

Security Solutions Today

July / August 2016



GAMING SECURITY

Cover Focus Risk Monitoring And Compliance for Gaming Corporations

Security Feature The Business Of Hacking

Inside Look Gaming Surveillance In Revolutionary HD

Radio Communication Technology Case Study With Motorola

In Focus Exclusive Feature With Checkpoint Systems



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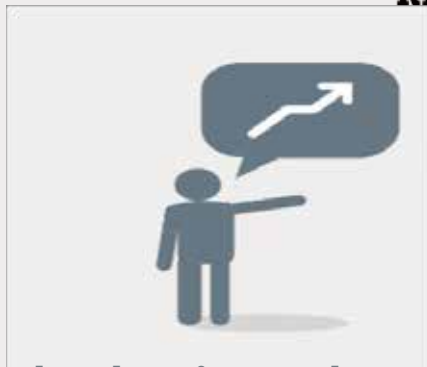


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IFSEC Southeast Asia 2016

Date: 7th to 9th Sep 2016
Venue: Kuala Lumpur Convention Center (KLCC)
Organiser: UBM
Contact: Rina Fadzil
Tel: +6-03-2176 8788 Fax: +6-03-2164 8786
Email: Rina.Fadzil@ubm.com
Website: www.ifsecsea.com

Secutech Vietnam 2016

Date: 21st to 24th September 2016
Venue: Friendship Cultural Place, Hanoi, Vietnam
Organiser: Messe Frankfurt New Era Business Media Ltd
Contact: Eva Tsai & Echo Lin
Tel: (886) 2 2 659 9080
Email: stvn@newera.messefrankfurt.com
Website: www.secutechvietnam.com

BMAM Expo Asia 2016

Date: 21st to 23rd September 2016
Venue: IMPACT Exhibition & Convention Centre, Bangkok, Thailand
Organiser: IMPACT Exhibition management Co., Ltd.
Contact: Chanon Ekarattanakul
Tel: +66 (0) 2833 5208
Email: chanone@impact.co.th
Website: www.maintenance-asia.com

Safety & Security Asia 2016

Date: 28th to 30th Sep 2016
Venue: Halls B & C, Marina Bay Sands, Singapore
Organiser: Conference & Exhibition Management Services Pte Ltd
Tel: +65 6278 8666 Fax: +65 6278 4077
Email: info@cems.com.sg
Website: www.safetysecurityasia.com.sg

Security China 2016

Date: 25th to 28th Oct 2016
Venue: 2016 China International Exhibition Center (New Center)
Organiser: China Security and Protection Industry Association
Tel: 8610-68731710 Fax: 8610-68730788
Email: secu_chinashow@yahoo.com.cn
Website: www.securitychina.com.cn

IFSEC India 2016

Date: 8th to 10th December 2016
Venue: Pragati Maidan, New Delhi
Organiser: UBM
Contact: Pankaj Jain
Tel: +91 (0) 11 66517606
Email: pankaj.jain@ubm.com
Website: http://www.ifsec-global.com/india/

Intersec 2017

Date: 22nd to 24th Jan 2017
Venue: Dubai International Convention and Exhibition Centre
Organiser: Messe Frankfurt Middle East GmbH
Tel: +971 4 389 4500 Fax: +971 4 358 55 33
Email: intersec@uae.messefrankfurt.com
Website: www.interseceexpo.com

Milipol Asia 2017

Date: 4th to 6th April 2017
Venue: Sands Expo and Convention Centre, Singapore
Organiser: GSA Exhibitions Pte Ltd, Comexposium Security
Contact: Sandy Wong
Tel: +65 6392 5328
Email: sandy.wong@comexposium-sg.com
Website: www.milipolasiapacific.com

Secutech Taiwan 2017

Date: 12th to 14th April 2017
Venue: Taipei Nangang Exhibition Centre, Taiwan
Organiser: Messe Frankfurt New Era Business Media Ltd
Tel: +886 2 8729 1099
Email: services@secutech.com
Website: www.secutech.com

IFSEC Philippines 2016

Date: 3rd to 5th May 2017
Venue: SMX Convention Centre, Pasay City, Metro Manila, Philippines
Organiser: UBM
Website: http://www.ifsecsea.com/

Interpol World 2017

Date: 5th to 7th July 2017
Venue: Suntec Singapore, Convention and Exhibition Centre
Organiser: MP International Pte Ltd
Contact: See Lay Eng
Tel: +65 6389 6613
Email: laying.see@interpol-world.com
Website: www.interpol-world.com

China Public Security Expo 2017

Date: 29th October to 1st November 2017
Venue: Shenzhen Convention & Exhibition Centre, China
Organiser: Shenzhen CPSE Exhibition Co., Ltd.
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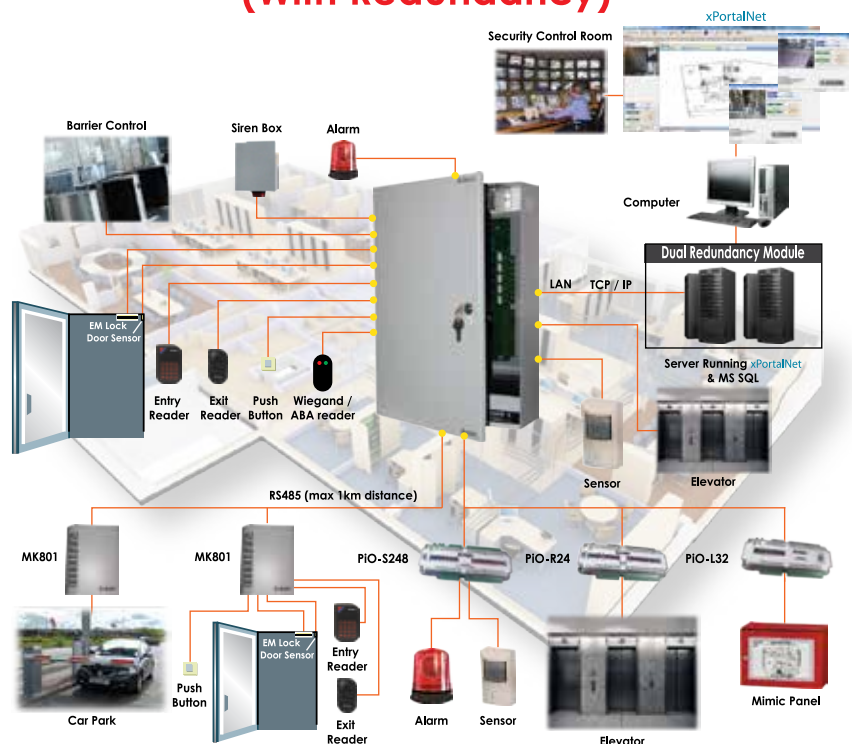
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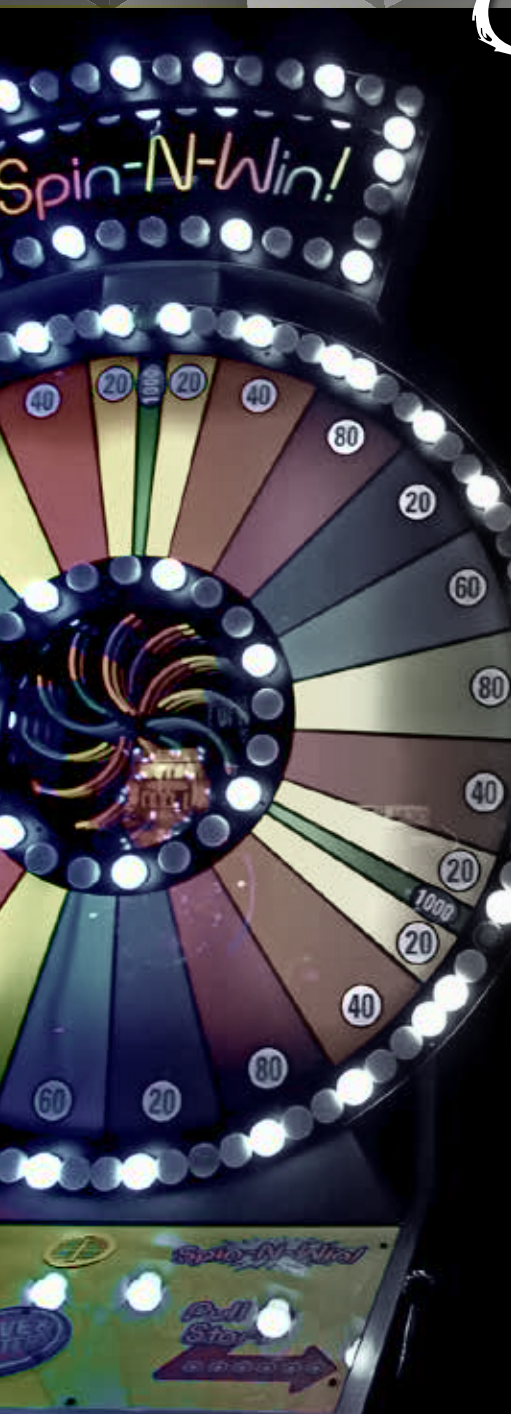


Our Office





Editor's Note



Dearest readers of Security Solutions Today,

This issue of SST looks to explore the security and surveillance that goes on behind the glitz and glamour of the gaming world. A range of case studies offer insight into the physical surveillance that keeps a gaming operation running smoothly, while the Cover Focus delves into Anti-Money Laundering solutions in gaming.

In Security Feature, Christopher Griffith, Global Director of Product Management, HPE Data Security offers an intriguingly new view of examining and combating cybercriminals in the cyber security field, by treating them as competitors rather than mere transgressors.

Continuing on last issue's newly introduced segment of Radio Communications Technology, a comprehensive Motorola case study showcases the importance of effective and holistic radio communications in running a resort as big as the MGM Resorts International smoothly.

This issue's Regional Report examines briefly the security trends and development in the Malaysian security landscape, thanks to the insight offered by Verghese Thirumala, Managing Director of Maxitulin Group along with Norona Johar, Chief Operating Officer of FingerTec HQ, Malaysia.

I've also had the precious opportunities to sit down with Mark Gentle, Vice President of Merchandise Availability Solutions Asia Pacific of Checkpoint Systems, as well as Bruce Xu, Vice-General Manager of Dahua Technology Singapore to hear a little into their plans for the near future.

I have no doubt that this issue will be as informative and enjoyable for you to read as it was for me to prepare.

Warmest regards,

Donovan Choy



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Bosch Adds Video Analytics as Standard Feature In All Cameras



Industry today demands far more detail from their video surveillance footage than ever before. Higher resolutions, higher frame rates, better light sensitivity and excellent dynamic ranges are all matter when it comes to capturing images that can distinguish individuals or objects for irrefutable evidence.

A paradigm shift: Relevant data instead of Big Data

The growing demand for more detail and the increasing number of networked cameras drives the video surveillance industry into the era of Big Data. Not only does the amount of data surge, keeping an eye on the relevant data for long periods pushes concentration to the limit – 90% of the activity can be missed after 20 minutes on screen.

The security operators increasingly rely on video content analysis software to automatically detect threats, register security breaches and monitor critical infrastructure – thereby shifting the focus on

relevant data. The Video Content Analysis (VCA) software segment is expected to reach \$1,303.8 million by 2019 (IHS).

In response, Bosch makes a long-term commitment to relevant data. Known as a pioneer of advanced camera technologies – including light-sensitive (low light) starlight cameras, 4K ultra HD technology and dynamic ranges up to 120 dB – Bosch continues to deliver the resolution, light sensitivity, frame rate, dynamic range and form factors that suit the customer's need.

Video analytics at the edge as standard feature

Starting from June 2016, Bosch will equip all its IP 4000 up to the new DINION IP starlight 6000 fixed box cameras and FLEXIDOME IP starlight 6000 dome cameras with a full suite of video analytics algorithms at the edge: Essential Video Analytics as a standard feature over the next 12 months.

The new DINION IP starlight 7000

and FLEXIDOME IP starlight 7000 up to IP 9000 cameras will feature on-board the Intelligent Video Analytics as standard. Intelligent Video Analytics is specifically tailored for mission critical applications that delivers the highest level of accuracy.

These intelligent analysis features are supported by the starlight portfolio's outstanding light sensitivity: The latest generation delivers hi-definition color images at 0.00825 lux, where other cameras switch to monochrome, and monochrome images at 0.00275 lux, where other cameras reach their limit.

Essential Video Analytics and Intelligent Video Analytics

Two types of Bosch video analytics at the edge that user can choose: Essential Video Analytics and Intelligent Video Analytics.

Essential Video Analytics, provided on the DINION IP starlight 6000 fixed box and FLEXIDOME IP starlight 6000 fixed dome cameras as standard. Essential Video Analytics can be used for advanced intrusion detection, as well as enforcing health and safety regulations such as parking in a restricted area or a blocked emergency exit. It also possesses business analytics capabilities for retail environments, such as people counting and crowd detection.

Intelligent Video Analytics delivers all the capabilities of the Essential Video Analytics, plus the required level of accuracy for mission-critical applications such as perimeter protection for airports and critical infrastructures or traffic monitoring. What makes Intelligent Video

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Our focus is to make
darkness totally visible



starlight. The inventors take it to the next level. Bosch cameras with new starlight technology are the gold standard in low light video performance. We've upgraded the original with better light sensitivity, a choice of resolutions, dynamic ranges up to 120 dB and up to 60 frames per second. Plus video analytics at the edge as standard, with no additional investment of license fees, to make high quality images more relevant. Learn more at www.boschsecurity.com/hdsecurity



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Analytics stand out is its capability filters out false triggers caused by challenging weather conditions such as rain, snow, water reflections, substantial shaking of the camera and moving trees, thereby minimising costly false positives.

Both Essential Video Analytics and Intelligent Video Analytics share the same user interfaces and operating environments: Intuitive menus and workflows let users specify exactly what event – or combination of events – will trigger an alarm. Commonly used alarm triggers, programmed via pre-set rules templates, include movement and behavior patterns, as well as objects left in the vicinity, cars blocking exits or irregular crowd activity.

Actionable data is not only key in real time, but also after the fact: By applying metadata and tags to recorded video, Bosch Video Analytics at the edge provides targeted access to video data as part of investigations for evidence, digital forensics or identification of suspects.

Meanwhile, non-security applications also benefit from actionable data obtained through video analytics,

including retail statistics (occupation, the flow of people, number of people) and park management.

Outlook

Considering the continuous proliferation of cameras and the rising demand for more detail, Bosch stays focused on advancing video surveillance in the era of Big Data. The next level in 24/7 video surveillance technology is coming soon: In June 2016, the new DINION IP starlight 6000 cameras arrive factory-loaded with Essential Video Analytics capabilities. Launching at the same time, the DINION IP starlight 7000 and FLEXIDOME IP starlight 7000 cameras will come equipped with the latest Intelligent Video Analytics. Meanwhile the DINION IP starlight 8000 MP, also featuring the latest IVA, is already installed at sites across the world. At the end of 2016, all Bosch camera series IP 4000 or later will come with analytics at the edge pre-loaded at the factory - at no extra price to the customer, letting customers enjoy state-of-the-art video surveillance that keeps getting more evolved as technology progresses.

For more information, please visit: www.bosch.com/ssr

ASIS International's CSO Roundtable Rebrands as CSO Center for Leadership and Development; New Name Reflects Shift in Focus, Programming

To better address the changing role of senior security executives in today's global business environment, ASIS International's Chief Security Officer (CSO) Roundtable is rebranding.

The new CSO Center for Leadership & Development remains a mainstay of ASIS International, the world's largest membership association for security management professionals. The CSO Center will continue to serve as a standalone membership organisation within ASIS to support the development of leading security executives. The new identity will be launched officially at the 9th Annual CSO Summit, scheduled for May 22-24 at the Skywalker Ranch at Big

Rock in Marin County, CA.

"Our new identity reflects our commitment to thought leadership, to developing the next generation of CSOs, and to our evolving suite of benefits," says 2016 CSO Center President Mike Maloof, CPP. The CSO Center's new mission, A Safe and Secure Global Community, is "an explicit acknowledgement of our shift in direction and focus," adds Maloof, who also serves as the vice president of global physical security for Oracle.

To meet the goals of the new mission, the CSO Center will continue to offer content on the following topics: executive development, direct

report advancement, educational programs, collaborations and alliances, and research. A new program, CSO Nexus, encourages industry leaders to serve as confidential peer advisors to members seeking either to advance their security careers or to receive advice on senior security operations, a step beyond the traditional mentoring services.

"Expanding educational opportunities is a key thrust of the CSO Center going forward," says Maloof. To that end, the CSO Center will hold multiple live and virtual programs, including CSO-only tracks at ASIS global conferences, half-day CSO Conversations that target specific

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security concerns such as industrial espionage, and webinars on emerging business trends.

Partnerships with educational institutions including the Wharton School and the IE Business School is another way the CSO Center helps members develop business, management, and leadership skills. The center will continue to work closely with complimentary organisations "to ensure that the

voice of senior security executives is heard in strategic planning, research, and government affairs," says Peter J. O'Neil, ASIS's CEO. Collaborative efforts have involved the Overseas Security Advisory Council, the Domestic Security Alliance Council, and U.S. Chamber of Commerce.

Membership in the CSO Center for Leadership and Development includes 350 senior-level security

executives from more than 30 countries. The organisation remains open to security executives and their deputies at Fortune 1000-size companies and their business units as well as those who work at large government agencies or organisations with major business or organisational footprints.

For more information, please visit:
<https://www.csocenter.org> **SST**

GJD's Unrivalled D-TECT Laser for Discreet Security Applications

GJD's D-TECT Laser sensor is a high-precision laser based security/safety device for perimeter protection and intruder detection. The specially designed four layer, laser scanner is available in 25m x 25m, 10m x 10m and 5m x 5m versions.

The sophisticated technology and high quality of the D-TECT Laser is unmatched in the security and external detection industry. It is well suited for a wide range of sectors from highly sensitive military installations and prestigious residential properties to public and commercial sectors.

The D-TECT Laser can identify moving objects and is suitable for internal and external use. It is often used to create a virtual wall or virtual ceiling, popular applications include protection of works of art in museums, window and door protection, speed roller shutters, high-end residential properties or open sites such as busy car dealerships. These are just to name a few examples of where the D-TECT Laser can be used.



A major benefit of the D-TECT Laser is its compact design and single cabling point, which reduces the number of fittings on a building. Key features include two programmable detection zones that are configurable to within 10cm, a virtual tamper and anti-masking. It is also available in white and black housing.

Greg Stuttle, GJD's Sales Manager commented: "The D-TECT Laser ensures reliable and accurate motion detection. Its compact design and unique features make it an important part of any intrusion detection system".

Further features include covert operation as the LED display can be switched off when required, high immunity to environmental interference and user-friendly programming. Feedback from installers is that the D-TECT Laser is quick and easy to setup compared to similar competitive products.

For more information about the D-TECT Laser, please email: info@gjd.co.uk **SST**



Hikvision Cameras Push Environmental Surveillance to the Limit with Fully Mobile CCTV Solution

When Mercury Fire & Security was asked to create a fully mobile CCTV solution for Nottingham-based client Magpie Security, it turned to Hikvision to confront the triple perils of dust, vibration and the British weather. Lewis Foster, Mercury's General Manager, and Sam Futer, Technical Operations Manager at Magpie Security, provide more details on the UK's speediest surveillance solution.

Magpie Security is one of the UK's leading security and training companies, providing its clients with comprehensive security services specially tailored to their requirements. With a client base of businesses both large and small throughout the UK, the company's projects are highly diverse and often require equipment sourced from several different hardware producers.

The latest offering from Magpie can be spotted in the Nottingham area: a pair of surveillance vans deployed with guards to patrol sensitive and high risk sites where a strong security presence is required. The vans were developed with Mercury Fire & Security, which supplied the Hikvision cameras and Network Video Recorders that lie at the heart of this unique CCTV solution. Mercury also installed a solar panel and batteries to power the system without continuously running the vehicles' engines and sourced a 3G router from Eseye Communications. Depending on the success of the project over an initial trial period, the new solution will be rolled out to additional vehicles in the near future.



Pushing to the limit

The process of constructing a fully mobile security solution rather than the usual stationary system presents a different kind of challenge for implementation teams. Both vehicles are fitted with 4 HD turret cameras, with one van also equipped with a PTZ camera and NVR to act as a kind of mobile HQ. But this equipment faces an environmental and durability challenge far beyond the majority of conventional stationary CCTV solutions.

Lewis Foster, General Manager at Mercury Fire & Security, says, "Being vehicle mounted, the cameras and recorder are obviously in a harsh environment. The vehicle is expected to still drive at 70mph, to withstand the usual potholes and speed bumps, and to be operable 24 hours a day. Vibration is the main challenge with this setup but,

so far, the Hikvision cameras have withstood several months without a hiccup. Obviously the large PTZ camera that we fitted is a little more delicate and so, for reliability, this is strapped during transit. In any case, it has been very reliable and performed faultlessly.

"Magpie Security requested internet access to the cameras meaning a capable 3G router was required and this streams the video live to guards on site on their mobile phones so they can patrol and still utilise the vehicle. Fortunately the IVMS-4500 app allows this to securely be easily set up on a number of guards' phones."

Lewis says each vehicle is equipped with four DS-2CD2332-I turret cameras. "For us, the EXIR infrared on these cameras is unbeatable," he says. "In trials, we found that dome cameras can suffer from reflection

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of the IR but the turret cameras are absolutely perfect. They're sealed, so there's no risk of moisture getting into the camera, they're easily adjusted if necessary, and the image quality is fantastic. They give full 360 degree coverage around the van and ensure nothing is missed while tracking with the PTZ for further detail.

"The competitive price of the entry level Hikvision DS-2DE7184-A IP PTZ was the primary reason for using it in this trial system but the image quality, IR range, and optical zoom have blown away our client. At the same time, the strong mounting brackets have withstood the vibration from driving without issue, which was critical to the success of the entire project. The PTZ allows the operative in the vehicle to track targets and to get a detailed view of the surrounding area and of distant objects.

