p.a., Lockheed Martin, Northrop Grumman Corporation, Raytheon, SAIC., Thales Group and Unisys Corporation.

### **Business Segments And Their Prospects**

Based on end use, the homeland security market is segmented into law enforcement and intelligence gathering, risk and emergency services, border security, maritime security, aviation security, cyber security, critical infrastructure security and CBRN (Chemical, Biological, Radiological and Nuclear) security.

Aviation security refers to the methods used in protecting passengers, aircraft and staff from accidents, crime and other threats.

Maritime security refers to the prevention of damage to maritime facilities through terrorism and sabotage. There are three major maritime security activities: port security, facility security and vessel security.

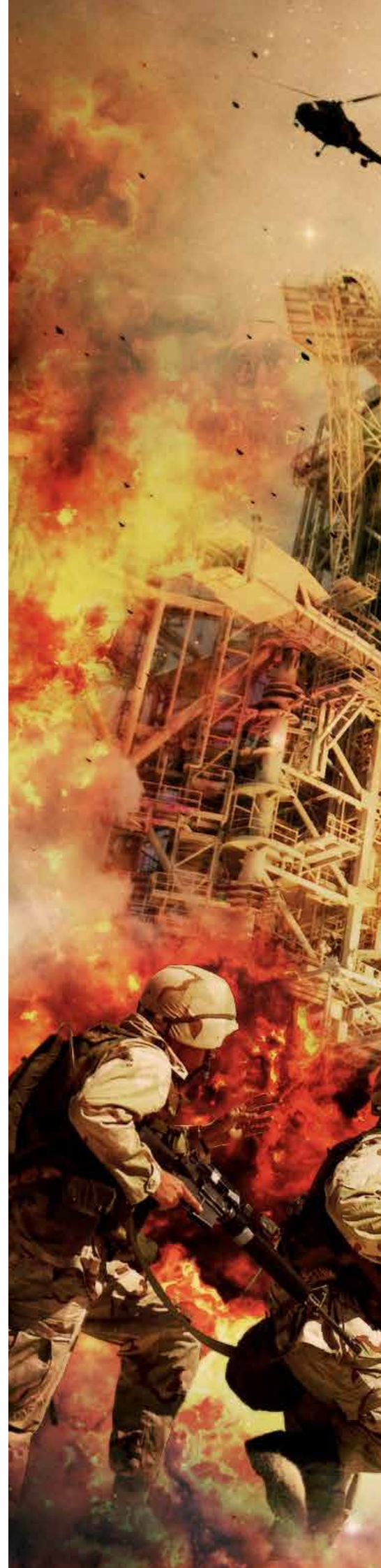
Border security involves protecting country borders from the illegal movement of weapons, contraband, drugs and people while encouraging lawful exit and entry.

Critical infrastructure security involves protecting critical infrastructure such as dams and oil refineries in terms of technology, which can be installed on board air assets to provide a variety of video and sensor information to government agencies.

Cyber security refers to processes, technologies and solutions designed to safeguard networks, programmes, computers and data from attacks and piracy.

Chemical, biological, radiological and nuclear defence (CBRN) security includes protective actions taken in events wherein chemical, biological, radiological and nuclear warfare hazards may be present. It consists of CBRN contamination avoidance, passive protection and mitigation.

Mass transit security solutions are used to keep public transport passengers and employees safe and protect carriers' equipment.





According to market research firm Research And Markets, the law enforcement and intelligence gathering segment is expected to lead the homeland security market from 2018 to 2023 due to the increase in zero-day attacks that harm organisations' critical assets.

Cyber security is anticipated to be the fastest growing segment owing to the regions such as North America and Europe that are heavily investing in cyber defence systems.

The homeland security industry is highly competitive. Manufacturers invest heavily in R&D operations so as to compete in offering innovative products. Harris Corporation, for instance, invests heavily in developing mission-critical communications.

Technological innovations such as nanotechnology, networked video cameras and software to identify critical intelligence information have become powerful tools for counter terrorism operations, increasing the effectiveness of anti-terrorism countermeasures.

### Spending Has Risen Across Most Business Segments

The risk of terrorist attack has led to an increase in aviation security spending. Airport safety has undergone enormous transformations after the terrorist activities across the globe and has seen significant improvements in protection levels against threats. Several airports such as Munich, Chhatrapati Shivaji International Airport (India) and Narita International Airport (Tokyo) are examples of the change in airport protection technologies.

The illegal arms and drug trafficking and immigration has also led to heightened border and seaport security and has

increased the demand for explosive detection systems, body scanners and baggage screening systems.

Meanwhile the threat of a cyber attack disrupting public and private network and infrastructure has driven up cyber security spending for the past decade.

Across all segments, the need for effective identification and security checking and managing access control to critical infrastructure has led to the adaptation of biometric and other identification technologies.

Analysis by Grand View Research indicates that:

- cyber security will grow at a CAGR of over 5.5% from 2016 to 2024, owing to the increasing number of cyber crimes and rising privacy concerns. Cyberspace and its essential infrastructure are today vulnerable to a wide range of risks, threats and hazards. The rising threat of cyber attacks has added a new dimension to the global homeland security market.
- the maritime segment – which accounted for over 8% of overall revenue share in 2015 – will grow, propelled by the rising number of maritime threats, sabotage, piracy and unlawful acts. Incidents of maritime terrorism are very few as compared to piracy. However, it attracts more media attention due to the involvement of greater loss of life, property and consequential economic losses.
- the aviation segment is expected to grow substantially, experiencing CAGR of nearly 5% over the period of 2015 to 2024 owing to advances in technologies such as biometric identification, handheld screening and RFID technology.



## 17 Years After 9/11, How Has The Homeland Security Market Evolved?

A recent research report by market research firm Homeland Security Research Corp predicts that the global homeland security and public safety market will undergo major shifts.

Governments today are forced to invest in new and maturing technologies and capabilities to better cope with evolving and more advanced terror and security threats.

“ISIS-inspired attacks are being planned and committed worldwide, organised crime is becoming more transnational, the Arab world is under turmoil and autocratic governments are doing “whatever it takes” to secure their regimes. All this, coupled with the advancement in technology used by homeland security agencies and perpetrators alike,” described the report.

Meanwhile markets formerly dominated by the U.S. are now moving to Europe and Asia Pacific. New and maturing technologies such as big data, advanced sensors, cyber security, video analytics and interoperable emergency communication will create new market segments and fresh business opportunities, detailed the report.

The fundamental homeland security landscape is changing, said Deloitte principal and Defense & National Security leader Nathan Houser. “Many of our current and emerging threats involve computer networks and new technologies (e.g., unmanned aerial systems/

vehicles) considerations that were science fiction only a few years ago.”

Nathan Houser sees a focus on three areas in 2018: readiness and the integration of new technologies, space resilience and national security, and technologies to improve operational efficiency.

“The mission of defence and national security agencies requires that they be ready to meet the dynamic challenges of today and the emerging threats of tomorrow. And they must do so in an era of rapid technological advances. So readiness and the integration of new technologies are two major priorities for the year ahead,” outlined Houser. Readiness in the national security context means having the right people, equipment and capabilities to counter known threats and respond to contingencies that arise, both now and in the future.

“As for new technologies, the biggest impact will likely come from leveraging artificial intelligence, virtual/augmentative reality and process robotics. Effectively, these technologies augment the speed in which data can be processed, analysed and ultimately decisions for kinetic action. The first wide-scale efficiencies with these technologies will likely be seen in the back office—replacing transactional, financial and other administrative processes. Virtual and augmentative reality will play a greater role in training and workforce collaboration. Not far behind, though, machine learning and artificial intelligence will likely begin to augment mission processes, helping speed data gathering and analyses.” *SST*



## Homeland Security Market – Geographical Breakdown

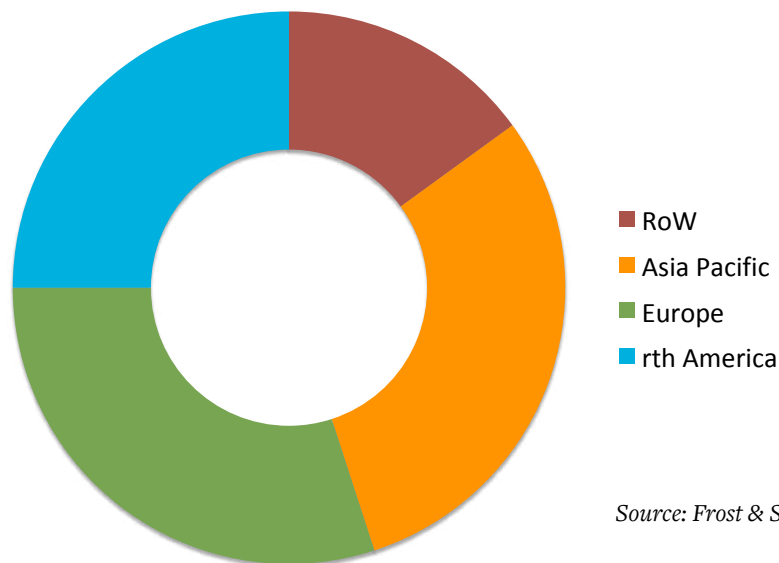
In several geographical regions, separatist movements are active and armed, creating hazardous situations for nations. Countries in the Middle East, Europe and the Asia Pacific regions are increasingly facing separatist movements. As a result governments in these regions are spending millions of dollars to outfit their homeland security and emergency management personnel, reported Research and Markets.

While North America and Europe continue to drive growth in the homeland security market, emerging markets like China and India will developed into big markets in the upcoming years, projected Pooja Baragale, a research analyst at Infinium Global Research.

In India, safety concerns over terrorist attacks have spurred the central government to train its focus on the country's security and defence infrastructure. Meanwhile China is expected to account for the largest share of the Asia Pacific homeland security and emergency management market in 2018, predicted market research firm MarketsandMarkets. Beside China and India, countries like Japan and South Korea will also contribute to the rapid growth of the homeland security and emergency management market in the Asia Pacific.

This high share is due to the need to counter rising terrorist activities, geopolitical conflicts, strikes and protests, chemical attacks and natural disasters. These factors have already propelled major homeland security and emergency management solution providers in the region to develop enhanced techno-efficient homeland security and emergency management systems and equipment.

**Global Homeland Security Market Share by Region, 2024 (Value%)**



Source: Frost & Sullivan

## Homeland Security Market In The Middle East - On A Fast Growth Trajectory

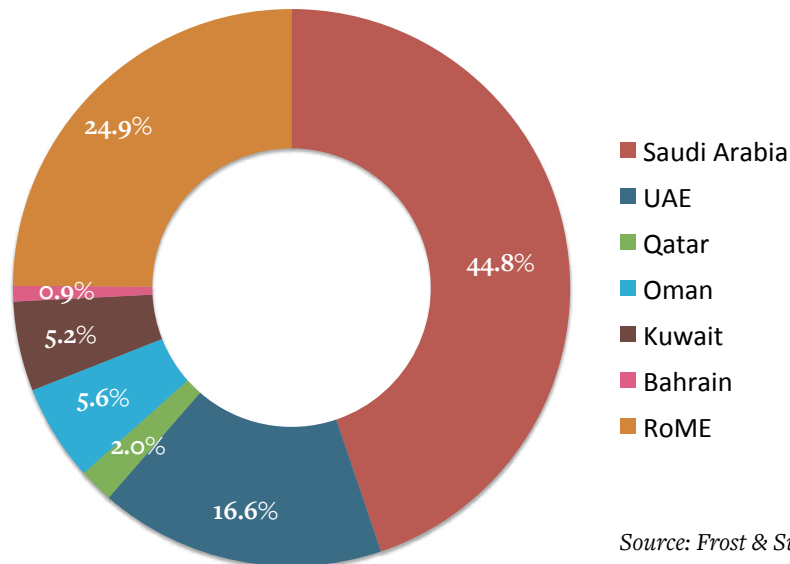
Homeland security market in the Middle East is drastically changing due to the presence of global vendors and an increasing demand for security. Engulfed in cross border conflicts, political unrest and rising terrorism in the region, Middle Eastern countries are urgently seeking to contain internal threats and bolster homeland security.

