

# Security Solutions Today

July / August 2014



## GAMING & ENTERTAINMENT

### Cover Focus

*Megapixel Cameras Playing Into The Gaming Surveillance Market*


### Security Feature

*Enhance Stadium Safety & Security With New Surveillance Technology & more...*

### Show Preview & Reviews

*Secutech Vietnam 2014  
Asian Securitex 2014  
Secutech Taipei 2014*



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# Go Cloud

## — New Generation NVR 4000 Series



### Highlights

- Up to 5-megapixel for input, record, live view and playback
- Support max 32 network camera inputs and max 200Mbps incoming bandwidth
- ONVIF Version 2.3 conformance
- Plug & play and support P2P, allowing easier home applications
- ANR (Automatic Network Replenishment Technology)
- Support cloud service

ⓘ Plug & play



16/32 Channel 2U16 PoE NVR  
NVR4816/4832-16P



16/32 Channel 1.5U16 PoE NVR  
NVR4416/4432-16P



8/16/32 Channel 1U 8 PoE NVR  
NVR4208/4216/4232-8P



4/8/16 Channel Smart mini 1U 4 PoE NVR  
NVR4104/4108/4116-P

CE FC CCC UL ROHS ISO 9001:2000



**IFSEC Southeast Asia 2014**  
COMMERCIAL & GOVERNMENT SECURITY-FIRE  
03-05 Sep 2014 Kuala Lumpur, Malaysia  
Booth: 2195

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- Intruder Alarms
- Advanced System Integrations

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# CONTENTS

July - August 2014



CALENDAR OF EVENTS	6
EDITOR'S NOTE	8

#### IN THE NEWS

Around The World	10
Eye On Asia	18

#### COVER FOCUS

A Clear View: Megapixel Cameras Playing Into The Gaming Surveillance Market	22
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#### CASE STUDIES

Gaming & Entertainment	30
General	62

#### SECURITY FEATURE

Enhance Stadium Safety And Security With New Video Surveillance Technology	26
What's Your Position On Transmission? Five Tips When Deploying Or Upgrading Video Signal Transmission Products	58
FLIR Thermal Imaging Cameras For 24/7 Traffic Monitoring And Roadway Surveillance	80
Building Defence Out of Disaster; Learning from the Security Breaches on Point-of-Sale (PoS) Systems	83

#### PRODUCT SPOTLIGHT

PRODUCTS	98
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SHOW PREVIEW	119
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SHOW REVIEW	121
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Make sure the bad doesn't happen  
so the good can. Anywhere. Anytime.



When you're responsible for the safety, security and everyday function of a big city, you have your hands full making sure the bad doesn't happen so the good can. At Axis, our deep experience in city surveillance gives us invaluable insight into the complexity of what you're facing every minute of every day.

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# N-8000 SERIES IP INTERCOM SYSTEM

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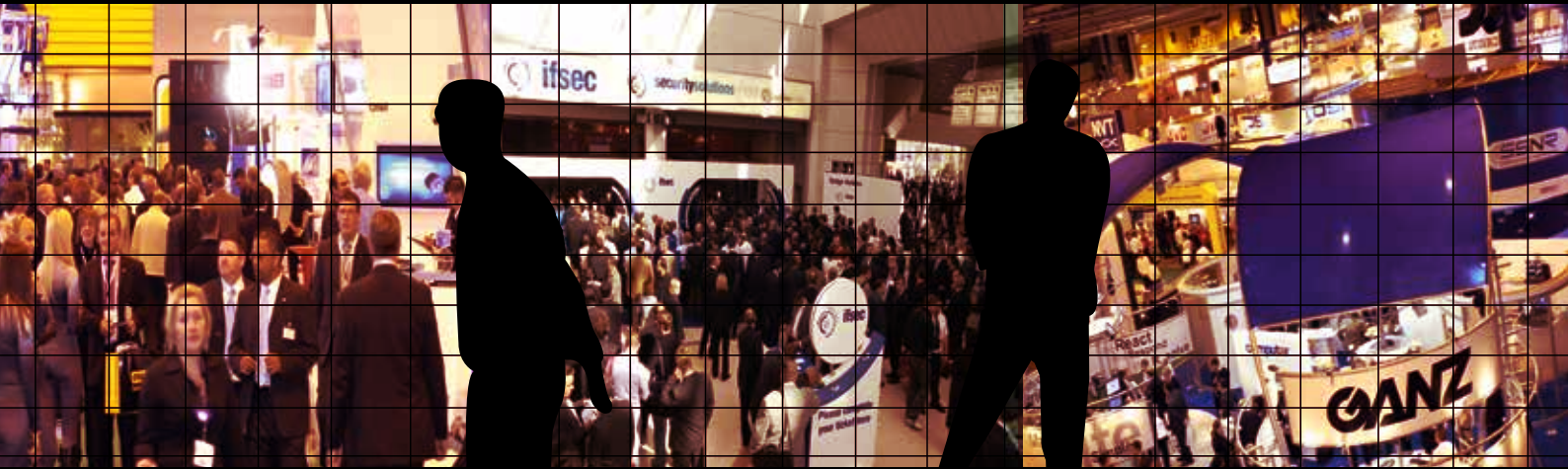
## SYSTEM APPLICATIONS



Airport, Bank, Factory, Hospital, Parking Garage, Prison, School, Shopping Mall, Train Station,  
PWD Facility



# Calendar Of Events



## Secutech Vietnam 2014

Date: 20 - 22 August 2014  
Venue: Saigon Exhibition & Convention Centre (SECC),  
Ho Chi Minh City, Vietnam  
Contact: Echo Lin  
Organiser: Messe Frankfurt New Era Business Media Ltd.  
Tel: (886) 2 2659 9080 ext. 761  
Email: stvn@newera.messefrankfurt.com  
Website: <http://www.secutechvietnam.com>

## Safety & Security Asia 2014

Date: 27 - 29 August 2014  
Venue: Marina Bay Sands, Singapore  
Contact: Chloe Tan  
Organiser: Conference & Exhibition Management Services Pte Ltd  
(CEMS)  
Tel: +65 6278 8666  
Email: chloe@cems.com.sg  
Website: <http://www.safetysecurityasia.com.sg>

## IFSEC Southeast Asia 2014

Date: 3 - 5 September 2014  
Venue: Kuala Lumpur Convention Centre, Malaysia  
Contact: TJ Tan  
Organiser: UBM plc  
Tel: +6-03-2176 8788  
Email: tj.tan@ubm.com  
Website: <http://www.ifsecsea.com>

## CAM SECURITY 2014

Date: 10 - 12 September 2014  
Venue: DIECC, Phnom Penh  
Contact: Richard Yew  
Organiser: AMB Events  
Tel: 603 40419889  
Email: richard@ambexpo.com  
Website: <http://www.expocambodia.com/camsecurity.htm>

## Security China 2014

Date: 28 - 31 October 2014  
Venue: China International Exhibition Centre (New Centre)  
Contact: Tony Lee  
Organiser: China Security and Protection Industry Association  
Tel: +86-10-51920615  
Email: bizcspia@yahoo.com.cn  
Website: <http://www.securitychina.com.cn>

## Secutech ASEAN 2014

Date: 26 - 28 November 2014  
Venue: Bangkok International Trade and Exhibition Centre  
(BITEC), Thailand  
Contact: Eva Tsai  
Organiser: Messe Frankfurt New Era Business Media Ltd.  
Tel: (886) 2 2659 9080 Ext. 668  
Email: stth@newera.messefrankfurt.com  
Website: <http://www.secutechthailand.com>

## Global Security Asia 2015

Date: 3 - 5 March 2015  
Venue: SUNTEC Singapore  
Contact: Joseph Yeow Kuen, Ong  
Organiser: GSA Exhibitions Private Limited (GSAL)  
Tel: +65 6392 5328  
Email: yeowkuen@globalsecasia.com  
Website: <http://www.globalsecasia.com>

## Interpol World 2015

Date: 14 - 15 April 2015  
Venue: Sands Expo & Convention Centre, Singapore  
Contact: Patricia Chong  
Organiser: INTERPOL  
Tel: +65 6393 0228  
Email: patriciachong@mpinetwork.com  
Website: <http://www.interpol-world.com>

## BEST PRACTICES THAT REDUCE COST AND RISK OF DEPLOYMENTS ENHANCED BY RADIO COMMUNICATION.

### ADVANCE DIGITAL TWO-WAY RADIO COMMUNICATION SYSTEM.

Under good and strong partnership between JVCKENWOOD and Citicall Communication Pte Ltd, Nationwide Digital Two-Way Radio Communication System is now available in Singapore! Instant and secured voice communication in many variety ways of use enables you to exchange the information of current traffic condition, delivery transition and any emergency.

Sharing information in group communication will improve the efficiency and productivity of business.



**Wide Area Digital Radio Service**

### FOR CONSTRUCTION SITE AND MATERIALS TRANSPORTATION.

Radio Communication enables you to make wide area calls with your staffs seamlessly whether as individual or a group talk.

Especially in an emergency situation, you can instantly communicate with your staffs in warehouse, office or delivery staff to share updated information.

And at the same time, you are able to response quickly to meet and solve the critical situation all the times.

As a result, it will strengthen staffs teamwork as well as maximize productivity.

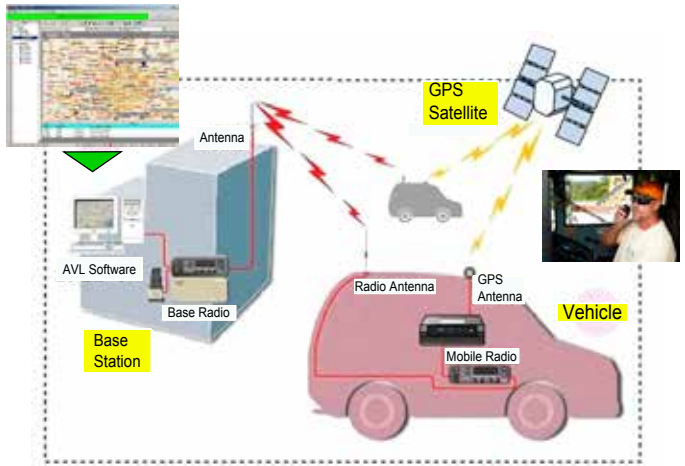


### GPS INTEGRATION AND FLEET TRACKING FOR DELIVERY AND DISPATCHING SERVICES.

By adding GPS function on the Radio Communication, you can use Fleet Tracking to monitor the location of your each vehicle on the road through a map on your office PC.