"We were confident that the turret cameras themselves would withstand any vibration and so we have mounted them securely to the vehicle using standard brackets mounted to a bespoke frame created especially for the vehicle. The NVR is a little more sensitive due to the hard drive, so foam insulation was placed around the NVR to offer some cushioning during motion. Care was taken not to block up the vents in the NVR and this solution has proved to be very reliable, which is a testament to the quality of the Hikvision equipment.



"The HERA601 router has proven very reliable and gives solid 3G performance. The main vehicle battery is connected to the independent 200Ah CCTV batteries, which allows charging of all the batteries whenever the engine is running. In addition, the 250w solar panel we selected keeps the 200Ah batteries charged during the day, ready for night usage. All the CCTV equipment is powered through an inverter, including the on-board 40 inch monitor that gives a great view of all the cameras."

Potential for a new market

The new mobile solution suggests a promising future for both Mercury Fire & Security and Magpie Security, with initial trials proving that the equipment is withstanding all the demands placed on a mobile solution. Sam Futer, Technical Operations Manager at Magpie Security, says, "This project has pushed the equipment to the limits in a harsh environment. Ensuring reliable operation of the equipment has been critical and solving the issues with solar power gives an eco-friendly solution, meaning the engine doesn't need to constantly be running. So far the equipment has stood up well to the inherent vibration and gives great quality for a price far below specifically-designed vehicle solutions."

On the future potential for both the new solution and the use of more Hikvision products within Mercury Security's business endeavors, Lewis Foster says, "This project may be the beginning of a new market for us. Vehicle-mounted CCTV has already been used by the police for years but, until now, the price has been prohibitive, with vehicle-mounted PTZ cameras costing many thousands. Now, we're able to offer quality equipment for a very competitive price. Certainly we hope to continue to partner with Magpie Security, offering additions to their existing vehicles and further CCTV vehicles as their contracts using the vehicles grow.

"Hikvision has proven itself to be an exceptional force in the industry, frequently going far beyond the call of duty in helping us to deliver the solution we required. Their equipment is extremely competitive and in our relatively short time with Hikvision we've noticed regular firmware upgrades and an obvious drive for excellence. There have been some inevitable occasions when something hasn't worked and the support through our distributors, Dynamic CCTV, has been fantastic. If they couldn't solve it, Dynamic have been happy to discuss options with Hikvision directly and tailored firmware has been offered. This just doesn't happen anywhere else and fills us with confidence for our future with Hikvision."

For more information, please visit:
www.hikvision.com **ESST**



San Francisco Shelter Protects At-Risk Families with IP Video and Access Control

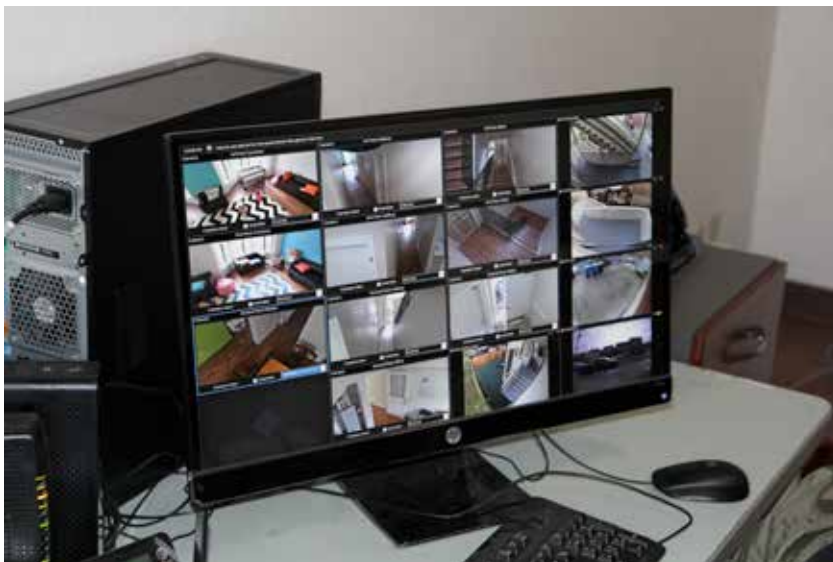
Milestone Systems, the leading global open platform company in IP video management software (VMS), has partnered with Axis Communications and The Consulting Group (TCG) to create a unique security solution for Hamilton Family Center in San Francisco, California. The solution uses a combination of the Milestone Husky M30 NVR with XProtect Smart Client and Milestone Mobile clients, Axis network cameras and Axis A-8004-VE Network Video Door station.

The Hamilton Family Center (HFC), a shelter for victims of domestic violence and homelessness, needed an updated security system to protect its residents. The center's previous system included analog DVR recorders that had poor image quality and made it difficult for HFC to efficiently monitor hallways and common areas. HFC wanted high quality cameras with superior coverage and a network video recorder (NVR) that could help security staff quickly and efficiently handle incidents.

The Milestone Husky M30 NVR gives HFC a recording solution that has Milestone XProtect video management software preloaded and configured for fast installation, optimal performance and reliability. The system's ease of use allows security staff to set up and manage views with minimal training.

"We don't have users at this location who are very familiar with computer software," said principal and owner of TCG, Jeanine Lovejoy. "That's what makes Milestone video management products so great. Training sessions are so easy, and the intuitive interface and simplicity of creating and managing views means we never have to teach someone twice."

Dave Curto is Director of Operations for the Human Services Agency, which is responsible for all self-sufficiency programs in San Francisco, including the Hamilton Family Center. He says that he and his staff were able to learn how to use the Milestone Husky on the first demonstration. He also appreciates the ability to view incidents in real time and the ease of video



export. Axis cameras provide comprehensive coverage throughout the facility while the access control system is tightly managed.

"We work closely with the San Francisco police," Curto said. "They have access to view our security video, and with the new system it's so easy for them to grab the data they need and export it onto a drive. In addition, the image quality is such that video evidence from Axis and Milestone is consistently admissible in court."

"HFC exclusively uses Axis network cameras at the facility, as well as the Axis Door Station. Instead of using pan tilt zoom (PTZ) cameras, TCG was able to use fixed panoramic cameras and flatten the 360-degree camera images in the Milestone XProtect Smart Client display, which provides optimal overview without intruding on the privacy of HFC residents with unnecessary cameras."

The Axis Door Station comes with a high-performing intercom function that provides clear and echo-free, two-way speech with visitors. Combined with an integrated high-definition camera and excellent low-light and wide dynamic range (WDR) performance, the unit offers reliable 24/7 identification of persons at the HFC entrance.

"It's imperative to know exactly who is coming and going at all times," Lovejoy said. "With the Axis Door Station, we can be sure that every person who approaches, enters or leaves the facility is properly identified."

continue on page 17



"The Milestone Mobile client is Lovejoy's favorite component of the system. It allows TCG to remotely lend a hand with security monitoring when there's lag time between security guard shift changes. With only one full-time security guard, and a lot of activity through the doors, this feature is a big help in knowing from a phone or tablet miles away what is going on at the center.



"Above all, HFC has to be a safe place," Lovejoy said. "The residents need to feel protected. Milestone and Axis technology assists in a big way. In addition, the technical support teams have been extremely helpful with the installation and making themselves available to help with any matters that have arisen.

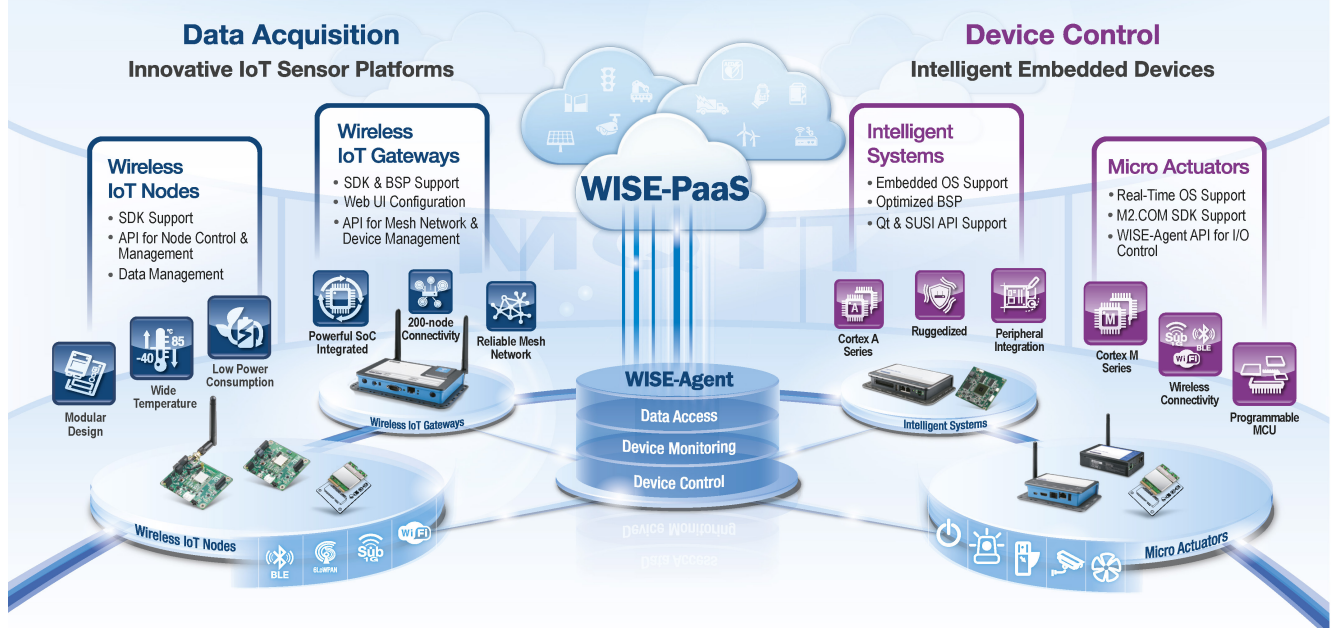
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Sovereign Fire and Security's Room Observation System for Detention Facilities

Sovereign Fire and Security has released a room observation system (ROS) to promote the welfare of vulnerable people in secure hospitals, mental health units, immigration centres and any kind of detention facility. The product will oversee duty of care but at the same time protect staff from spurious claims of mistreating or neglecting inmates.

The ROS consists of a high-security camera mounted inside the secure room paired with an Audio Visual Unit (AVU) installed outside the monitored area. Viewing and operation of the AVU is only possible for authorised users with valid electronic access control (EACS) credentials.

The system allows contact with the occupant under controlled conditions and removes the need for manual record-keeping since all actions taking place at the AVU are logged automatically so creating a powerful audit-trail. This not only saves hours during a night shift when occupants can be observed efficiently and without risk by a single member of staff but also frees up their time to focus on core duties involving the general well-being of people in their care.

Another key benefit for users such as secure hospitals and custodial units is the ability to observe people without disturbing them when they are sleeping. Nurses and warders are also protected should the behaviour of their charges become volatile.

The unit is designed as an observation package for any environment with similar demands and constraints to those found within custody estates. The vandal-resistant



camera and frame fit flush into the corner of the room so factoring out potential ligature points.

The ROS was originally designed in response to cases in police custody where incomplete or even falsified observation records have come to light in death-in-custody tragedies. It soon became apparent that a system that can minimise the opportunity for human error in the protection of vulnerable people was equally appropriate in many other facilities apart from custodial environments.

The access control log in the AVU unit automatically creates an audit trail of when a room occupant is checked on, for how long and by whom. It also allows restriction of who can observe the room. These digital log records cannot be compromised and the powerful record of interaction helps protect the room occupant as well the personnel and institution whether it be during audits or as part of continuing improvement procedures.

Consultants and installers should note that SFS is able to integrate the observation system with all major brands of access control equipment. There are many powerful options



such as connection to nurse call systems and connection to local recording elsewhere at the premises or even to centralised recording.

These integration features have been developed based on SFS's broad experience of high-security custody and mental health estates. The observation unit not only gives management peace of mind in terms of the integrity of the activity data produced but makes a compelling business case by eliminating manual creation of paper-based logs.

As well as delivering operating cost benefits, the ROS has been designed to minimise energy usage with auto shutdown when not in use saving power costs and also extending the product lifecycle.

SFS work throughout the UK from a base in the south-west. The company has drawn on its CCTV and access control experience across many custody and healthcare estates to create the secure room observation unit and develop it in line with end-user needs.

For more information, please visit:
www.sovereignfireandsecurity.co.uk **SST**



Samsung Electronics Introduces the EVO Plus 256GB MicroSD Card, with the Highest Capacity in its Class

Samsung Electronics, an expert provider of advanced memory solutions, has unveiled its newest memory card – the EVO Plus 256GB microSD card. The EVO Plus 256GB offers the highest capacity for a microSD card in its class, delivering fast speeds and an expanded memory storage for use in premium smartphones and tablets, 360-degree video recorders, action cameras, and drones. Consumers can now record up to 12 hours of 4K UHD video or 33 hours of Full HD video on their mobile device or action camera without needing to change or replace the memory card, allowing them to experience more and worry less about running out of memory.



The EVO Plus 256GB raises the bar for capacity and performance of microSD cards thanks to Samsung's advanced V-NAND technology, offering high read and write speeds of up to 95MB/s and 90MB/s, respectively. This level of performance will provide general consumers and professionals with superb user convenience for storing heavily-loaded, high-resolution photography and 4K video recording, as well as graphic intensive multimedia like virtual reality (VR) and gaming."

With the upward trend of consumers using high-performance, high-capacity mobile devices, our new, V-NAND-based 256GB microSD card solution allows us to deliver the memory card consumers have been craving," said Un-Soo Kim, Senior Vice President of Brand Product Marketing, Memory Business at Samsung Electronics. "Our EVO Plus 256GB microSD card will provide consumers with large capacity, and high read and write speeds. We are excited to offer our customers convenient and seamless multimedia experiences when they access, store and share all of the content they create and capture."

The EVO Plus 256GB microSD card provides advanced protection, capacity, and performance with long-term reliability needed to get the most out of today's electronics, making it an ideal companion for high-end smartphones and tablets with a microSD slot, even in the most extreme conditions.

Samsung will offer the EVO Plus 256GB microSD card with a limited 10-year warranty in Singapore, starting in mid-June 2016 for a recommended retail price of \$389. It will be available at all Consumer Electronics Stores and Authorised Retailers.

For more information, please visit: www.samsung.com **SSR**

Poland and the Czech Republic Drive European Access Control Growth

Although the overall European market for electronic physical access control devices grew only by 5.5 percent in 2015, Eastern Europe has been a bright spot for the industry. Between 2015 and 2020, the Polish market is forecast to grow at a 13.1 percent compound annual growth rate (CAGR) and the Czech Republic will grow at a CAGR of 9 percent from 2015 to 2020.

There have been substantial changes in end user outlook in Eastern Europe surrounding the need for access control systems. Now end users have decided that the investment in high-quality electronic locks, advanced reader types (such as MIFARE DESFire and ICLASS SE) and other advanced access control systems is worthwhile. This shift in end user perceptions is caused by rising

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security concerns in the region. Poland has not been affected directly by the territorial disputes occurring farther east in Ukraine, but the Poles are acutely aware that the region could become more unsettled if the situation were to escalate. Security concerns over Russia have led to investment in governmental access control, and government policy on access control is causing a similar impact on the private sector as well. Investment was initially focused on critical infrastructure and government markets, but now manufacturing, commercial and financial markets are experiencing big upticks in growth. Investment is also spread through each of these vertical markets, with suppliers reporting that both new construction and the retrofit markets are benefiting from the surge in available money funds.

The Czech Republic is also interested in better higher quality access control products, and security concerns have played a major role in driving the market forward, but to a lesser extent than in Poland. The Czech economy has also been performing far better than previous expectations. The economic outlook for the country peaked in 2015 with gross domestic product (GDP) growth at 4.3 percent, supported by strong industrial production. IHS Economic Country Risk forecasts show

industry production will continue to be strong, but with risks mounting, a slowdown in GDP back to the 3 percent range will occur in 2016.

Due to the growth experienced in these countries, a variety of small local manufacturers have started to appear - both on the hardware side and the software side. The growth of local companies should help develop end-user confidence in the whole market, which should lead to more long-term projects. These local companies will have an added advantage in regional markets, as they are better able to tailor their products to local tastes and can also be more reactive to end user demands.

Recent success in Poland and the Czech Republic is starting to encourage development in adjacent countries - including increased growth in Hungary, Serbia and the Baltic region. Companies based in Poland and the Czech Republic will likely play a big role in shaping the market in the rest of Eastern Europe, which is forecast to grow at a CAGR of 9.5 percent from 2015 to 2020.

For more information, please email:
alexander.derricott@ihs.com SST

Altronix Repeats Superstar and Customer Service Awards At PSA-TEC 2016

A proven commitment to the highest standards of customer support excellence has once again earned Altronix Corporation the prestigious Superstar Award and a prized Customer Service Award at PSA-TEC 2016. This is the second year in a row that Altronix has received these prestigious honors and recognition from PSA Security Network. The Awards are determined by the PSA members and based on a wide range of factors such as ease of doing business, product quality and customer service excellence.

"Being recognised by PSA for two consecutive years is a great accomplishment that we are very proud of," said Alan Forman, President, Altronix Corporation. "Having been recognised by this elite group of professionals is an endorsement of Altronix values and our commitment to the industry."

"Altronix Corporation provides our mutual customers with continued high quality solutions and value, as is evidenced by their consecutive Superstar and Customer Service wins," said Bill Bozeman, President and CEO of PSA Security Network. "Our congratulations to all at Altronix on this great achievement."

The awards were presented to Altronix at this year's Vendor Awards Luncheon at the 2016 TEC conference on May 10, 2016.

All Altronix products are made in the U.S.A. and carry a lifetime warranty.

For more information, please visit: www.altronix.com SST





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Bosch Sees Connectivity as Basis for Growth In China



In 2015, Bosch increased its sales in China to 11.1 billion euros. Despite a less dynamic market environment, the supplier of technology and services achieved a nominal sales growth of some 19 percent. Adjusted for currency effects, sales were up slightly in local currency. Sales in China almost doubled as a result of the full acquisition of the former fifty-fifty joint ventures BSH Hausgeräte GmbH and Robert Bosch Automotive Steering GmbH. This makes the country the second-largest market for the Bosch Group after Germany. Over the past three years, China's share of total Bosch Group sales has increased from nine to 16 percent.

Bosch expects a positive performance in China also for 2016 and sees especially strong potential in the area of connectivity. "The Chinese market continues to offer us a wide range of business opportunities. The market for the internet of things (IoT) is also growing rapidly in China," said Peter Tyroller, the member of the board of management of Robert Bosch GmbH responsible for Asia Pacific at the local annual press conference in Shanghai. He added that this is above all thanks to the "Internet Plus" initiative for integrating the internet into traditional industries – a major element of the Chinese government's 13th Five-Year Plan, which aims to make China a greener, more open, more innovative, and more sustainable economy. "Over the coming years, we expect China to see strong growth in demand for quality products as well as for connected solutions and services. Bosch is well positioned for this," Tyroller said.

"Local for local" in connectivity as well

Bosch has been present in China since 1909 and is committed to localisation there. "Our 'local for local'

strategy in China is paying off, as we can see from our sustained business success in the country," Tyroller said. This relies on expanding local manufacturing as well as research and development. "We invested more than 750 million euros in China in 2015, and we are budgeting a similar sum for 2016," he continued. For example, Bosch will open a new plant in Wuhu this year for its Car Multimedia division. Tyroller also sees localisation as a recipe for success with connectivity. This is why the Bosch subsidiaries Bosch Software Innovations, Bosch Sensortec, and Bosch Connected Devices and Solutions have been present in the local market for several years. When it comes to connectivity, Bosch also relies on alliances with local partners such as Tencent, one of the biggest Chinese internet companies. This collaboration will enable local use of the mySPIN smartphone integration solution. What is more, a team of research associates in China is developing IoT solutions that are tailored to the local market.

Increased competitiveness in China thanks to Industry 4.0

It is above all in connected industry that Bosch sees huge potential in China. "We expect that the use of intelligent and connected solutions in manufacturing will play an increasingly important role in China," Tyroller said. The key driver for this is the "Made in China 2025" initiative, which is part of the country's "Internet Plus" action plan. In China, too, Bosch is pursuing a two-pronged strategy in the area of Industry 4.0: As a leading supplier, the company offers a range of solutions for the Chinese market in the areas of powertrain technology and automation as well as sensor technology and software. And as a leading user of Industry 4.0, Bosch is already operating eight pilot projects at its Chinese manufacturing locations in



continue on page 23



Suzhou, Shanghai, Wuxi, Changsha, Nanjing, Beijing, Changzhou, and Xi'an. In logistics and inventory, for instance, RFID (radio frequency identification) tags track the route workpieces take through the factory, while reading stations are able to pinpoint the position of the transport crates at any time. It is easy to see what work steps blanks are gradually progressing through and when the products will most likely be finished. That data, in turn, can be used to determine when they will be packaged, shipped, and installed. In the Bosch plant in Suzhou, this has already cut the time needed for inventory by 97 percent, or 440 man-hours.

Bosch is a sought-after software employer in China as well

Connectivity also plays an important role in the search for new talents. In 2015, 30 percent of the 5,000 Bosch researchers and developers in China were working in software development. They will be joined by another 2,500 associates in 2016. Bosch now employs some 55,000 associates in China – 2,000 more than one year

ago. This makes the company's headcount in China the biggest outside Germany.

Asia Pacific as a success story for Bosch

Bosch's success story in Asia Pacific goes back more than a century. In the past five years alone, the company has achieved average sales growth in the region of some ten percent and invested a total of four billion euros. With a 27 percent share of total sales revenue, Asia Pacific remains an important pillar of growth for the Bosch Group. In 2015, its sales in the region rose 17 percent (2.8 percent after adjusting for exchange-rate effects) to 19.2 billion euros. Today, Bosch has 104,000 associates in 18 countries across the region: in Australia, New Zealand, Bangladesh, China, India, Japan, South Korea, Sri Lanka, and Taiwan, as well as in the ASEAN member states Indonesia, Malaysia, the Philippines, Cambodia, Laos, Myanmar, Singapore, Thailand, and Vietnam.