Countries in this region include UAE, Qatar, Turkey, Yemen, Israel, Saudi Arabia, Jordan, Bahrain, Oman and Kuwait. As a result of initiatives by governments and private organisations in the region, homeland security will be one of the fastest developing markets in the Middle East.

Vulnerability of large infrastructure has been a matter of concern for all governments in the region. This has impelled the region's governments to invest in enhancing the security of large infrastructure in their country. Internal police forces and public infrastructure projects including street utilities and public car parking will also create a huge demand as the countries in the region look to create a smart and secure environment, reported consulting firm Frost & Sullivan. In addition, the presence of major importers of oil and gas in this region makes stringent security measures imperative.

Saudi Arabia is currently the biggest spender in the Middle East homeland security market. However Qatar and UAE will have the highest growth rates from 2017 to 2022, with growth driven by upcoming major public infrastructure projects meant to accommodate the needs of major events such as Qatar FIFA World Cup 2022 and Dubai Expo 2020.

### Middle East Homeland Security Market: Percent Revenue by Country, 2017



Source: Frost & Sullivan

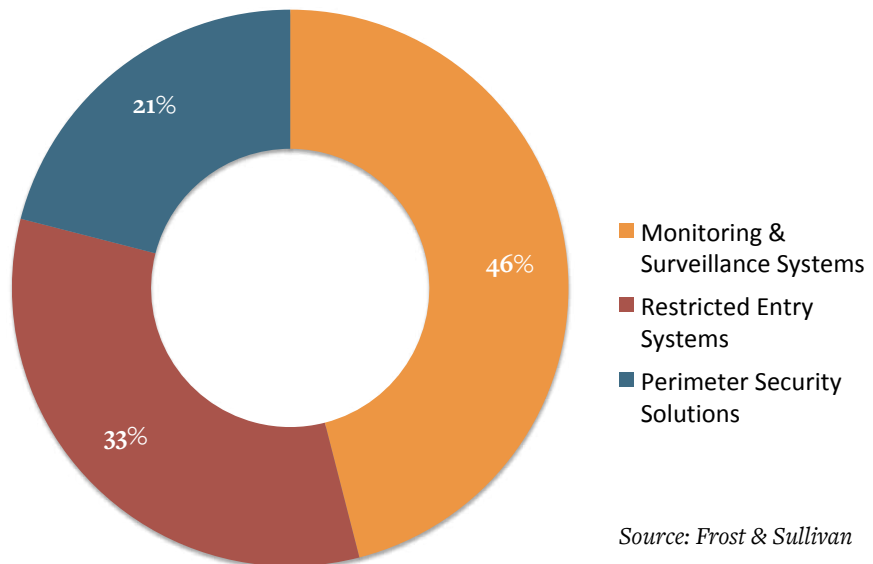
According to Frost & Sullivan, the monitoring and surveillance solutions segment will continue to account for the largest share of the market due to favourable government regulations and the initiative to create an integrated smart hub using real-time analytics to tackle security issues. Valued at US\$4.4 billion in 2017, the monitoring and surveillance segment is expected to grow at a compound annual growth rate (CAGR) of 16.5% to reach US\$9.5 billion by 2022.

There is also a significant rise in demand for restricted entry systems following recurrent terrorist attacks on public infrastructure in 2015. Upcoming stadiums for the Qatar FIFA World Cup 2022 and public transportation projects will mean a boost for the restricted entry systems segment, which is projected to grow from US\$3.14 billion in 2017 to US\$6.18 billion in 2022, with growth expected to be at a CAGR of 14.5% during this period.

The perimeter security solutions segment will also grow rapidly at a CAGR of 14.8% on the back of a number of cultural and political infrastructure projects, predicts Frost & Sullivan. The segment is expected to grow from US\$2.0 billion in 2017 to US\$4.01 billion in 2022. Perimeter security solutions will find the highest growth in the transportation vertical due to the increase in investment on perimeter security products by the governments in these areas.

In response to this extensive demand, solution providers are trying to enter the homeland security market to capture the untapped region.

### Middle East Homeland Security Market by Product Segment, 2017



Source: Frost & Sullivan

## Homeland Security Market In Asia Pacific - Increased Terror Activities Spur Growth

The Asia Pacific homeland security market is expected to grow at a CAGR of over 6.0% from 2016 to 2024, according to Grand View Research. Emerging economies such as China and India are expected to drive the regional growth in the future. In India, safety concerns about domestic law and terrorist attacks have prompted the state and central government to focus on modernising the country's security and defence infrastructure. This has led to an increase in budgetary allocation for homeland security expenditure and other initiatives such as the National Security Agency, providing a Unique Identification number to all citizens of the country and establishment of the Crime and Criminal Tracking Network and Systems.

Another report by Puja Mourya, a research analyst with Aerospace & Defense, highlights a significant rate of growth for the Asia Pacific homeland security market from 2014 to 2022.

He pinpointed the driving factors as "increasing number of terrorist activities, territorial wars, political unrest, protests and government inclination towards police modernisation in countries including India, Japan, China and Sri Lanka."

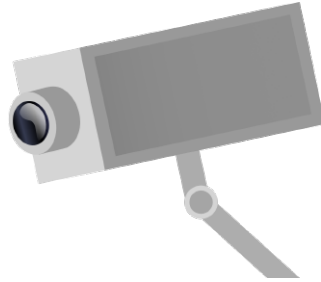
## Homeland Security Market In North America

According to Grand View Research, North America dominated the industry with over 25% of the revenue share in 2015. The North American homeland security market is expected to grow at a CAGR of nearly 3.5% from 2016 to 2024. The number of cyber attacks has increased exponentially in the U.S. and this has led to an increased focus on cyber safety across the region.



## Homeland Security Market In China - Creating One Of The World's Most Sophisticated State Surveillance Systems

In 2010, China's national domestic security spending for the first time exceeded its spending on external defence by a small margin. However by 2016 this gap has increased to a record 13%. (Source: *China Brief Volume: 18 Issue: 4*)



This spending included an astonishing 57.95 billion RMB spent in 2017 on domestic security for China's Xinjiang Uyghur Autonomous Region. In February 2018, China's Xinjiang Uyghur Autonomous Region was revealed to have had a stunning 92.8% increase in its domestic security spending from 30.05 billion RMB in 2016 to 57.95 billion RMB in 2017 (source: Xinjiang Net). This meant that within a decade, the autonomous region has seen its domestic security spending increase nearly tenfold, up from 5.45 billion RMB in 2007.

In Xinjiang, China has created one of the world's most sophisticated and intrusive state surveillance systems to target Muslim Uighur ethnic minority, reported ForeignPolicy.com. Beijing is determined to repress a Muslim separatist movement in Xinjiang, a huge mineral-rich region that straddles key trade routes. Part of its anti-terrorism campaign is a system that includes mandatory facial recognition scans and Wi-Fi sniffers that collect data from network devices. Over the past two years, the technology has helped authorities round up hundreds of thousands of Uighurs and other Muslims. For Chinese surveillance companies, the development has meant a lucrative market and a laboratory to test the latest gadgetry. The companies include the world's two largest security camera manufacturers, Hikvision and Dahua Technology. Combined, the two firms supply around one-third of the global market for security cameras and related goods like digital video recorders. Together the two companies are worth US\$70 billion.

Both firms are capitalising on China's surge in security spending in Xinjiang in recent years. Hikvision and Dahua have won at least US\$1.2 billion in government contracts for 11 separate, large-scale surveillance projects across Xinjiang, according to Chinese bidding websites and the Shenzhen Stock Exchange. Most of the Xinjiang projects were launched in 2017, a year in which Hikvision and Dahua's revenues grew by 30% and 40% respectively, detailed ForeignPolicy.com.

While China's homeland security spending is significantly higher than that of the US, it is of less interest for market players as the market is restricted to western firms. *SST*

## Israel and Europol Join Forces To Combat Terrorism

In July, Israeli police and the Europol signed an agreement to collaborate on cross-border crime investigation. This is Europol's first such agreement with a non-E.U. country.

Europol is the European Union's law enforcement agency.



Under the new agreement, Israel Police and Europol will join forces to battle terrorism, cybercrime and fraud. The Europol described terrorism, cybercrime and fraud as "priority crime areas" that are affecting both the EU and Israel. The agreement allows for the exchange of strategic information and the joint planning of operational activities. *SST*

## Demand Soars for Professional Video Surveillance Equipment

The professional video surveillance equipment market is one market boosted by increased homeland security spending across the globe.

The world market for professional video surveillance equipment grew by 9.3% in 2017. This is a much higher rate of growth than in 2016 (3.9%)

and 2015 (1.9%). In 2018, demand will grow by 10.2%, bringing the video surveillance equipment market to US\$18.5 billion, said Jon Cropley, senior principal analyst (video surveillance) with IHS Markit. Increased government spending on equipment to fight crime and terrorism was a major factor in this growth, as was private sector spending on replacing equipment in retail and commercial installations, said Cropley.

Two of the fastest growing country markets were Brazil and India. Currently, however, China is the biggest buyer of video surveillance equipment. The Chinese professional video surveillance market grew by 14.7% in 2017 and accounted for 44% of all global revenue. A major reason for the higher growth in

China was the government's Xue Liang programme, which drove investment in city surveillance projects and in the extension of city surveillance systems into surrounding rural areas.

Xue Liang translates as "Sharp Eyes." The ambitious nationwide plan involves connecting security cameras that already scan roads, shopping malls and transport hubs with private cameras on compounds and buildings and integrating them into one nationwide surveillance and data-sharing platform. Xue Liang programme taps on facial recognition technology and artificial intelligence to analyse incoming video evidence and uses the data to track suspects, spot suspicious behaviours and predict crime. The data is also used to coordinate the work of emergency services and to monitor

the comings and goings of the country's 1.4 billion people.

Other key findings by IHS Markit include:

- The supply base for professional video surveillance equipment is gradually becoming more concentrated. In 2017, the top 15 vendors accounted for 62% of global revenue.
- 62% of all security cameras shipped in 2017 were network cameras.
- Deep learning-enabled recorders and servers, a new category this year, are an important element in powering what many expect to be the next generation of video analytics using artificial intelligence. They accounted for just 1% of global market revenues in 2017. **SST**

## Malaysia Fights Terrorism With Facial Recognition Technology

Auxiliary Force Sdn. Bhd. (AFSB), a member of Royal Malaysia Police Cooperative Bhd., is working with YITU Technology to transform Malaysia's public safety and law enforcement efforts.

Since February 2018, auxiliary police officers of AFSB have been wearing body-worn cameras at various critical infrastructure. AFSB is the first security force in the country to integrate body-worn cameras with cutting-edge facial recognition technology.

AFSB was established in 2015. Its services are utilised by both the Royal Malaysia Police Cooperative Bhd and private sector entities. YITU is a pioneer in artificial intelligence (AI) research and innovation. YITU's state-of-the-art algorithm won first place in the Face Recognition Vendor Test organised by the United States' National Institute of Standards and Technology



in 2017. It also won the face identification accuracy segment of the Face Recognition Prize Challenge hosted by the Intelligence Advanced Research Projects Activity in the United States. AFSB is tapping YITU's facial recognition technology to allow officers to review captured video footages to positively identify persons of interest post-event.

"AFSB is committed to bring constant innovation and forward thinking to the security landscape in Malaysia. This is a significant step forward for us as we leverage artificial intelligence to increase public safety and security," commented Dato' Rosmadi Bin Ghazali, CEO of AFSB.

"Our work with AFSB builds on our joint belief that AI technologies will help bring about safer and more secure communities in Malaysia," said Lance Wang, YITU Technology's General Manager of Southeast Asia, Hong Kong and Macau. **SST**

## Security Entry Solutions Leader Warns Asia Pacific And Australasia: Prepare For Violent, Disruptive Incidents

A global leader in security entrance systems for public and private facilities says Australasia and the Asia-Pacific can be better prepared for violent and disruptive incidents and should prepare themselves for these incidents.