Operator is able to grasp the location of each vehicle instantly through the system. And then, dispatch arrangement will be smoother, timely and more efficient.

Voice communication between each vehicle and between the operator and each vehicle is also available for route guidance, emergency call, exchanging information of the current traffic conditions, etc.



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 Website : <http://www.citicall.net>



# Editor's Note

Dear Readers,

I hope you are doing great! Welcome to the July/August Issue of SST, themed 'Gaming & Entertainment'.

In this issue, we look at security in all kinds of Gaming Environments - Stadiums, Casinos, Theme parks as well as Horse and Car Racing environments. I have made sure to include a wide selection of solutions for each environment that will be useful to you in alleviating and countering threats to your gaming establishment.

Our cover story, courtesy of Arecont Vision, delves into surveillance in Casinos and the major impact Megapixel Cameras are having in the Gaming Surveillance market (pg. 22).

This issue comes at the perfect time, right in the midst of the FIFA 2014 World Cup! In line with this, I have included a special Security Feature article written by Josh Daniels, president and founder of VideoSurveillance.com, that explores and gives you tips on how to enhance Stadium safety and security with new video surveillance technology (pg. 26).

Our Product Spotlight section features companies such as Gallagher, HID Global, ComNet and Axis Communications among many others (pg. 87). The Product Showcase section is also packed with amazing products from companies all over the world and is a must-read.

That's not all! Look out for coverage on trade shows such as Secutech Vietnam 2014 (pg. 119), Asian Securitex 2014 (pg. 121) as well as Secutech Taipei 2014 (pg. 123).

Don't forget to 'Like' us on our Facebook page: [www.facebook.com/securesolutionstoday](http://www.facebook.com/securesolutionstoday) and subscribe to our website <http://sst.tradelinkmedia.biz>.

Thanks and have a great read!

Sharon Kaur  
Editor



# Panasonic



Mission possible for supporting reliable store operation

## *Extended-capability Network Disk Recorder*

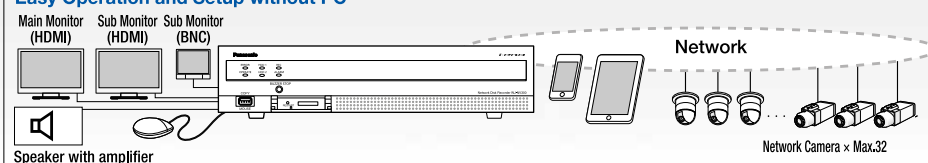
**Network Disk Recorder WJ-NV300**

- Enlarged capacity for high-resolution image recording over extended periods (up to 64TB (RAID5) when 2 extension units installed, connectable up to 32\* cameras)
- Simple setup, easy operation without PC
- Can be used with 2 monitors (HDMI main monitor and sub-monitor)
- Support for smart phones and tablets
- Intelligent surveillance (option: WJ-NVF30 for statistical functions such as "face matching," "people counting")

\* Additional Camera Kits WJ-NVE30 are necessary.



### Easy Operation and Setup without PC



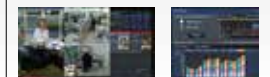
### Optional Accessory

Hard Disk Extension Unit  
**WJ-HDE400**



### Additional Kit

Additional Camera Kit **WJ-NVE30**  
Additional Business Intelligence Kit **WJ-NVF30**



## Checkpoint Systems And Mojix Partner To Bring Hands-Free RFID Inventory Management To Retail

Checkpoint Systems Inc., a leading global supplier of merchandise availability solutions for the retail industry, and Mojix® Inc., a leading provider of wide-area, fixed infrastructure, passive-RFID solutions, recently announced that they have entered into a global partnership. This relationship will bring end-to-end solutions designed to improve store operations and Omni-channel program execution to brick- and-mortar retailers. The end-to-end solution incorporates the best-of-breed Merchandise Visibility Solution from Checkpoint, together with Mojix's OmniSenseRF™ advanced inventory tracking system for retail. The combined solution delivers multiple proven business benefits to retailers for continuous, perpetual inventory, item tracking and location identification.

### Checkpoint's Merchandise Visibility Solution includes:

- Industry-leading OATSystems software,
- RFID tags,
- RFID-trained field engineers to deploy and support the implementation,
- RFID-based EAS leveraging the OneTag™ approach and Wirama Radar™
- RFID-based point-of-sale solutions
- RFID compliance tools

Mojix's OmniSenseRF™ advanced fixed infrastructure solution features a continuous inventory count engine and an item location engine leveraging Mojix's experience and patented technology for Real Time Location Systems (RTLS) using phased array antennas. OmniSenseRF™ continuous count engine provides continuous visibility of EPC Gen2 tagged goods throughout the store. The partners have already successfully deployed the joint solution for an apparel retailer in North America, and have multiple discussions underway for additional implementations. **SST**

## Genetec And Vidcie Partner To Provide Mobile Video Surveillance Capabilities To Law Enforcement And Security Professionals

Genetec™, a leading provider of unified IP security solutions and Vidcie, a leading provider of mobile live video streaming services have announced the integration of Vidcie Lookout wearable camera systems with the Genetec unified security platform, Security Center. Vidcie on-body cameras provide law enforcement officers and security personnel with on-demand, hands-free live streaming video that can be transmitted from the field over cellular or Wi-Fi networks. When connected to Security Center, Vidcie cameras extend coverage and add new levels of situational awareness to security operations. With increased use of wearable cameras by law enforcement and public safety agencies, the integration provides operators with greater awareness of real-time events from agents on patrol, as well as the ability to remotely record video streams from the scene of an incident for evidence. Intelligence built into the Vidcie server software and cameras provides dynamic real-time adaptation of video streams across mobile networks to ensure reliable, low-latency video output for the viewer.

Available in the latest release of Security Center, the integration allows Vidcie Lookout cameras to be easily enrolled within a Genetec system and seamlessly viewed and recorded alongside other video devices. With the integration of Vidcie cameras in Security Center, organizations can extend their surveillance operations by equipping personnel with wearable, hands-free cameras that offer a first-person point of view, or that can be used as a mobile video device in fixed positions for temporary events that require surveillance. The use of on-body cameras allows law enforcement, emergency response, and corporate security personnel to maintain video communication when either planned or unexpected events go beyond the sight of fixed surveillance perimeters. **SST**

# gotcha



## The Definition of Clarity

Honeywell Security's latest 60fps IP cameras are designed for revealing every single detail on the scene. Let it be a vehicle on highway, a note counting machine in bank or even a roller coaster ride, Honeywell's 60fps cameras shot videos at high speed and you can see playback in slow motion with sharp images. Available at 1080P and 720P and featuring auto back focus, TDN, WDR and many other advanced functions, Honeywell 60fps IP cameras set a new horizon for surveillance – so you won't miss a thing.

## Honeywell

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## New Irish ePassport Wins International Design Award

**H**ID Global®, a worldwide leader in secure identity solutions, recently announced that the newly designed Irish electronic passport (e-passport) has won the Regional ID Document of the Year Award 2014 at the annual High Security Printing Conference in Milan. HID Global joined forces with DLRS Group (prime), and X INFOTECH to design and produce the new Irish e-passports. The award was presented to the Irish Department of Foreign Affairs. The Regional ID Document of the Year award aims to promote the best in security printing, system infrastructure and implementation of a government passport, identity or other security card scheme. In presenting the award the conference organizers, Reconnaissance International, recognized the pioneering use of many new high security printing technologies and techniques by the consortium led by DLRS, HID Global and X INFOTECH.

The new Irish e-passport is both more attractive and secure than its predecessor and combines the latest security technology with selected imagery that represents the culture, history and people of Ireland. Prime for both security and Irish culture is the image of the Bru na Boinne stone printed

using SPARK colour shifting ink technology. Another feature involves images situated on the edge of each pair of pages – when the pages are partially bent for the edges to be side by side, the two images form a complete image. The new passport also features poems from three of Ireland's best-known poets – Nuala ni Dhomhnaill, William Butler Yeats, and James Orr.

"DLRS is proud to have led the team that created the document that won this prestigious award," said David O'Connor, sales director, DLRS. "Our goal was to deliver a secure and flexible e-passport solution within the budget and timeline set by the Irish government. I am happy to report we exceeded our goal not only meeting time and budget parameters but creating one of the most secure and visually appealing e-passport designs to date."

The cost of the new passports is nearly half that of their predecessors, which will result in annual savings of four million Euros. The award was accepted by Fiona Penollar of the Irish Passport Office as well as Joseph Callaghan and William Byrne of DLRS. **SST**

## Axis Announces High-Performance Cameras For Video Surveillance In Public Transport Vehicles

**A**xis Communications, world leader in network video, just unveiled the AXIS P39-R Network Camera Series. This series offers protection against dust and water and is able to withstand tough conditions such as vibrations, shocks, bumps and temperature fluctuations. AXIS R39-R Series also features active tampering alarm function that allows for the detection of tampering attempts such as blocking or spray-painting.

The AXIS P39-R Series includes AXIS P3904-R network camera with HDTV 720p resolution, AXIS P3905-R with HDTV 1080p resolution and AXIS P3915-R with HDTV 1080p resolution as well as audio-in and I/O capabilities. Each of these variants is available with either a male RJ45 connector or a rugged M12 connector. The cameras are specially adapted to respond quickly to changes in light levels, ensuring that high image quality is maintained. In addition, the use of progressive scan enables the cameras to show moving objects without distortion. Traffic Light mode helps to better distinguish colours of traffic lights in very dark scenes.