For more information, please visit: www.bosch.com **SST**

Feiyutech Introduces Integrated Handheld Gimbal Camera

Today, Feiyutech, a high-tech company from China, will hold a launch event for their summer new arrivals in Shenzhen. Two new products will be unveiled: MGLite, an upgrade of the gimbal for their Micro SLR camera to a knob, allowing users to adjust the gravity of the camera without a tool, and a newly-designed storage bag, which makes it much easier to carry the MGLite around.

But the most exciting new product is SUMMON, a handheld gimbal camera. While Feiyutech has always been the world's leading brand in handheld gimbals for sports cameras, this newly-released handheld gimbal camera will have a greater impact on the whole sports camera industry. By deeply integrating an anti-shake function, the handheld gimbal camera will bring clear, stable, and high-quality videos and a more relaxed operating experience to users.

SUMMON integrates 4K & 25FPS and it can continue shooting for 180 minutes, even though it weighs only 350g (without batteries). Its 4k image quality is complimented by functions including anti-shake slow motion, time lapse, a programmable 360-degree auto-rotation time-lapse system, long exposure & anti-shake photography, and remote controlled photography via an APP on a smart phone. Compared with the traditional combination mode of sports cameras and handheld gimbals, this innovative handheld gimbal camera not only realizes high image quality and a gimbal anti-shake function, but also helps users create in a simpler way and brings a huge boost in efficiency.

This is a huge breakthrough for Feiyutech to transform from its focus on single handheld gimbal development to the sports camera field. It is a testament to the courage and strength of Chinese high-tech companies to march into the world's brand new fields.

For more information, please visit: www.feiyu-tech.com **SST**





HID Global Enables Ultra Low-Cost and Eco-Friendly, ID Card Issuance

HID Global®, a worldwide leader in secure identity solutions, has announced the availability of its latest Direct-to-Card (DTC®) FARGO® DTC5500LMX ID Card Printer/Encoder designed to meet the high-volume, card issuance demands of large government agencies, universities, healthcare facilities and other large enterprises. The company also announced its new FARGO HDP5600 ID Card Printer/Encoder that builds upon its award-winning high definition printing (HDP®) solutions for retail stores, recreation facilities, governments and other organisations focused on brand image and/or visual security.

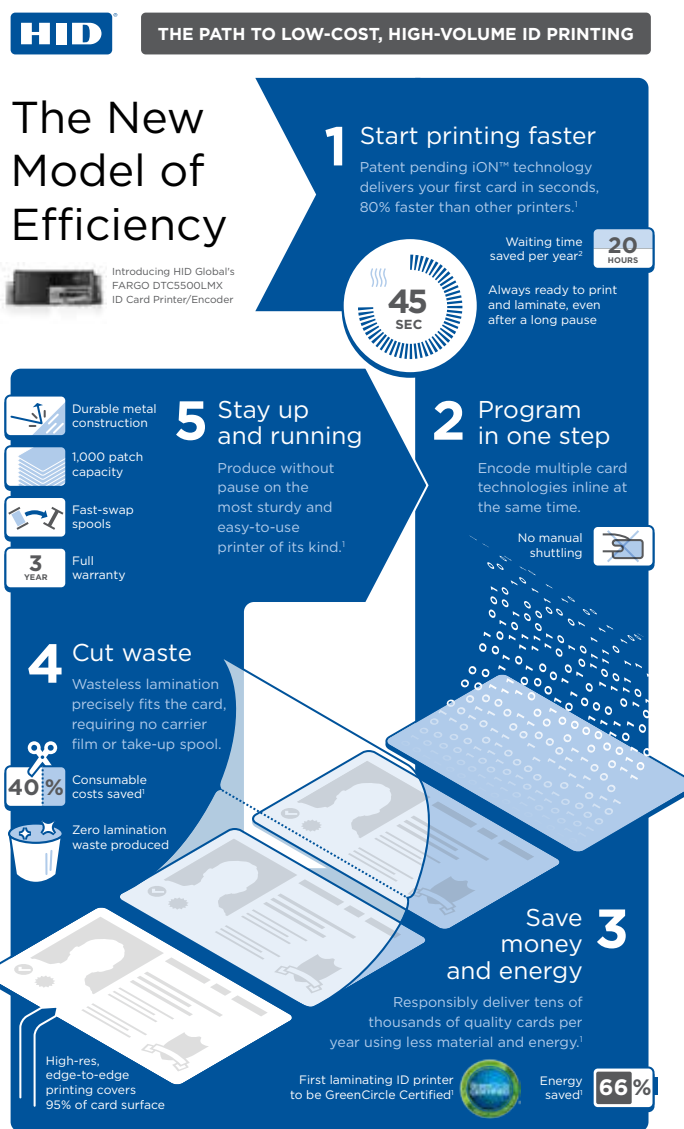
HID Global's eco-friendly DTC5500LMX ID card personalisation solution includes the company's "wasteless" lamination technology that significantly lowers card issuance costs. The new feature enables cost-conscious organisations to routinely issue secure, durable cards in high volumes without sacrificing quality.

DTC5500LMX Best-of-Class Features:

- Innovative wasteless lamination technology completely eliminates traditional carrier-film waste, offering a 40 percent savings in consumables costs.
- World's first Green Circle® certified wasteless lamination printer with 60 percent savings in energy consumption.
- New iON™ technology allows printer / laminator to heat up and initiate lamination in just 45 seconds, saving users up to 80 percent of the time typically needed to print the first card.
- Rugged, durable and robust construction that withstands the harshest environments, providing the highest card protection and warranty in the industry.
- See more details in the new Model of Efficiency infographic.

The new FARGO HDP5600 ID Card Printer/Encoder delivers the highest quality for image and text printing available in the market. With its new 600 dpi printing capabilities, the HDP5600 doubles the resolution of its HDP5000 predecessor for crisply defined barcodes and accurately reproduces small text including complex characters, such as Kanji, Arabic and Cyrillic.

For more information, please visit: www.hidglobal.com **SST**



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¹Compared to other laminating ID card printers available.

²Based on typical office use in a year with 260 work days.

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HID Global Wins Best Use of Biometrics in a Commercial Setting at SMART Awards Asia 2016

Use of multispectral imaging technology that can read and authenticate fingerprint patterns under the skin provides enhanced security and convenience for guests in China's leading theme parks

HID Global®, a worldwide leader in secure identity solutions, has won the Best Use of Biometrics in a Commercial Setting Award for its Lumidigm® biometrics deployment in two of China's leading theme parks in Guangzhou province. HID Global was recognised at this year's SMART Awards Asia 2016, which honors organisations and individuals that have demonstrated unparalleled excellence in the cards, payments, retail, e-commerce and banking industry.

Lumidigm biometric authentication solutions from HID Global bring multispectral imaging technology to any identity application where knowing "who" matters. HID Global's Lumidigm family of fingerprint sensors was deployed to manage visitors' fingerprint authentication at the theme park gates, ticket booth and member kiosk stations. The implementation helped the amusement parks make ticket collection easy and trouble-free, while also reducing the amount of time park guests had to stand in line for rides. For the theme park management, linking each ticket to a specific customer with the touch of a finger ensured prevention of fraud and business losses.

"We are honoured that HID Global's Lumidigm technology has been recognised as the most innovative in-market commercial biometrics solution in the entertainment sector in East Asia region," said Paul Butler, Vice President and General Manager, Biometrics at HID Global. "Our solutions are centered on ensuring secure transactions while enhancing user experience and the usage of Lumidigm in high-traffic amusement parks in China is a perfect example of a highly secure and convenient solution for theme park guests that also protects the business interests of theme park owners."

The Lumidigm multispectral fingerprint sensors increase



biometric performance by acquiring multiple images of the fingerprint from the surface and from under the skin. Compared to conventional means of fingerprint sensing such as optical, radio frequency and thermal, multispectral sensors are able to collect usable biometric images even in conditions such as worn or dry fingers, presence of moist and topical contaminants and ambient lights, or poor contact between the finger and sensor, hence, lowering overall lifetime cost of system ownership and reduced management oversight and frustrated users.

With industry-wide recognition for superior biometric performance, HID Global's Lumidigm solutions are broadly deployed by the banking industry for authenticating bank customers at ATMs, enabling over two billion transactions per year, and by the government for securing busy international borders, and ensuring public goods and services reach the intended recipients.

For more information, please visit:
www.hidglobal.com **ESST**

FSEC Global Breaking News: Hikvision Announces the Acquisition of Pyronix

Hangzhou, China – May 19th, 2016 - Hikvision, the world's largest video surveillance manufacturer (Shenzhen Stock Exchange ticker number SHE: 002415), has announced the acquisition of Pyronix, the UK-based intrusion alarm security firm.

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Julie Kenny CBE DL, founder of Pyronix, said: "This acquisition represents a huge opportunity for Pyronix, Rotherham, and the region. The foreign direct investment that this will bring to the UK will be huge. Hikvision has big plans for the growth of Pyronix and the continued development globally. In the last 15 years Hikvision has demonstrated what can be achieved in the video surveillance market. With this guidance, Pyronix can achieve great things in the global market place."

Jiang Feng Zhi, recently appointed chairman of Pyronix, commented on the acquisition: "These are exciting times for Pyronix and Hikvision as the two companies work together. Hikvision has plans for significant investment in the UK and particularly in its UK-based manufacturing, with plans to dramatically expand operations. We are delighted to welcome Pyronix to Hikvision group, and we look forward to growing the business through introduction of intruder alarm products to the global market."

Hikvision plans to apply Pyronix expertise and know-how in intrusion detection systems to its leading position in the video surveillance market. The result, says Sebastian Herrera, managing director of Pyronix, will mark the future of security systems: "Hikvision and Pyronix combined know-how will bring new advancements and innovative products to the market, converging two security technologies in video surveillance and intrusion detection."

For more information, please visit: www.hikvision.com **SST**

NEC Thailand Features Public Safety and Cyber Security Solutions at Digital Thailand 2016

NEC Corporation (Thailand) Ltd. announced that it will be participating in the "Digital Thailand 2016" conference and exhibition held at Queen Sirikit National Convention Center from 26-28 May 2016, at Booth A13.

At the event, NEC will showcase its suite of innovative solutions for safer cities and cyber security. NEC provides a fusion of both physical surveillance and cyber security to keep cities safe and secure from increasing threats.

NEC's powerful face recognition technology will be showcased at the event, including NeoFace® Watch, which helps law enforcement agencies to enhance poor quality latent face images and to increase matching accuracy. NeoFace® Watch integrates with existing surveillance systems by extracting faces in real time from those systems and matching them against a select watch list of individuals. When the system detects an individual of interest from the watch list, an alert is sent so that rapid actions can be taken to reduce the security threat.

NEC's Traffic Monitoring Systems

features a solution that uses video motion to monitor road traffic situation and detect abnormalities on roads or sidewalks in real-time through images captured by security cameras. Through data obtained from a trial in Bangkok, the system demonstrates how it enables city governments to monitor abnormalities such as speeding, illegal parking, illegal use of motorists on pavements and even detection of broken traffic lights. Other types of scenario detection include checking of suspicious items on vehicles and abandoned objects in public areas where the system automatically sends an alert to the command center to quickly identify where the unexpected event is occurring, thereby keeping roads safer.

With cyber attacks on the rise, NEC will also showcase how its powerful advanced cyber security solutions can protect an organisation's IT and security systems from various cyber threats, even before they occur. Highlights include NEC's Cyber Security Factory, a specialised unit of experts providing round-the-clock professional surveillance of networks and websites, forensic service for

investigating malware sources and information leakage, and team-based hands-on training for security professionals.

"NEC has been working with governments globally to implement our public safety and cyber security solutions to make cities safer. NEC hopes to contribute to the development of Thailand's digital transformation through the provision of advanced technologies for the safety and security of its communities nationwide," said Takayuki Kano, President of NEC Corporation (Thailand) Ltd.

On 23 May, NEC Corporation announced its collaboration with Thailand's National Disaster Warning Center (NDWC), where a trial of NEC's flood simulation system was carried out to predict the inundation areas in the event of flood. The trial was conducted in Uttaradit Province in Northern Thailand during the period from November 2015 to March 2016, and successfully confirmed the effectiveness of the system.

For more information, please visit: www.th.nec.com **SST**

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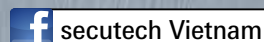
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Risk Monitoring and Compliance for Gaming Corporations

Background

Anti-Money Laundering (AML) compliance has become more complex and challenging for casino operators and other gaming corporations. Increased regulation and government fines have formalised the responsibility of these companies to keep financial crime out of gambling in casinos and other gaming establishments around the world. Regulators have increased both scrutiny and fines levied on casinos that fail to mitigate money laundering risks and comply with AML requirements. In response to the evolving regulatory regulations and demands, casino operators

and gaming companies need to re-evaluate their approach to their AML programs and processes. It is essential that they take advantage of the most advanced and comprehensive AML compliance solutions to protect themselves and their patrons.

Challenges

Earlier this year, USD\$81 million stolen in a cyber-heist from Bangladesh's central bank exposed laundering links in Philippine casinos. It is said that one of the key reasons the perpetrators chose the Philippines is because casinos are not covered under the Philippines' anti-money laundering law, which means they

are not obliged to report suspicious transactions or the players involved. While the decision to keep casinos off the list of institutions covered under the law was intended to allow the country's gaming industry to expand, the Philippines Senate Committee on Finance is now focused on drawing up legislation that can strengthen anti-money laundering laws. With ten of the largest casinos by gambling gross gaming yield all in Asia¹, the region faces a unique risk.

Solution

Fiserv, a global leader in financial services technology, operating in the gaming industry today, has



introduced a new generation money laundering monitoring, reporting and analytics solution - AML Risk Manager for Casinos. The solution is designed exclusively to help casinos and other gaming corporations adapt to evolving AML risks and regulations with superior efficiency and insight. This cohesive, integrated solution evaluates money laundering and other illegal financial activities along every risk dimension while providing unique configurability. The AML Risk Manager provides effective

ongoing monitoring of patrons and their financial transactions with superior analysis, suspicious activity detection, investigation, risk rating and mitigation, case management and regulatory reporting. This delivers unparalleled effectiveness and efficiency with data analytics, flexible risk management capabilities, link analysis and management and regulatory reporting.

The AML Risk Manager is the newest solution from Fiserv in its Compliance and Fraud Management portfolio. The solution is built on a proven infrastructure and more than 15 years of global AML experience. Today, it helps AML teams of more than 1,000 organizations across 70 countries best meet compliance obligations and challenges.

Fiserv delivers the comprehensive capabilities needed to help successfully manage the complex process of AML compliance with speed, cost efficiency, and deeper understanding of patrons and

patron behaviour. This greater understanding in turn enables more efficient and comprehensive suspicious activity detection, simplified workflow for efficient case management, a higher degree of accuracy to ensure legitimate patrons are not inconvenienced, and easy integration for automated regulatory reporting.

Data enables organisations to create a clear view of customers and automatically analyse for suspicious activities, in real-time, that need to be investigated. Casinos and gaming companies must keep pace with the demand of regulatory changes and social responsibilities. They must take a comprehensive look at how to best adhere to AML regulations or be faced with regulatory fines and loss of customer trust. By knowing customers better and working with the regulators and competitors alike, companies can adhere to these new regulations promptly whilst also providing legitimate customers with a valued gaming experience. **SST**

¹ Global Betting and Gaming Consultancy, <http://www.businesswire.com/news/home/20150714005084/en/GBGC---Asia-10-World%E2%80%99s-Largest-Casinos>



In Keeping Up With Global Security - Malaysia in 2016



▼
Vergheze Thirumala,
Managing Director of
Maxitulin Group



▼
Mrs Norana Johar,
Chief Operating Of-
ficer, FingerTec HQ,
Malaysia

Introduction – How does the security climate look today in Malaysia as compared to a decade ago?

Thirumala: The ASEAN region is one of the fastest emerging markets for physical security, also known as the Electronic Security sector. It has grown consistently even though 2015 was a tough year and 2016 has been a challenging albeit promising one. Looming over perceived threats from terrorism, pilferage and crimes coupled with shortage of guarding personnel, the sector is robust.

Video surveillance takes the major share of around 50% on overall physical security system installation in Malaysia, followed by access control and intrusion alarm systems. Rapid spread of videos and messages of crime (some messages are old and repeated many times) with the advent of social medium has generated greater awareness and emphasised the need for prevention.

Development of commercial, transportation, industrial, retail and residential sectors help boost the market for physical security. Importance is given to border and utilities security due to increasing threats from external intruders.

Johar: Security nowadays is not limited to safeguarding physical assets and people anymore. Security now has a wider scope and since applications and businesses are carried out online on the software as a service (SaaS) model more than ever, security is no longer an issue at your premise. Security issues are now on the cloud and how to manage it effectively.

Trends development in the Malaysian security landscape in 2016

Thirumala: With the global economic downturn and inflationary pressure due to currency value drop, companies often look to minimise expenses and maximise productivity. An increase in processing and bandwidth capabilities and a decrease in storage costs is helping the video surveillance industry.

With the advent of video analytics, a pre-analysis tool, and integrated security systems, companies are deploying more systems to minimise man guarding as it is a major recurring cost. It is also changing the landscape of transportation, retail and perimeter intrusion monitoring and analysis.

Physical Security Information Management (PSIM), though still in the introductory stage of a product life cycle, will further enhance the effectiveness of video surveillance as an intelligent business tool. Video Security as a Service (VSaaS) and Internet of Things (IoT) are other areas followed with great interest though it is still evolving.

Entry point access control system takes the next market share in physical security with emphasis on door access using RF cards and a smaller percentage with biometrics. Integrated solutions offered only by international companies are preferred by bigger corporations to better manage their security challenges.

Entry of international access manufacturers are made difficult with many of the local manufactures dominating the segment with huge price advantages. Intrusion alarm dominance usually most prominent in the residential segment is challenged with home automation and CCTV.

Johar: As cloud technology and cloud business gain traction from the market, cloud security is the issue to pay attention to. While cloud providers claim to have security issues figured out, the responsibility of securing the database and handling data breach issues are still the major concerns of cloud system practitioners.

Malaysia and embracing latest security trends and technologies

Johar: In terms of cloud readiness, Malaysia is ranked 8th on the Asia Cloud Computing Association's (ACCA) Cloud Readiness Index (CRI) 2016. Entrepreneurs in Malaysia are better posed to adopt cloud technology than any of their Asian counterparts, save for Japan. This according to the fourth iteration of the Cloud Readiness Index (CRI) 2016, released by the Asia Cloud Computing Association.



Malaysia is ranked higher (7.6) than Singapore (7.3) and Hong Kong (7.4) on two of ten key parameters of the CRI 2016 which indicates how prepared is a country in adopting cloud computing. Outranked only by Japan (8.3), Malaysia emerged as an undisputed leader in Southeast Asia when it came to business sophistication. Malaysian cloud companies benefit in particular from emerging industry clusters and with a range of local suppliers ready to play their part. It also beats Singapore on cyber security by a respectable margin. According to the study, Malaysia has the best cyber security measures in place in the region. It scored poorly on connectivity and data center risks but showed improvement on eight of the ten parameters covered in the CRI, which measures 14 economies across Asia Pacific.

Online retailing is growing rapidly across the nation with seven million shoppers online per month in Malaysia and growing. Today's workforce management is leaning towards cloud solutions whereby tracking time attendance, tracking staff's locations, e-leave management are carried out online, providing users with better data access and transparency. Our solutions like TimeTecTA and TimeTecleave are catered to provide modern offices with convenience of working online.

Security solutions like guard management system and visitor management system are shifting towards cloud with the embedment of GPS and the interactive feature of BYOD concept. Our company is about to launch TimeTec Patrol to provide solution for security companies to manage their assigned guards at various locations and monitor the patrol schedules from the cloud by using mobile phones as a BYOD tool. We also provide Visitor Management Solution (VMS)

for neighbourhood with i-neighbour to not only smoothen the process of visitor registration but also be able to trace the coming and going of visitors to any neighbourhood, allowing good visitors to enter and blocking bad ones from access. The VMS for office environment is offered in our TimeTec VMS and the same concept applies for the office environment.

Thirumala: Malaysians are quick to adopt new technologies as seen as one of the first countries to embrace biometric passports in 2002. In 2001, Malaysia was the first country to incorporate photo identification and fingerprint biometric data in smart chip in national identity card.

Latest security trends in Malaysia impacting the security market

Johar: With more and more cloud applications and services offering available in the market, the demand for cloud security services will be on the rise. The BYOD concepts also will increase the challenges for security because the deviation range is unpredictable. The cloud security market is big but at the same time complexity multiplies because the security providers need to protect on-premise as well as cloud application simultaneously.

The impact of global security trends on security growth in Malaysia

Thirumala: Technological advancement in both hardware and software has influenced the way efforts are undertaken to prevent crime. Software evolution is creating immense application in public safety. Pre-analytic video intelligence like loitering, crowd monitoring, speeding, trip wire have revolutionised public safety management. With more CCTV cameras in public area, more

1BestariNet, a cloud-based education platform initiated by Ministry of Education, Malaysia that was implemented by YTL Communications

SME Cloud Computing Adoption Program is a government nationwide program under Malaysia's National ICT initiative aiming to expedite the cloud adoption in Malaysia among local SMEs and to elevate the competitiveness and efficiency of local SMEs in doing business.

1Gov*Net is a secured nationwide ICT network infrastructure that will be soon integrated with health-care services to fulfill computing resources of e-healthcare systems.

data filtering and management are needed. Post-analytical software help minimise drastically the forensic process.

Good combination of hardware is critical to effective implementation of a safer environment. Hardware combination of CCTV and street lighting shows crime is lesser in well illuminated streets. The flip side is that criminal activity zones move to more secluded zones with lesser illumination and cameras.