“My experience on this visit to Australasia and South East Asia is that there are some pools of excellence in security preparedness – airports, for example. But some corporate entities, in particular, may be living in a more peaceful past, an age of innocence, when they felt insulated from threats common to people, property and places in other parts of the world,” said Frank Mackenzie, Global Sales Director for Royal Boon Edam.

Royal Boon Edam provides security entrances for corporate HQs, banks, retailers, hotels and healthcare and education groups in more than 20 countries. In recent years, Boon Edam Australia has upgraded the security entrances of major Australian legislative buildings, banks, corporate HQs, media organisations and data facilities.

Mackenzie detailed, “It is quite possible in many major buildings throughout Australasia and South East Asia to just walk off the street and into the heart of areas where only authorised people should be allowed to enter and gather. It has become very clear in Europe and the USA what can happen when a politically disaffected person or a person bearing a workplace grudge decides to take revenge and enters businesses, schools and public spaces.”

He pointed out, “Public and private facility managers do have a duty of care to ensure that world-class security entrance access is in place, because the human, financial and insurance implications are vast if they are not. Technologies such as biometric recognition are highly suited to buildings throughout Australasia and the broader Asia Pacific.”

### More Opportunity To Do Harm

A further major reason why companies are looking for extra security, explained Mackenzie, is that there is now greater opportunity for people to do harm.

“It isn’t just about safeguarding against terrorism issues since 9/11.... There are also huge and growing security issues emerging, including safeguarding of data security, protection of digital information, bank and retail facilities, and prevention of theft and of criminal damage.”

“Post 2000, in the digital age, we are increasingly a target because of our increased economic growth, especially in e-commerce. This makes us a bigger target and attracts more attention. It makes sense that those who wish to acquire money by nefarious means tend to target the countries and people with the most money.”



Boon Edam Speedlane Swing security entrances used in a media organisation – one of a broad suite of Boon Edam security technologies being applied throughout Australasia and Southeast Asia



Boon Edam’s entrance security solutions range from Speedgates such as the Lifeline (left), though to high security portals, such as the Circlelock (right).

Security products vary greatly depending on the application.

**Office Buildings.** These are mostly about people flow and having a constant awareness of who is inside the building, in case an emergency occurs. These buildings are rarely the targets of larger attacks, but security doors can play an important role in deterring lower level threats such as theft and vandalism. Security revolving doors in office buildings can reduce threats, while blending in effortlessly with surrounding architecture

**Data Centres.** Loss of data due to damage from activists, thieves or other threats can end up costing millions. More advanced levels of security are needed to combat these threats.

**Cash Centres.** These need the highest levels of security because cash centres can handle over \$100 million every day. Biometrics are an important feature for cash centres, because it means someone can't gain access by borrowing or stealing a staff member's access card.

**Legislatures, Treasuries, Embassies And Diplomatic Posts.** Additional security is needed as these buildings host personnel of importance and deal with sensitive data.

**Tourist Hot Spots.** Landmarks like the Sydney Opera House are visited by millions of tourists and local visitors every year. Security is crucial for the smooth functioning of these sites. Entrance systems should ensure that only authorised persons are entering restricted access areas, and that tourists are guided logically around the site with the smoothest flow of traffic possible. *SST*



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## Guarding The Homeland With Anti-drone Technology

Counter-drone technology may still be in its infancy but drone defence is already a growing industry.

According to Report Buyer, the anti-drone market is expected to grow to US\$ 1,571.3 million by 2023, at a compound annual growth rate (CAGR) of 25.9% between 2017 and 2023. WiseGuyReports valued the global anti-drone market at US\$ 334.8 million in 2016.

This rapid growth is driven by the rise in terrorism and increased security breach incidences by unidentified drones. The wide availability of commercially available drones has heightened security concerns at large public gatherings such as stadiums.

### Key Markets

According to Report Buyer, the Americas was the largest anti-drone market in 2016 owing to the increasing number of security breach incidents by unidentified drones and increasing terrorist attacks in the Americas, especially the US. This compelled the various governments to deploy anti-drone systems to ensure safety and security from drones in this region. While the Americas was the biggest buyer of anti-drone systems, the Asia Pacific region would be the fastest growing anti-drone market between now and 2023.

### Rapid Technology Development

Anti-drone technology has been developing as fast as the industry has been growing.

Anti-drone technology includes drone detection radars, acoustic sensors, RF spectrum analysers and video surveillance systems. Drone neutralisation equipment includes mobile jammers, counter-drone lasers, interception systems and drone capture nets.

There are a number of companies that specialise in taking down dangerous drones. They include: SkySafe (USA), DroneShield (Australia), SearchSystems (UK) and Anti-Drone (Denmark).

SkySafe's radio wave technology can detect and stop rogue drones from entering unauthorised areas like military bases, stadiums, prisons and airports. Its radio frequency signals are projected from a perimeter of nodes or even a Jeep, and force unapproved drones to

leave or land while allowing permitted drones to fly.

DroneShield was deployed at the World Economic Forum and Boston Marathon 2017. DroneShield's patent-pending acoustic detection technology works with an enterprise-grade sensor network that can sense drones that are invisible to radar or lack radio-frequency links.

SearchSystems' SparrowHawk is a drone that literally catches bad drones. The SparrowHawk is a DJI Matrice 600 drone retrofitted with a remotely controlled net that is more than six feet across. The pilot can unfurl, rotate and drop the net. A parachute is attached to the net, so that once the rogue drone is captured it can be brought safely to the ground.

Anti-Drone offers a perimeter protection system. The system is made up of a surveillance radar that can identify and track drones, quadcopters or helicopters that cross a perimeter fencing. The system can be integrated with video surveillance systems and perimeter surveillance radars.

And in August 2018, US defense technology integrator Black Sage entered the market with its service offering of either temporary or one-time counter drone protection. The Black Sage team will work directly with security personnel and local law enforcement to ensure safety and security at any event, providing a relatively low-cost solution for specific high-risk events.

The Black Sage counter drone system provides early detection to allow law enforcement to take action even before the drone is airborne, AI classification to reduce false alarms, operator location to assist law enforcement in apprehension, and forensic data to ensure prosecution.

"Black Sage has worked with military and government customers over the past several years to protect against the threat of drones at fixed sites. We are proud to now offer our capabilities as a service that allows commercial venues to have protection without the cost associated with purchasing and maintaining permanent installations," said Black Sage Technologies Managing Partner Ross Lamm, Ph.D.



## Wearable Drone Jammer PITBULL Launched



PITBULL

Worried about drones? A wearable drone jammer may just be the answer.

PITBULL, the next-generation wearable jammer, is developed by MyDefence, a Danish firm founded by former military officers. PITBULL uses smart jamming to defeat enemy drones, while having minimal impact on other signals while jamming. It is the only wearable Counter UAS jammer on the market.

Just how wearable is it? The ultra-light device weighs only 775 grams without battery and is designed to be worn on the uniform with the purpose of minimising the cognitive load of dismounted soldiers. PITBULL is a plug and play device and requires minimal training to operate.

Earlier MyDefence had launched the WINGMAN 103, a wearable drone detector. WINGMAN 103 is the most advanced wearable drone detection solution available on the market. With its ultra-light weight and rugged exterior, the

WINGMAN 103 is the only truly wearable drone detection platform that can withstand extreme operational conditions.

With PITBULL and WINGMAN 103, dismounted soldiers will be able to both detect and defeat enemy drones. The entire process can be fully automated.

“This is a big leap in the technological advancement of active countermeasures against malicious drones,” says CEO of MyDefence, Christian Steinø.

“The PITBULL drone jammer will, based on the detection signals from the WINGMAN, automatically

start jamming the control signals of the detected drones. PITBULL requires no training – simply turn on the devices and you are protected against detected drones, making it ideal for dismounted soldiers, who can instead focus on their mission.”

PITBULL features up to 20 hours standby battery time and 2 hours of active jamming. The PITBULL has an effective jamming range of 1000 meters. It is the ideal solution for dismounted soldiers operating in hostile environments, where enemy forces utilise commercially available drones for reconnaissance and as weapon delivery systems. **SST**

WINGMAN 103



Case Study

# How VyStar Credit Union Used Panoramic Surveillance And Analytics To Bolster Security



Security and safety are important issues to every organisation. That said, the banking and finance industry faces unique challenges when it comes to security. Risks such as theft and fraud are real threats that deeply affect the financial industry's customers and employees and the public in general.

The question is, how do financial institutions effectively safeguard their assets and customers?

In addition, financial organisations are also looking to technology such as real-time analytics and surveillance to help boost customer service, to alert managers when wait times are longer than usual or to bolster security when a location becomes crowded. Attention to these details can make a real difference for financial institutions in terms of elevating customer satisfaction as well as enhancing safety.

Using technology that pushes the envelope and that incorporates open platform and customer-centric functionality is critical today when it comes to protecting financial institutions.

One answer is by utilising a system that provides comprehensive video coverage with a panoramic view of common areas. This delivers real-time situational awareness that can be combined with analytics software to yield business intelligence

Panoramic technology should be in place to monitor public areas where customers utilise financial services such as ATMs and safety deposit boxes as well as at conference rooms and lobbies within a bank. The technology should also be deployed in corporate offices and cash counting facilities. This kind of surveillance goes beyond merely recording events into the territory of detecting potential issues.

Early detection is key. Often companies aren't alerted to an incident of fraud or theft until after it occurred. We now have innovative data analytic softwares that work with panoramic surveillance to enable organisations to take preemptive action as well as carry out timely incident resolution.

Analytics applied to surveillance data can yield findings that enhance fraud protection, improve critical detection and strengthen security measures.

To stay ahead of the game, end users at financial institutions should be able to access real-time security at a click. Applications that can be accessed via a Web or mobile app allow security managers to view what is happening 24 hours a day, even from offsite locations.

Fortunately emerging technology, such as video analytics and panoramic cameras, are now able to deliver on

all this. These technologies allow more information to be collected and analysed so that the data is used effectively.

### Building A Solution For U.S.-based VyStar Credit Union

VyStar Credit Union in the United States is one of these organisations in search of a cohesive solution.

VyStar Credit Union was originally founded in 1952 as Jax Navy Federal Credit Union to serve the civil service and military employees and their families at Naval Air Station in Jacksonville, Florida. Today, VyStar has grown to become one of the largest credit unions in the nation, serving more than 500,000 members nationwide with 118 remote ATMs and 51 branches.

James McDonald, VyStar Credit Union Security Operations Manager, oversees the organisation's security. McDonald and his team are housed in security operation centres in two main campuses, where they receive information from all branches.

For McDonald and his team, the challenge is that video data must be pooled from all branch locations into one centralised system; this centralised system then sends out alerts of potential threats to managers and provides analytics that alert tellers if lines become too long. This system must also be able to work seamlessly with point-of-sale software.

To answer this challenge, McDonald had previously looked into 360-degree video technology when it was first introduced in the market. The cost then was prohibitive. It remained so for years.

Nevertheless McDonald continued to track the development of the technology over the years. Eventually McDonald asked integrator Stanley Convergent Security Solutions for a demonstration of the Oncam 360-degree video camera with advanced dewarping technology.

McDonald chose Oncam because of its open platform camera technology, its extensive experience in the financial sector and its performance in delivering a clear picture of an institution's daily traffic and in after hours monitoring.

"I envisioned that the cameras would provide us with the ability to see both sides of the teller line simultaneously, which will improve our understanding of the entire scene as it unfolds," McDonald said.

After careful consideration, VyStar chose the Oncam Evo-05 360-degree camera to be deployed in seven branches. In each branch, two cameras are installed above the teller line, one in the lobby and one in the ATM vestibule.

Based on open-platform technology, Oncam works seamlessly with VyStar's Verint Security Intelligence Solutions and video management system (VMS), ensuring interoperability. With Oncam, McDonald's team enjoys the flexibility of being able to scale up the size of the network as needed to accommodate the growth of the financial institution. The system is streamlined for large-scale, geographically distributed operations with hybrid analog and IP capabilities.

Using VyStar's VMS together with Oncam video technology, McDonald's team is now able to manage video surveillance and data capture across VyStar's branches.