The AXIS P39-R Series allows for a quick and reliable installation. The desired field of view and a levelled image can be easily achieved by using the supplied lens tool to direct and rotate the ball that holds the lens and image sensor. The tool can also be used to exchange and focus the lens when a lens with a different angle of view is required. The cameras provide a pixel counter for verifying that the pixel resolution of an object meets specific requirements. The new AXIS P39-R Series is available through Axis' distribution channels. **SST**



# MicroEngine®

Integrated Security Systems

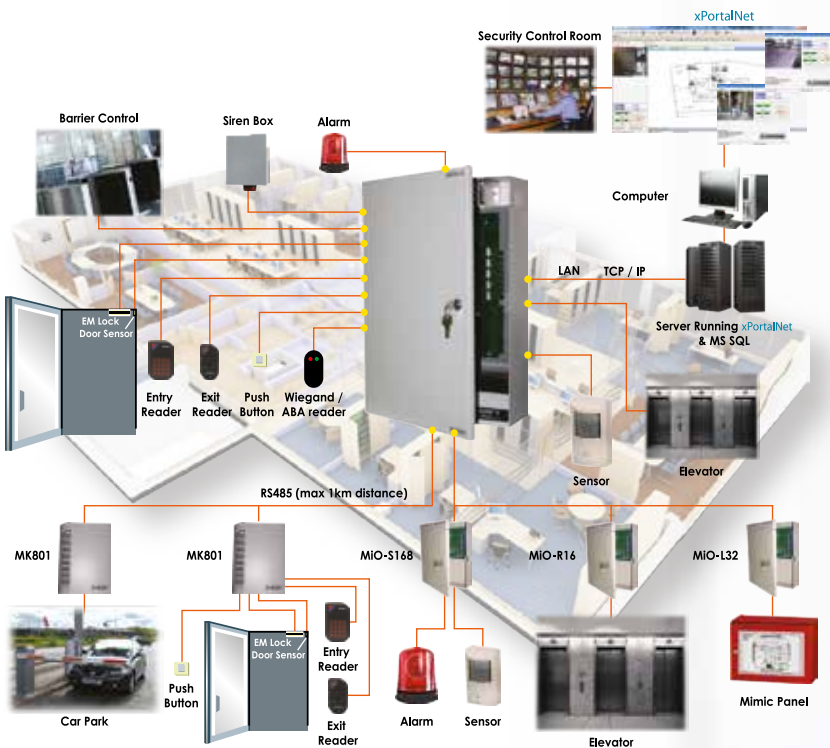
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- OPC Integration Module
- DesFire Reader



### Projects



Commercial / Complex



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Condominium



DesFire Reader



Dual Redundancy Module



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Our Office



REG No. 44831281647

## Synergy 3 Command And Control Platform Rolled Out By Synectics

**S**ynectics has announced the wide-scale rollout of its evolved Synergy 3 command and control platform, following a global series of successful preview sessions. Synergy 3 is a flexible, open platform that enables alarms and events, security and process control sub-systems, video, and data to be monitored, managed, and recorded from a single unified interface.

The latest evolution of Synectics' field-proven technology, Synergy 3 is simple to deploy and integrate and features new functionality including a fully customisable user interface, incident collaboration tools, and interactive mapping engine with Geospatial Information System (GIS) technology. David Aindow, Product and Technology director with Synectics, said: "Synergy 3 really has been 'developed by experience'. We've distilled all we have learned over 25 years, feedback from our customers and analysis of future market trends, and channelled that knowledge into a platform that is flexible, scalable and obsolescence-proof".

Synergy 3 offers a flexible, tiered software licensing structure that allows users to select the right functionality to meet their needs according to scale and complexity. With multiple site federation, full peer to peer, or master to slave, command and control and uncapped scalability to accommodate system growth, Synergy 3 is the ideal solution for any application. Paul Webb, managing director, Synectic Systems, said: "From small companies to enterprise-scale operators, whether in public space, oil and gas, marine, gaming or any other security-critical sectors, the latest evolution of Synergy is so flexible that it can meet very specific needs, enabling businesses to grow their surveillance solution in-step with organic expansion. **SST**



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## New Leadership Appointments For Honeywell Life Safety Sensors Division

**H**oneywell Life Safety has recently made some senior appointments within its multi-million dollar Sensors Division. Sean Clay has been promoted to the role of general manager, and Alexandre Naef, ex Johnson and Johnson director, has taken on the role of sales leader. Sean Clay reports to David Wilson, VPGM of the wider Systems and Sensors Division within Honeywell Life Safety.

The Sensors Division employs over 1000 people globally and includes gas sensor manufacturer City Technology, and fire detection and evacuation brands System Sensor and KAC Alarm Company. Each are world leaders in the field of fire and gas sensing, serving commercial, security, industrial, environmental, medical and residential applications.

Sean Clay was previously sales director for the Honeywell Life Safety Sensing and Devices division. Other roles included head of Marketing and Business development director at Novar Intelligent Building systems and Sales and Service manager for Gent Ltd. He has an MBA in Strategic Marketing and Planning. Alexandre Naef was formerly managing director of Jude Medical in Switzerland and general manager at Johnson & Johnson Medical Devices in Paris. He also co-founded a start-up business and has a Masters degree in Economics.



Commenting on the appointments, Clay said, "Alexandre will be a great asset to Honeywell with his extensive global brand experience. His key responsibility will be developing and executing successful global sales and marketing strategies and for driving uptake of new products such as FAAST aspiration detection, next generation AV devices and long life oxygen and ammonia gas sensors. Honeywell Life Safety Sensors is a world-class business creating inspirational solutions for customers. I am looking forward in my new role as general manager to continuing to deliver great service and value for customers, whilst driving the business forward into new global markets and achieving sustainable profitable growth, as we continue to invest in new technologies." **SST**

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## Gallagher Showcases New Technology At ASIAL

**G**allagher, a global leader in perimeter security and access control showcased its latest technology at the ASIAL - Australian Security Industry Association Ltd - Security Exhibition and Conference that took place from 4th to 6th June 2014 at the Melbourne Convention and Exhibition Centre, Australia.

New releases include the latest version of Gallagher's world-renowned security software, Command Centre, and the latest developments in their integrated access control technology. Gallagher Command Centre v.7.20 allows security staff to manage risk and execute business policy; combining physical enforcement with electronic monitoring and reporting of critical workforce management processes. The system incorporates enhanced reporting functionality and user interface advancements; simplifying daily security management.

Gallagher's latest developments in their intelligent access control system include the introduction of competency displays for the T20 Card+PIN Reader. These competencies enable enhanced health and safety management and improved enforcement of onsite and regulatory requirements. Competency displays are available in eight different languages including English, French, Spanish, German, Dutch, Simplified Chinese, Traditional Chinese, Arabic, and Thai. The T20 Card+PIN Reader will now run on Gallagher's HBUS communications protocol - supporting high-level encryption and high-speed communications. This release follows the introduction of new perimeter technology Gallagher's K20 Tensioner Link System and Z10 Tension Sensor. Both products were released October 2013. **SST**



# Details make the difference: 4K Ultra HD Resolution

Delivering ultra high definition (UHD) images in controlled settings is simple, yet the typical surveillance application is challenged by moving objects, variable lighting conditions and bandwidth limitations for transmitting video. Bosch makes 4K ultra HD imaging relevant to the security market with the introduction of its first ultra HD camera, which delivers clear images even when motion and challenging lighting pervade the scene, and keeps bit rates, and therefore storage requirements, to a minimum.



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This next-generation imaging technology meets the ever-increasing demands for higher resolutions to enhance safety and security through better identification during live viewing and in retrospective analysis. At four times the resolution of full HD (1080p), 4K ultra HD provides a tremendous advantage in detail capture with crisp, vivid images even when zoomed in digitally. 4K ultra HD is perfect for tracking people, capturing facial characteristics and numbers, and for large area surveillance.

Sample Applications	Facility Areas
Airports	Passenger drop off locations and walkways
Banks	Interior and exterior areas
Gaming Centers	Gaming tables Cash handling areas
Hotels/Restaurants/Shopping Malls	Multiple aisle/table overview Cash handling areas
Retail Stores	Shopping or parking overview
Public Transportation	Platforms and walkways
Stadiums	Large area surveillance



The DINION IP ultra 8000 MP delivers 3,840 horizontal and 2,160 vertical pixels at up to 30 frames per second for smooth motion – **the highest performance available in the industry today.**



### Highest quality IP video at the lowest cost

High sensitivity enables the camera to work with a minimum of ambient light. This combined with unique Content Based Imaging Technology (CBIT) for crisp images in all lighting conditions. Both dark and bright spots in the same scene are managed by intelligent Auto Exposure (iAE), which improves the contrast of important objects for optimal identification regardless of light intensity.

Ultra HD resolution is delivered with the lowest bit rates and storage costs. The camera uses intelligent Dynamic Noise Reduction (iDNR) to analyze the contents of a scene and reduce noise artifacts accordingly. It reduces bit rates when no motion is present and increases bit rates to capture

maximum detail when an important object is detected. Low-noise images and efficient compression provide clear video while reducing bit rate and hence storage requirements by up to 50%.

### Increased awareness

Focus attention on a particular area without losing the broader overview for easy management of video information. Regions of interest allow zooming in on certain details of the full image. Close-up images (regions of interest) are transmitted in a separate, stream so both overview and detail can be viewed at the same time.

### Maximum flexibility

The DINION IP ultra 8000 MP will be integrated in several third-party video management software platforms. This is backed by both our ONVIF conformity as well as our Integration Partner Program. And, even if ultra HD streaming is not yet supported by your video management software, the video streams of the new DINION IP ultra 8000 MP can be easily tailored to the resolution supported. More information about compatible products and solutions can be found on [ipp.boschsecurity.com](http://ipp.boschsecurity.com).

For more information, contact us at: [enquiry.apr@sg.bosch.com](mailto:enquiry.apr@sg.bosch.com) or visit [www.boschsecurity.asia](http://www.boschsecurity.asia).

## Dahua HDCVI Camera Named Finalist Of GIT Security Award

**D**ahua Technology, a world-leading manufacturer and supplier of video surveillance products headquartered in Hangzhou, China just announced that its two-Megapixel 1080p Waterproof HDCVI IR-Bullet camera DH-HAC-HFW2200E was named a finalist for the GIT SECURITY AWARD 2015.