Johar: Cloud security business has no clear because everything is interconnected. For issues that's affected the world in the cloud business, it will surely be affecting Malaysia as well. And security now moves towards mobile devices (Android and IOS) and Macintosh machines. **SSST**



The Very First and Largest Full HD IP Surveillance System In Korea With More Than 2,000 Cameras Installed

Seamless integration with Genetec to offer a top class VMS solution

Introduction

As one of the most popular casinos in Korea, Kangwon Land Casino offers a total of 132 game tables and 960 slot machines. In addition, Kangwon Land also operates hotel, theme park, golf course, resort, and skiing ground, attracting millions of visitors from both Korea and overseas. After using analogue surveillance systems for more than 10 years, Kangwon Land decided to replace the legacy system with a full HD IP surveillance solution.

The Decision To Choose Bosch

Partnering with Samsung SDS, Bosch has been chosen to provide its IP video surveillance systems to Kangwon Land. More than 2,000 cameras are installed, which makes it the largest HD IP surveillance installation for Bosch in Korea. AutoDome Junior HD





Fixed & PTZ series, FlexiDome HD, VIP-X1600XF and DLA1400 series are deployed, and Intelligent Video Analysis (IVA) technology is also used to support operator's daily work. Moreover, Bosch IP system has been seamlessly integrated with Genetec platform, providing a top class VMS empowered by the leading intelligent imaging of Bosch front end devices. The iSCSI edge recording from Bosch IP cameras and encoders to the DLA, allows additional resilience against potential network outage. Integrated with Genetec, Bosch IVA also enhances the operational user experience with desirable results.

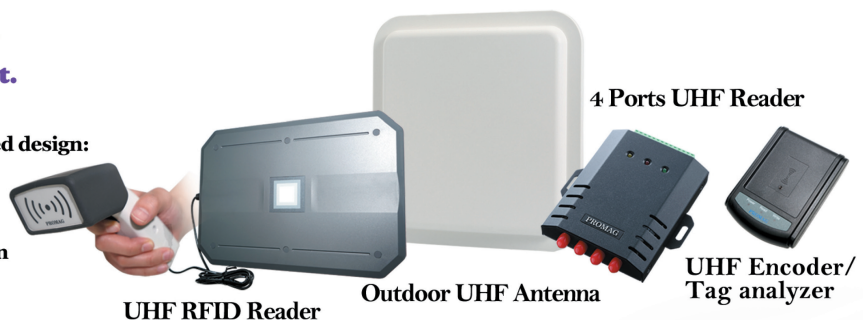
The customer says, "With HD camera, we can capture high-quality video instantly whenever dealer or floor-master requires. Bosch IVA also makes it easier for operator to monitor activities, even under challenging lighting conditions. Bosch edge recording and playback response time fully meets the requirement of analysts in their daily work." **SST**



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Surveon Delivers Prominent Solutions For Casino Surveillance In Vietnam

Introduction

For casinos, security and comprehensive monitoring always play a critical role and its importance can never be neglected. With Surveon's end-to-end solutions, including a series of HDR cameras, 5 megapixel fisheye cameras, enterprise hardware RAID megapixel recorders and Surveon management software, also known as Surveon Control Center (SCC), casinos can easily track every event that occurs at any time with improved profitability while being cost-saving.

Customer

Phoenix Casino, located a short drive from Hanoi City, is one of the only seven licensed casinos in the nation. With its perfect location, Phoenix is expanding its business in the fields of resort and casino accommodation. In order to maintain profitable revenue with secure business environment, Phoenix casino needs to find a trustful and efficient surveillance solution that they could always count on. Its business principles lie in anti-theft and damage-prevention to ensure customers could indulge in a comfortable environment and enjoy the moment they spend in the casino.

Challenges

Dim light with the crowd result in greater difficulties for the surveillance environment. With the vast business space for Phoenix casino, it surely needs a robust and overall monitoring system to convey images of high quality with long-period recording.



"High quality, stability, suitable application for Casino and low faulty rate are the main concerns for the operation for Phoenix Casino", said the Managing Director who is handling the casino project for the surveillance deployment. To meet all of the demands, Phoenix needs a well-organised surveillance system that gathers the features of wider monitoring ranges, easy-to-maintain centralised management and great after-sales service to ensure stable video-recording, instant transmittance and trace-back results could be achieved with satisfactory effects. Despite the complicated environment, Surveon provides the surveillance that takes everything under control.

Solutions

Surveon Industrial Grade Megapixel Cameras

This project required thorough monitoring of the whole opening area, including hallway, petitions, entertaining areas as well as all the accesses. Over 50 cameras are deployed in Phoenix Casino, including CAM2311SC Compact Network Camera with good low lux performance and fast shuttle speed to catch images, CAM4321LV indoor Dome Camera with varifocal lens, CAM5330SZ PTZ Indoor Dome Camera for a wide range of view, CAM6351 speed dome with 20x optical zoom lens, and CAM7511 5 Megapixel Fisheye Camera with excellent dewarp functionality that allows each image to be seen without any distortions. All of the PTZ dome, speed dome as well as fisheye cameras share the common feature of panoramic view to avoid any blind angles.



Enterprise Hardware RAID Megapixel Recorders

Supporting up to 64-channel Full HD recording, the Surveon NVR2164 with hardware RAID was chosen to provide large capacities up to 448 TB for longer video retention periods, overall system stability and zero video loss. In addition, its hot-swappable, thermal-proven cables and redundant components also meet industrial grade standards, thus achieving 24/7 non-stop megapixel recording, making it the ideal choice for casino application.

SCC (Surveon Control Center) Management Software

SCC centralised system with multi-monitor client display offers advanced matrix wall management, unlimited number of cameras, servers and clients, data protection, central alarm status, data missing and reporting functions and RAID storage management. This enables the casino to simultaneously have comprehensive view angles with centralised management from every corner.

Benefits

High Quality, Application for Casino and Low Faulty Rate

Surveon's CAM7511 fisheye camera leaves nothing behind and is able to monitor the whole casino without any blind spots with 5 megapixel video resolutions, saving the costs for installing unnecessary cameras. The CAM6351 also provides the site with better and wider view angles and coverage. The

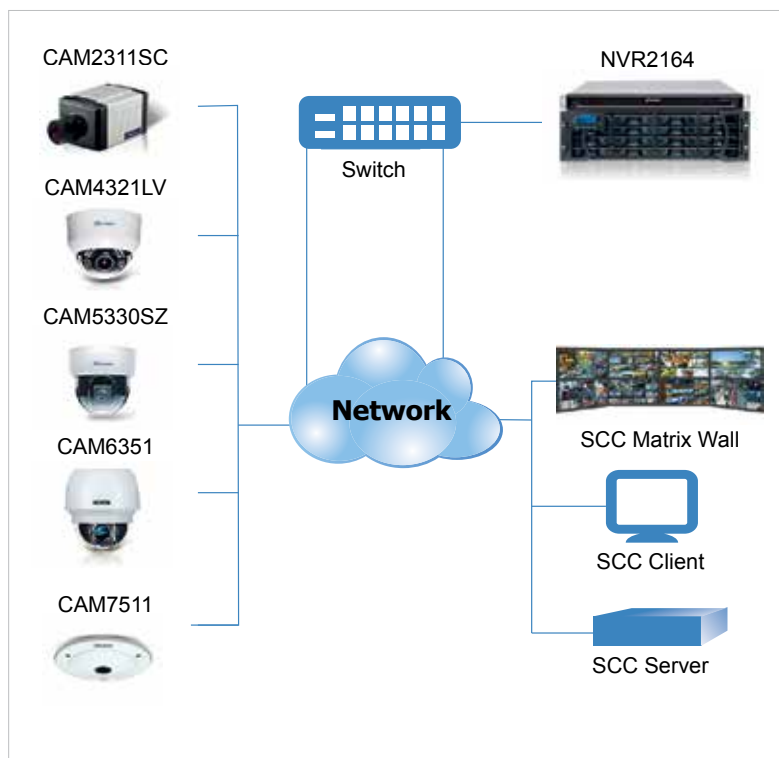
CAM2311SC Compact Network Camera's great performance in low light condition, WDR, ROI video cropping, 2D/3D noise reduction and edge enhancement meet the demands of this project.

The CAM4321LV's varifocal lens is definitely the ideal choice for professional surveillance in the indoor applications, while CAM5330SZ's PTZ autofocus lens design serves as the great role for monitoring in dynamic indoor applications. With all of the above deployments, the whole casino could be monitored effectively without any blind spots.

Organised and Centralised Video Management

The Surveon's NVR2164 ensures continuous recording with stability and reliability with its built-in premium-grade RAID subsystem storage. Paired with Surveon Enterprise VMS with SCC (Surveon Control Center) management software, the advanced matrix wall management enables the casino to monitor every image without negligence. With its RAID storage management, the data could also be protected and retained safely.

"Finding a reliable surveillance partner is always the goal we are aiming for. We are glad that Surveon offers such a comprehensive product line-up to fulfill our needs at once! The performance and image quality have enhanced our efficiency conducting surveillance tasks. The running applications are reliable and quite satisfying," said the Managing Director in-charge of the surveillance deployment in the casino. **SST**



Distributed Architecture for Advanced Applications



Security Goes Hand-In-Hand with IP Cameras From Sony

In order to monitor its gaming tables and premises, Austrian gaming operator Casinos Austria has fitted network cameras from Sony. As a result, the gaming operator benefits from excellent image quality and seamless integration into its existing software and recording systems.

Background

Casinos Austria is a leading gaming operator both in Austria and internationally, offering its guests the ability to enjoy gaming in a stylish atmosphere. Delivering on its responsibility towards each gamer is an integral part of the corporate culture at Casinos Austria.

Challenges

Casinos Austria was looking for video surveillance cameras that deliver excellent image quality, even in difficult lighting conditions, as well as the ability to integrate the hardware unobtrusively into its premises. Gaming tables with suspended

ceiling lighting in particular create a situation in which images of the strongly illuminated playing area and those standing around the table need to be displayed in sufficient quality and with low noise interference. This meant that cameras which employed excellent visibility in both light and dark environment were required. In addition, it was important for the casino operator that the cameras could be seamlessly integrated into the SeeTec video management system supplied by Siemens, and that they were compatible with the existing HDVR digital recorders.

Why Sony Was Selected

Casinos Austria made its decision based on trials of products made by Sony and its various competitors (AXIS, Basler, Dallmeier and Canon); these products were analysed and evaluated on site by the gaming operator in terms of image quality and usability in its premises.

Since 2010, system integrator



Siemens has installed various Sony network cameras in five different casinos in Austria. The cameras are used to provide an overview and for targeted monitoring of various live-dealer table games such as roulette or blackjack. This involves using a PTZ (pan tilt zoom) camera such as SNC-ER550 and SNC-EP550 in addition to a fixed camera like SNC-VM600, SNC-CH220, SNC-CH120. The gaming operator uses Sony's software tool, the SNC Toolbox for software-based identification of cameras and to change IP addresses. Images are stored on HDVR recorders or on HP and Fujitsu servers using the SeeTec video management software. Casinos Austria is planning to use the IP cameras from Sony in all 12 of its casinos in Austria.

Results

Sony network cameras cope admirably with the difficult lighting conditions in the casinos and produces clear, noise-free images thanks to the company's high quality Exmor CMOS sensor with low noise characteristics.

"The Sony SNC-DH210 and SNC-CH210 cameras in particular were impressive by their very good colour reproduction and the extensive configuration options even with their compact dimensions", says Erwin Gollobich from Technical Security at Casinos Austria AG. **SST**





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The Business of Hacking



“Businesses can combat cybercriminals by thinking of them as competitors and targeting what they value most, which is profits. The objective is to implement security solutions that make it commercially unviable for cybercriminals to attack - this means making it more 'costly' for them to maintain operations, while lowering the potential financial rewards they stand to make. To do this, companies need to look at protecting their data in motion, at rest and in use.”

- Christopher Griffith, Global Director of Product Management, HPE Data Security

Introduction

Attackers are sophisticated. They are organised. We hear these statements a lot but what do they mean to us? What does it mean to our businesses? When we dig deeper into the “business of hacking,” we see that the attackers have become almost corporate in their behavior. Their business looks a lot like ours. Cyber criminals look to maximise their profits and minimise risk. They have to compete on quality, customer service, price, reputation, and innovation. The suppliers specialize in their market offerings. They have software development lifecycles and are rapidly moving to Software as a Service (SaaS) offerings. Our businesses overlap in so many ways that we should start to look at these attackers as competitors.

This paper will explore the business of hacking: the different ways people make money by hacking, the motivations, the organisation. It will break down the businesses’ profitability and risk levels, and provide an overall SWOT analysis. From this, opportunities for disruption will be discussed and a competitive approach for disrupting the business of hacking will be laid out.

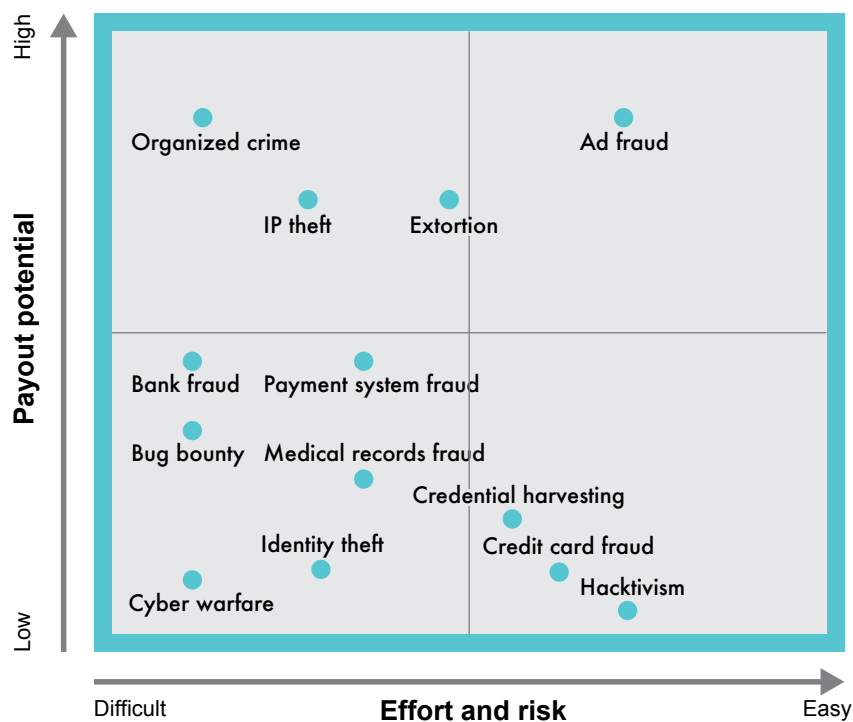
The information in this paper draws on data and observations from HPE Security teams, open source intelligence, and other industry reports as noted.

Whether building in enterprise security or applying security intelligence and advanced analytics, we can use our understanding of the business of hacking and the threats to our specific businesses to ensure that we are investing in the most effective security strategy.



Business types and motivations

There are a few broad categories for attacker groups: organised crime, corporate espionage, hacktivism, cyber warfare/terrorism, and those just looking for pure monetary gain. We can compare the different lines of business within the hacking industry and see how financially lucrative each business is. Cyber warfare and hacktivism are not top of our list due to the non-financial nature of the motivation and culture. This paper focuses more heavily on monetizable criminal enterprise.





Guiding principles and culture

Just as with traditional enterprises, those operating in the underground market are driven by supply and demand. The more obscure a tool or information is, the more it is worth. Conversely, when the market is flooded with goods (i.e. credit cards) then the price per unit goes down.

These businesses do not operate in a hierarchy like a traditional enterprise but function more like a market-driven fair economy of buyers and sellers, each of which works as an independent contractor providing value to the community. These contractors can choose their working hours and often work a separate job to supplement their activities.

The underground cybercrime community is built on anonymity, and this anonymity can actually provide a radically free market system. The actors are only known by their handles and their true identities remain hidden. This breeds a strong paranoia throughout the business. Trust and a good reputation are key to the industry. If you are not trusted, it is very difficult to make money in the system. Trust is built by demonstrating your hacking skills, having other members of the community vouch for you, and providing valuable goods to the community. Groups often form around a shared common language (Russian, Chinese, etc.) or through gaming connections.

Hacking marketplaces have operating guidelines and forum rules. White hats abide by a hackers code of ethics. However, the criminal has always operated outside of ethical norms.



Some cybercrime “businesses” have been found to operate on a 9 a.m. to 4 p.m. schedule, Monday through Friday with Monday mornings being the busiest time of the week, presumably to catch up from the weekend.⁴

Steven Levy's Hacker Ethic:⁵

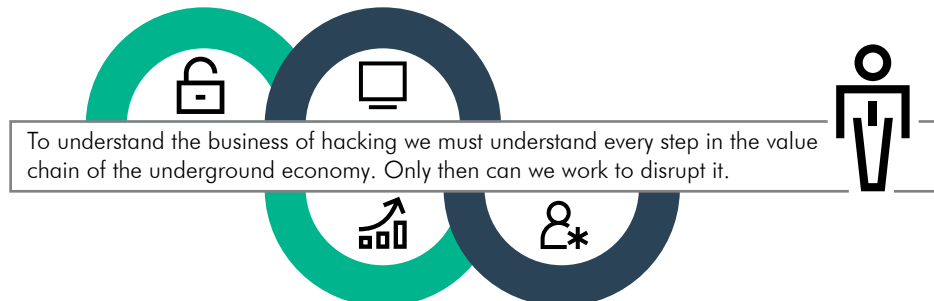
1	Access to computers—and anything that might teach you something about the way the world works—should be unlimited and total. Always yield to the Hands-on Imperative!
2	All information should be free.
3	Mistrust authority—promote decentralization.
4	Hackers should be judged by their hacking, not bogus criteria such as degrees, age, race, or position.
5	You can create art and beauty on a computer.
6	Computers can change your life for the better.

Value chain

A value chain is a set of activities performed in order to deliver a valuable product or service to the market. These activities are carried out by subsystems that take an input, process it in some way to enhance value, and provide an output. All these activities together give the output more added value than the sum values of the individual activities. The effectiveness of the value chain determines the cost of the output and affects profits.



A virtual value chain describes a value chain in the cyber-marketplace.



The series of activities in the value chain of the business of hacking are not under an organisational umbrella like a corporate enterprise. However, they are all pieces that contribute to the end product. This is a deeper look into the primary and support activities involved in "the business." Some black hats carry out multiple activities while others are highly specialised, which may lower their risk of being digitally identifiable (lessen your footprint). Specialising in a small number of activities lowers the hacker's footprint but can make them rise above the crowd and increase the risk of catching the attention of law enforcement officers (LEOs).

Human resource management

Job functions

The businesses are profitable as a whole, but each job in the business can be profitable on its own. Most jobs are on a contract basis, with some attackers performing multiple jobs. All roles within the value chain add value to the final product. Some add more value than others, and demand higher compensation. Not all jobs require IT skills; some have a very low barrier to entry. The following are examples of available jobs in the hacking business:



- s “Spiders” are black hats for hire
- s “Masterminds” are organizers of a hacking group for a target output
- s “Mules” are workers for the group mastermind. These folks may not even know they are participating in criminal activities, but just want to “work from home, for \$3000 USD a month.”

- s Tool development
- s Guarantor services/background checks
- s Escrow services
- s Recruiting
- s Cyber laundering
- s Sales and marketing
- s Legal

Education and skills

Very little education and skills are required to get started in the hacking business. Some roles do not require any special computer skills or networking knowledge—just business acumen. Other jobs require various skills such as programming languages, networking, verbal language (Russian, Chinese, etc.), and social engineering. These skills can be gained through online forums, in Internet relay chat (IRC) rooms, or even via YouTube videos. Learning on-the-job is the tactic employed by most attackers along with finding a mentor to guide new recruits through their entry into the business.

Recruiting and vetting

Trust is the most important piece of the business of hacking. Attackers will use online forums they trust to buy services or tools from others in the business. There are different levels of forums with the more reliable ones being exclusive to well-vetted users and often require a fee to join. Vetting services for participants are offered by guarantors, where a user’s background, contributions, and trustworthiness are evaluated and guaranteed. Good guarantors can quickly identify bad apples. Cheats and swindlers are rampant at the lower, less-sophisticated levels of the business. Some forums also include functionality that allows users to rate other users—much like the rating system for sellers on eBay.





Some posts recruit for custom services or for tools such as malware or zero-day vulnerabilities. These can also be validated by a guarantor before payment is made to the seller.

Operations

The goal of any operations business is to reduce costs, increase profits, and accelerate gains. This is also true of the business of hacking.

Location

One consideration for business operations is the region in which a hacking business operates. Hacking takes place online in cyberspace, but the physical location of the criminal actor is important. More lenient cybercrime laws or the lack of enforcement of those laws makes some countries ideal locations for an underground operation. Additionally, local social and cultural patterns have a great influence on these threat actors. On the flip side, some regions produce higher profits, rendering them better targets.

Some laws make it harder for white hats, turning much of their work “illegal” while trying to protect global citizens from terrorists. The unintended consequence is that black hats flourish as they do not care about boundaries or laws.⁷

Support

Support also falls under operations. Closed-source hacking tools often come with a warranty and support plan that can include bug fixes and upgrades for a year or other specified timeframe. Open source tools require community involvement for support and upgrades.

The upkeep and support of the community forums falls within business operations.

Disaster recovery

Disaster recovery (DR) and resiliency is another aspect of business operations. While there are no formal DR plans within the hacking community, there are features of the industry that allow it to bounce back from takedown by police or fellow attackers. In true Darwinian fashion, early spambot takedowns taught the underground economy the value of DR. The open source principles of the community largely enable this DR capability. When one actor is taken down, another pops up swiftly in its place, similar to a hydra, utilizing the same code.

Cash flow and cyber laundering

Cash flow systems allow attackers to transfer money for services and products outside of a normal (traceable) online business. Cyber money laundering is a process to make “dirty money” “clean” by transferring it through systems until the source can no longer be identified. One way to do this is by first converting e-currency to bitcoins, then to localbitcoins.com, then to blockchain wallet, and on to btc-e.com. A hacker will create a few fake online businesses that only accept PayPal. They will then buy products from them (like servers), create fake orders, and then pull the money out of PayPal. Another method is to sell your bitcoins at localbitcoins.com and transfer the funds directly into your PayPal account. Then go to payoneer.com and order a credit card that links to your PayPal account. They can then withdraw money from any ATM. Leveraging a site like localbitcoins.com methods is a way to lose law enforcement that may be monitoring this activity.