Implementing 360-degree coverage has allowed VyStar Credit Union to do more with a single camera and have better situational awareness across branches. It has also reduced bandwidth usage.

"Before the upgrades, we had standard analog cameras in place and it took four to five devices to accomplish what we're now doing with one Oncam 360-degree camera," said McDonald.

Video data gathered from Oncam Evo-05 cameras is managed and evaluated

at the security operations centres at two different locations. "Since the Oncam video data is running on the edge with our existing solution, which reduces bandwidth needs, we're able to get the complete megapixel capability out of the Oncam cameras," McDonald said.

The use of the Oncam technology lets VyStar drive efficiency across branches by alerting managers when branch traffic increases. "With the footage we gain from one Oncam 360-degree camera, we tap into a complete situational overview of how the busy the branch is, and are able to better address staffing levels, thereby enhancing our ability to deliver exceptional customer service," McDonald said. "The functionality of the video data reaches far beyond simply being a security tool."

Multiple teams utilise the financial organisation's video data to address emerging threats to the safety and security of staff, customers and assets. These teams include the physical security, management and personnel teams, as well as the fraud department. Management can use the technology to search through footage and locate persons of interest at various locations, and address any red flags or suspicious activity, as well as identify clips that can be used in an investigation.

Since deploying Oncam 360-degree technology, VyStar Credit Union has been able to effectively monitor security and surveillance operations across its branches in a more streamlined, efficient fashion. "Oncam's surveillance technology is ideally suited to the financial sector, allowing security teams to truly integrate video streams from the open-platform cameras to existing video management systems," said Jumbi Edulbehram, Regional President - Americas, Oncam. "This allows officials to pinpoint incidents quickly in an effort to streamline investigations and be alerted to emerging threats. VyStar has been a great partner in this effort." **SST**



# MICROSOFT BEGS CONGRESS:

## Regulate Face Recognition Technology





All tools can be used for good or ill, said Brad Smith.

The President of Microsoft added, “The more powerful the tool, the greater the benefit or damage it can cause.”

The tool he is referring to? Facial recognition technology, or the ability of a computer to recognise people’s faces from a photo or through a camera.

In a July 13 blog, he warned of the danger the technology poses. It could be used to invade privacy and improperly monitor people, he stressed.

“This technology can catalog your photos, help reunite families or potentially be misused and abused by private companies and public authorities alike. Facial recognition technology raises issues that go to the heart of fundamental human rights protections like privacy and freedom of expression. These issues heighten responsibility for tech companies that create these products. In our view, they also call for thoughtful government regulation and for the development of norms around acceptable uses.... Facial recognition will require the public and private sectors alike to step up – and to act.”

Facial recognition technology has been advancing rapidly over the past decade. And Microsoft admits that it is among the many tech companies that have utilised this technology the past several years to turn time-consuming work like photo cataloguing into something both instantaneous and useful.

The problem now, said Smith, is that computer vision is getting better and faster at recognising people’s faces. This improvement is due to better cameras, sensors and machine learning capabilities as well as the advent of larger and larger datasets as more images of people are stored online.

It is also heightened by the ability to use the cloud to connect all this data and facial recognition technology with live cameras that capture images of people’s faces and seek to identify them in more places and in real time.

“... it is becoming deeply infused in our personal and professional lives.

This means the potential uses of facial recognition are myriad,” wrote Smith.

Face recognition technology is already improving security for computer users, with many Windows laptops and iPhones recognising face instead of requiring a password to gain access to the device.

Its use can even lead to profound scenarios, said Smith, like finding a young missing child by recognising her as she is being walked down the street. Or helping to identify a terrorist bent on destruction as he walks into the arena where you’re attending a sporting event.

But the technology can also be put to terrifying use.

“Imagine a government tracking everywhere you walked over the past month without your permission or knowledge,” voiced Smith. “Imagine a database of everyone who attended a political rally that constitutes the very essence of free speech. Imagine the stores of a shopping mall using facial recognition to share information with each other about each shelf that you browse and product you buy, without asking you first. This has long been the stuff of science fiction and popular movies – like “Minority Report,” “Enemy of the State” and even “1984” – but now it’s on the verge of becoming possible.”

Governments may use the technology to monitor political and other public activities, which will dampen citizens’ willingness to turn out for political events and undermining core freedoms of assembly and expression, stated Smith.

### The Technology Is Far From Perfect

Plus facial recognition is far from perfect, pointed out Smith. Biases have been found in the performance of several fielded face recognition technologies. The technologies worked more accurately for white men than for white women and were more accurate in identifying persons with lighter complexion than people of colour.

Facial recognition, like many AI technologies, typically has some rate of

error, stressed Smith.

### “What role do we want this type of technology to play in everyday society?”

Demands increasingly are surfacing for tech companies to limit the way government agencies use facial recognition and other technology, wrote Smith.

“These issues are not going to go away. They reflect the rapidly expanding capabilities of new technologies that increasingly will define the decade ahead. Facial recognition is the technology of the moment, but it’s apparent that other new technologies will raise similar issues in the future. This makes it even more important that we use this moment to get the direction right.”

Many have called on the companies developing the technology to put restrictions on its use. But the only way to manage and regulate the technology is for the government to do it, believes Smith.

“And if there are concerns about how a technology will be deployed more broadly across society, the only way to regulate this broad use is for the government to do so. This in fact is what we believe is needed today – a government initiative to regulate the proper use of facial recognition technology, informed first by a bipartisan and expert commission.”

He added, “We live in a nation of laws, and the government needs to play an important role in regulating facial recognition technology. As a general principle, it seems more sensible to ask an elected government to regulate companies than to ask unelected companies to regulate such a government.”

Such a call from a tech company is virtually unheard of. For years, tech companies have been inventing new technologies and products faster than the government can regulate them. This often means a long lag time before the government steps in to set some rules. Even at this late stage, however, tech companies typically fight against government efforts to regulate their products and services. *ESST*



# THE EYES OF THE IOT (Internet Of Things)

►► *By Bjørn Skou Eilertsen*



Bjørn Skou Eilertsen is Chief Technology Officer of Milestone Systems

**W**orldwide, hours of digital video are generated every second. Now with the proliferation of Internet of Things (IoT) sensors, even more data is being created for the purpose of improving situational awareness.

In less than four years, it is predicted that only about 50% of streams feeding into video management systems will come from fixed cameras. The other inputs will be streams from various types of sensors, both fixed and mobile, visual and non-visual.

One prime example is Singapore. Here, video cameras and other sensors are being installed on smart lamp posts to collect a wide range of data for uses such as management of traffic and to catch speeding drivers.

The question is, how will we manage this data and information in the most smart, secure way?

With such an overwhelming amount of data being created, humans can't do it alone. Intelligent videos utilising AI (artificial intelligence) and machine

learning will become a vital tool for analysing and categorising IoT-generated data. That said, this isn't a task that intelligent technologies can handle alone either.

The solution is to combine machine intelligence with human judgement.

Intelligent machine learning technologies are now taking video content analysis far beyond the capabilities of legacy video analytics systems. Traditionally, such systems were rule based, meaning they require a human programmer to set fixed parameters for each situation that the system must recognise, evaluating a few pre-defined scenarios. For example, areas within a camera's view can be defined as 'restricted zones', so if a trespasser is detected in those areas, the system will trigger an alert.

AI-based intelligent video content analysis technology is different in that the system based on this technology is able to learn directly from the video about objects, their relationships with each other and what defines normal behavior. Known as 'behavioural analytics', the system self-learns without prior programming and learns to normalise the visual data. This makes it possible for the system to intelligently identify objects and classify situations. The system will be able to automatically understand what is normal behaviour and alert the operator to unusual activities, leading to predictive systems in the future.

There can be no doubt that using intelligent learning technologies to help analyse the data generated from IoT network devices is creating new opportunities for organisations worldwide.

This is new territory however. Doubts have been raised about whether the technology can in fact be trusted. It is a fair point, but as a rule we need visual confirmation of the data generated from IoT devices, and video will be a crucial tool to provide this confirmation. Having both device

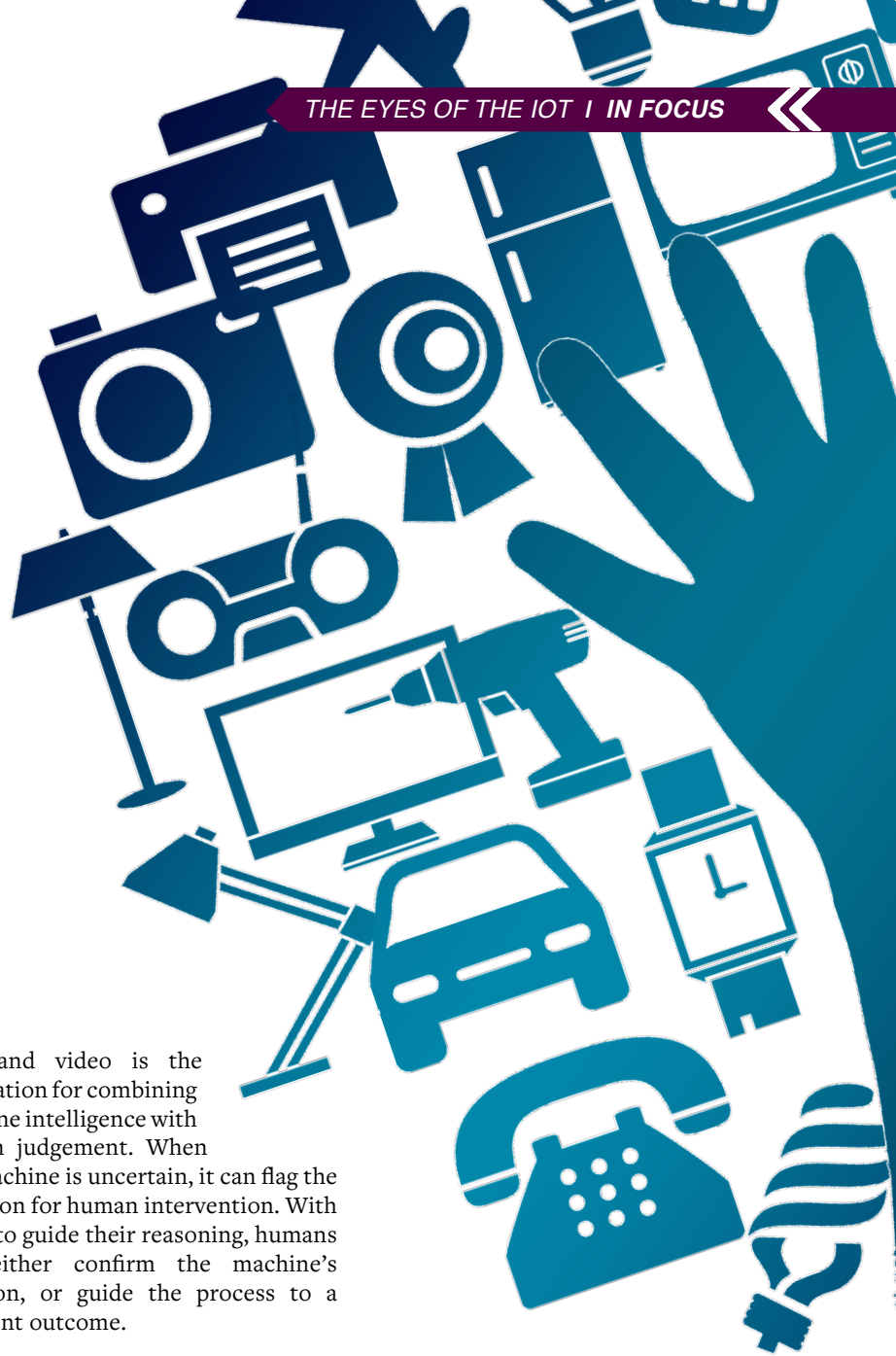
data and video is the foundation for combining machine intelligence with human judgement. When the machine is uncertain, it can flag the situation for human intervention. With video to guide their reasoning, humans can either confirm the machine's decision, or guide the process to a different outcome.