GIT Award for security technology is an annual contest conducted by GIT publishing house in Germany. The jury did a pre-selection and has nominated about ten products in each category for final voting. Dahua HDCVI camera is classified under "C – CCTV, Video Security".

Dahua's in-house HDCVI technology allows fast and seamless upgrade from analog standard definition to high definition without technical hassles at lower cost, featuring analog HD video transmission over-coaxial-cable or UTP. This camera is 1/3-inch, three-Megapixels and CMOS adopted. DH-HAC-HFW2200E supports 25/30fps@1080P, 25/30/50/60fps@720P real-time

recording. Meanwhile, the camera supports IR LEDs of effective range of 20 metres for poor-lighting conditions, and its special Smart IR technology realizes

intellectual IR lighting adjustment to meet different surroundings. HAC-HFW2200E's elegant design satisfies surveillance purposes around exquisite décor, and its dark glass makes the camera quite converted as its internal LEDs are invisible during daytime.



Furthermore, Dahua works together with HDcctv Alliance on HDcctv 2.0 AT, delivering true HDTV signals over any legacy CCTV coaxial cabling, along with plug 'n' play up-the-coax remote control. HDcctv 2.0 AT, in particular, provides the means to upgrade any analogue system to HD quality video with remote control without disturbing the legacy infrastructure. **SST**

## Vivotek Bolsters Its Supreme Night Visibility Product Portfolios With Three New Network Cameras, Fd8154, Fd8154v And Ib8354-C

**V**IVOTEK recently unveiled three new network cameras, including compact fixed dome network camera FD8154 and FD8154V and bullet-style network camera IB8354-C, bolstering its SNV (Supreme Night Visibility) product portfolios.

FD8154, FD8154V and IB8354-C all feature 1.3-Megapixel resolution and the ability to output 30 frames per second in H.264 compression. Equipped with SNV technology, three cameras offer unparalleled night visibility under low light conditions. With quality optical components and sophisticated image signal processing algorithm, they could reproduce high quality image while lighting is insufficient. Moreover, designed with a removable IR-cut filter as well as improved IR illuminators, which is effective up to 20M, FD8154, FD8154V and IB8354-C can secure superior image quality for the



entire day. FD8154V and IB8354-C are especially designed for diverse outdoor applications. Both cameras are encased in an IP66-rated weather-proof housing for protecting camera from rain, dust and harsh environmental conditions. FD8154V is especially made of IK10-rated vandal-proof housing, making it a robust choice.

Steve Ma, executive vp at VIVOTEK, stated, "With the rising demand for intelligent video content analysis and the high business value that the video contains, the video resolution, quality and usability should be taken into consideration at the same time. Today, we are pleased to launch three new network cameras FD8154, FD8154V and IB8354-C with our advanced SNV technology. They are absolutely the ideal options for performing high quality surveillance around the clock."

**SST**



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TT207S Barriers



**PORT, JAPAN**  
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\*Photo courtesy of VSL Infrastructure Protection, Installer

## Bosch Delivers Integrated Security Solution For China Minsheng Bank

**B**osch Security Systems has delivered a comprehensive and integrated security system for the headquarters of China Minsheng Bank in Shunyi New Town, Beijing. The solution comprises video surveillance, intrusion detection, access control, public address and conferencing systems, all connected and operated via a central management platform. Founded in 1996, China Minsheng Bank is the first bank in China to be owned mostly by non-government enterprises. While constantly growing its business, the bank established new headquarters in Beijing, consisting of five towers on a 200-acre campus. Although each of the towers represents an independent building, China Minsheng Bank required an integrated security solution for the entire headquarters.



Bosch designed such an integrated solution around its Building Integration System (BIS), which serves as a central integration and management platform for a wide variety of security solutions. At Minsheng Bank, BIS is used to connect more than a hundred access control systems, intrusion detection systems and some 1,500 video cameras and to also integrate voice evacuation, public address and conferencing systems.

One of the major challenges was to build an integrated video surveillance solution with both analog CCTV and IP based cameras. Two of the five towers use analog CCTV, while the other towers are equipped with a digital solution, managed via the Bosch Video Management System (BVMS). Both video solutions could be integrated through BIS, so that operators can now call out a real time monitoring screen of the IP system in the analog monitoring room and vice versa.

BIS is also used to integrate the five intrusion detection systems with more than 100 alarm zones and to enable real time alarm verification through the video surveillance solution. Bosch's fully digital public address and voice evacuation system Praesideo was installed to make announcements during normal operations and to distribute targeted and intelligible messages during emergencies. Finally, several meeting rooms in the headquarters were equipped with Bosch DCN conferencing systems to ensure smooth meetings with comfortable voting functions and infrared wireless simultaneous interpretation.

With the Bosch solution, China Minsheng Bank is now able to operate its networked security and communication systems in all five towers as one single and integrated system, highly increasing both security levels and operational efficiency. **SST**





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# A CLEAR VIEW: MEGAPIXEL CAMERAS PLAYING INTO THE GAMING SURVEILLANCE MARKET



By: Del V. Salvi, Arecont Vision





## Gaming

The action is fast, and the stakes are high. Fortunes are won or lost on the turn of a card or a roll of the dice. It's where the rush of adrenaline meets the hope of beating the mathematical odds. And it's the perfect application for IP video surveillance using powerful megapixel cameras.

Gaming is not just fun, it's big business—and as a business, it depends on video surveillance to keep the casino tables profitable. The need to see the details in a video image—for example, a stack of chips or the index on a playing card—makes gaming an application that was practically waiting for the invention of megapixel cameras.

The latest megapixel cameras have no problem following the fast action of a casino game and capturing the video in precise detail for analysis. And new developments, notably the emergence of the H.264 compression standard, are paving the way for wide-scale implementation of megapixel cameras in the gaming market by making issues of storage capacity and bandwidth perfectly manageable. The expanding capabilities of megapixel cameras are poised to take the gaming industry by storm, starting at Native American casinos and coming

soon everywhere, from the Las Vegas strip to Macau.

## Megapixels On The Job

One of the early adopters of megapixel technology for gaming applications is the Lucky Eagle Casino in Southwest Washington State, a state-of-the-art video surveillance solution designed and implemented by North American Video, employing megapixel cameras from Arecont Vision. Miguel Grijalva, director of surveillance at Lucky Eagle Casino, relies on megapixel cameras to improve his staff's ability to view and identify critical information at the gaming tables.

"The new megapixel cameras were installed to improve the image

resolution issues we were experiencing with conventional analog cameras," Grijalva said. "It is important that our surveillance operators can clearly see the indexes of the cards. We need to unmistakably view suits and ranks and be able to distinguish between a heart and a diamond. The analog cameras were not picking up enough detail. The megapixel cameras provide the resolution we need to track and verify what is actually happening at our gaming tables."

The ability to view minute details is the result of the additional resolution provided by a two megapixel camera (1,600x1,200 pixels) compared to a conventional VGA image (640x480 resolution). The cameras being used at Lucky Eagle Casino are AV2100M two megapixel. They offer a frame rate of 24 frames per second and a minimum illumination of only 0.1 lux at F1.4. The camera is part of the MegaVideo® line that leverages proprietary patented technology to help alleviate the cost and frame rate shortcomings often associated with multi-megapixel camera systems.

The megapixel cameras at Lucky Eagle Casino were installed to supplement, rather than replace, the analog cameras already installed. Because the high-definition resolution of the megapixel cameras allows for wider shots, a single megapixel camera is used per table. The analog camera systems are still being used



for high-frame-rate—30 frames per second—recording purposes and for more fluid motion. The megapixel IP cameras are recorded at five frames per second, thus allowing for reduced storage requirements.

“The frame shot is the same as the analog camera frame shot, but the clarity is several times better,” Grijalva said. “If a guest had a full flush, we can go back and readily confirm it because the picture quality is so excellent.” There are currently 15 AV2100M two megapixel cameras being used at Lucky Eagle Casino to monitor 20 table games, 725 slot machines and five poker tables.

A built-in electronic PTZ function also is beneficial in live monitoring or footage review. The capabilities enable the casino to spot unusual activity and instances of suspicious behaviour or cheating, while ensuring that employees comply with procedure. Transitioning to a hybrid system—combining analog and digital technologies—allows casino surveillance operators to use the new cameras without additional training. “As demonstrated at Lucky Eagle Casino, megapixel cameras offer

significant imaging advantages and can be very cost effective when used judiciously on any video surveillance system platform,” said Cynthia Freschi, president of North American Video, the system integrator that installed the video surveillance and security system at Lucky Eagle Casino and later enhanced the project with megapixel cameras.

Better images, cost-effective training In the foothills of California’s San Jacinto Mountains is another gaming application of megapixel cameras: Soboba Casino, which features 2,000 slot machines, more than 20 table games, three restaurants, a 12,000-seat entertainment pavilion and a huge sports lounge.

Joe Balistreri, ceo and president of Vision Surveillance Inc., handled the system integration when Soboba Casino recently upgraded from analog to digital, using a Nice Systems DVR/NVR system along with AV1300 megapixel cameras from Arecont Vision. Balistreri chose the cameras because “the resolution and clarity far surpass any analog camera,” he said.

“I looked at a few different cameras

at security tradeshow and found that the Arecont cameras were the easiest to use and had the best picture,” Balistreri said. The AV1300 is a 1.3 megapixel camera that offers a frame rate up of 30 frames per second and a resolution of 1,280x1,024.

The cameras enable observers of table games to easily see the cards on the tables and make no mistake in seeing if a card is a king of hearts or a king of diamonds.

“That kind of quality goes a long way, and observers are able to do their job better,” Balistreri said. “The picture is so clear that you can see the cards and absolutely make no mistake on the suits or the face values. Anyone who looks at video from these cameras is blown away by the clarity of the picture.”

A third Native American casino—Chumash Casino Resort in Santa Ynez, Calif., 35 miles north of Santa Barbara—has installed 100 Arecont Vision megapixel cameras to watch its security-sensitive locations such as table games, cashiers’ windows and kiosks. Mark Meske, director of surveillance and compliance at Chumash Casino Resort, saw the megapixel cameras at a tradeshow and was amazed.

“We did the research and found that they have six times the clarity of non-HD cameras,” he said.