It is very common for criminal enterprises to have a legitimate “front business” in a completely different industry as a vehicle to launder profits from “overseas” operations. There is a complete legal field that establishes and then closes down front companies in various countries around the world. Often there are layers upon layers of fake businesses in multiple countries making it very difficult for investigators to determine what is real and what is not.

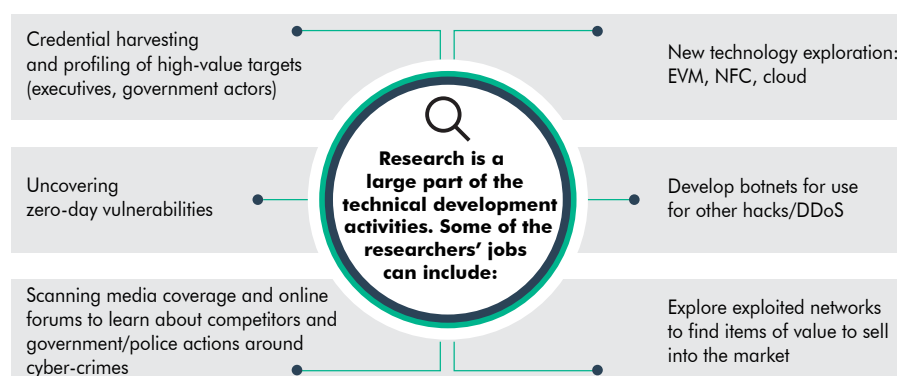


Escrow services

Escrow services are often offered as an intermediary to two parties involved in a transaction. If one hacker is buying an exploit from another then the funds for the exploit will go to an escrow service until the validity of the exploit can be verified. This business requires very little knowledge of computers and IT systems. The level of trust required for an escrow service is very high, and they take some time to become well established. The early users are very likely to be personally known to the escrow founder.

Technical development

Technical development is what most people think of when they think of attackers. This aspect of hacking requires computer-savvy actors performing development activities that include research to find zero-day vulnerabilities, development of exploits for these vulnerabilities, and tools to automate the different pieces of a hack (bot-nets, data exfiltration, etc.). The actors must be skilled in networks or applications, or both. Larger groups may have the expertise in-house to build tools, but smaller groups may have to outsource tool development. Expertise of the developers can range from script-kiddies to professional developers, basic system administrator skills to network architects. This activity in the value chain also includes quality assurance (QA) roles. Tools or exploits created can be subjected to QA and validation by a third party. This will increase the value of the end product.



Marketing and sales

The entire cyber market relies on reputation and credibility to make sales. Attackers must work continuously to build and maintain their status and trust in the marketplace. They also must constantly evaluate other actors they do business with. One false move or sub-par offering in the market can ruin a reputation.

Beyond brand and reputation management, attackers must also perform basic product marketing tasks including competitive analysis, pricing, and differentiation messaging. Competitive analysis involves knowing what competitors are offering to the market and at what price. It also includes evaluating the tools used to uncover any tracking features or exploit kits implanted in the tools by competitors to potentially harm their business.

A full market evaluation is used to determine pricing for goods and services. Because the market is based on supply and demand, if the market is flooded with credit card numbers, the price per number will go down. Typically newer market opportunities (e.g. mobile device and mobile payment systems) command a higher price. This is facilitated by the use of auction-style technologies to calibrate the price of a stolen asset as it declines after the breach has been detected and reported on.



Tools can be priced on a per-use basis or bundled with a year of product support. Marketing tactics for lead generation for tools also include trial versions, freemium pricing on limited-functionality products and full-featured versions for a fee. The market is also moving towards “as-a-Service” tools where you can rent a tool for a defined timeframe or a specific number of uses.

Differentiation is used by attackers to drive demand for their products. Validation of the effectiveness of a tool, reputation for previous deals or quality of tools, innovation, and ease-of-use are all competitive differentiators.

Outbound logistics—distribution channels

Outbound logistics are how a product is delivered to the buyer. Attackers will use sales boards in IRC and online forums to sell their goods and arrange for delivery of the product. The actors’ real identities remain hidden, but they have virtual personas enabling deals in trusted marketplaces. More trusted marketplaces usually require a higher level of vetting for participants, and products demand higher prices. Plus, buyers and sellers often have to pay to join these marketplaces.

Disrupting the business of hacking

By understanding the business aspects and drivers of hacking, we can begin to disrupt the players and the marketplace. The goal is to make it more expensive for these businesses to operate and/or increase the risk beyond acceptable levels for the attackers. Typically, enterprises have achieved this by introducing new security technologies into their environment. These products do not stop attacks altogether, but they do slow attacks down and increase the cost of carrying out an attack, thereby reducing the scope for attack.

Strengths

One of the strengths of the business of hacking is that it is widely an open source community. Tools are shared, allowing for speed in gaining access to victims and in developing new exploits. It also results in a highly resilient marketplace. If authorities shut down an underground site, another one will take its place. This speed is often something our organisations cannot match. Legitimate enterprises must also abide with regulations while attackers do not. Moreover, while most countries now have cyber security laws, many of them lack proper enforcement. For these reasons, hacking businesses benefit from a large talent pool and enjoy an even larger target pool.



Opportunities

75% of mobile applications scanned were found to have at least one high- or critical-severity vulnerability.⁹

Weaknesses

Hacking businesses are full of weaknesses such as, a natural lack of trust and paranoia fostered by the code of anonymity amongst attackers. No one knows who anyone else is and no one truly trusts anyone else. This paranoia is the largest opportunity for offensive attacks from those looking to disrupt the business of hacking. Seeding mistrust could disrupt sales and operations. Attackers are human, making the same mistakes other organisations do. They use default passwords, are susceptible to social engineering, and install tools with hidden malware.

Their business is built on reputation. Tarnish that handle's reputation and they must start over, building a new persona, costing them valuable time, effort, and money for guarantor fees, higher-level forums access, etc.

Opportunities

The opportunities for hacking businesses are very similar to the opportunities for legitimate organisations. The difference is that legitimate businesses are moving to mobile technologies, SaaS, and growing economies to grow our businesses. Attackers view these emerging technologies as opportunities for weaknesses in our organisations that they can exploit.

Developing countries are adopting new technologies to pay bills and access the Internet. Unfortunately, these new technologies and developing infrastructures do not always employ the most advanced security making them an easy target for attackers.

Threats

The greatest threat to hacking businesses is new security technologies. These technologies such as DNS malware analytics slow attackers and increase their risk of getting caught, resulting in lower profits for them. They must also constantly watch their backs for competitors and noisy newbies whose actions can trigger security alerts and ruin their operation.

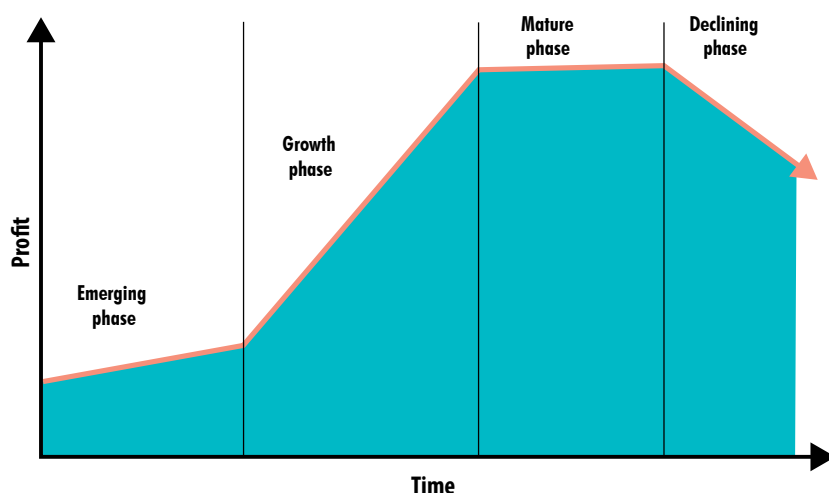




Maturity curve

Each type of hacking business follows a typical maturity curve. There is an emerging phase where the cost of doing business is high, then a growth phase where automated tools flourish and profits increase. The mature phase follows where innovation slows, profits are steady, and typically, the market begins to be flooded. The final phase is a declining phase. This is caused by a saturated market or by new security technologies that make the hacking business no longer viable.

Industry growth stages



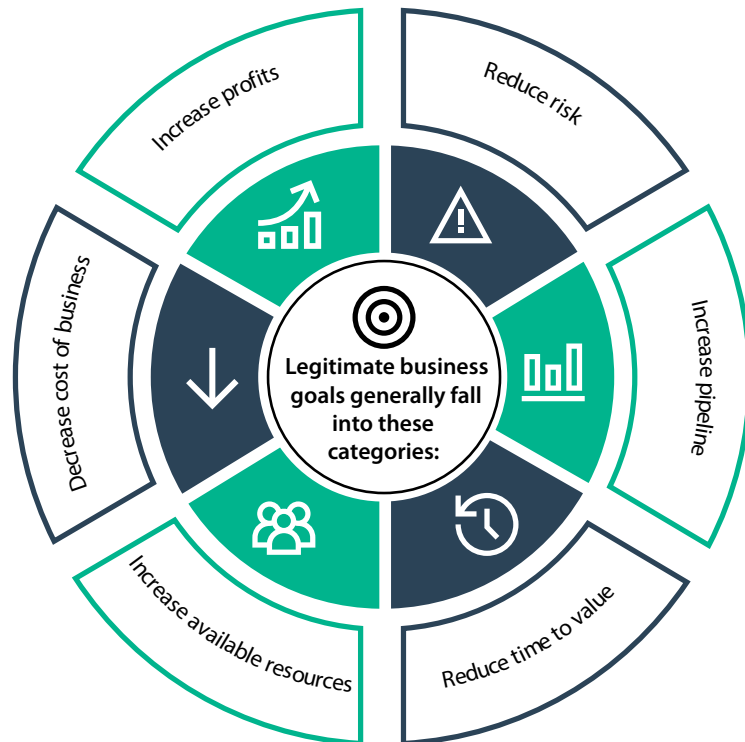
The progression of credit card fraud provides a good example of this maturity curve. While there is still big money to be made in credit card fraud, the market is flooded and the business is in the declining phase. The introduction of EMV chip and pin cards in the United States will make it harder for attackers to make money on “card-present” transaction fraud. Even slowing them down a little will negatively affect their profits and we should do it more often. The maturity curve restarts when new technologies are introduced, such as mobile payments. This full curve can mature much faster in cyber businesses than in traditional business.

The maturity curve also lags in different regions of the world. Africa and South America are rapidly developing technology capabilities but are often behind in adopting the associated security controls. Attackers see this as a large opportunity and are exploiting it accordingly.

Ad fraud is currently in the growth phase. Profits are soaring for attackers. Corporations must begin to think, “Does this affect my business?” If it does, what can you do to disrupt it? There is no IDS signature for ad fraud or a rule you can put into a firewall to block it. Maybe the solution is to not pay for online advertisements through advertising networks. Or, perhaps the solution lies in holding your ad vendor accountable for fraudulent clicks. This is a non-technical solution to the problem, which will reduce wasted spend from your company and also decrease profits for the attackers.

Business goals

These are the same business goals of the hacking businesses. By knowing our competitors’ business goals, strengths, and weaknesses we can arrive at ways to reduce their competitive advantage. If attackers want to increase their profits, it is our job as their competitor to reduce their profits. If they seek to reduce their risk, then we should attempt to increase their risk, and so on.



Here are some examples of disruptive techniques; some very basic, and some far-fetched. Their purpose is to open up the mindset of how we can disrupt the business of hacking and make our businesses less of a target.



Reduce their profits

A majority of attackers are in it for the money. As an enterprise, you can take steps to reduce the attacker's ability to profit from attacking you. If organisations encrypt their data wherever it lies, at-rest, in-motion or in use, with products such as HPE Data Security that data will be useless to attackers, thus restricting their ability to sell and reducing their profits. Additionally, storage is cheap. If an organisation began to bulk-store fake data, then attackers who steal this data will experience quality issues, reducing its value and forcing the attacker to spend extra time validating data before selling it, which will increase the cost of their doing business.



Many attacks occur through devices that were left with default usernames and passwords. What if every device manufacturer required authenticated access to their devices and refused to allow default passwords?



Increase their risk

With more regulations and harsher punishments being established in many countries, the risk of getting caught hacking is increasing in those areas. The problem is one of enforcement. UN regulations have been adopted with varying degrees of enforcement from country to country. This is driving attackers to operate in these more lenient countries to reduce their risk. In the countries with strict enforcement, the ever-increasing police sophistication in the areas of cyber-security is effectively increasing the risk for attackers in those locales.



Reduce their target pool

The number of threat targets for attacking is huge and expanding rapidly with mobile devices and mobile payments. There are some simple data security tactics that can be employed to drastically reduce this vulnerable target pool. Encrypting data on mobile devices and enforcing password protection is a start. Additionally, application developers can use application security tools such as HPE Security Fortify to detect vulnerabilities in their applications before deploying them into production. Attackers prefer easy targets, so deploying any technologies to harden your assets will have dramatic results.



Increase time to value

Time is money. Attackers work to find vulnerabilities and exploit them as quickly as possible. They will then explore a network looking for items of value, exfiltrate, and sell them to make a profit. DNS Malware identification can be used to identify malware infected systems and remove them from the network before they are used as jump points into your network. This increases the time it takes for an attacker to explore your network and find valuable data.



Reduce their talent pool

As hacking is mostly anonymous, attackers use "nicks" or online personas to carry out their work.

These personas are tied to reputations for quality, timeliness, and other attributes we value in our businesses. If a nick is burned or rendered useless it can take a significant amount of time to build up a new nick with a strong reputation. Squashing reputations is one way to reduce the number of viable attackers. No one wants to do business in the underground with someone linked to an FBI investigation.



Increase the cost of doing business

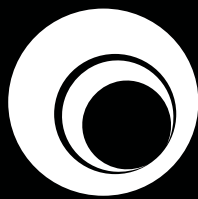
To truly disrupt the business of hacking is to increase the cost of the attacker's business, erode their profits, and increase the time it takes to successfully execute an attack and sale. Deception grids are gaining popularity amongst enterprises to not only disrupt the adversaries, but also to learn their techniques. Think of it as competitive analysis. Organizations set up realistic duplications of their networks to trap adversaries. The adversaries believe they are in the real network and continue to move laterally in this deceptive network. Enterprises can then learn more about the intended target (data, infrastructure, credentials, etc.) as well as observe the attacker's techniques. This allows organizations to take proper precautions in the real network to protect their true assets. Deception grids are complex but may represent the future of getting ahead of the attackers and disrupting them.

Summary

The business of hacking is a business just like ours. If we think of it like a business, like a competitor, then we can prioritise the most effective efforts to disrupt it.

All enterprise security technologies are intended to slow attackers in some way, with varying degrees of effectiveness. Some are effective at deterring opportunistic attackers (patching) but are ineffective at targeted attackers. Others are successful at reducing attacks of one type (EMV chip and pin credit cards), but lead attackers to move to alternate attack vectors (mobile payments). It is our duty as a legitimate enterprise to introduce these technologies to disrupt the business of hacking on a continuous basis. It is critical that an enterprise determine which technologies will be most effective at disrupting the adversaries targeting their unique business.

For more information, please visit: hpe.com/software/businessofhacking



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BIOMETRICS

SAFE CITIES SMARTER STORAGE HOME AUTOMATION
HD CCTV **RESIDENTIAL IOT APPLICATION** HOMELAND SECURITY
SMARTER STORAGE 4K DISPLAY PERIMETER SECURITY

- ♥ Video surveillance is switching off from SD and switching over to HD CCTV and network equipment
- ♥ Aggressive pricing is adding more teeth to every competitors bite
- ♥ Supply bases are seeing the biggest consolidation trends in recent times
- ♥ IHS is forecasting that the world market for Video Surveillance equipment will grow 7% in 2016

2016 is likely to see the continuation of several long-term trends in the video surveillance market.

It's time you get a platform to convert these market trends into the biggest growth opportunities for your security business.

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Antaira's PoE Solution Brings Peace of Mind



Introduction

Due to the cost-saving benefits from utilising Power over Ethernet (PoE) devices and an increased organisation with a reduction in the amount of wiring and devices used in the facility, PoE applications will only be increasing in quantity due to its ability to provide easier flexibility during installation, maintenance and facility expansion.

To increase security at parking lots where cars are often parked, a city in the U.S. wanted to improve their current systems by installing upgraded IP cameras throughout city lots. These parking lots tend to be unmanned for majority of the day, so their security systems were in urgent need of an upgrade in order to enable safe monitoring 24/7.

The Challenge

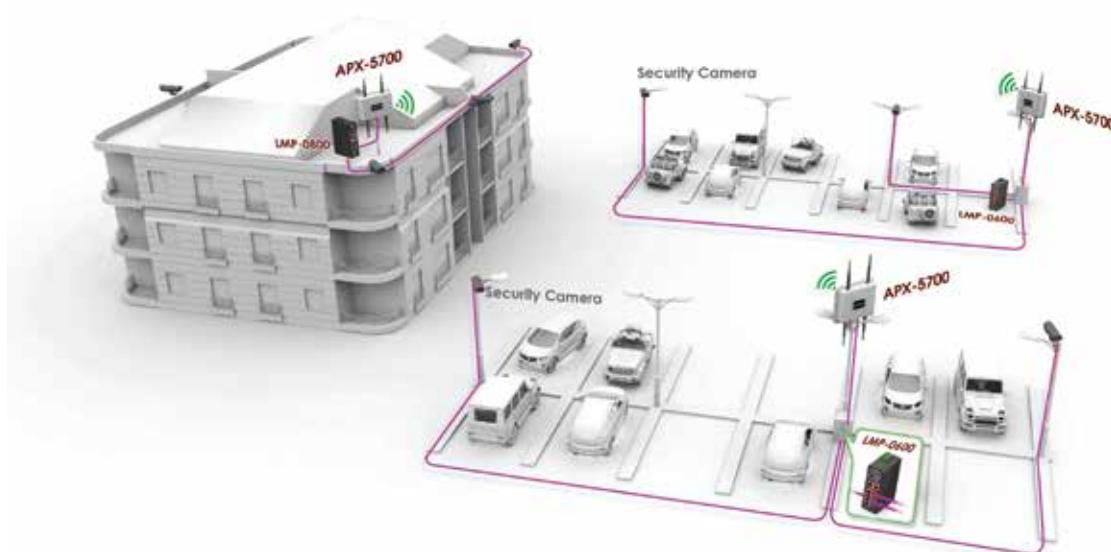
Seeing that weather is unpredictable, the challenge was to install stable devices that can endure all weather conditions and temperature changes. The upgraded systems are also required to be able to transmit data

smoothly without the need of messy cabling.

The Solution

After speculation and planning, PoE cameras were chosen for the job and mounted on poles above the center island where the lights were located. With the central server for the parking lot located all the way on the other side of the lot, it was decided that a wireless link was the most efficient and cost-effective way to connect the cameras to the control room. This was where Antaira's PoE switches and wireless APs came into play.

To power the cameras and access points at each lot, an industrial-grade PoE switch (LNP-0500-T) with four PoE ports and one non-PoE port for uplink/configuration was used. The switch and 48VDC power supply were mounted in a NEMA4 enclosure on the same pole as the other devices. As for the wireless transmission, IP67 access points (APX-3200) were used as an AP/Client/Bridge/Repeater that support the IEEE specification of WDS (Wireless Distribution System).



In a typical wireless AP/Client network, only one IP address can be transmitted from the client radio to the access point. In the proposed network, there would be two cameras in the system, each with their own IP address being transmitted by the access point across the lot to the central server. In order to allow for both streams to be transmitted simultaneously, the APs needed to be set up in Bridge mode with WDS enabled, a protocol that adds additional address fields in the WLAN frame to allow for multiple IP address to be sent from one "client". One AP was then mounted on the same pole

as the IP cameras and connected to the PoE switch, while the other unit was mounted on the outside of the building that housed the server. This AP was then simply plugged into a PoE switch already located within the building.

Highlights

- Wide operating temperature (-40~75°C) allows the system to be installed anywhere in the city
- PoE input for the AP devices allows them to be powered from the same switch as the IP cameras

- 802.11n radio gives the bandwidth needed to support multiple IP cameras
- IP67 enclosure allows the APs to be mounted outdoors and endure weathering

Solution

LNP-0500-T

- Extended Operating Temperature: -40° ~ 75° C
- 4*IEEE802.3at PoE+ ports + 1*10/100Tx Fast Ethernet port
- ESD/EFT protection
- Redundant power input design: 48~55VDC input
- Rugged IP30 aluminum casing

APX-3200

- Support for AP/Client/Bridge/Repeater modes of operation
- Compliant with IEEE802.11b/g/n for 2.4GHz
- 802.3af PoE input
- WPA2/IEEE802.1x enterprise security
- Reliable IP67 waterproof metal enclosure

Conclusion

And as simple as that, with Antaira's flexible PoE solutions, any security system can be transformed into an efficient, stable and smooth-running network that increases the quality of surveillance and enhances the city's safety as a whole, one industrial-grade PoE switch at a time. **SST**





AppRiver's Cornerstone IT Security Solution

Introduction

Founded in 1938, the Royal Air Force Air Cadets have been encouraging British youth to try careers in aviation since WWII, although their roots predate that. With more than 40,000 cadets between the ages of 12 and 20, the Air Cadets are the largest youth air training organisation in the world, with more than 40 percent of RAF officers and pilots being former cadets.



FARNBOROUGH - JULY 24: An Air Cadets Grob Tutor on display at Farnborough 2010 Airshow, July 24, 2010, Farnborough, England. The Air Cadets have almost 60,000 members, aged between 13 to 20 years. Editorial Credit: James A. Harris / Shutterstock.com



The Challenge

The Air Cadets, although a civilian youth organization, is still a part of the Royal Air Force, which is overseen by the even larger Ministry of Defense. As such, having military-grade IT security is paramount to protecting national security. Furthermore, with more than 9000 end users, many of whom are frequently in the media or listed as contacts online for local training programs, the Air Cadets needed a robust – and secure – email filtering solution.