One example is when a network sensor alarm goes off in an offshore windmill park. Typically, a maintenance crew would be sent out to investigate and fix the problem. However, this is costly and time-consuming. It is now possible to use video technology as eyes on the ground. With video providing visual confirmation of the problem, the causes of the trigger can be identified. This streamlines the process and cuts unnecessary time and resources spent on the problem as the management can now decide whether a crew needs to be sent out or explore whether the problem can be resolved remotely. Asia has made record investments in offshore wind installations in recent years and the use of video technology will benefit wind farms in Asia when

they are completed.

As more and more data are generated from IoT sensors, processes will increasingly be monitored and controlled by IoT network devices. Nevertheless, we will still need human beings to make the final judgement on data provided. Humans will also leverage video data in this process to convert data into visual insight.

Combining machine intelligence with human judgement is a prerequisite for making the most of IoT-generated data. There is no doubt that ahead, video will be the bedrock that will fortify humans' trust of IoT-generated data. *SST*





Graphic Credit: freepik.com

# COUNT ON IT, THE PEOPLE COUNTER INDUSTRY IS BOOMING.

People counting is a growing industry.

According to Reportbuyer, an industry intelligence firm, the global people counting system market is expected to grow to US\$1,139.3 million by 2022. This is a compound annual growth rate (CAGR) of about 14% between 2016 and 2022.

MarketsandMarkets puts the current global market at US\$694.7 million. The market research firm projects that the market will reach US\$1,150.2 million by 2023, at a CAGR of 10.6% between 2018 and 2023.

People counting systems count and monitor the number and behaviour of people visiting public spaces like airports, train stations, tourist venues, leisure centres, shopping centres, concert halls, museums and sport arenas or attending large-scale

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events. They gather data by counting the number of people entering and exiting these spaces and by measuring their actions, sizes and movement.

The main factors driving the industry's growth, said MarketsandMarkets, are the growing retail sector, the increased adoption rate of people counting technologies, the availability of low-cost, easy-to-setup people counting solutions and the increasing need for people counting solutions in the transportation sector. The rising accuracy of people counter systems is another reason for its growing popularity; the best performing systems score above 98% in accuracy rate.

Embattled retail stores trying to push back against ecommerce players are also driving the growth of people counting systems, according to Reportbuyer. Retail stores are trying to beat their online competitors by applying digital analytics to their people counting systems to pin down their weaknesses against their disruptive competitors.

In the security domain, people counting has become an important tool for risk prevention in buildings and at events.

### Types Of People Counters

People counting systems come in many shapes and sizes. They include CCTV (using ceiling mounted cameras), thermal systems (where heat sensing cameras use thermal imaging technology to detect customers' body heat), infrared people counters (which use infrared rays to detect visitors and their movement), video-based counters (where ceiling-mounted video cameras provide moving images of customer traffic), wired (where cables connect sensors to the system) and wireless (which utilises radio frequency or Wi-Fi).

### Video-based Counter Systems Lead The Market

Video-based people counting technology is expected to continue to enjoy the biggest slice of the market because of the accuracy and advanced features offered by the technology.

"The market for the video-based technology is growing because of its advanced features, such as the ability to differentiate between a child and an adult and between a person and an object, allowing more accuracy in high-volume traffic, and the ability to withstand changing environmental conditions," reported MarketsandMarkets.

### North America Will Remain Biggest Spender

From 2018 to 2023, North America will be the major buyer for people counting systems, propelled by the need to monitor its busy airports and the increasing adoption of people counting solutions by the transportation market in the continent. As a result, major companies, such as RetailNext, ShopperTrak, and Axis Communications, are focussing on launching their products in this region.

The second largest market will be Europe, said Reportbuyer. The fastest growing market, however, is the Asia Pacific region.

### What Can People Counter Systems Do For You?

Accurately counting traffic that enters your store or facility empowers organisations to make smarter decisions.

Accurate counting enables organisations to optimise staffing and energy demands. In this way, it helps the organisation maximise profits and improve operational efficiency.

With people count data, businesses can make more informed decisions about marketing, facilities management, staffing, security and more.

In the area of security, people count data is used for crowd management purpose and to monitor high-traffic areas. For safety and security departments, for instance, being able to accurately track and determine the exact number of people present in a building or moving through a high-footfall areas at any given time will help the departments improve safety and security and prevent losses. When a fire occurs, accurate people counting would support evacuation by counting the number of people leaving a building in an emergency evacuation situation. Alerts can also be set when maximum visitor numbers are reached.

### Who's Benefiting From This Boom

The major players in the people counting system market include Axis Communications AB (Sweden), HELLA Aglaia Mobile Vision GmbH (Germany), InfraRed Integrated Systems Ltd. (UK), RetailNext, Inc. (US), ShopperTrak (US), Eurotech S.p.A. (Italy), Axiomatic Technology Limited (UK), Countwise LLC (US), DILAX Intelcom GmbH (Germany), IEE S.A. (Luxembourg), Iris-GmbH (Germany), V-Count (Turkey), and Xovis AG (Switzerland). **SST**



# TYPES OF PEOPLE COUNTER SYSTEMS YOU SHOULD KNOW

►► *By Ipsos Retail Performance*

**O**n average, consumer spend increases by almost 40% when a customer has a positive experience. People counting, or footfall, plays a big role in providing the insight required to create that positive experience, from expert management of scheduling, to optimising store performance, down to assessing the impact of marketing campaigns.

People counting and footfall solutions come in a number of different shapes and sizes. We evaluated many in the market and here are our top seven.

## 1. Thermal

Historically the size and appearance of a small smoke alarm, the thermal camera is now the size of your home router. Fixed to the ceiling above the area to be measured, thermal cameras are very unobtrusive. They are also very accurate. Thermal counting uses thermal imaging technology to note temperature changes of individuals compared to the environment. In this way, customers' body heat is detected by heat-sensing cameras.





Multiple cameras can be linked to create wider zones or be adapted to complex entrances, to offer continuous retail traffic counting in complicated environments. The technology produces reliable data even where traffic volume is high.

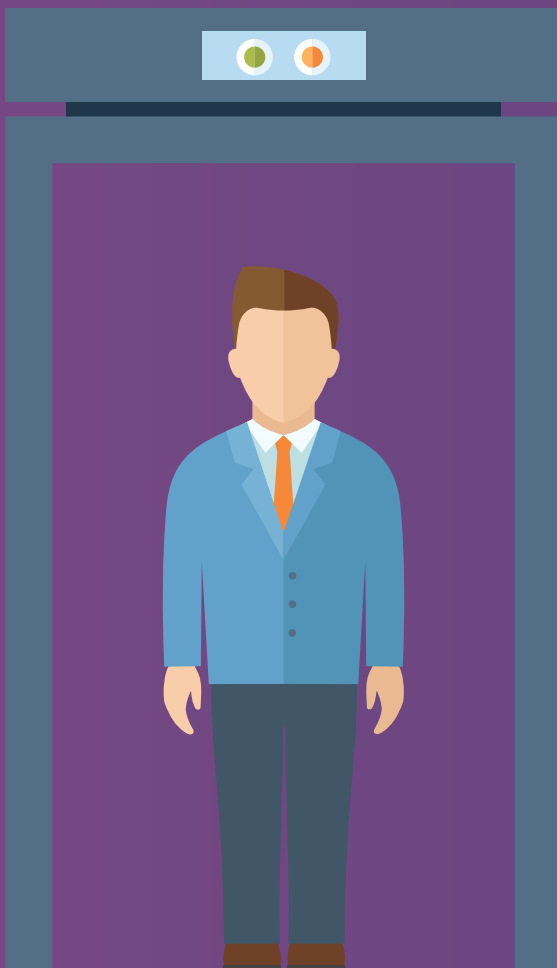
Thermal counters are great where there is a steady flow through the counting area such as shopping malls. As they do not use visual light, they can work in total darkness.

## 2. Stereo

Stereo people counters are typically the size of a rectangular pencil case and come with two camera lenses. They are usually fixed to the ceiling directly above the area to be measured, although the cameras can be tilted to a limited degree. They also have one advantage over thermal devices: flow through the count area can be more staccato and still the object targets are not lost.

The devices collect entries and exits in real time and are adaptable to a wide range of environments, deriving accurate insights from customer volumes. Stereo data is reliable as it uses the same approach as our own eyes to understand depth in a field of view. This allows the device to exclude items by height, for example children or objects such as pushchairs.

An advanced range of stereo tech allows not just entry and exit counting, but also accurate measurement of the number of customers and their dwell time within a defined zone, as well as the ability to path track through the entirety of a customer journey. Only some manufacturers can provide extensive linking of cameras.





### 3. Mono

Typically half the size of a stereo device powered by a single lens, mono people counters are circular and fixed above the measuring area to the ceiling. As they are not stereo they do not enjoy depth of view. This means the device cannot eliminate children from count data, while the lack of triangulation affects the accuracy of mono devices.

The range of accuracy at times for these devices can be as low as 50% and, despite laboratory claims, we have not seen accuracy much above 90%. In these higher cases the effort to achieve that is excessive. Prerequisites exist for such devices: traffic must be relatively low and lighting very consistent. The attraction of course with less hardware — one lens versus two — is that it's cheap to install.

### 4. Time of Flight

Similar in size to the new range of thermal devices and fixed to the ceiling above the area to be measured, a Time of Flight sensor sends a signal out to the objects beneath it and records the reflection of infrared that bounces back to the sensor. This allows a greater depth of vision and great range of movements to be recorded, compared to other devices including stereo and thermal. The device can also operate in total darkness and has the ability to link cameras to cover a wide entrance.

### 5. Wi-Fi

Wi-Fi operates from Wireless Access Points (WAPs) and these can vary in size from the dimensions of a cigarette packet to a large home router. They are deployed in the vicinity of the area to be measured, often in the ceiling. The range and accuracy of such systems are varied and require a degree of setup and calibration.

There are many Wi-Fi platforms to choose from. Our summary of hardware is below.

**Meraki:** Least hassle, highest reliability. The Meraki AP's will work out of the box, with no additional hardware or software required. License fees from Meraki include the CMX feed by default and thus no additional license costs. Splash page creation is possible and management for these devices includes social login.

**Cisco Aironet:** Aironet's access points require additional software, which can be hosted externally, as well as a license fee for the software.



**Motorola:** Supported via Motorola ADSP. There could be an additional license fee.

**Ruckus:** Supported via additional license fees per access point, this can be costly at this stage for large implementations.

**UniFi:** Cheap access points, fairly reliable and used heavily in South America. These can be supported but require to be flashed with new firmware and thus a site visit!

**Open Mesh:** Works best as a companion device to Wi-Fi in place, however it can be used straight onto an open mesh network if already in place.

**Aruba:** Works with ALE using Aruba Hardware. License fees for ALE are normally required.

### 6. Infrared (IR)

In simple terms the approach creates an infrared barrier between sensors, clocking up a count every time this is crossed. While not the most advanced option, infrared counters have positive use in a number of limited scenarios.

Infrared people counters work well but they vary widely in the nature of their effectiveness, largely dependent on the quality of implementation and ongoing management which, to remain accurate,



Graphic Credit: freepik.com



Image Credit: pixabay.org

tends to be higher than the new generation of people counters such as thermal, stereo or Time of Flight.

Like mono this technology can be very low cost. However with all the quality issues, questions remain over whether the data can provide any sensible direction.