Casino personnel view the cameras on 70 monitors in a 1,500-square-foot monitoring centre to watch for spills in the cash cage or potential procedural violations in the table games. Storage requirements for the megapixel system are met by a 500 TB cluster storage array that retains video for at least 14 days for the security-sensitive areas.

### The Next Generation

Even with the outstanding capabilities provided by megapixel cameras,





bandwidth consumption has remained one of the most prevalent issues for large-scale deployment in casinos. It takes a lot of bits and bytes of data to create a digital video image—so much so that video data could quickly overwhelm existing network infrastructure and eat up storage capacity.

It takes even more data to create real-time motion video with high-definition quality using megapixel cameras. But with improved compression technology, gaming facilities can now dramatically increase the deployment of megapixel cameras with a high degree of cost efficiency.

Several compression standards have emerged during the brief history of digital video, MPEG-4 and JPEG being the most widely used in IP video. These standards have served

the industry well—MPEG-4 for streaming media at a low bandwidth and M-JPEG to provide frame-by-frame images. However, as the number of megapixels increases with the need for resolution and higher frame rates, a new standard, called H.264, will make it possible to compress video even more efficiently while maintaining resolution and low bandwidth. Using H.264 can provide five to 12 times greater compression efficiency on average compared to M-JPEG implementations.

A more complex H.264 encoding process takes more processing time and/or requires a more advanced processor in the megapixel camera, but is necessary for maximum savings of storage and/or bandwidth. For example, Arecont Vision has developed an FPGA-based hardware image-processing chip that delivers

80 billion operations per second and only incrementally increases its camera pricing. The chip enables maximum compression in real time. The standard ensures that any H.264-compliant decoder can “decompress” the video. The complexity of decoding H.264 is similar to the complexity of decoding M-JPEG, so there is no increase in CPU load when the video stream is decoded for display.

The great news for the gaming industry is that by using H.264-compliant compression, casinos can benefit from the best of megapixel technology—image size and resolution as well as manageable bandwidth and storage requirements. Alternatively, if they are willing to downgrade to a lower frame rate, they can save more money on storage, which is an expensive component.

### The House Advantage

To keep the games fair—and to maintain the house advantage—surveillance has been a huge part of the gaming industry from the beginning, when security personnel watched the games from catwalks in the ceiling above the casino. Only the technology associated with surveillance has changed. As the video surveillance market has evolved—from black and white to colour, from analog to digital, from VCRs to DVRs to NVRs—the gaming market has embraced each technology and put it to good use to watch for thieves, cheats, card counters and others seeking to tip the advantage in their favour.

Widespread use of megapixel cameras is the next step in that evolution. And as the technologies surrounding megapixel cameras continue to evolve with developments like H.264 compression, we can expect more casinos to incorporate this advantage into their security systems. **SST**

# Enhance Stadium Safety And Security With New Video Surveillance Technology

By: Josh Daniels, President and Founder of VideoSurveillance.com

## Stadium Security

Stadium security has been a concern since the beginning of organized sports. Think the stabbing of Monica Seles in Hamburg Germany, the Egyptian soccer riot in 2012 resulting in more than 70 deaths, and most recently the fatal stabbing of a Los Angeles Dodger fan following a baseball game in 2013. Whenever you combine thousands of crazed fans with lots of testosterone, bitter rivalries and often times too much alcohol, crimes are bound to occur.

As entertaining and inspiring as major sporting events may be, the unfortunate reality is that thousands of felony-level crimes and misdemeanors happen every year at these events and often go unreported. Whether it's a minor infraction including public intoxication, pick-pocketing or ticket scalping or something much more serious such as kidnapping, rape or assault, stadium owners need to take the proper security measures to ensure the safety of spectators.

With a mega event like the 2014 FIFA World Cup taking the world stage this summer in the historically high-crime country of Brazil, we are reminded of the importance of video surveillance in a stadium setting. Surveillance technology is an invaluable tool at

an event of this magnitude to help ensure the safety of the fans, players, employees as well as the protection of the facilities. In particular, surveillance systems make existing security staff much more effective in preventing and responding to threats and incidents.



**More specifically, video surveillance at sporting events can:**

**Identify unruly fans**

Emotions can get heated during a sporting event. Surveillance cameras can monitor the stands for fights and disturbances. Accurate identification of troublemakers leads to more satisfied stadium guests and better evidence in criminal prosecutions.

**Prevent crowd violence**

The sheer volume of people at sporting events can cause uncomfortable scenes, particularly while entering and exiting the facility. Security cameras can monitor high traffic areas, ensuring safe and smooth passage.

**Thwart terrorist attempts**

Sporting events are seen by many as potential targets for terrorism. Surveillance cameras can be used to



recognize potential terrorist threats and augment effectiveness of security guard staff.

**Protect the players**

Players are at risk as well. There exists a threat of thrown objects and physical attacks from those in the stands to those on the playing field. Video surveillance can pick up on such activity, alerting security to the scene

before a situation gets out of hand.

**Deter crime**

Sporting events are likely to be the scene of both premeditated and opportunistic crimes like theft, drunkenness, disorderly behaviour and vandalism; however the sheer knowledge that they are being monitored can act as a significant deterrent for these criminals.



## SECURITY FEATURE

SECURITY FEATURE | ENHANCE STADIUM SAFETY AND SECURITY WITH NEW VIDEO SURVEILLANCE TECHNOLOGY



While many of the disturbing incidents we see and hear about at sporting events occur at the professional level, crime and misconduct is a recurring problem at university-sponsored events as well. Security has become a major risk management issue for stadium managers and local law enforcement that oversee operations and crowd control, particularly at American college football games. One unique issue specific to college football in the United States is the vast number of individuals (up to 50,000 people), that come to "tailgate" in the stadium parking lot before and during the game, but who never

enter the stadium. If there's an incident outside the venue, it's still typically viewed as the venue owner's responsibility.

As a result of this on-going trend, more and more universities are installing advanced security systems in their stadiums. Mississippi State University is a good example of one such recent security upgrade.

MSU boasts one of the nation's most electrifying college football stadiums, attributable to its state-of-the-art HD video board, LED ribbon boards, and 55,000 seats

that are filled to capacity at almost every game. To provide a safe environment for the vast number of fans, MSU required an IP (Internet Protocol) security camera system capable of capturing exceptionally detailed images.

Mississippi State worked with VideoSurveillance.com to create a multi-megapixel surveillance solution that could meet the specific security needs of Davis Wade Stadium. With four High Definition (HD) IP cameras mounted outside the stadium's press box, Mississippi State University's management and security personnel can now pinpoint any suspicious or violent activity within the stands and respond in a matter of seconds.

Whether you manage a college stadium seating thousands of fans or are hosting the 2014 FIFA World Cup with scores of stadiums spread across 12 cities, monitoring a sporting event can be a daunting task. The sheer magnitude of the crowd combined with the size of the facility itself makes the proper surveillance network all the more important.

In addition to selecting a qualified security systems integrator, the following are a few tips to consider when setting up an advanced surveillance system as sporting events:



- Place cameras near all entrances and exits to monitor the crowds and individuals coming in and out of the facility.
- Consider cameras with remote-controlled pan, tilt, and zoom (PTZ) functions so that suspicious individuals and disturbances can be closely watched.
- Provide security staff with smart phones (or other connected devices): They can access still images of suspects or live video streams from HD IP cameras to aid in quick response to incidents.
- If a parking lot is connected to the facility, use surveillance to deter crime involving parked vehicles.
- Consider camera systems with video analytics for advanced methods of monitoring in areas such as facial recognition, left objects, and abnormal activity.



While the world consumes all of the incredible athletic performances of the summer – from the 2014 Wimbledon Championships in London to the 2014 FIFA World Cup in Brazil to the 2014 US Open in Flushing Meadows, New

York – we should pause to consider the role security cameras can have in protecting fans, facility personnel and players alike at these world-class events. *Article courtesy of Video Surveillance.com (www.videosurveillance.com) SST*



# Australia's Largest Theme Park Operator Invests In Robust Integrated System To Secure Its Parks

## Background

Village Roadshow Theme Parks (VRTP), Australia's largest theme park operator, provides some of the most thrilling entertainment rides and slides available anywhere in the world. With its headquarters located on the Gold Coast, Australia's holiday playground, it operates:

- Warner Bros. Movie World
- Sea World
- Wet 'n' Wild Water World
- Paradise Country
- Australian Outback Spectacular
- Sea World Resort and Water Park

VRTP also recently opened a new Wet 'n' Wild in Sydney, New South Wales, in December 2013. Village Roadshow also operates a Wet 'n' Wild Park in Las Vegas and two new parks based on Sea World and Wet 'n' Wild are currently under construction in Hainan, China.

Over five million guests per year, from families to thrill seekers, flock to this world of fun with action-packed shows and rides, marine and animal attractions, and adventure across seven large-scale properties.



When it comes to security, VRTP have always chosen world leading access control and perimeter supplier Gallagher, as their long-term partner. A relationship that began in the mid-1980s has grown to meet the expanding demands of each park.

## Preserving assets and ambience

VRTP are continually looking for ways to improve park operations, infrastructure, and processes to meet the needs of visitors and staff. With security taking precedence in the last five years, VRTP made the decision to invest in a robust integrated system that to the public eye would go unseen.



Gallagher's strong history of service and the scope of their integrated security solutions gave VRTP confidence in selecting Gallagher for their upcoming internal infrastructure developments. With 250 cameras located discretely around all seven of VRTP's properties, integrated back to the central control platform Gallagher Command Centre, the VRTP security team have the ability to monitor and control from one location.

In the Village Roadshow Studios, much importance is placed on securing assets, and protecting the privacy of high profile guests. The Studios have attracted projects with a combined budget of around 2.5 billion dollars. There are eight large sound stages covering 10,844m<sup>2</sup> (116,727 square feet), confirming it as one of the largest studios in the Southern Hemisphere.



With intellectual property and assets that must be protected, the Gallagher 24 hour camera integration and intruder alarm management solution play a key role in protecting staff, visitors, and monitoring employee cash handling and service. The integrated system also plays an important role in securing the site overnight from would-be intruders.