Martin Pratley, SO3 Bader Systems Manager from Headquarters Air Cadets explains, "About 30 percent of our email was spam or malware.



As a part of the Ministry of Defense, we could not afford to take any chances of a malware infection. Additionally, we didn't want to risk that one of the cadets would be exposed to inappropriate content because it contained spam or malware."

At the same time, the Air Cadets wanted the freedom to choose where their Exchange was virtually hosted. They needed a robust spam and virus filtering solution that would work seamlessly with their hosted Exchange.

The Solution

After getting a recommendation to try AppRiver's cornerstone IT security solution, SecureTide™, a spam and virus protection solution, the Air Cadets decided to give it a try. The solution met their standards of being able to work on their server and promising to block 99 percent of spam and viruses. The 30-day risk-free trial and no contracts, hardware, software and real-time updates were an added bonus.

Within 24 hours of turning on SecureTide, Martin was amazed that he never noticed a disruption with the service. "When I received an email from AppRiver around the 24 hour mark, I thought it was going to warn me that my server might be offline while they completed onboarding. I was pleasantly surprised to see that instead they were letting me know that everything had been completed successfully."

The ease of the solution did not stop there. While the Customer Portal is designed for all levels to use, from server administrator to novice, SecureTide's simple implementation requires very little time spent managing settings. "Although the Customer Portal is very easy to use, we mainly need it to manage our whitelist requests. The solution is so intuitive that we rarely need it outside of that. It is very 'set it and forget it'."

As far as protecting the Air Cadets from spam and viruses, SecureTide held true to its promise to block more than 99 percent of spam and malware.

"We have not had a spam or a malware issue since we turned on the service," said Martin. "The Daily Held Spam Reports make it extremely easy for our volunteers and permanent staff to see if something has been held by mistake, and gives them the ability to release the held mail. Teaching volunteers and permanent staff to check their Daily Held Spam Report was possibly the most complicated part of onboarding the solution, which is to say it was not complicated at all."

The Benefits:

AppRiver's 24/7 Phenomenal Care™



Martin says the response time for support emails is a welcomed break from the norm in the IT security industry. "The longest I've had to wait for an email to be returned is 24 hours, and that is atypical for AppRiver and warranted of an issue that needed escalating. Normally, I have an email response in under an hour, which is incredible considering that when I am emailing them at 8am here, it is still 2am at their support center."

Additionally, SecureTide™ is designed to work seamlessly with Secure Hosted Exchange and Office 365 Plus. So regardless of if you want your mail hosted or in the cloud, SecureTide can protect your inbox from spam and viruses. **SST**





The Safe Haven Of Marina Bay Suites



Background

Marina Bay Suites is a luxury condominium located in the Marina Bay of Singapore, developed by Cheung Kong Holdings, Hong Kong Land and Keppel Land. This extraordinary project was an idea of Kohn Pedersen Fox Associates & Architects 61. Now it is a reality.

With 66 storeys, Marina Bay Suites stand 227 metres tall and it is located in the heart of the Marina Bay Financial District. It is situated nearby the Marina Bay Sands, the Singapore Flyer, Raffles City, Orchard Road and Sentosa Island. The prestigious Marina Bay Suites tower is designed to be the residential centre piece of Marina Bay offering magnificent views of the Bay, the Singapore's city and the sea.

Marina Bay Suites Singapore won the Silver Award in the Residential (High Rise) category of the FIABCI Prix d'Excellence Awards 2015.

The Challenge

Marina Bay Suites is located in one of the most luxurious and modern neighbourhoods of Singapore. The project management was looking for an installation that enables an easy administration to secure the premises and delivers comfortable and reliable intercom and security service to the residents.

Conventional systems are not able to fulfil this kind of complexes' communications requirements: the integration of systems. The TCP/IP intercom system is a technological solution offering a high-degree of integration with a wide range of communication solutions for contemporary and safe communities.

Solutions

FERMAX is a Spanish origin company founded in 1949 by Mr. Fernando Maestre. It is specialised company in designing, manufacturing and commercialising audio and video door entry and access control systems.

The values of specialisation and a family business, along with a passion for technology and design, have guided the company to its prominent positioning among the world's most important brands, delivering its products in more than 80 countries. Today, Fermax is including new business lines as home automation or energy-efficient solutions, and making the video entry system the technological heart of the homes.

The participation of the company in worldwide benchmark projects is the main guarantee of success for Fermax over the years.

Technology

TCP/IP technology: LYNX by FERMALYNX

Marina Bay Suites benefits from a complete range of Fermax video door entry system solutions for residential projects, focused on LYNX, an advanced system based on a full TCP/IP technology by Fermax.



LYNX is more than simply TCP/IP. It connects state of the art technology, product design and engineering.

It connects the inside of the home to the outside world and facilitates an interactive community for the residents, while guaranteeing privacy. The system provides a permanent, reliable and easy connection with the building service personnel to ensure safety and protection for every resident. For the system's integrator, LYNX is



very comfortable, as it allows freedom to choose and configure the system and its automation according to the specific needs of each resident.

Outdoor Solutions

Lynx Skyline Digital Panel

Marina Bay Suites incorporates 32 units of LYNX SKYLINE digital outdoor panels. SKYLINE is the modular outdoor entry system by Fermax. SKYLINE is not only an elegant, modern and attractive option but it is also a robust, resistant and the perfect outdoor panel for contemporary installations that require the integration of multiple systems. The fusion of the Skyline panel with Fermax Lynx technology combines the most advanced technology in the video door entry industry with Skyline's creative signature. The incorporation of a 3.5" TFT display activated by a motion sensor to the already extended range of Skyline elements widens even more the possibilities of configuration.



LYNX City Panel

The LYNX City panel with a pushbutton is perfect to be installed at building access points. CITYLINE is the luxury audio and video door entry panel from FERMAX. In the case of Marina Bay Suites, there are 2 LYNX City Outdoor Panels serving as emergency panel for the Handicapped Stairs Lift. It provides safety to the people who need to use the stairs as it is connected with the building's service personnel.

Property Management Unit (PMU)

Marina Bay Suites has two Property Management Units; a powerful management software allows to manage the communication, security and comfort in buildings in an intuitive manner. It covers the functions of the Installer, the Property Management Administrators and the Guards. It is conceived as a touch screen application for PC, easy to use and a powerful tool in securing the comfort and well-being of residents.



The best residences demand a management system that is its peer as the Property Management Unit by Fermax. It is the most effective tool to guarantee communication, security and comfort to ensure tenant satisfaction.

This unit offers three operating modes: Full service, Home service and Off service. As Guard Unit, the PMU receives and sends calls or messages from apartments, panels or other PMUs, call divert, and allows to receive and manage alarm warnings and panic calls from monitors and panels and control the lifts.

Indoor Solutions

VIVO monitor

The VIVO monitor was chosen for this exceptional project's installation. VIVO is the high standard video entry monitor of Fermax with ultra slim line format, glass surface and 7" capacitive touch screen for intuitive handling, similar to the smartphones and tablets, thanks to its IP technology and Android operating system.



With 221 monitors installed in the apartments of the Marina Bay Suites, VIVO incorporates a wide range of advanced functionalities as a video door entry system (communication in all directions, receiving internal messages, image capture, emergency calls, audio notes, etc). VIVO can also be used as the Home Automation management terminal for Smart Homes. It is also a management platform for multi-brand home automation systems, CCTV cameras and lifts.

The VIVO monitor was designed by the prestigious Spanish industrial designer Ramón Benedito, who enjoys an international reputation for its ability to merge high technology with beauty.

Lift Control From Home

In order to program the lift control from the indoor video entry monitor, the installation includes 48 units of the Fermax 10 Output Relay Decoder. This decoder allows most of the lift systems on the market to comply with fully integration with Lynx Video door entry system, offering a comfortable function for residents: calling the lift. Furthermore, this decoder is a special anti-vandal feature that reinforces the LYNX system and makes it going one step further on Fermax commitment to security. In addition, there are 4 units of LYNX Master Relay Decoders installed that allow the flexibility and expandability on the management of dry contact integration. **SST**





Checkpoint Systems Chosen by DECATHLON to Further Extend RFID Source Tagging Program for Millions of Products in all Global Stores

Introduction

Decathlon is a network of innovative retail chain and brands providing enjoyment for all sports people. Innovation lies at the heart of Decathlon's activities, from research to retail, including conception, design, production and logistics. Its twenty Passion Brand teams develop technical, good- looking and simple products, always at the lowest possible prices, aimed at all sports enthusiasts, from beginners to experts.

Checkpoint Systems, a leading global supplier of merchandise availability solutions for the retail industry, announced that it has been partnering with DECATHLON, the second largest global sports and leisure goods retailer, to roll-out radio frequency identification (RFID) solutions in more than 400 stores globally and further extend its RFID source tagging program for millions of products in all its stores around the world.

Process

Checkpoint will deliver RFID labels to DECATHLON in five days through its network of service bureaus around Asia and Europe. The service, which complies with DECATHLON requirements for high-speed and high-quality printing, as well as corporate and environmental social responsibility, ensures that 100 percent of RFID labels delivered to vendors are encoded accurately.

DECATHLON's RFID source tagging program enables items to arrive in store shelf-ready, freeing employees from manually checking deliveries or applying labels to merchandise before they reach the shop floor. Source tagging, which involves electronic article surveillance (EAS) or RFID labels being applied to products during the manufacturing process, is helping retailers boost profitability through improved efficiency.

DECATHLON has already installed Checkpoint's dual-mode EVOLVE Exclusive E10 Radio Frequency (RF) and



RFID-based antennas in 19 countries, while carrying out an extensive RFID source-tagging program, as well as implementing Alpha High Theft Solutions to protect high-risk merchandise.

Challenges

The key challenge for DECATHLON was to improve its inventory visibility while enhancing its in-store loss prevention capabilities. DECATHLON tested Checkpoint's unique Wirama Radar technology and found that it delivered the required performance. By identifying the location and direction of movement of a tagged item in-store, Wirama Radar can distinguish whether an item is simply merchandised near the exit or potentially being stolen. As a result, the retailer is able to identify exactly the merchandise that is potentially being stolen.

Per Levin, President and Chief Sales Officer for Shrink Management & Merchandise Visibility Solutions for Checkpoint Systems, said: "Reducing out-of-stocks is critical for retailers to compete and win in today's challenging retail environment. With RFID-based EAS, DECATHLON reduces shrink and gains real-time insight into merchandise status to make real-time business decisions that drive new sales opportunities." **SST**



George Mason University – Migrating to a Smart, “One Card” Student ID

As the commonwealth of Virginia’s largest public university, George Mason University has a population of more than 30,000 students with nearly 5,000 facility members and 2,000 contractors on campus. Showing no signs of slowing its student enrolment, George Mason is a rapidly expanding campus with new facilities and residential halls under construction, and new services being deployed each year. However, an outdated and vulnerable Mason ID card system needed to be replaced with a more secure and comprehensive “one card” solution that could provide better security, efficient end-to-end issuance capabilities and connect card holders to new services and departments on campus. Most importantly, the university needed a cost-effective migration plan if it were to completely replace its legacy student ID card system.

Challenges

For over a decade, George Mason has been issuing Mason ID cards with magnetic strip technology to its students, faculty and contractors. These legacy cards not only wore out quickly but they relied on an older security technology that lacked the cryptographic capabilities of smart cards, making them susceptible to cloning and counterfeiting. It was also difficult to update and manage old campus door locks and cards.

Needing to address today’s increasing security challenges, George Mason also recognised that with any new technology deployment



on campus, they had an opportunity to lay a foundation that would help the university meet the needs and the expectations of a very technology-savvy generation of students.

Greater campus security could be achieved by moving to a new contactless smart card technology, but the greatest efficiency and convenience would come from leveraging the power of a flexible, “one card” solution that enabled the Mason ID to be used with not only access control systems, but other value-added applications and services on and off campus.

Determined to move to a new and comprehensive ID solution, George Mason was conscious of its limited

“We needed a more secure and flexible system that we could roll out incrementally as our budget permitted while still supporting our legacy infrastructure and technology. We also needed to accommodate for the growing number of students each year and the needs of all our departments and services, all of which demands a single ID card that can securely pay for meals, check out books in the library, check in and out of the gym, pay for parking, access facilities, and much more.”

James McCarthy
Physical Security Director with



budget and the time and cost associated with replacing existing card infrastructure and ultimately, rebadging its more than 30,000 card holders on campus.

The Solution

By working with HID Global and its parent company ASSA ABLOY, George Mason was able to design a cost-effective and comprehensive, end-to-end ID solution that would enable university administrators to migrate their existing card system over an expected five years. Simultaneously compatibility with the legacy student ID cards and the existing hardware on campus, this new solution would be deployed slowly and consist of the following:

- HID Global multiclass SE readers, as well as PERSONA Campus Software and SARGENT Passport locks from HID Global's parent company, ASSA ABLOY. Chosen for their built-in encryption and enhanced security, the multi-technology readers and locks also support the legacy magnetic stripe (magstripe) cards used on campus as well as newer, contactless card technology.
- Seos smart cards from HID Global were chosen for

their advanced security, interoperability between the new locks and readers, and the multiple card applications enabled by its breakthrough technology. For instance, the university leveraged HID Global OMNIKEY desktop readers to extend the Seos card's use to check out library books and to pay for meals in the cafeteria.

- HID Global FARGO DTC4500e ID card printers and encoders along with its AsureID card personalisation software were installed at the campus card office. Cards are personalised by printing student information to the card at the same time encoding and programming of both magstripe and Seos technologies are completed for each multi-tech card in a single, inline issuance process. Total issuance time is drastically reduced, data entry mistakes are eliminated and the new ID cards are printed at higher quality with more durable lamination.

"One of our goals is to get the students out of the card office as quickly as possible. We wanted something that was seamless, so staff could search for the person, verify the identity, print the card and hand it to the person, knowing that it would work right away," said Jerry Baugh, Director of the Mason Card Office with George Mason University. "With the new printers and Asure ID software, we were able to really streamline the entire card process and set up a true one-stop shop on campus that not only reduced the waiting time for the student, but produced a more durable and better looking card that eliminated the hassle and costs of replacing cards that used to wear out too quickly."

George Mason worked closely with HID Global and ASSA ABLOY to chart a three-year migration path for its new solution. To date, George Mason has installed approximately 3,500 new HID Global readers and ASSA ABLOY locks, and has issued more than 12,000 new Mason ID cards to incoming freshmen. The university expects to complete its card migration by 2017 with more readers and locks to follow.

Powered by Seos smart card technology, the new Mason ID cards are initially being used for accessing facilities, residence halls, library and cafeteria services. The multi-technology readers and locks ensure the total system also works with the older magstripe ID cards still in use. Potential applications for the new Mason ID include cashless payment for the Washington D.C. transit system, time and attendance when at the gym, and even generating one-time password (OTP) soft tokens to allow students and faculty to access cloud applications, data and other services in the future.



"Students like how they can quickly tap the new contactless cards to readers instead of having to swipe with magstripe. And, because the new issuance process is more efficient and the cards now last longer, we've reduced replacement costs and hassles. It's just a better card experience for everyone and we're really excited by the opportunities to extend the use of our Seos cards to generate one-time passwords and to even put the Mason ID on our mobile phones."

Danny Anthes

Senior Manager of Information Technology with George Mason University



Benefits

The university now has state-of-the-art facility security as well as real-time control when a lock-down or other changes are needed. They also can quickly and easily modify their access control system, including updating card privileges, revoking and replacing lost or stolen cards, and adding or removing applications, while the new ID card also frees the students to easily access so many aspects of campus life.

The move to a Seos-based technology solution has provided the university with more freedom of choice and the ability to add more applications as it scales in the future, while providing

the confidence that the university is receiving the best-in-class security and privacy protection for its students and staff. In the coming years, George Mason has positioned itself to take full advantage of its ID system to extend not only the many uses for the Mason ID, but the form factor of the student ID itself.

"For us, Seos is a short step; we want bigger, better, newer, faster. We know mobile credentials are coming, and we want to be positioned. We know our readers are already there, so the ability for us to leverage mobile credentials and send those to the phone will be our next step," stated Danny Anthes, Senior Manager of Information Technology with George



Mason University. "I think Seos goes beyond just door access; it allows us to manage the credentials better and put the destiny of the department back into their own hands." **SST**

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Oncam 360° Technology Supports Business Development at Zumre Gas Station

An IP technology system featuring Oncam 360° video cameras helps a Petrol Ofisi petrol station in Istanbul keep the busy forecourt safe for customers and staff. The cameras also provide vital information to help develop new services for customers.

Safety first

Petrol station forecourts are full of potential hazards — from fuel spills to moving cars. If an incident or accident occurs, it is vital the manager can review what happened and establish who was responsible. Here is where an effective video monitoring system comes in.

The Zumre Gas Station in Istanbul, operated as a franchise under the Petrol Ofisi brand, serves commuters and residents in the Bahçeşehir area. Running a petrol station is a new line of business for its owner, Sunny Electrical Group, a well-known supplier of high-quality home appliances in Turkey.

Located just off a busy highway, the newly constructed Zumre Gas Station attracts more than 800 cars and trucks to its pumps every day; and around 600 people visit the forecourt shop to buy goods ranging from groceries — including organic products — to gifts.

To keep its customers and staff safe, Sunny Electrical Group decided to install a scalable video system, based on the latest IP technology, to cover the forecourt and shop. Because attendants operate the station's six pumps, there is little risk of anyone driving off without paying for their fuel. Even so, the



company wanted a solution that could capture number plates. "With so many customers driving in and out of the station every day, we wanted to be able to identify cars in the event of an incident on the forecourt," says Mustafa Varvar, Company Manager.

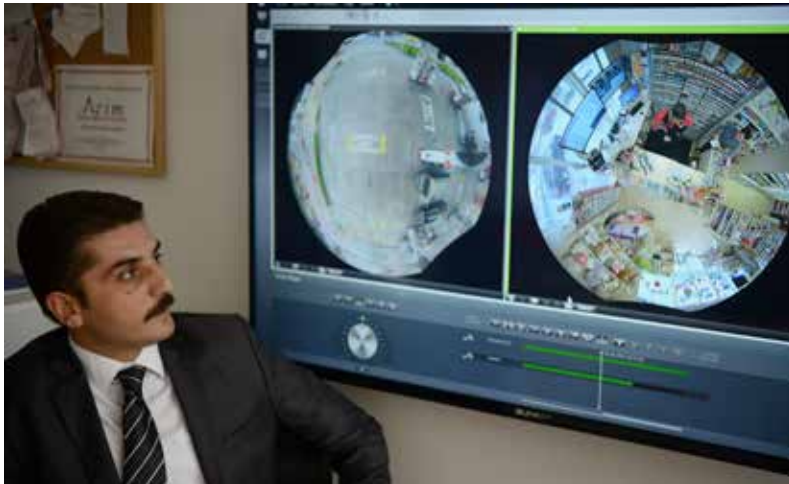
Complete coverage with no blind spots

In collaboration with integration partner Fescom Engineering, Oncam designed and developed a video monitoring solution for the petrol station comprising 10 high-definition IP cameras and a SeeTec Cayuga recording platform. Five of the cameras were Oncam 360° five-megapixel cameras: three

covering the pumps (which would normally require between 10 and 15 conventional cameras); the other two covering the shop and the entrance to the office.

"In my experience, you'd normally need 25 or 30 narrow-field-of-view cameras to cover a petrol station of this size, but we're using just five Oncam 360s, along with five narrow-field cameras, to get complete coverage with no blind spots," says Varvar. "Even if we lost coverage from one of the Oncam 360s, the remaining cameras could still record the overlapping area."

Two of the narrow-field-of-view cameras are dedicated to capturing car number plates at the entrance



and exit to the petrol station. “The all-round visibility of the forecourt provided by the Oncam 360s mean we can focus these two cameras on providing number plate images, which are clear enough to read with the naked eye,” says Varvar.

The petrol station subsequently added two more Oncam 360s to cover the organic food market.

Incident reviews that leave no room for doubt

Full coverage of the forecourt means

that every incident is captured on video — whether it is a suspected theft from an unattended car while the driver pays in the shop, a car hitting an obstacle, or a near miss for a pump attendant or pedestrian. Varvar can review video footage of any reported incident to see exactly what happened, determine who was responsible, and take appropriate action based on the evidence. And it is not just Varvar who finds the video evidence useful, as he recounts: “When an incident happened on the other side of the highway, the police asked to see footage from

our Oncam 360° cameras to help them identify who was involved and forensically analyse the scene.”

Data that drives business development

Varvar is also counting on the video footage to support his business development plans — especially once he upgrades to the latest 12-megapixel Oncam 360s.

By analysing customers’ behaviour — such as how many people buy petrol, how many visit the shop, and how many call in just to use the washrooms — Varvar will have valuable data to underpin decisions about, for example, expanding the shop or adding more parking. The company could even use the data to inform the design and development of other petrol stations in the future.

“We’re increasingly seeing forward thinking companies like Sunny Electrical Group go beyond security and safety objectives, as they use high-definition video evidence to help drive business growth and deliver new levels of customer service,” says Cem Yildizak, Country Manager for Oncam. **SST**





Sony Brings 4K Video Security Solution To Harton Technology College In Global First Education Installation

Introduction

Since 1936, Harton Technology College (Harton) in South Shields, Tyne and Wear has set precedence for excellence in education. Now, the school has become the first education institution in the world to be equipped with Sony's 4K surveillance system with the recent addition of two SNC-VM772R 4K video security cameras to its existing network.

Background

When looking to upgrade its existing security technology, Harton made it clear that optimum image quality was a top priority in order to ensure the most effective monitoring of key areas of its compound. With a busy main gate carrying students, staff, parents and visitors through it every day, it was crucial that the solution was capable of capturing the minute details in order to provide maximum safety and security. The installation was a leap forward for the school, which already has an extensive network of around 100 cameras.