## 7. CCTV

CCTV utilises ceiling-mounted closed-circuit technology and is often integrated as part of the in-store security infrastructure. This has the advantage of

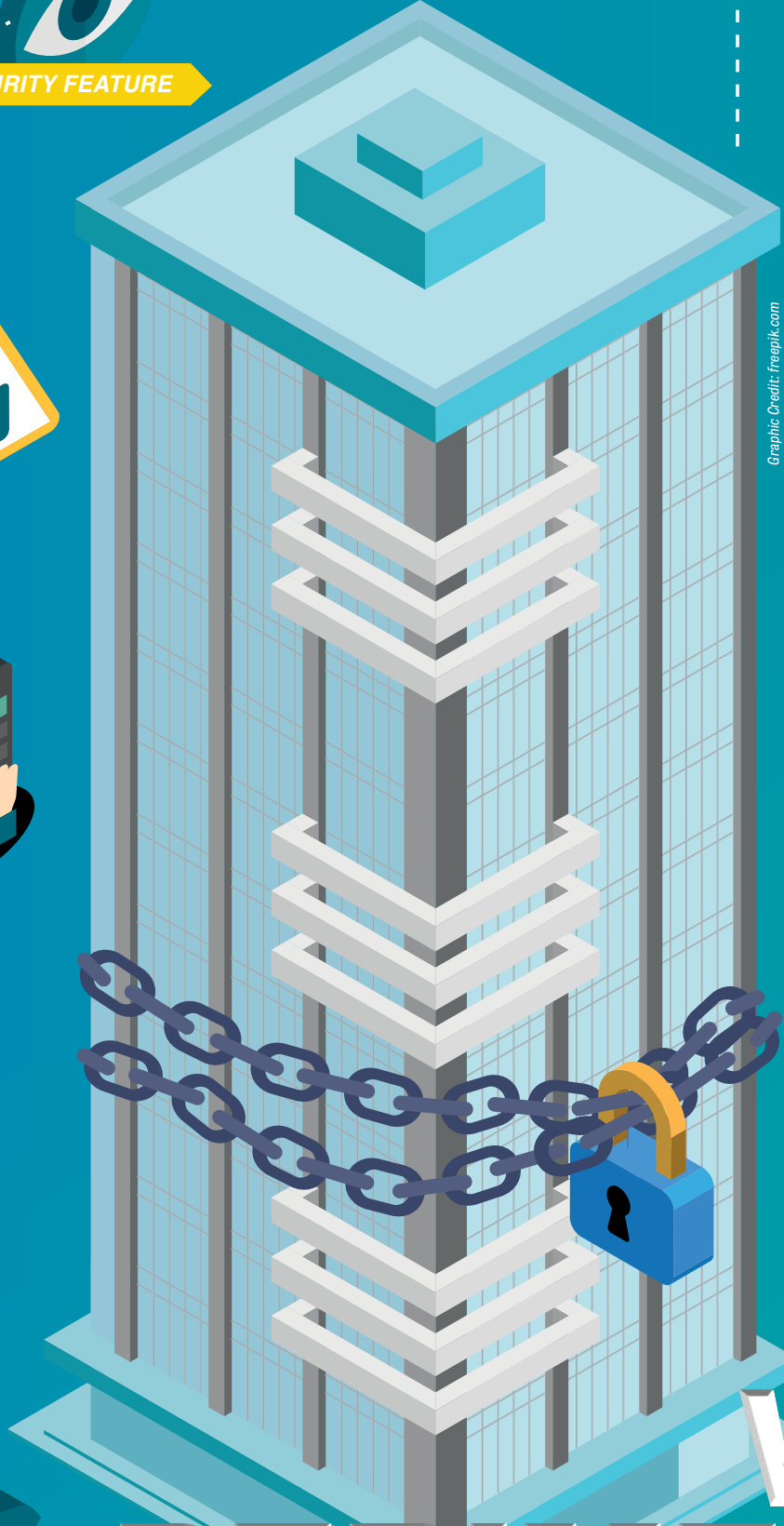
potentially having one less supplier in the mix. It often appears to be a low-cost item due to it being purely an add-on software feature to the already installed security system. That said, the experience of clients we have seen going down this route has been that things are not as simple as it seems and in effect CCTV's performance suffers in the same way from lighting variations as a mono approach. In fact, because the cameras have another principle focus, that is security, the setup always runs the risk of being compromised and so does the accuracy.

Usually the setup requires a lot of tweaking for each and every site and the accuracy we have seen is not consistent. This is one of those technology areas that periodically gets looked at for short-term savings, but not all is as it seems and clients then return for a more focused approach with the consistent results required to run their business.

## Conclusion

Our opinion on each of the different technologies available is derived from spending 25+ years working with, and testing, most of the available technologies in the market. **SST**

For the full article, visit <https://www.ipsos-retailperformance.com/resources/blog/people-counter-systems-aware/>



Graphic Credit: freepik.com

# WHY PERIMETER SECURITY MATTERS





Image Credit: pixabay.org

**T**wo incidents of fence jumping at Hartsfield-Jackson International brought home the importance of perimeter security.

In the space of just two weeks, the Atlanta airport - which is surrounded by 29 miles of security fencing - suffered two perimeter security breaches. In the latest incident in July, an airport maintenance worker spotted 22-year-old E'Donis T. Andrews walking in a secure area of the Atlanta airport. He appeared to be drunk. Two weeks earlier, another man climbed over a razor-wire fence, ran onto an active taxiway and towards a plane. The police and the airport are still trying to determine how the breaches occurred.

In Singapore, several breaches of perimeter security also made headline news and caused concern.

In 2015, 27-year-old British national Yogvitam Pravin Dhokia wriggled his way through a gap in the metal fence during the Singapore Grand Prix and got onto the track. He darted in front of Sebastian Vettel as the Ferrari driver reached 180 mph on lap 36. Following the incident, organisers of the Singapore Grand Prix set up an internal multi-departmental taskforce to review the security plan at all track access points.

SMRT Corporation, the leading train operator in Singapore, has suffered several cases of vandalism at its depots. In 2010 two vandals cut through the wire fence and spray-painted the side of a train in Changi depot. Swiss national Oliver Fricker was jailed, while Briton Lloyd

Dane Alexander remains at large. In 2011, two Americans spray-painted graffiti on an SMRT train at Bishan depot. In 2014, a train at Bishan depot was found smeared with a red scrawl. Later that year, Germans Andreas Von Knorre and Elton Hinz sprayed graffiti on a train at Bishan depot. The men were sentenced to jail and caned.

SMRT was fined a total of \$250,000 for the two breaches in 2010 and 2011, and it vowed to strengthen security measures after the last incident.

#### A Critical Security Issue

Perimeter protection is a critical security issue for corporations and other organisations as perimeter security is the first line of defence against threats to critical infrastructure and sabotage.

The goal of outdoor perimeter security is to ensure that only appropriate parties are allowed to enter the property. Another goal is to protect valuable assets such as information, goods, services and even people.

Marking out a clear perimeter also has a deterrent effect; it lets anyone entering a protected area know that he is doing so.

Effective perimeter security systems extend the physical perimeters of sites so intrusion attempts are identified before an actual breach occurs. Detection at the earliest possible time allows a greater window for threats to be nullified.



A robust perimeter security solution provides advance warning to an organisation, elevates situational awareness and improves response times of security staff.

### Types Of Perimeter Intrusion Detection Systems (PIDS)

Perimeter Intrusion Detection Systems are solutions used to detect the presence of an intruder attempting to breach a perimeter. PIDS fall into 4 classes.

- **Barrier-mounted or Fence-mounted systems** where the solution is deployed using a fence or other physical barrier. These physical barriers delay an intruder's progress, which gives an organisation a window of time to respond.
- **Ground-based PIDs systems** are deployed below ground. No physical barrier is required in these systems. The advantage of these systems is that an attacker is unaware of the presence of the

system. This allows the system to give early warning at the far perimeter of a site, so that security personnel have more time to apprehend any intruders. These systems also do not affect the aesthetics of a site.

The disadvantage of ground-based PIDS is that they are expensive to install because of the ground works needed to install most systems. Installation can also be disruptive and time consuming. In addition, ground-based PIDS does not delay or deter intruders as there is no physical barrier.

Examples of ground-based PIDS include:

- › Radio frequency (RF) radiating field systems
- › Microphonic cable systems
- › Optical-fibre cable systems
- › Balanced fluid-filled tube systems

- **Free-standing PIDS** are systems that are not underground or attached to a physical barrier.

They are cheaper to install because no physical barrier is involved and less groundwork is required. They also do not hinder the movement of vehicles. However, the lack of a physical barrier means that intruders are not delayed in breaching the premises.

Examples of free-standing PIDS are:

- › Active infrared systems
- › Passive infrared (PIR) systems
- › Bistatic microwave systems
- › Doppler microwave systems
- › Laser scanner systems
- › Video-based detection systems  
*These are systems that analyse the video from CCTV systems and automatically detect unusual activity within an imaged scene.*
- › Dual-technology systems  
*These systems reduce false alarms by requiring both technologies to detect before sounding an alarm.*



- Rapidly Deployable PIDS are designed for temporary deployment. They use the same detection technologies as permanently deployed PIDS but are battery powered, deployed on tripods or clipped to fences and they transmit their alarms wirelessly.

These systems are quick to set up and require no permanent infrastructure. The disadvantage is that they are designed to be deployed for no longer than two weeks. The wireless communication arrangements used by rapidly deployable PIDS are also less secure compared to hard-wired connections, and run the risk of being compromised. These PIDS are also at risk of being stolen or vandalised when deployed. *ESST*

## A Growing Market

The perimeter intrusion detection systems market is projected to grow from US\$10.73 billion in 2018 to US\$21.75 billion by 2023, at a compound annual growth rate (CAGR) of 15.2% during the forecast period, according to market research firm Research and Markets.

Major factors fuelling growth are the increasing installations of video surveillance for security systems and rising demand for remote access through the Cloud and wireless technology, according to the report. Government regulations to improve perimeter security and curb infiltration as well as terrorist activities are also boosting sale of perimeter intrusion detection systems.

One factor that is holding back growth is rising concerns regarding False Alarm Rates (FAR), said the report.

The solutions segment will lead the perimeter intrusion detection systems market in 2018, detailed the report. This segment is boosted by the rise in demand for integration of visual alarm verification in video surveillance systems and video analytics.

When it comes to vertical, the report expects the critical infrastructure segment to have the lion share of the market in 2018. In particular, the use of sensors and video surveillance systems in chemical plants, oil and gas refineries, tank farms, offshore rigs, well pads, solar farms, mining sites and conventional and nuclear power stations will drive growth for critical infrastructure.

North America is the largest market for perimeter intrusion detection systems in 2018. Growth in the North America market is primarily driven by the presence of key market players such as Honeywell (US), FLIR Systems (US), Johnson Controls (US), Anixter (US), RBtec Perimeter Security Systems (US), Southwest Microwave (US), and Fiber SenSys (US) in this region.

However, the fastest growth from 2018 to 2023 will be in the Middle East and Africa.



Graphic Credit: freepik.com

# SMART STREET LIGHTING COULD BE THE KEY THAT UNLOCKS THE POTENTIAL OF SMART CITIES

►► By Yao Shih Jih

The cost of Internet of Things (IoT) sensors has fallen remarkably over the past decade, heralding new possibilities of a renewed push for smart cities. With worldwide spending on IoT predicted to surpass the US\$1 trillion mark by 2020, this has increasingly attracted attention in various sectors.

This is happening even as there is a strong push towards smart cities, as demonstrated in the recent piloting of Smart Cities Network by 26 ASEAN cities. As a result, more cities are looking towards developing more in-depth frameworks to improve the lives of citizens through the use of technology such as IoT solutions.

This development opens up an abundance of opportunities for governments and businesses to drive efficiency and realise better quality of life for citizens through the implementing of Smart Cities initiatives such as smart street lighting.

### Cities Of Tomorrow

Connectivity is a fundamental aspect of a smart city. However implementing a smart network nationwide is a challenge. One possible answer: street lamps. With the number of streetlights set to grow to 363 million globally by 2027, it makes sense to consider this as a platform to kick start the smart city network. Street lamps are typically dotted at a walking distance from each other. This makes them viable as the components for creating a network built on existing street lighting infrastructure (by affixing smart sensors on street lamps) instead of constructing a smart network from scratch.

The incorporating of IoT sensors in smart streetlights allows citizens to enjoy benefits like:

- Environmental data in real time: Sensors built into streetlights can be configured to monitor real-time environmental factors such as air quality, UV ray levels and noise levels.



Image Credit: pixabay.org



The monitoring can be done for specific locations or citywide.