Duress alarm monitoring is an important integration used by security staff with 70 alarm zones across all parks. In the event of an emergency, a wireless help-call system can identify back to the Command Centre the name, description, and location via a detailed site plan for each park. This is a vital security element for protecting captive mammals and animals, and IT infrastructure.

**Health, safety, risk mitigation, and public relations**

Animal safety and care is critical. Sea World is Australia's premier marine park, with over 25 hectares (55 acres) of land. With a range of dolphins, seals, sharks, polar





bears, and other marine life – their safety, and the reputation of Sea World, must be preserved. This also includes protecting Australian Outback Spectacular and Paradise Country animals and wildlife. Alongside video and alarm integration, Gallagher manage all primary entry points into parks. Once inside the parks, it manages restricted zones, which include secured enclosures, particularly important for Sea World.

Gallagher's integrated security solution provides continuous surveillance across the parks, capturing any incidents, which may occur on site. This is particularly important for Wet 'n' Wild Water Park which faces increased risk due to the nature of the environment. Wet 'n' Wild has been one of the group's most successful theme parks with a growing attendance of approximately one million visitors every year.





### Using integration to save costs and improve security efficiencies

Wet 'n' Wild Sydney, opened to the public in December 2013, demonstrated Gallagher's ability to extend security coverage across States, with its scalable and flexible multi-server solution. This enables monitoring from the main Command Centre in the Gold Coast over all seven sites streamlining operations. In the event of power loss from the main controller in the Gold Coast, Sydney sites have their own server backups to continue operations as normal.

VRTP's guard workforce has been complimented by the Gallagher system working seamlessly together. Command Centre technology has also given VRTP total site security across all parks; within a year saving park operations approximately 20 hours a day in labour costs.

Gallagher delivers building automation and control through integration with BACnet Protocol – a high level interface that provides strong communication between Gallagher Command Centre and the theme parks' building systems. This has enabled integration with over 250 fire alarm panels giving security staff better visibility of all services, at all times. Efficiencies in alarm generation have improved with automatic escalation to the necessary staff member in a timely manner.



The model that Village Roadshow Theme Parks and Gallagher have designed enables various operator levels to have separate divisions for creating cardholders. Different operator levels have authorised access to develop cardholders for their sections. There are about 3,000 cardholders at all parks and growing. Wet 'n' Wild Sydney is the only Village Roadshow park to deploy staff RFID wristbands that give them access to areas restricted by the public.

According to Mark Cullen, security manager – Warner Bros. Movie World and Wet 'n' Wild Water World, Gold Coast. "The ability Gallagher had to consolidate multiple systems was the selling point. Gallagher was very versatile to work with village roadshow theme parks' needs in comparison to other products. It has truly complimented our workforce and streamlined park operations". **SST**

# Casino In Washington Goes Megapixel



## Background

If ever there was a near-perfect application for the use of megapixel video surveillance cameras, Miguel Grijalva believes he has found it. Grijalva is director of surveillance for the Lucky Eagle Casino in Rochester, Wash., and according to him, the megapixel cameras supplied by North American Video have provided “sharper eagle eyes” when it comes to resolving or clarifying contentious issues at the gaming tables.

“The new megapixel cameras were installed in order to improve image resolution issues we were experiencing with conventional analog cameras,” Grijalva said. “It is important that our surveillance operators can clearly see the indexes of the cards. We need to unmistakably view suits and ranks and be able to distinguish between a heart and a diamond, and the analog cameras were not picking up enough of this detail.”

The megapixel cameras, with their improved quality and resolution, were recommended by security integrator North American Video (NAV) to solve the problem. “The cameras provide the resolution we need to track and verify what is actually happening at our gaming tables,” Grijalva said.

## Meeting the casino’s needs

To meet the casino’s HD-level imaging requirements, NAV specified, and Lucky Eagle Casino’s surveillance technicians installed Arecont Vision’s AV2100M two megapixel IP cameras. The units have a frame rate of 24 fps (frames-per-second) with a resolution of 1600x1200 and a minimum illumination of only 0.1 lux @ F1.4. Arecont’s cameras did not replace any of the analog cameras already installed, but were added as a supplement. The design prepared by NAV only required one megapixel camera per table. “The frame shot is the



same as the analog, but the clarity is better," Grijalva said.

The cameras also feature built-in electronic PTZ (pan/tilt/zoom), and the digital zoom is beneficial in live monitoring or reviewing footage. These investigative digital capabilities help the casino spot unusual activity or instances of suspicious behaviour or cheating as well as employee procedure compliance.

As mentioned, the analog camera systems are still an integral part of the video surveillance system because they allow a high frame rate (i.e. 30 frames/second) for recording purposes and for more fluid motion. In the enhanced system, the megapixel IP cameras are recorded at five frames-per-second — allowing for reduced file sizes and storage requirements.

NAV had previously installed the video surveillance and security system at the casino, including the network video recorders (NVRs). In preparation for the move to megapixel, the integrator set up a test installation in the casino and left the unit in place for several weeks. According to Grijalva, his team was particularly impressed with the quality of the images when viewing details on the roulette wheel and for identifying stacks of chips.

"It was a team effort with North American Video designing the system and commissioning the network and our crew installing the cameras," Grijalva said. "It wasn't a big 'rip-and-replace' because we have CAT six cable already installed. Nor did we have to replace any of our control room hardware such as the matrix switch or the NVRs. The Arecont megapixel IP cameras use PoE (Power over Ethernet), which also made installation very easy.



Additionally, the installation process was completely transparent to everyone and there was no down time."

### The Benefits

Once the megapixel cameras were online, casino staff noticed the difference. Now when operators respond to a request to review a game play, they automatically review digital recordings from the megapixel cameras first. Grijalva says that the megapixel cameras have definitely helped determine if a customer's claim is valid or, for instance, if someone claims they were short-changed on chips and that game play can resume more quickly. The casino is also considering adding the megapixel cameras to the lobby entrances for facial recognition.

"As demonstrated at the Lucky Eagle Casino, even standard megapixel cameras offer significant imaging advantages and can be very cost effective when used judiciously on any video surveillance system platform," says Cynthia Freschi, president of North American Video. "We were very pleased with the results, but more importantly, so was the entire surveillance team at the Lucky Eagle Casino." **SST**

# Motorsports Park In Italy Puts In Place Measures To Secure Its Circuit

## Background

Modena, known as “the capital of engines”, is an ancient town in Italy. It is heaven for racing enthusiasts since a lot of factories of famous Italian sports car makers like Ferrari, De Tomaso, Lamborghini, Pagani and Maserati are now or were once located here.

Autodrome di Modena is a Motorsports Park and located in a famous area called “Motor Valley”. It is an amazing place for motorsports enthusiasts, not only offering facilities, high-speed cars, but also professional instructors who come from the real ‘racing world’ to provide driving training. The circuit length of the park reaches 2.7 kilometres and the pit lane comes with 21 boxes, new telemetric system and a well-equipped paddock.



## The Challenge

Both of the well-known risks of racing and its open outdoor environment compound the difficulty and complexity for Autodrome di Modena in terms of security. During the design phase, two requirements were on the table, one was to have solid security control; the other was to offer checking on the racing of cars and motorbikes.

## The Solution

To meet these needs, the first order of business was to take into account the structure of the circuit. The decision





then was to install 24 network megapixel cameras in the most important position of the track and also some speed domes in the open areas. The applied camera models include Dahua's two-megapixel full HD network cameras (IPC-HF3200) and speed dome cameras (SD6982A-HN) and in addition, the storage device is Dahua's 128 Channel Super NVR.

With Dahua VMS, this set safeguards the venue with superb image quality with every detail captured, along with flexible and convenient management; most of all, the open architecture of super NVR makes it possible for a further implementation in the long run.



"By this project, it proves that Dahua's solution can cater to customer's requirements," said Pasquale Totaro, the ceo of Videotrend, Dahua's local distributor in Italy. "It is very important to offer affordability of the products proposed. Meanwhile, customers always ask for warranty. At this point, the consolidation in partnership with Dahua allows us to achieve the goals and to stay ahead in the market."

"Car racing is kind of the cultural

icon of Italy, we feel quite honoured that our solution and products could be part of this project," said Elmer Zhang, sales director for Europe at Dahua Technology. "As we know, racing also stands for thrill and passion, the reliable products we provide could help to guarantee the thrill, and like our local dealer said, we do hope this pleasant cooperation could be a wonderful start for more similar cases in the near future," Zhang added. **SST**



# Stadium In Poland Upgrades Its Surveillance System For Greater Security



## Background

Ernest Pohl Stadium in Zabrze, Poland is a multi-purpose stadium built in 1934 and used mostly for football matches. The stadium recently sought to replace its existing surveillance system with a newer one.

## The Challenge

Much of the impetus for a new system stemmed from changes in Polish law, which introduced more stringent standards for the admissibility of video and photographic evidence in a court of law. To be specific, the video and images provided by the





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stadium's existing surveillance system proved of insufficient quality for use in legal cases, such as those stemming from thefts, vandalism, and hooliganism that occurred in the stadium. Moreover, even when incidents occurred during afternoon games, when lighting conditions are ideal, the cameras did not provide enough clarity to enable police to make positive identification of suspects, let alone serve as evidence in a court of law.

With miscreants emboldened by the police's inability to make arrests based on surveillance video footage from the older system, law-abiding spectators were increasingly threatened. A more effective surveillance system would not only protect the stadium from property losses and other damage, but protect spectators' safety.

### The Solution

Two SD7323 cameras were chosen as "master" cameras providing a broad overview of the entire stadium. Przemysław Kusmierski, project planning director at distributor CODE, explains that the SD7323 is perfectly suited for such applications because of its powerful 35x zoom: "You can get the big picture, and then use the zoom to zero right in on locations where it looks like trouble might be starting." Four SD7151 cameras, with their 18x zoom, are used for a similar role, but covering the perimeter of the stadium.

For views of various sections with sufficient detail to identify individuals, the stadium is using 18 IP8161 and 19 IP7161 cameras. With their high-definition two-megapixel resolution, they handily overcome the limitations of the stadium's original surveillance installation, which could spot trouble, but do little to identify offenders. The new cameras' wide field of view is perfect for expansive open environments like the stadium, as is the ePTZ function, which lets operators focus on specific target areas without physically moving the camera. According to Kusmierski, another huge advantage





of IP8161 is its integrated BNC cameras, which enabled it to be connected directly to analog monitors—a valuable feature for the stadium, as it preserved the considerable investment it had in a large number of such monitors.