Challenges

Educational environments require a sturdy security solution which offers broad coverage and the best image quality without intruding on teachers and students. The school also required a security system which could be integrated into its existing network and capture two specific wide points of interest: the entrance gate and the school field. The solution had to deliver all the benefits of 4K technology, particularly high image resolution, without adding strain onto the existing video network.

Sony's Solution

Sony's SNC-VM772R 4K security cameras were the perfect choice that answered the requirement of covering a wide field of view whilst equipped with the ability to zoom in to areas of interest within the scene.

"When we were looking to upgrade our security technology, we wanted a top of the range solution which made staff, students and parents feel secured," Sir Ken Gibson, Executive Head at Harton, explained. "We've been using Sony's cameras since 2003 and Universal Systems Solutions (USS) recommended Sony to navigate our move to 4K. The easy installation meant minimal downtime for our system as the new cameras were installed quickly with minimal disruption. Since the installation, we are very impressed with the enhanced image quality and wider scene capture. Our students feel safe and secured while parents have peace of mind, which is of paramount importance to us."

Results

A fully integrated, easy-to-manage system delivers comprehensive security at Harton. Higher-resolution imaging has traditionally come at the cost of low-light sensitivity but with the new 1.0 type 20MP Exmor RTM sensor in Sony's SNC-VM772R, high resolution recordings are achieved regardless of lighting levels, even in low light situations and complete darkness using the in-built IR illuminator. The transition to 4K in key areas has created a streamlined security solution at the school, with swift and easy identification.

Why Sony Was Selected

Harton tasked USS to deliver the quality security solution it needed. Thanks to its depth of expertise and strong partnership with Sony, USS was able to fulfill the requirements by implementing a reliable system with the existing Sony models, providing 4K image coverage in the required areas at a low bandwidth. USS was impressed with the SNC-VM772R's hassle-free fitting and ease of installation, including the SNC-Toolbox Mobile App. The system not only secures the school and its students, but also protects the investment by delivering quality 4K video security at a competitive and affordable price.

"Having worked with Sony for many years, we remain impressed by the breadth and quality of its video security solutions which meet the high standards of our customers," said Kevin Bruce, Director at USS. "The combination of the 4K camera's lower bandwidth, night-time viewing and back light compensation made it the ideal option for Harton Technology College. Sony's technology has been core to delivering against the brief and migrating to the latest future-proofed surveillance systems for this and other installations." **SST**



AN INTERVIEW WITH

MR. BRUCE XU, VICE-GENERAL
MANAGER OF DAHUA TECHNOLOGY
SINGAPORE

Introduction

A brand synonymous with security surveillance, Dahua Technology, China's second largest security firm, has recently launched a new office in Singapore. Vice-General Manager Mr. Bruce Xu gave us a preview to their new 6-man open concept office expansion.

Can you tell us why you have chosen Singapore?

The expansion of the office in Singapore is mainly targeted at the local market.

Dahua Technology Singapore's team of sales and technical personnel will provide support for local distributors. The reason we have chosen Singapore is so that we can be closer to our customer base here and to familiarise ourselves with clients' requirements in surveillance here.

What is the role and area of focus that the Singapore office will take on?

We are looking into localising the Singapore market so as to aid government bodies with future projects. Seeing as we have already had suppliers and distributors in the country, localisation should move forward quickly.

In addition, Dahua Technology is targeting government projects in securing the nation as many other nations are turning states into smart cities and the Singapore government has been looking to adopt this concept.



Does Dahua plan to appoint distributors or partners in Southeast Asia?

Seeing as we already have multiple distributors and different partners across Southeast Asia in countries including Indonesia, Malaysia, Brunei and the Philippines, our next plans are focused on supporting our partners from the Singapore office.

What are your future plans or vision in Singapore?

Dahua Technology is no longer merely a CCTV manufacturer; we serve as a multi-solution provider for security in various vertical markets such as IP solutions, HD analogues, car parks, smart buildings, banks, intelligent traffic monitoring, homes and mobile solutions. We are planning on making an expansion into cloud servers and even virtual reality technology in the coming years, exploring how these technologies could improve physical security technologies. Dahua's motto is "Make Your Life Safer", and that's what we plan to put into action.

Dahua Technology is a world-leading video surveillance solution provider headquartered in Zhejiang, mainland China. Backed by an extensive team of professionals in their R&D team, Dahua believes in investing and building strong R&D capabilities for new technology and innovation to provide cutting edge products with high quality and performance. The company's products have been acknowledged and awarded by professional associations and organisations in the security industry and widely used in many fields, such as banking, public security, energy infrastructure, telecommunication, intelligent-building, and intelligent-transportation.

For more information, please visit: www.dahuasecurity.com SST



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Casino Surveillance In Revolutionary HD

Introduction

The casino industry is set to begin its migration to IP in the coming years. Advancements in picture quality, the ability to cope in very low lighting and improvements in image analytics are the key driving forces.

Casinos are a unique market vertical incorporating many of the challenges present in other market verticals. They often operate for extended periods of time (some without closing at all) and need to ensure security while maintaining a fun and inviting atmosphere for customers.

Objectives of Migrating

When making the shift from an analogue solution to an IP solution you often need to make your case as to what will improve. For the casino market there are some key benefits you can realise both for observational and back of house operations:

- Improved picture quality and greater sensitivity in low lighting
- Greater frame rates to for post recording analysis
- Wider field of view and less cameras
- High quality audio capture
- Remote or mobile viewing
- Simpler control room operations for locating and playback of video
- Automatic recognition of premier customers or people on security watch lists





What Are You Protecting?

Casinos are made up of a number of diverse environments all presenting different challenges for the installer and the end-user alike. Most areas are geared up to working almost 24/7 with a large number of gamblers and staff flowing through the venue.

- Gaming floor
- Cash office
- Cash desk
- Staff break areas and locker rooms
- Car park
- Back office areas
- Emergency exits
- Restaurants, bars and lounges
- Loading bays/bins
- External perimeters
- Reception
- Staff entrances and exits

Improved Picture Quality

Casinos can often suffer from customers placing illegal bets or performing sleight of hand actions resulting in fraud against the venue. While the croupier is trained to pick up on these activities and the floor managers are there to assist in this detection and act as a deterrent, a casino's surveillance system is there as an additional set of eyes which can resolve a dispute arising over a bet.

There are a number of different types of fraud a surveillance system can detect. Illegal moves such as swapping cards during a game, late bets or a player placing additional chips on the table after the roulette ball dropped can now be monitored under strict supervision. Most of the time this would cause a dispute where the casino cannot close the table whilst the evidence is being found. Locating the clip quickly and easily is key to the smooth running of the gambling floor.

When the security room operators have located the clip, the quality of the image captured can be crucial in reducing the fraud impact on the casino. It also allows the casino to make sure that the correct customer is paid the correct number of chips for their win.

Here we see the Full HD image captured by one of the Sony 6th Generation cameras. When you digitally zoom on the far end of the table you have far more detail than any analogue camera



**Example of SNC-VB630
Installed above a
Roulette Table**



could ever offer. The level of resolution is sufficient to make out the numbers on the table, the position of the chips and the ability to accurately see the number of chips in play on the table. What's more you can accurately make out the colours of the chips each player is playing with.

Greater sensitivity in Low Lighting

Casinos are among the many businesses and organisations that have begun to switch the lighting in their venue to LED or other low powered lighting solutions. Combine this with the different mood lighting and backlighting, and it presents a difficult environment for a surveillance camera to operate in.

One of the most notable problems surveillance teams face are poor lighting conditions. Further problems can arise from this such as poor colour reproduction. This can make it difficult to identify the colours of chips in play or even the value of cards being dealt. What's more, with strong backlighting from gaming machines, digital signage or neon lights around the venue, images can become very dark and shaded. This impairs the operator's ability to make out enough detail in the scene.

The Sony Exmor sensor is designed with extreme sensitivity in mind to compensate for these types of lighting issues. Combining the ability to capture images at a high frame rate with different exposure settings brings exceptional clarity to high contrast scenes and strong lighting situations.

The IPELA Engine on the Sony G6 camera is also designed to process the images captured by the sensor to improve the image quality. It does this by applying 2D and 3D noise reduction algorithms, making XDNR perfect for scenes where you have both moving and static objects in a low light environment.

The IPELA Engine also features View-DR, which utilises the 120 pictures captured per second and combines these multiple images to compensate for high contrast areas. The IPELA Engine then uses a Visibility Enhancer as the third process to enhance the image further, correcting colour tones and brightness. This can then be encoded at 60 frames per second and then streamed over the network.



Typical Analogue Camera



Sony Full HD 6th Generation IP Camera

Greater Frame Rates for Post Recording Analysis

The surveillance solution within a casino is often looking at fast-moving action where sleight of hand fraud is likely to take place in an effort to cheat the house. Introducing cameras with high frame rate capture and encoding will really help to detect this. Areas of constant motion such as the roulette table will appear much smoother, making it easier for an operator to constantly view.



However, the main benefit will be the extra detail that you can record for post-analysis. Many suspected acts of fraud will be picked up but the gambling floor staff can now confidently confirm their suspicions. With sleight of hand acts getting quicker, Sony's G6 cameras are able to double the number of frames per second from 30 to 60 – this means you'll be able to see everything that happens frame by frame.

Wider Field of View and Less Cameras

Many of the current installations within casinos use analogue cameras. These give a 4:3 aspect ratio which is quite limited when trying to view a table, the people at it and the croupier or dealer. Using HD cameras with a 16:9 aspect ratio will allow for a much greater field of view.

This will allow the casino security room operators to view or review how a dealer interacted with the gamblers to show if any collusion took place between a staff member or another gambler at the table.



4:3 field of view



Full HD 16:9 field of view

High Quality Audio Capture

Another means for casinos to detect collusion between staff or fellow gamblers, or even to ensure the member of staff is adhering to the rules of the house, is to use audio. In many casinos the tables are fitted with a microphone which needs to be cabled back to the recording solution.

With the introduction of Sony's Generation 6 cameras you can now encode audio in near CD quality using AAC 48Khz. Combine this with a recording solution from either Milestone, Genetec or NICE and you will be able to have this audio lip-synced with the video.

Remote or Mobile Viewing

As broadband speeds continue to increase, we now have the ability to stream HD video back to head of office or other casinos. This means intelligence can be easily shared to help catch fraudsters, e.g. people who have been banned from other casinos. The benefit of this is that someone at head office can dial in and help review the incident for a quick resolution.

Mobile and tablet connectivity for video surveillance is another possibility. Working with recording solutions such as Milestone or NetAvis, you can use a tablet device to connect to the recording solution – all you need is a wireless network set up inside the casino. This means security staff will be able to access live surveillance without being in the control room. Again, this could help to improve a casino's ability to efficiently resolve disputes with gamblers.



Simpler Control Room Operations for Locating and Playback of Video

The security control room within a casino can be a busy place. Floor security and casino management staff rely on them to deliver a rapid ruling on a dispute or details on an incident that may have taken place. Smooth operations within the control room and on the casino's gambling floors rely heavily on staff training.

If a dispute takes place it may take some time before the message to start searching for the video evidence gets to the control room. And if the exact time of the dispute is not known, the operator will need to cross-reference the name of the table to an ID number for the relevant camera. Both of these factors will then impact on the time it takes to locate the video evidence.

Modern IP surveillance solutions may help this. By changing the graphical user interface (GUI) of the recording solution you can display a layout of the casino's floor plan with all the cameras shown in their actual positions. Once you have located the camera using features like "Playback from Live" to instantly rewind the recorded video, you will easily be able find the dispute or incident.

Finding ways to automatically tag a video for quick retrieval would also be a huge benefit. Currently, when the dealer is made aware of a dispute, they will signal to security that there is an issue by waving a card over the table. This acts as a visual marker to give the control room staff a point to work back from.

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This method still relies on the operator finding the correct camera and then quickly rewinding back into the video to locate the event they are looking for. An alternative would be for the operator to have a button on the table which feeds back to the cameras I/O port. When a dispute happens the floor staff could push that button to automatically tag the video making the control room staff. As long as you are working with pre and post alarm recordings this could really speed up retrieval time by simply double clicking on the alarm history list.

Finally, presenting a simple user interface capable of displaying up to 9 recordings simultaneously, makes post-event analysis from multiple cameras possible. This saves time as exporting lots of unneeded video footage can take a while. This is also ideal for areas where you have multiple cameras covering the same area from different angles.

Automatic Recognition of Premier Customers or People on Security Watch Lists

There is growing interest in face recognition. Whilst most levels of accuracy are fairly low, the move to HD/IP surveillance is certainly helping make this technology a reality. Within the casino trade face recognition has two key placements. The first is in recognising banned customers who are not welcome.

The second is in identifying the high rollers who need to be made to feel valued from the moment they walk in. Making the move to IP cameras that feature Full HD resolution, excellent sensitivity and sophisticated backlight compensation (while being ONVIF compliant) is guaranteed to be a good investment.

Conclusion

There is no doubt that casinos are going to make the move to IP surveillance in the coming years. The benefits of Full HD/IP surveillance are far surpassing that of analogue or standard definition IP cameras of the past.

Full HD PTZ cameras are getting higher and higher zoom ratios meaning they're perfect for deploying fewer cameras while covering a wider field of view. Advancements in 360 lens and de-morphing software are also making huge strides to reduce the number of cameras needing to be installed while covering the same area size.

The biggest limitation may be the complexity of the migration. Perhaps some installs would benefit from installing the IPELA Hybrid camera. This utilises existing coax cabling to make the migration quick, simple and cost-effective.

There are many different recording solutions in the market. Many are designed with mobile, desktop and remote applications in mind. The graphical user interface can be simple or complex and often tailored to the end users requirements that help streamline your control room operations. Sony works with over 1250 software partners worldwide as well as producing its own recording solution. Spend some time evaluating these packages to see how they can bring significant improvements to both your front and back of house surveillance operations.

Casinos have many unique challenges. Finding the best camera, the best recording solutions and the best analytics package are all things that shouldn't be rushed into.

Firstly, take the time to do a good site survey, work out the challenges of your proposed camera locations and select your camera models. Once you've done this, work out the features you need from your recording and analytics package. Then begin your install. **SST**



Company Profile:



GRID Communications

Overview

GRID Communications Pte Ltd (GRID) is the leading public telecommunications walkie talkie (also known as two-way radio or trunked radio service) iDEN network operator in Singapore. It is the only public trunked radio operator that provides island-wide coverage with more than 300 base stations over Singapore. GRID Communications is classified as an Infocomms Essential Firm (EF) by the Infocommunications Development Authority of Singapore (IDA) since June 2002 to provide an alternate communication platform for the government during crisis situations and national emergency.

GRID Communications (formerly known as Digital Network Access Communications) is a joint venture incorporated in December 2000 between Singapore Technologies Telemedia and Singapore Telecom Ltd each owning 50% equity stake in the company. IDA has granted GRID Communications the license to provide facilities-based operations (FBO) under Section 5 of the Telecommunications Act (Chapter 323) on 1 November 2000. The license has been renewed by IDA for another 10 years on 1 November 2013.

GRID Communications presently uses Motorola's Integrated Digital Enhanced Network (iDEN) technology which combines communications services that previously required several devices. These services include Push-To-Talk (PTT) two-way radio, cellular service, wireless data, and text messaging. It operates a fully integrated digital wireless communications service under the brand "GRID". Besides offering iDEN as our public core service, GRID has through the years evolved our business model and currently provides a slew of complementary services based on our experience and technological expertise. GRID is able to offer both full turn-key solutions and/or to offer our customers options to purchase key equipment. GRID is also able to provide consultancy services to key customers who require expertise to optimise their operations and networks respectively.

GRID's Services

a. iDEN

Our core walkie-talkie business which uses iDEN technology, integrates multiple services into a single device. It allows business users to take advantage of the technology with a pocket-sized digital handset that combines Push-to-Talk, phone call, SMS and data services.



b. TETRA

For customers demanding a PTT system operating in mission critical situations, GRID's highly secured and resilient TETRA solution would be the best-fit. GRID's TETRA solutions (including full turn-key deployment) are compatible with various TETRA vendors' systems.

c. Mototrbo

(A Motorola Solution's product) - connecting people wherever they need clear, instant and reliable communications at a lower cost. MOTOTRBO offers a portfolio of analog and digital two-way radios that enable voice and data communications. It combines the best of two-way radio functionality with the latest digital technology for instant communicating, easy decision-making and seamless coordinating.

d. General Purpose Two-Way Radio - For customers desiring a reliable low cost analog/digital PTT system, GRID offers a wide range of systems and handsets to choose from.



e. IP Push-To-Talk Services

- QoolTalk - GRID's QoolTalk (available for Android and IOS devices) offers the total solution for instant communication needs. Our state-of-the-art Push-to-Talk technology integrates all communication networks such as cellular data (2.5G, 3G and LTE) and Wi-Fi with existing communications platforms.
- MOTOTALK-GRID's MOTOTALK is a Push-To-Talk 2-way radio application (available on Android and IOS) that lets users communicate with individuals or a group via Push to Talk (PTT) wherever Wi-Fi, 3G or LTE service is available. MOTOTALK allows the users to connect back to iDEN network seamlessly.

f. Fibre Ready Scheme (FRS)

GRID is approved by IDA to provide the FRS to qualified building owners,

to enable their buildings to be fibre ready for their tenants. Our FRS can increase marketability of the owners' buildings and facilitate fibre services access at a lower cost, for both parties. Tenants have the convenience of just subscribing for broadband services from their preferred internet service provider, without needing to worry about the laying of cables.

g. Cloud Wi-Fi

GRID's enterprise class Cloud Wi-Fi helps retailers and/or mall owners enhance their visitors' experience when visiting their premises, without the need to invest heavily in capital expenditure. Our customers do not have to worry about incurring capital expenditure when adopting our solution as we would provide the infrastructure and access points at a low fixed cost to them. We also provide hassle-free maintenance network support and optimisation of the internet connectivity.

h. Captive Portal

GRID's Captive Portal gives our customers, who are retail chain owners or building owners, the ability to gain valuable user analytics and be able to provide value-added services to their visitors over their Wi-Fi networks. This happens when end-users register in our Captive Portal and unique customer information is collated, allowing them to target their visitors with customised marketing messages.

i. Internet of Things (IoT)

GRID's IoT solution, which includes smart wireless meters, lift monitoring, smart traffic and street light monitoring, early flood warning system and elderly monitoring, with the ability to transfer data over a machine-to-machine network. This improves on productivity and automation of work processes of utility companies and government agencies. Coupled with our competitively priced wireless network tariff, we offer cost effective solution to suit every IoT needs. **SST**





CASE STUDY

MOTOROLA SOLUTIONS

MGM Resorts International Elevates Guest Service With Unified Radio And Broadband Communications

MOTOTRBO™ And WAVE™ Connect Personnel, Devices And Networks

MGM Resorts International® is one of the largest hospitality and entertainment companies in the world. The company's 15-plus properties are some of the most prestigious luxury brands on the Las Vegas Strip, including MGM Grand, The Mirage, the Monte Carlo, Luxor, Bellagio, Mandalay Bay and Aria.

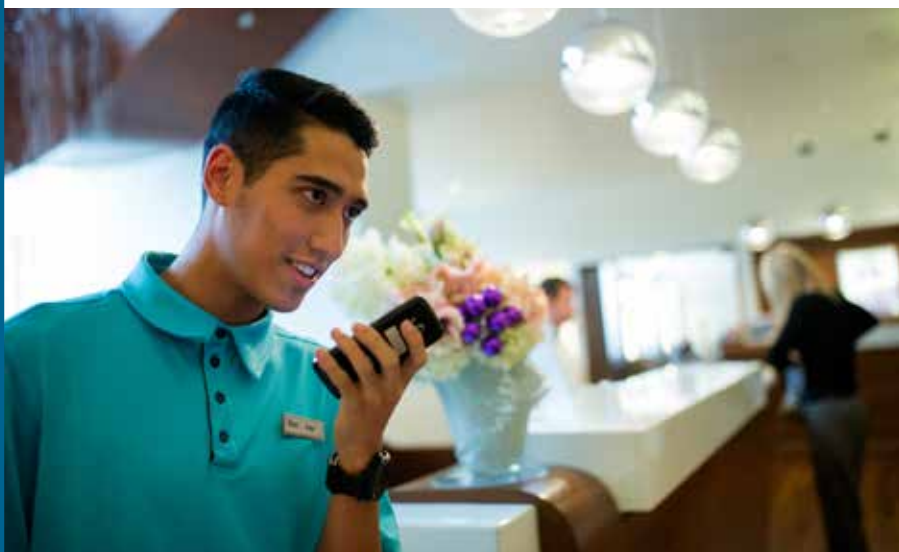
MGM Resorts also owns other casinos in Nevada, Michigan and Mississippi and is expanding its global presence with operations in China and Dubai.

"We have 61,000 employees across the company," explains Jim Kimball, Executive Director of Enterprise Telecommunications Services for MGM Resorts. "We are the largest taxpayer and largest employer in the state of Nevada and we have world class restaurants and nightclubs throughout all of our properties."

Ensuring an exceptional guest experience is a priority for MGM Resorts. WAVE provided MGM Resorts with a unified communications platform, connecting their MOTOTRBO radio system with broadband networks so that their personnel could communicate from virtually anywhere, whether on radios, smartphones, desktops or other devices. The result has been elevated service, improved guest satisfaction and streamlined operations.

THE CHALLENGE

Identify and Implement a New Push-to-Talk Solution



MGM Resorts needed to pursue a new push-to-talk solution because their existing cellular technology was nearing its end of life. "We used our local telecommunication provider for point to point communication across the company for all our midline and front line employees and some management staff," says Kimball. "So when that push-to-talk system was decommissioned, it created a communication gap that we needed to fill."

The majority of MGM Resorts' properties depended upon an aging 900 MHz radio system that over time would be replaced, resort by resort. "We were looking to augment the smartphone technology that we're already utilising today with our radio technology," says Jim Kimball of the desire to enhance the upgraded radio network with secure broadband.

Not only would this be more cost-effective, but it would enable staff to carry one device – either a radio or smartphone – and not two. "The must-haves were security, reduced infrastructure, reduced device costs, and to leverage an investment we already had," says Kimball.