- **Accurate traffic information:** Traffic sensors in street lighting are able to provide precise updates on traffic flow and congestion levels.
- **Smart parking and metering:** A variety of sensors can be used to track parking lots availability and keep records of fee collection and occupants' vehicle information.
- **Public Wi-Fi access and HD video surveillance network:** High bandwidth wireless networks are able to provide citizens with citywide Wi-Fi access. High bandwidth wireless networks can also match the bandwidth

requirements of HD videos and GPS for emergency response.

These solutions deliver important information to both governments and citizens in real time. This better equips them to solve everyday issues, resulting in improvements in citizens' daily lives.

Furthermore, governments and businesses can utilise the data to tackle issues such as public safety and traffic congestion and to enhance emergency response. For instance, the transmitted data from the HD video surveillance units to remotely identify a casualty among the crowd using facial recognition technology.

### Integration And Interoperability

While governments and city planners are aware of the benefits of a smart sensor network, many face challenges in implementing such a network, particularly in the areas of integration of solutions and interoperability. This is mainly due to the myriad of technologies and solutions involved in such a network.

To ensure an optimal outcome, both private and public parties need to work together to bring in the right set of capabilities. These partnerships can further unlock new innovations and opportunities such as the extended use of street lamps for smart networks. This will ensure that the smart cities



do not end up turning into a mix of mini ecosystems that will only work in silos.

Aside from public-private partnerships, governments also play a role when it comes to implementing regulations and policies within a smart city. The regulations and policies ensure that the goals of the smart initiatives will be met. They also prevent misuse.

Take the case of smart parking solutions. For smart parking, sensors are embedded in or on top of pavements to collect data such as parking lots availability and vehicles' parking duration for automatic charging. This automates processes and reduces

manpower requirements. Regulations then have to be imposed to prevent misuse such as illegal parking and to ensure that parking authorities are still in full control of the parking situation despite reduced physical surveillance.

#### Privacy And Data Hacks

While great strides have been made in smart city developments, data privacy and cyber attacks are still a key concern. Smart cities initiatives tend to focus solely on the implementation of the solutions and overlook the aspect of cyber security. With the continual increase in the complexity of cyber threats, it is even more important now to prioritise cyber security in smart

cities planning – particularly in the case of smart streetlights and sensors that are in the public space.

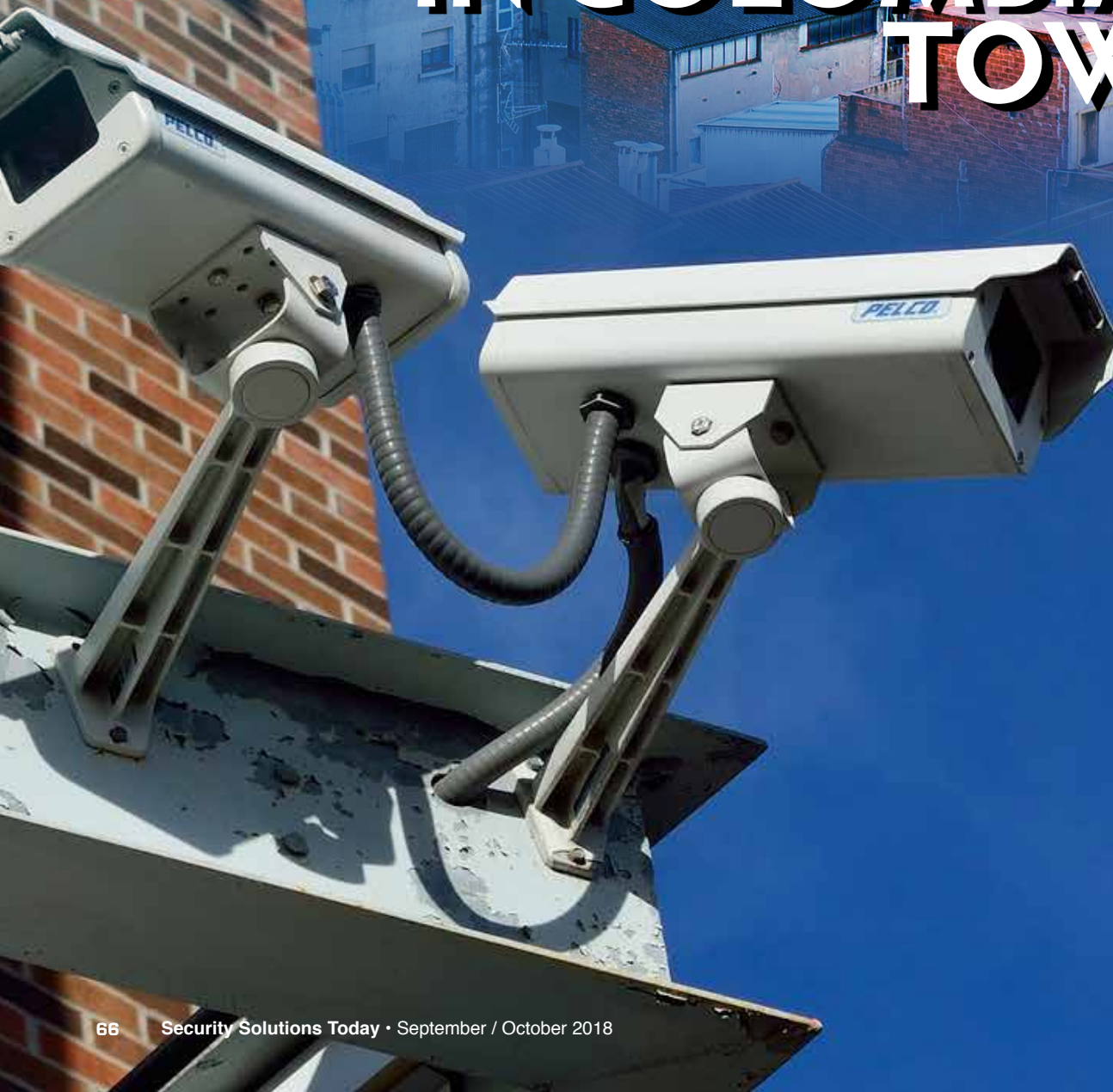
As cities continue their push towards being a smart city, we look forward to more possibilities beyond the horizon. There is one caveat: greater involvement of stakeholders will be essential to drive innovation and collaboration.

For all we know, the springboard to smart cities could very well be right under our noses – with something as simple as a street lamp. *SSST*

*Yao Shih Jih is General Manager of ST Electronics (Info-Comm Systems)*



# WIRELESS CCTV NETWORK LED TO 45% REDUCTION IN VIOLENT CRIMES IN COLOMBIAN TOWN





**V**iolent crimes in a small town in Colombia have dropped drastically following the implementation of a new, cost-effective wireless infrastructure.

Since 2017, personal injury crimes in Bojácá have fallen by at least 45% while thefts have declined by 22%.

Bojácá, a small town near the capital city of Bogotá, began the fight against rising crime after it experienced a wave of violence and burglaries both day and night, as well as drug trafficking related offences. In 2016, the local government decided it needed to take pre-emptive action and implemented a video surveillance solution that initially covered six strategic locations in the town, coupled with an increase in police patrols.

In the first eight months of 2016, 80 personal injury cases were reported in the town. Over the eight months immediately following the launch of the surveillance platform, total recorded crime cases fell to only 44 – a drop of 45%. Police figures show a continuing reduction in crime even into early 2018.

The project began with the Colombian government approaching Maicrotel - InfiNet's partner and a key system integrator in Colombia - to design and implement a wireless network that would reliably transmit video streams from IP cameras. InfiNet Wireless is one of the largest privately owned Broadband Wireless Access (BWA) development and manufacturing companies in the world.

Some of the cameras are equipped with fixed lenses,

others with remotely-controlled pan, tilt and zoom functionality. Maicrotel installed high capacity base stations from the InfiMan 2x2 Point-to-Multipoint (PMP) portfolio in four central locations. Other locations were fitted with the InfiLINK 2x2 LITE Point-to-Point solution because they were sited out of the base station's reach and coverage.

The ultimate platform deployed enabled the law enforcement authorities to significantly reduce the crime rate in the town through the use of analytics such as facial recognition and automatic number plate recognition as well as high quality video recordings that were used as evidence in court cases. A significant 23% fall in drug sales was also registered over a very short period of time.

The first phase of the project has proven so successful that a new budget has been allocated to increase the number of video cameras in order to monitor all access routes into the municipality.

“We are thrilled with the results of this project, as it helps us deliver much higher security to Bojácá and its surrounding communities and ultimately have a big and positive impact on their quality of life,” said Carlos de la Madrid, LATAM Director at InfiNet Wireless. “The Bojácá police now have its eyes on all corners of the town, thanks to the reliable and dynamic monitoring platform we have deployed. In addition to carrying real-time video streams, we have also delivered a wireless platform able to support the town's need for high quality voice and data transmissions.” *SST*



# WHY BEHAVIOURAL DETECTION IS CRUCIAL



Image Credits: piratobay.org

**B**ehavioural detection can be a vital component of an organisation's security strategy, said Andrew Palmer, border security lead at Gatwick Airport.

He explained to delegates at IFSEC 2018 that aviation security historically tends to introduce new processes or technologies after an incident has prompted a reaction. Often these new processes and technologies can cause a delay or disruption to passengers' journeys.

However operators are waking up to the fact that there are other options available that don't focus on one specific threat. Behavioural detection is one such technique and it is not limited to the aviation industry. It can be deployed, for example, in supermarkets, banks, railway stations and tourist attractions.

### Behavioural Detection

For behavioural detection to work, a dedicated team of experienced behavioural detection officers must be employed. These professionals are trained in government recognised, tested and approved behavioural detection techniques and hence have the skillset to identify if a person has a hostile intent.

Gatwick Airport introduced behavioural detection officers in 2013. Its team undertook passenger assessment screening training to understand what 'normal' looks like in an airport environment. Any deviation from this norm attracts their attention and they will then look for a set list of behaviours.

Palmer said recognising the behaviours is essential, but it was equally important to understand why they are being displayed.



### Hostile Intent

So what happens once such behaviour is spotted? At Gatwick, Palmer said its team would speak to the individual informally and then make a decision on what to do next.

"They don't say that person definitely has hostile intent – they could be displaying behavioural patterns because they've just had an argument with a loved one or are a nervous flier," he said. "The next step is therefore to have a conversation and find out why they are displaying these behaviours."

If the behavioural detection officer suspects the behaviour is unnatural, this intelligence will then be passed on to other security professionals, such as police or terrorism units.

Is it profiling? "Yes, but based on behaviour only," Palmer explained. "Behavioural detection officers aren't interested in race, gender or religion. They stop people based on behaviours."

But can you avoid showing behaviours?

Palmer said: "There is no set pattern. Often if you know you're up to no good, the more you try to hide your behaviour, the more it comes out."

He also explained that behavioural detection is not the answer to all problems. Instead it must be used as part of a wider strategy to protect a site, staff and the public. *SST*



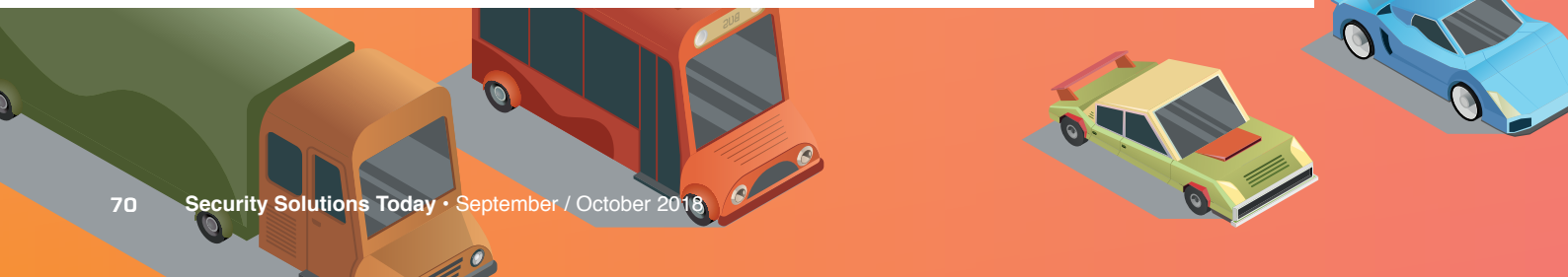
SECURITY FEATURE



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# TRANSPORT SAFETY

## Joining The Power Of Social Media And Video Analytics





The surveillance and security landscape is changing, from the growing quantity of data to new innovations like Artificial Intelligence (AI) and machine learning. Take the impact of social media on transport safety, for example.