The project has proved a tremendous success, receiving a great deal of positive feedback from investors, stadium management, the police, and even the city government. Kus mierski also relates, “There was a lot of competition for this project because of its size and high profile, so we had to keep our bid very low to win the bidding. But I think the stadium has been very happily surprised that with the VIVOTEK cameras, they can get such high quality without it being very expensive.” *ESST*

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# Integrated Resort In Singapore Implements Sturdy Security Management System



## Background

Marina Bay Sands Integrated Resort (MBSIR), Singapore is one of the most remarkable leisure destinations ever created. Located along the Marina Bay waterfront in Singapore, the MBSIR includes 2500 rooms, two theatres, a nightclub, a Las Vegas style casino and a museum, which will be showcasing international exhibitions. The hotel which is made up of three fifty-five story towers boasts a spectacular landscaped roof garden with swimming pool.

## Resort security

The £4 billion project required a high-end security system and opted for the CEM AC2000 SE system. AC2000 SE offers a flexible and versatile solution, providing a powerful and fully integrated access control, alarm processing and photo badging system. AC2000 SE is continuously developed to meet the most difficult of security needs, providing a highly stable solution for installations where security is of paramount importance. AC2000 SE is relied upon to secure

access to important areas such as the casino vault and specialised security departments used to survey the casino floor. AC2000 SE utilized CEM's advanced range of hardware products including intelligent IP card readers. The CEM S610e and S610f fingerprint readers have been installed in high security areas with third party readers installed at less secure areas.

## CEM IP card readers

MBSIR had over 500 S610e access



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control readers. The S610e reader supports all card technologies and has a large graphical LCD, which is used to display a number of messages to cardholders depending on their privileges e.g. 'Access Denied', 'Wrong Time Zone', 'Card Expired'. The reader, which has on-board Ethernet connection, communicates directly with the AC2000 host server removing the need for an intelligent control pane in the system design. With an internal database the S610e gives full off-line card validation and decision making at the point of entry, even when host communication is not available.

The project also used over 100 S610f fingerprint readers to control access to restricted areas where an additional biometric layer of security is required e.g. entrance into casino vault. The LCD will display predefined messages such as 'Place Finger' and 'Bad Biometric'.

### Cost savings with PoE+ DIU 230

PoE+ technology was used throughout Marina Bay Sands. Where a high level of security is required and cabling must be kept

to a minimum, the CEM DIU 230 (PoE+ Door Interface Unit) offers the ideal solution. It is the first controller in the industry to reliably supply power and communications to a complete door set via one Cat 5e/6 cable. The key benefit of the DIU 230 PoE+ is that it eliminates the need for both a mains connection and a local power supply to the door; therefore there are no door supplies anywhere within the resort.

### Fully integrated

The MBSIR project required integration with a number of external systems. CEM was required to integrate with the Central Control and Monitoring System, (CCMS) the Key Management System, the CCTV system and the HR system amongst others.

BacNet protocol was used for HLI (High Level Interface) to the CCMS system. The HLI allowed CEM to send water leak state to the CCMS. If a water leak is detected the CEM system would send alarms to the CCMS. This was an important issue due to the fact that the hotel has a rooftop pool therefore any water leaks could result in serious consequences.

The security team at MBSIR requested an XML interface from the HR system to the CEM access control system in order to populate basic staff information. It was important for the MBSIR security team to be able to efficiently manage employee details. The interface fields can be used for collecting uniforms, fast food access and ID badging. The CEM Visual Imaging Pass Production System (VIPPS) allows users to produce permanent and temporary ID badges. Security staff can enrol users and capture fingerprint templates using a user-friendly ID badging application.

The Key Management System increases security around significant areas of the resort. CEM Systems developed an interface to automatically transmit card data from the AC2000 system to this Management System. A file which contains the full list of key safe users is sent to the key system and the necessary user records are created.

The AC2000 SE system at MBSIR was also integrated with the CCTV System. The AC2000 external interface enables the administrator to specify that when a particular alarm occurs on a CEM device, a message/ command is sent to the third party. For every alarm of interest the following data is sent by AC2000 to the CCTV system; the alarm name e.g. 'Door Forced', the location of the alarm e.g. Door A, Main Entrance and the date/ time at which the alarm occurred.

### The Future

CEM Systems have provided MBSIR with a future proof and fully integrated security solution that has been designed to grow along with the resort. **SST**



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# Popular Chain Of Premium Casinos In Germany Upgrades Its Surveillance System

## Background

VIP Casino is a popular chain of premium casinos in Germany. Systems integrator MB-PC developed a solution customized to VIP Casino's surveillance needs at two of its locations in Germany, Oehringen and Bad Friedrichshall in Baden-Württemberg in southern Germany.

## The Challenge

It goes without saying that an effective surveillance infrastructure is essential for gambling establishments, where

the risk of disputes and even criminal activity is high. According to MB-PC account manager Marco Brueck: "The casino needed cameras that could give them video and images clear and detailed enough to easily identify individuals they might be interested in."

## The Solution

At the VIP Casino in Oehringen, MB-PC's solution combined five VIVOTEK IP7361s and 34 FD7160s. At this site, the casino wished to implement a surveillance system



inside the casino proper as well as in the parking area and entrance area to the adjoining shopping area that many customers visited before or after time spent in the casino. For the outdoor parking area and shopping centre entrance-MB-PC recommended the IP7361, a high-end network bullet camera tailor-made for outdoor environments with an auto-iris lens and IR cut filter to ensure superior video quality whatever the lighting conditions night and day. Inside the casino, MB-PC urged the casino to use VIVOTEK's FD7160. Like the IP7361, the FD7160 produces high-resolution two-megapixel video, essential for a usage scenario like the casino's.

Recordings of the surveillance video were archived using the go1984 Enterprise package from German software vendor Logiware. As Brueck explained: "go1984 is popular worldwide, but especially here in Germany. VIVOTEK hardware works especially well with go1984, which



was another reason we advised the casino to use the IP7361 and FD7160." Yet another point in VIVOTEK cameras' favour was their PoE support, according to Brueck: "We just plugged the cameras into PoE switches, providing electrical power and the LAN connection the casino's security team needed to manage everything. That made for a really clean, clutter-free setup."

At a second facility in Bad Friedrichshall, MB-PC helped the casino set up another VIVOTEK camera-based surveillance system, this time consisting of four IP7361 cameras outside, and 49 FD7130 cameras inside. The system was largely similar to the one in Oehringen, with one major twist: one of the IP7361 cameras had to be installed on a completely separate building, a dilemma that MB-PC resolved by using a wireless LAN bridge. The camera has performed flawlessly, enabling the casino to seamlessly manage it along with the other VIVOTEK cameras on their network, demonstrating its suitability as part of a wireless LAN-based surveillance installation.



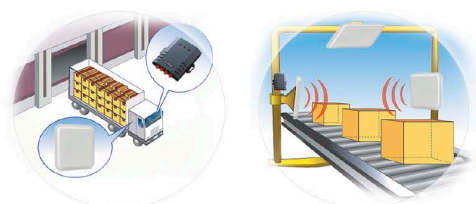
### The Results

The VIVOTEK-based surveillance has been so effective, and cost-effective, that VIP Casino is set to implement similar systems at in three to five more of their casinos later this year. **SST**

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# One Of The Busiest Horse Racing Venues In Australia Implements Solid Access Control System



## Background

Moonee Valley racecourse is one of the busiest horse racing venues in Australia and is located just six kilometres from Melbourne's Central Business District. Hosting thoroughbred horse race meetings and many functions and events, it is home to the Moonee Valley Racing Club's flagship event the "Tatts Cox Plate" which is Australasia's premier weight for age race.

## The Challenge

As one of Australia's premier sports locations, the challenge is to balance the need to create an open, comfortable and secure environment for staff and visitors, while ensuring that people and equipment are protected from the threat of theft and vandalism.

## The Solution

To achieve this the club has upgraded security arrangements in its office and administration areas and Salto Systems was awarded the contract to remove the existing mechanical key system and replace it with a modern fully integrated XS4 access control solution which includes four on-line 'Hotspot' wall reader points, and over 40 standalone locks using Mifare RFID staff ID cards.

"As specialists in the field of access control systems, the Salto solution was ideal for Moonee Valley Racing Club" commented Jason Knowles from JAB Solutions, the local authorised Salto dealer carrying out the installation.

"Working in consultation with MVRC we designed a highly secure and flexible networked access control system to



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meet all of the requests of the club. The advanced system design incorporates XS4 electronic mortise locks with WRM9001 wall readers and CU50ENSVN controllers that can provide club management with audit trail information and lock battery status without having to visit all the doors in the building,”

Brian Masters, manager - Operations at Moonee Valley Racing Club agreed. “It’s important to us that our administration areas at the racecourse are secure. Our existing mechanical keyed system had become increasingly costly to maintain, with regular rekeys required, and it did not give us the flexibility or control we wanted.

We decided the time had come to replace it with a more modern system that could give us full audit trail controllability and increased security, especially on race days, as well as the ability to restrict staff and contractor access via time and door based control.

The selection of the new access control system will give us this capability as well as the ability to update, restrict or deny access to any lock remotely. This gives us unmatched flexibility and a secure environment, so choosing Salto has been an excellent investment decision.”

Scott Fraser, national sales manager Salto Systems

Australia, said “We were thrilled to be awarded this exciting opportunity to secure one of Australia’s foremost sporting venues. The XS4 system together with its Salto Virtual Network (SVN) technology provides 90 per cent of what the club would get from a fully wired online system but at a fraction of the cost.

It uses distributed intelligence in the locks and cards to manage their access control requirements in a secure and comfortable way whilst simultaneously eliminating any potential problems with key control.

The ‘smart’ ID cards build up ‘on-card’ audit trails through normal use giving complete control over access and enabling them to track the movement of staff and visitors through both the off-line and on-line parts of the system if required. This enables a complete access profile of each individual to be established and updated as necessary at the ‘Hotspot’ wall readers.