THE SOLUTION

MOTOTRBO Delivers Secure Radio Communications

MGM Resorts turned to Motorola Solutions to upgrade their existing radios to the secure, always available MOTOTRBO digital system. MOTOTRBO XPR 7580 and the ultra-slim, lightweight SL 7580 portable radios were distributed to employees in a variety of departments, including room service, housekeeping, maintenance and limo services.



MOTOTRBO opens up a world of possibilities for hospitality staff with crystal-clear audio, integrated voice and data on one device, applications such as text messaging, GPS location tracking, work order ticket management and more. MOTOTRBO digital radios also provide 40 percent longer battery life and greater capacity – essential for round-the-clock operations.

MOTOTRBO Connect Plus offers fast access to instant voice and data communication. This multi-site digital trunking system delivers the high-volume, wide-area communication MGM Resorts requires and can be scaled up or down to meet their changing needs. Multiple gateways connect the MOTOTRBO radio channels to the WAVE application system.

WAVE Provides Interoperable PTT Communications Across Networks and Devices

WAVE was installed for resort and casino staff who previously used push-to-talk over cellular networks or did not carry radios but needed to talk with others on their MOTOTRBO radios. WAVE provides a communications platform connecting MGM's MOTOTRBO radios with broadband devices through an easy-to-use app installed on Android or Apple smartphones.

WAVE expands the reach of communications by linking different devices and networks to MOTOTRBO radios. "When we originally looked at the MOTOTRBO integration with WAVE, we were looking at our supervisors," recalls Kimball. "They may be at home and need to communicate with an employee on a property. WAVE gave us the ability for that manager to carry a single device and seamlessly communicate with all properties across the valley."

Reduces Costs and Utilises Technology Already in Place

Although the original intent was to extend radio communication to supervisors, Kimball quickly realised how many other employees would benefit from WAVE. After WAVE was integrated with MOTOTRBO radios,

At-A-Glance

CUSTOMER PROFILE

MGM Resorts International
Paradise, Nevada

- Leading U.S. hospitality and entertainment company
- Over 61,000 employees and 100+ acres of property

MOTOROLA SOLUTIONS

- MOTOTRBO XPR™ 7580 Portable Radios
- MOTOTRBO SL 7580 Series Portable Radios
- WAVE 3000
- MOTOTRBO MTR3000 Base Station/Repeaters
- MOTOTRBO Connect Plus

FEATURES

- Connect smart devices and radios to a unified communications platform
- Clear, continuous coverage across a vast footprint
- Improved efficiency of daily operations
- Seamless scalability for adding people and properties
- Cost-effective way to leverage the devices employees use

"We took a good look at how we wanted to communicate with our employees and what that employee base truly was," he explains. MGM Resorts was able to expand the system to thousands more employees by installing the WAVE application on their smartphones. In so doing, they reduced infrastructure costs and infrastructure itself.





"WAVE allowed us to own the infrastructure and place the application on smartphones we were already utilizing. It saved us the cost of having to get another device, of having our employees carry two devices, and it allowed secure broadband connectivity which enabled us to communicate across the city and across the country seamlessly," says Kimball.

"With WAVE, we reduce costs by leveraging an infrastructure that we already have in place with smartphones. By putting WAVE on our phones, we're able to communicate no matter what device we're using," said Kimball.

MOTOTRBO and WAVE Unify Different Devices and Networks

Today staff members can talk to each other in real-time with remarkable efficiency. Whether it is sending a work order ticket to a technician's radio when a slot machine goes down or contacting an employee in the tower on her smartphone to open or close a ticket, MOTOTRBO and WAVE streamline daily operations.

"The MOTOTRBO integration with WAVE creates a very seamless, one button push-to-talk selection for our employee base to communicate. It's quick, it's easy and they can jump on channels with each other. They can connect to the radio system instantly using their smartphones," says Kimball.

THE BENEFITS

Instant Interoperability with an Intuitive App

In the past, the only way MGM Resorts could connect off-site executives and other employees back to the properties was cellular to cellular. With the WAVE platform, they can seamlessly push-to-talk to their employee base across all communication channels – radio, broadband, Wi-Fi and even landline.

Now when a VIP guest is heading to the Bellagio Las Vegas, the hotel limo driver on his mobile radio can talk to a front desk receptionist on her smartphone who alerts the bellmen and housekeeping of the guest's upcoming arrival on their portable radios.

"One of the WAVE benefits we have seen is removing all boundaries from a communication perspective, so whether an employee or supervisor needs to speak to their direct manager across the city or across the country, those boundaries have been removed. They are able to support customer service in a much better way," said Kimball.

Eliminates Boundaries for Better Collaboration

The right communication elevates service and ultimately, guest satisfaction. In the highly-competitive hospitality and entertainment industry, anticipating and responding to guest requests quickly and efficiently builds brand loyalty and recurring visits.

Easy Scalability as Operations Expand

MGM Resorts is also considering the WAVE desktop and web applications to further streamline operations. Back office managers and other office-based personnel can use these applications to connect to the WAVE platform over Wi-Fi on any industry-standard Windows PC. The WAVE desktop and web applications will allow office staff to view the GPS coordinates of its entire staff in real-time and coordinate with different talk groups for more efficient operations.

As the company expands their operations into two additional states – Maryland and Massachusetts – they will be creating another regional environment. According to Kimball, "Our employees need to be able to speak to each other seamlessly across those regions or in a single region. We know with WAVE on their phones, they will be able to do that."

Elevates Guest Service Cost-Effectively

MOTOTRBO and WAVE eliminate the challenge of different devices and networks and help resort staff manage large events with a flexible system they can add and remove users as needed – whether it's private contractors, caterers or entertainers.

Today, MGM Resorts is elevating guest service and satisfaction with a unified digital platform that delivers anywhere connectivity. By upgrading their communications, they are improving responses to guest requests, increasing efficiency, reducing mistakes and miscommunications, and saving money – all across their enterprise.

"We knew we needed the most advanced, state-of-the-art radio system as well as a broadband solution. MOTOTRBO did all of that for us," said Kimball.

For more information, please visit:
www.motorolasolutions.com/AP/MOTOTRBO or
www.motorolasolutions.com/WAVE **ESE**



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AN INTERVIEW WITH

CHECKPOINT SYSTEMS VP OF MERCHANDISE AVAILABILITY SOLUTIONS ASIA PACIFIC, MARK GENTLE JOINS US TO GIVE HIS INSIGHT ON THE LATEST IN RFID TECHNOLOGY



Introduction

Joining Checkpoint Systems at the Retail Technology Show Asia 2016, we were given the opportunity to interview the Vice President of Merchandise Availability Solutions Asia Pacific, Mark Gentle. In the interview, we were offered an insight into the multitude of solutions that Checkpoint Systems offer, provided by their own research and development team with innovative advances in RFID technology.

RFID has been available for years and has been used primarily for asset tracking and identification purposes. Checkpoint offers a complete RFID solution designed with the retailer's needs in mind, that can track inventory from the factory to shop floor. This solution can provide a proven sales uplift, reduction in out-of-stocks and reduced overhead costs.

Checkpoint has enjoyed a market leader role in the retail industry for years. How do you think new RFID security solutions available to retailers in 2016 will affect figures of shrinkage in countries such as China, Hong Kong, and Japan?

Across Asia Pacific, retailers are beginning to trial/roll out RFID technology in their stores. The retail industry in Asia Pacific is starting to do what we call 'use cases' to better understand the benefits the technology can provide in the longer term for the retailer. So some of the 'use cases' they are looking at are how quickly they can move consumers to the point-of-sale, getting the right inventory on to the shelves at the right time, looking for a sales uplift or looking at reducing their working capital.

One of the parallel successes of all these benefits is if someone does steal from that retailer when they walk out of that store at the point of exit, they are immediately notified that the garments are no longer on the shop floor and can subsequently replenish their inventory to keep their sales uplift high. So to me, 2016 would be more of a year of discovery for retailers as they begin to explore the technology and understand it.



Shrinkage will always remain but you will see a better control of shrinkage with retailers who adopt the technology. With retailers who invest in the technology, they'll get better results than the retailers who don't.

Are there more specific technologies and tailored measures for top vertical markets such as apparel retailers, jewellery and watches?

If we segment apparel retailers according to their age groups, the younger target markets that are more susceptible to peer pressure can be seen as more vulnerable. When teens see



that their friends have certain fashion accessories that they themselves may not have, they could be tempted to shoplift these items to keep up appearances, placing these accessories in a higher risk category.

For jewellery and watch merchandise however, these products are typically behind cabinets so the shrinkage is not so much from external factors, rather, the factors lie internally in its shipping processes from the distribution centre and the staff involved.

Can you elaborate on how RFID directly combats and can minimise the problem of shrinkage commonly encountered in the retail industries?

RFID is utilised to track and trace the products from the manufacturer all the way to the store. If we apply these RFID solutions to merchandise that is locked up in cabinets, the data available using RFID tracking solutions also enables the retailer to perform audits on the cabinets within the store to know exactly which individual opened the store at the specific time and date, narrowing down the people that have handled the products.

As for minimising shrinkage, it begins with educating the employee on how the technology works and what happens in the case of theft. If the products leave without being paid for, the employers know immediately the next day when they do a stock take.

Many people do not realise the repercussions if they are convicted of shoplifting. This would essentially mean never being able to get a job in the civil service, armed forces or a visa to visit another country in the world, so petty theft may cost one a potential career.

What improvement can we expect to see in the future of RFID solutions?

For the past few years, we have been developing solutions for meat products. This aids the merchant in knowing when the product arrived, how fresh the product is, and when the merchant needs to start to mark down the prices before it should be disposed. You will see a whole range of solutions for fresh produce and solutions are developing in the cosmetic side as well. It will now move across different vertical markets so we expect a rise in the use of RFID in pharmacy drugs and office stationary such as ink cartridges, happening in the next two to three years.

What are the other angles that could be tackled with regard to RFID technologies enhancing the security industry?

To me it is about having an end-to-end solution. If you know precisely when a product left your manufacturing plant, when that product arrives in your store and when it gets sold, you know your supply chain is very secure.

As an example, parallel imports are a big issue with items such as razor blades or vitamins. You may launch that product in more than one country, but with RFID you know where that parallel import is being impacted across the world.

What unique advantage does Checkpoint have over its competitors in the industry?

Plenty of suppliers can say they can provide RFID solutions but the reality is the majority have one component. They may show you a printer, or a handheld scanner but they lack an end-to-end solution. With Checkpoint, we are uniquely positioned in that we manufacture and supply our own RFID label inlays, software, professional services and hardware.

We have a division that designs the RFID circuits and does the encoding, making sure the label is correct before it leaves the print shop. Another division manufactures all the readers in the store, points of sale, and points of exit. Our capable Oats software engineer team designs the software. So Checkpoint is likely the only company that is unique in being able to provide a thorough end-to-end solution.

It's an important point because Checkpoint invests heavily in R&D to make sure that the investment today is forward compatible as the technology evolves.

For more information, please visit:
www.checkpointsystems.com



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First introduced in 2012, Bosch starlight cameras have revolutionised the security surveillance industry with a true 24/7 surveillance. The cameras are highly sensitive to lighting conditions and deliver the highest quality video surveillance under extreme low-light conditions where other cameras fail to achieve.

Starting from June 2016, Bosch introduces a new generation of the starlight cameras offer higher light sensitivity and video analytics at the edge built-in as a standard feature, in a number of different form factors - including fixed, moving, dome and box models. These cameras offer:

- Excellent light sensitivity. Depending on the camera model, highly detailed 1080p full-color images can be captured in scenes with minimum ambient light (down to 0.00825 lux) where other cameras go monochrome and even when light levels drop to 0.00275 lux highly detailed 1080p monochrome images are provided
- Various resolutions: 720p, 1080p or 5 megapixel
- Excellent dynamic ranges up to 120 dB at 60 frames per second to capture moving objects, even in the most challenging lighting conditions
- Built-in video analytics capabilities at no extra investment or license fees
- Customisable alerts, triggers, security protocols

For more information, please visit:
www.boschsecurity.com/hdsecurity **SST**





S3i ShelfNet™ – The Intelligent Way to Reduce Shrink, Increase On-Shelf Availability and Profitability

The cost of out-of-stocks is staggering – billions of dollars are lost annually when merchandise cannot be found on shelves. Profits and shopper experience suffer. With S3i ShelfNet, you will gain real-time access to actionable data and alerts that can help you deter theft, optimise inventory, improve on-shelf availability and increase sales.



Advantages of ShelfNet

- Provides associates with notifications in real-time using the PA System and/or mobile alerts when an item facing is out of stock. These real-time alerts can indicate a theft event or prevent lost sales by communicating the need for quick restocking
- Indicates true shelf activity with reports that help merchandising and CPGs measure product performance and optimise assortments
- Confirms that items are actually on the shelf versus just on-hand somewhere in the store
- Allows LP to quickly review videos when time-stamped shelf activity reports are used in conjunction with CCTV
- Enhances customer experience through improved merchandise availability

For more information, please visit: www.CheckpointSystems.com SST



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Model: DIVAR IP 5000 Recording Solution

By: Bosch Security Systems

① www.boschsecurity.com/hdsecurity

- Fully featured video recording solution for up to 32 channels
- Built-in Dynamic Transcoding technology to enable instant real time access to high quality UHD video despite low or limited bandwidth connection
- Remote viewing via Bosch's Video Security App and Video Security Client for live or advanced playback
- Reliable storage and operation – Critical health states can be received as an email notification and disk failure can be easily handled
- Easy set-up via installation wizard
- Designed for 24/7 operation



Model: 2MP Low Light IP Vandal Resistant Dome Camera (SY-VRD3-LLX / SY-VRD3-S-LLX)

By: Synectics

① www.synecticsglobal.com

- 2MP Sony 1/2.8" Progressive CMOS image sensor
- Full 1080P HP 50/60fps streaming or true WDR at 25/30fps
- ONVIF Profile S compliant
- Synectics Backfilling technology as standard, equipped with SD memory card and can be configured to record locally for several hours in case of network interruption.
- H.264 compression
- Tamper detection, IK10 and IP66 rated
- Remote auto focus and zoom
- Ideal for transport and gaming sites





Model: Next Generation Sarix Professional

By: Pelco

① www.pelco.com

- Up to 5 MP resolution
- Actionable color video in low light
- Detailed adaptive IR
- ONVIF Profile S and Profile G conformant
- Wide selection of form factors and mounts



Model: VisionHub

By: Qognify Pte. Ltd.

① www.qognify.com

- High-end video management relying on Qognify's vast experience and robust video management core
- Rich video experience with advanced features for video management, investigation and export
- Vendor agnostic integration to access control with a built-in two-way rich management module
- Integrations with key security systems such as intrusion detection, fire detection and alarm panels
- GIS enabled mapping to track incidents and sensors
- Incident management - collaboration, automation and workflows
- Enhanced capabilities for faster and easier deployment



Model: Aventura Vantage

By: Aventura Technologies Inc.

① www.aventuracctv.com

- Video Management Software solution for secure and effective command and control of video surveillance in enterprise level applications
- Unlimited Scalability and Integration
- Comprehensive Management and Administration
- Advanced Video Investigation Tools
- Third Party Interoperability
- Secure and Reliable Performance
- Fully Integrated Video Analytics



Model: Aventura Voltus Face Recognition Software

By: Aventura Technologies Inc.

① www.aventuracctv.com

- Best-of-breed 2D/3D face recognition software application
- Uses off-the-shelf cameras and servers providing unparalleled accuracy on real world data in the most challenging of environments
- Industry leading technology collects a myriad of data and applies the multitude of information to the database
- Generates timely and accurately





Model: VB-M50B

By: Canon Singapore Pte. Ltd.

① www.canon.com.sg

- The new VB-M50B is a highly sensitive, 1.3 million pixels Pan Tilt Zoom (PTZ) network camera. Equipped with a lens focal length of 600 mm (35mm film equivalent), the VB-M50B is suited for long-range optical zoom (up to five times zoom).
- The camera's large aperture ratio of F1.8 (W) – F2.4 (T) works together with its highly sensitive CMOS sensor and powerful Canon DIGIC DVIII image processor to capture clear and colour accurate videos, even at high magnification. The camera can reproduce colour videos down to 0.04 lux and monochrome videos down to 0.002 lux
- The VB-M50B is equipped with multiple image enhancement features such as Clear IR Mode, which allows only infrared light to pass through to the image sensor. This contributes to the camera's ability to produce high definition monochrome images regardless of day or night, and also in challenging environments.
- With the VB-M50B, users will be able to discern a subject in full color at a distance of 100 meters, even in low-light environments. This is a feat that would prove challenging for the naked eye, underscoring why the VB-M50B is ideal for situations requiring 24-hour surveillance, covert intelligence, and security in environments with dim lighting.
- The swift and precise pan and tilt mechanism offers a high level of user convenience and comprehensive area coverage. Users may establish up to 64 pre-set camera positions and schedule up to five pre-set routes, thus eliminating the need for repeated manual adjustments.



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Model: iCLASS SE U90 Long Range Reader

By: HID Global

① www.hidglobal.com

- Convenient – Discreet hands-free authentication solution for long range parking and gate control
- Dynamic – Field configurable via a full user interface for ease of maintenance
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- Powerfully Secure – Encryption of card data through controller, enabling secure end-to-end communications
- Dual payload – SIO® and EPC (Electronic Product Code) data payload for backward interoperability
- Multi-layered security (beyond the chip security) – Ensures data authenticity and privacy through HID Global's SIO supporting state-of-the-art cryptography (with AES 128 cryptography)
- SIO data binding – Inhibits data cloning by binding an object to a specific credential
- Easy configuration with the embedded web interface - Provides all tools necessary for a seamless installation
- Typical Maximum Read Range – up to 16.4 feet (5 metres)





Model: iDLink Innovative Palm Vein Reader

By: iDLink Systems

① www.idlinksystems.com

- Supports 1:1 and 1:N matching and operates in network mode
- Web-based administration for user profile, transaction, remote and report management
- Role-based administration and user-defined profile groups and time zones
- Supports 2 palms per user including alarm palm
- Standard 26-bit Wiegand protocol or higher
- TCP / IP communication interface
- Optional embedded reader for access cards
- Can connect to third party controller or access card systems via Wiegand protocol



Model: MorphoWave™ Tower

By: Safran Identity & Security

① www.safran-identity-security.com

- Access control with a wave of the hand
- Frictionless biometric access solution
- Ideal for high throughput and high security applications
- Captures and matches 4 fingerprints with a single hand movement
- Touchless technology: easily copes with dry and wet fingers, no latent prints
- Time and attendance features



Model: SERIR P2P

By: DEA Security S.r.l.

① www.deasecurity.com

- SERIR P2P is a Point ID perimeter intrusion detection system for the protection of soft metal fences and semi-rigid panels
- Point ID - Each sensor is individually identified to allow you to precisely locate the point under alarm
- Up to 500 sensors managed on 2 communication buses to protect a perimeter up to 1500 metres with a single control unit
- Self-test and self-diagnosis
 - A self-test function is implemented in each sensor and checks the status of both the electronic part and the piezodynamic transducer. Self-diagnosis functions are performed by the control unit that continuously monitors the bus and the sensor operating parameters
- Anti-removal electronic device - It detects the removal of the sensor from the fence. During the installation phase, it signals, via software, the wrong fixing of the sensor
- Magnetic and thermal tamper device - It identifies and signals the attempts of tampering the sensor by exposing it to electromagnetic fields or extreme temperatures
- Sensor automatic identification and sorting - Upon the first configuration of the system, the control unit automatically identifies all the sensors that are linked to the bus and, using an algorithm patented by DEA, sorts them according to their physical location (from closest to furthest)
- Capability of managing signals from 3rd party devices such as infrared or microwave barriers, by means of a special interface module. The module can be placed anywhere along the bus.
- Comprehensive signal analysis - For each sensor it is possible to discriminate the following signals: cut, climb, breakthrough, sporadic cut, removal attempt, thermal tamper, link quality, self-diagnosis, absorption and temperature.





Model: Checkpoint iS AutoPeg

By: Checkpoint Systems, Inc.

① www.CheckpointSystems.com

- Anti-theft solution for high-risk items displayed on peg hooks
- Lightweight and strong – Pin-less one-piece design is safe and effective
- One-click locking mechanism
 - Easy attachment on single or double-hole packages
- Quickly removable at POS - Works with all detachors, including S3 key
- Preserves product branding - Minimal interference with package content
- Rugged and reusable - Difficult to defeat with common tools; retains its effectiveness even after repeated use
- RFID upgradable - For inventory visibility



Model: FlexZone® Ranging Fence-Mounted Intrusion Detection Sensor and FlexZone® Wireless Gate Sensor

By: Senstar

① www.senstar.com

- Detect and locate perimeter intrusions over a distance of up to 600 m (1,968 ft) per sensor processor
- Pinpoint intrusions with +/- 3 m (10 ft) accuracy
- Flexible software-based zoning (up to 60 distinct zones per processor)
- Power and data over sensor cables simplify infrastructure requirements
- Communication path redundancy ensures continued perimeter protection in the event of a cable cut
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Model: XL8300

By: Matica Technologies Group

① www.maticatech.com

- Innovative retransfer printer specialises in printing oversized cards
- 300 DPI colour printing with superior print quality
- Contactless encoding option
- UV printing security feature
- Up to 120 cards per hour



Model: Kentec Synchro XT+ Multi Area Addressable Extinguishing Panel

By: Kentec Electronics Ltd

① www.kentec.co.uk

- Addressable detection over 1 or 2 loops with 16 Zone LED Indicators
- Available with up to four extinguishant release control units built in
- Fully approved to EN12094-1, EN54-2 and EN54-4
- Comprehensive set of inputs and outputs to monitor and control the extinguishing system whether it be gas, aerosol or another
- Configurable via a simple programming interface; panel can be programmed to meet the clients' specific requirements



Model: SC-P620 Powered Horn Speaker

By: TOA Electronics Pte Ltd

① www.toa.com.sg

- Highly intelligible and compact horn speaker
- Integrated 20W power amplifier which utilises latest Class D technology
- Switchable Gain: 12dB, 18dB, 24dB & 36dB
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