An audience was told at IFSEC 2018 that together social media data and video analytics could play a critical role in keeping transport networks safe.

A demonstration of new technology from Vidsys and Micro Focus showed how traditional data sources such as cameras can combine powerfully with Big Data – particularly from social media – to provide more timely and accurate information to security operators.

Dave Humphreys, CTO IDOL at Micro Focus, explained that the business wants to “own the hidden 80%”.

“Look at social media; someone might tweet you an image of a traffic incident,” he said. “How do you get that, analyse it and extract the value you need to take action? We also bring in police reports, alerts, emails and other documentation that could be related to the vehicle.”

Advanced video analytics also plays a major role in the system, said Humphreys.

“Our video analytics can tell an operator not only that an accident has happened, but what vehicles are involved, what the closest assets are.”

Joining Humphreys was Kris Heath, Global Solutions Architect (Product

Management) at Vidsys, who outlined how this data can make a real impact on the frontline.

“If there had been a road traffic accident ordinarily we would need to wait for someone reporting it or spotting it on CCTV,” he said. “That creates a delay that could be deadly.”

Instead, “We can bring in information from different departments direct to the operator, so he or she can make a better informed decision. He might even know who the driver might be and that could influence how he coordinates his response.”

“The data is driving an informed decision.”

The data can also enable operators to spot potential incidents which might otherwise seem innocuous, added Humphreys.

“This is real AI coming into play,” he said. “You might see an incident that you don’t think is particularly important, but if the AI tells you it’s the fourth time it’s happened this week you’d make a different decision.” *SST*



Image Credit: pixabay.org



***ELECTRONIC  
ACCESS  
CONTROL  
INTEGRATION  
IS THE FIRST  
STOP ON THE  
ROAD TO  
SMARTER  
BUILDINGS***





**E**lectronic access control systems are the leading type of security system being integrated into building management system (BMS) platforms. In fact, 29.6% of access control equipment shipments — including readers, door controllers and electronic locks — were installed and connected to a BMS platform in 2017, reported IHS Markit, a global information provider.

According to IHS Markit's senior analyst Jim Dearing, unit shipments of access control equipment that is connected to a BMS platform are forecast to outpace the rest of the market by a considerable margin, increasing at a compound annual growth rate (CAGR) of 12.5% over the next five years. By comparison, total market unit shipments for access control equipment are forecast to rise at a CAGR of 8.8%.

BMS platforms include any computer-based control system that monitors some or all of a building's mechanical and electrical systems, including a building's energy, security and life safety domains. Equipment from these domains can be configured to transmit and receive data to and from these platforms. The complex algorithms that these platforms are capable of performing constitute the foundation for more intelligent buildings with thoroughly integrated IoT devices, machine learning and predictive analytics. Through a centralised platform, the energy consumption and operating costs of a building can be reduced, administration of security systems can be streamlined, assets and individuals within the building can be tracked, and domains can become responsive and adapt to the presence or absence of occupants.

Dearing listed the reasons why BMS platform integration is becoming more popular:

- **Interoperability.** BMS platforms are capable of aggregating significant amounts of data from equipment across many domains, which allows end users to manage a wide variety of building management functions via a single platform. As the process

Leading access control providers will need to remain vigilant as full command-and-control-style BMS platforms become more popular. Opting to develop a proprietary solution would allow access control providers to protect themselves from this threat.





is centralised and simplified, it can be completed using fewer resources.

- **Data visualisation.** Accumulated data from multiple domains can be categorised, structured and presented to end users in a series of charts, graphs and other visual tools designed to easily communicate complex information to viewers. As dashboards and data visualisation directly affect a user's experience with BMS platforms, these tools have also become crucial differentiators for competing products in the market.
- **Analytics.** BMS platforms offer automated testing, reporting and fault detection and preventative diagnostics functionality to end users. These offerings improve building security by ensuring all devices are working optimally. They also allow end users to compare historical data and recalibrate individual subsystems to improve efficiency.
- **Changes to the supplier base.** Many leading security manufacturers are investing heavily in developing their wider building managing portfolios, to ensure their competitive advantages are not eroded by rivals offering more complete solutions.

### **Jump On The Bandwagon Or Partner An Existing Player**

Dearing believes that partnering with BMS providers, or developing proprietary building management systems, will become an important part of access control providers' product roadmaps over the next five years. This trend is especially relevant to providers aiming their solutions at the enterprise segment.

He remarked, "Leading access control providers will need to remain vigilant as full command-and-control-style BMS platforms become more popular. Opting to develop a proprietary solution would allow access control providers to protect themselves from this threat. However, outside the top 10 access control providers, few companies possess the financial resources and existing product portfolio to compete against the leading BMS market incumbents."

### **Access Control Versus Other Security Equipment**

Access control systems are considered to be an important piece of the smart



building puzzle, due to the quality of information the system can provide the BMS platform regarding building occupants' whereabouts and how they move through the building.

BMS platform integration can allow the access control authentication decision to become smarter, by taking into account information from other connected security or building management systems. A simple example is using video surveillance feeds to verify access control card swipes.

Access control integration is essential to unlocking the potential of higher-level BMS platform functionality. As more BMS solutions move towards command and control style features, which allow buildings to adjust building

management subsystems to respond to individual occupants' actions, the need for access control integration grows exponentially. Physical access control systems and identity management platforms are the key to initialising many BMS processes, since they provide the starting command that lists the tasks users must accomplish once a specific person has entered the building.

#### The Barriers To Wider Adoption

One of the main barriers to adoption is worries over who is actually in charge. In centralised architectures, the BMS platform provider will always want to exert ultimate authority, as the building's intelligence and its analytics supersede orders from software in access control and other subordinate domains. However, access

control suppliers are uncomfortable relinquishing this authority to third-party BMS platforms, because their software feature sets are what enable them to differentiate themselves from their competitors, outlined Dearing.

Another barrier is the fact that end users can often be slow to adapt to new technologies. During the past decade, the access control industry has struggled to bring security and IT departments together. Smart building integration would likely add a third entity into the mix: facility managers. Due to the slow speed at which large organisations often restructure, getting these three departments to effectively collaborate to leverage the true capability of full building integration is an issue that is unlikely to be resolved in the next five years. *ESST*



# RagingWire Ups Data Centre Security With Security Revolving Doors

**R**agingWire Data Centers has installed Boon Edam's Tourlock 180+90 security revolving doors as part of its integrated access systems protecting its data centres in Ashburn, Virginia, and Sacramento, California. The Ashburn VA3 Data Center is a 245,000 square foot space powered by 16 megawatts of critical power. The Sacramento CA3 Data Center is a 180,000 square foot facility powered by 14 megawatts of critical power.

Part of the NTT Communications group, RagingWire is one of the largest wholesale data centre providers in the world with a global network of 140 data centres in 20 countries and regions operated by NTT Communications under the Nexcenter™ brand. RagingWire is the North American data centre platform within the group. RagingWire was



among the pioneer firms that built the multibillion dollar global data centre colocation industry.

#### Security Doors As Part Of Multilayer Security System

The Tourlock 180+90 security revolving doors at the two centres ensure efficient passage for hundreds of people daily while preventing piggybacking and tailgating at entry and exit through sensors that recognise shapes, size and volume in three dimensions. The doors lock down when a violation occurs. The state-of-the-art system also generates an accurate picture of who is in the building at all times.

“Our customers expect our security entrances and anti-tailgating technologies to be extremely fast and accurate,” said Eddie Ankers, Director of Corporate Security at RagingWire. “By adding these doors to our defense-in-depth security strategy, we are providing the best possible protection system for our customers’ mission critical equipment.”

Boon Edam Inc. is a global leader in security entrances and architectural revolving doors.

In addition to Boon Edam’s Tourlock security revolving doors, RagingWire’s layered security approach include a team of highly trained, 24x7 security staff, biometric scanners, badge readers, intelligent high-definition video cameras that analyse suspicious behaviour, anti-tailgate mantraps, a building-within-a-building design, anti-climb perimeter fencing, concrete bollards in front of building entryways and an anti-ram security gate.

“As the colocation data centre of choice for some of the most demanding hyperscale cloud and enterprise companies, RagingWire is recognised as an industry leader in data centre security and overall customer experience,” said Mark Borto, CEO of Boon Edam Inc. “We are proud to provide an important part of RagingWire’s sophisticated, multilayer, integrated security system.” *SST*

## IFSEC Philippines 2018

30 May - 1 Jun 2018

SMX Convention Center, Pasay City, Metro Manila, Philippines

# New, Improved Second Edition Of IFSEC Drew Crowds

A total of 78 exhibitors drew 3,879 visitors at IFSEC Philippines, the Philippines' leading security, fire and safety event.

The interest in the event is not surprising. The Philippines is currently enjoying a golden era in infrastructure; in an effort to modernise its cities, the country is investing more than PHP 8.4 trillion to build roads, airports, ports and railways. With mega projects ahead, the Philippines' industry players will need the best solutions available in the market.

Staged from 30 May to 1 June 2018 at the SMX Convention Center, this second edition of the event gathered industry players from Philippines and Asia under one roof. They included manufacturers and distributors showcasing cutting-edge products in access control and biometrics, cyber security, drones, fire and safety, home automation, Internet of Things (IoT), physical security, perimeter protection and more. Almost half of the exhibitors were based in the Philippines. The rest were from China, Hong Kong, Indonesia, Malaysia, Singapore, South Korea and other countries.

The attendees were mainly from the communications, business services, construction/development, architecture and distribution sectors.

A survey showed that 21% of the total number of visitors were interested in access control and biometrics, 14% in alarms/intruder detection systems, 10% in asset management and 9% in cyber security.

Industry experts also delivered free seminars to packed audiences. The 22 topics covered overviews of the security industry, crisis management, cyber security and safe cities.

Notable speakers included the Chairman of CyberSecurity Malaysia, General Tan Sri Dato' Seri Panglima Mohamed Azumi Bin Mohamed; Chairman Emeritus of the Philippine Society for Industrial Security Dr Eduardo M. Fulgencio; Chief Editor of SecurityMatters magazine Mr Ace Esmeralda; TAPA Certified Expert Mr Nilo S. Pomaloy and Director of Chartered International Institute of Security and Crisis Management Mr Munies Pillai.

A Business Matching Platform was launched at the event. This proved to be a dynamic affair. Exhibitors and registered visitors could arrange to hold meetings throughout the events and they made full use of the opportunity, making 312 meeting requests, proving that the platform was a useful tool for the attendees. Another highlight of the event was the MMDA Forum led by Metropolitan Manila Development Authority (MMDA) chairman Mr. Danilo Lim. It was attended





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“A Business Matching Platform was launched at the event. This proved to be a dynamic affair. Exhibitors and registered visitors could arrange to hold meetings throughout the events and they made full use of the opportunity, making 312 meeting requests, proving that the platform was a useful tool for the attendees.



by members of the senate, city mayors from around the Philippines and high ranking government officials. The forum focused on the latest traffic management systems. Speaker at the forum Dr. Kim Wan Jib, the Information Technology director of the Seoul Metropolitan Government, shared Seoul’s experience in traffic management.

“IFSEC Philippines is an interesting and educational event for the industry,” said Hon. Bayani F. Fernando, District Representative of Marikina City 1st District, who attended the MMDA Forum. “This will actually help solve a lot of traffic problems in Metro Manila.”

The next edition of IFSEC Philippines will be held from 29 to 31 May 2019 at the SMX Convention Center. **For more information, visit [www.ifsecphilippines.com](http://www.ifsecphilippines.com).** SST

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