It can also programme keys (Mifare RFID cards) to allow access to specific rooms or areas within the club for selected periods only, with the doors auto locking at pre-specified times as required. And if key security is breached due to the loss of a key card, it can be instantly deleted from the system without the need or cost of rekeying or changing locks – saving the club time and money.” **SST**





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# World Equestrian Games Implements Megapixel Solution In Lexington, Kentucky

## Background

The Alltech FEI World Equestrian Games attracted more than half a million people over 16 days to watch the largest sporting event in the United States. Held at the Kentucky Horse Park in Lexington, Kentucky, there were 632 athletes and 758 horses representing 58 countries competing in world championship competitions for eight equestrian disciplines. The elite devotees attending the games included members of royal families, heads of state and business and corporate leaders from around the world. Daily attendance peaked at 50,818 on for Eventing Cross Country. Other sold-out rounds of competition included reining, vaulting, dressage and Para dressage sessions. The games are held every four years and are governed by the Fédération Equestre Internationale (FEI). Alltech, an animal health and nutrition supplier, is the title sponsor.

## The Challenge

The scope of the security project for the World Equestrian Games posed significant challenges given the magnitude of the event. The surveillance solution needed to cover the entire 1,224-acre Kentucky Horse Park, a working horse farm, theme park and equine competition centre. Also, each day of the event attracted tens of thousands of spectators. The



security objective was to protect the event using as little manpower as possible while providing clear video of any occurrence, whether in real-time or as forensic video after the fact. Given the expansive event venue, the video surveillance system required cameras capable of clearly viewing large areas in fine detail.

“One of our largest challenges is the sheer size of attempting to secure 1,200 acres,” said Kevin Tyo, director of Security and Safety Services, World Equestrian Games. “On any given day, we had a

range of anywhere from 15,000 to probably 35,000 to 50,000 people on site.”

“We don’t know from day to day what people will be doing, where they will be going -- but we have hundreds of thousands of dollars worth of assets – not only physical assets, but the horses, the people, the things that are invaluable to us,” added Sharon Kingman, director of Information Technologies, World Equestrian Games 2010. “So our greatest challenge is to make sure that everyone can do their job, they



can protect themselves, they can protect their assets, and not think about it."

### The Solution

As the "Official Physical Security Solutions Provider," EMC Corp. led deployment of more than one million dollars in security industry products to protect the games, including EMC's CLARiiON network storage, which provided about 300 terabytes of storage for video and other security data. Arecont Vision provided megapixel cameras, which were the core-imaging component of the video surveillance system.

"As the second largest sporting event to take place in North America other than the Olympics, we are excited to be the official physical security solutions provider of digital surveillance for the World Equestrian Games," said Dick O'Leary, senior director of EMC's Global Solutions. "The sheer size and scope of the event

highlight the need for organizations to quickly analyse and respond to the vast amounts of captured security data."

Orion Systems Group's certified technicians designed, configured and installed the integrated solution for the World Equestrian Games using best-in-class hardware, security equipment, cameras, storage and video software. "The World Equestrian Games allowed us to highlight the best available technologies, implemented in an enterprise-class video surveillance system solution, to successfully monitor a large geographic area with little or no existing network infrastructure," said Paul Garver, president, Orion Systems Group.

Arecont Vision three and five megapixel IP network surveillance cameras were installed throughout the Kentucky Horse Park to provide clear, detailed views of specific areas. Arecont Vision's AV5105DN is a five megapixel day/night camera provides 2,592 x 1,944-pixel images at nine frames-per-second (fps). The camera uses H.264 (MPEG four, Part 10) compression to minimize system



bandwidth and storage needs.

The AV5105DN can also be used at lower resolutions for various frame rates up to full motion. The camera provides full-motion progressive-scan 1280x1024 video at 30 fps, 1600x1200-pixel video at 24 fps or 2048x1536 at 15 fps. The camera incorporates Arecont Vision's MegaVideo® image processing at 80 billion operations per second. Features include forensic zooming to zero in and view the details of a live or recorded image, motion detection and image cropping. The camera's day/night version includes a motorized infrared (IR) cut filter. The camera can output multiple image for-mats, allowing the simultaneous viewing of the full-resolution field-of-



view and regions of interest for high-definition forensic zooming.

Twenty Arecont Vision AV5105DN cameras were outfitted with SY125M lenses from Theia Technologies. The SY125M ultra-wide-angle lenses provide a 135-degree field of view, along with digital and horizontal correction to eliminate fisheye distortion. The lenses complement the high-resolution and superior image clarity of Arecont Vision's megapixel cameras.

Other Arecont Vision megapixel cameras used at the World Equestrian Games include the AV3105 Day/Night three-megapixel cameras that provide 2048x1536-pixel images at 15 fps. The AV3105 uses a half inch CMOS sensor and Arecont Vision's Mega-Video® image processing at 80 billion operations per second. The day/night version has a motorized infrared (IR) cut filter. Additional features include motion detection, image cropping, region-of-interest viewing and the ability to zoom into an image after it is archived (forensic zooming).

Verint Systems provided the Nextiva IP-based video software platform as well as wireless bridges to transmit



video across the vast area of the Kentucky Horse Park. A dedicated security network, based on a fibre backbone, was installed to handle access control, intrusion detection and video surveillance. All the video was fed back to the security command centre to IP-based, off-the-shelf servers running the Nextiva video management platform. Nextiva software combines open architecture with simple, point-and-click technology. Video feeds are

monitored 24 hours a day and can be viewed from any workstation anywhere in the park. The video streams were saved, archived and managed on an EMC CLARiON storage-area network.

"This solution is really one of the most well-integrated solutions I have seen. We have best-in-class technologies from hardware, security equipment, cameras, storage and video software, so it's a truly integrated system," said Kirk Rhodes, deputy director of Physical Security, World Equestrian Games. The system also can adapt to any changes dictated by a complex event such as the World Equestrian Games. "We can make a change literally within minutes if traffic flow or security requests dictate a transfer of one asset to another; it's extremely easy, which makes us very happy," said Kingman.

### The Benefits

Arecont Vision megapixel cameras enable close-up viewing of fine details using fewer cameras,



providing a high return-on-investment (ROI) versus conventional imaging devices. Because megapixel cameras can cover an extremely wide field-of-view with high resolution, up to 50 per cent fewer conventional cameras were required to cover the desired area. The application at the World Equestrian Games clearly demonstrated that megapixel cameras significantly reduce overall system cost and installation costs.

As a result of their high resolution, Arecont Vision megapixel cameras meet the demanding needs for forensic video – and digitally recorded images from these cameras can be quickly viewed and analysed, or shared with the authorities for investigation and prosecution. During the World Equestrian Games, the system was able to quickly access video images for any public safety agency that needed them.

Digital pan-tilt-zoom (PTZ) capabilities provided organizers

with extensive coverage of all event facilities. Whether viewing a parking lot or a crowded venue, a mechanical PTZ camera could only watch one of 10 fields-of-view at a time. That leaves nine fields-of-view without coverage. Covering the “missing” fields with additional cameras would have increased costs dramatically. Arecont Vision’s megapixel cameras captured the entire scene – all the time – and allowed users to digitally zoom-in on any area within the scene, live or on recorded video. The use of megapixel cameras also contributed to a reduction in guards and system operators during the World Equestrian Games, further improving ROI.

Arecont Vision cameras employ H.264 compression, which lowers bandwidth and storage requirements, and simplifies integration. The application at the Kentucky Horse Park also demonstrates that megapixel cameras can dramatically



decrease costs related to other elements of a system, requiring fewer software licenses, fewer lenses and enabling a decrease in the man-hours needed to install a system.

The combination of performance benefits and lower system costs provided by megapixel cameras contributed to the successful implementation at the World Equestrian Games. Megapixel imaging provided a significant upgrade in system functionality. **SST**



# World-class International Stadium In Ireland Implements Integrated Security Solution

## Background

The construction of the Aviva Stadium in Dublin, Ireland began in May 2007 and was completed in May 2010 costing a total of 410 million Euros. The Stadium has a seated capacity of 50,000 and provides superb facilities for spectators, players, media and staff.

## The Challenge

The mission of the Aviva Stadium is to run a world class international stadium, which is an outstanding venue for football, rugby, concerts and conference business, and which provides a top class experience for customer, players, coaches, media, commercial partners and staff. Aviva Stadium's integrated security solution includes fire

detection, CCTV (190+ cameras), access control (CEM AC2000), intruder alarms, fire suppression and disabled toilet alarms.

CEM Approved Reseller, ADT Dublin selected CEM's AC2000 security management system to secure the Aviva Stadium. AC2000 security management system is ideal for large sites such as Aviva Stadium. It offers powerful access control, alarm processing, photo badging and integration with third party systems. CEM AC2000 provides a reliable and scalable access control and security management system. This solution helps protect staff, viewing public, athletes and performers at the Aviva Stadium while providing a fully future proof security system. Aviva Stadium took full advantage of AC2000 software applications such as VIPPS ID badging and Alarm Event Display (AED).



## The Solution

### AC2000 VIPPS

AC2000 VIPPS (Visual Imaging and Pass Production System) provides security personnel at the Aviva Stadium with a range of video imaging facilities for capturing personnel details, including images, company logos and personnel signatures and incorporates these onto professionally designed ID passes. Using the user-friendly AC2000 pass design module, security staff can easily design and print their own access control passes.

### AC2000 AED (Alarm Event Display)

AC2000 AED transmits real-time information on all alarms and events that occur on the AC2000 System. AC2000 AED responds to all alarm situations in real time, providing a dynamic on-screen interface to reader and camera footage. Via the AED application security personnel can quickly respond to alarm events and view footage. The easy to use interface allows administrators to process alarms and integrated CCTV efficiently.

### CEM Hardware

The Aviva Stadium required a solution which would minimize the amount of cabling required and take advantage of the IT network which was planned for the site. Using the eDCM300 Intelligent two Door Controller, with AC2000, CEM was able to meet this requirement.

Over 70 eDCM300 IP controllers were installed throughout Aviva Stadium. The eDCM 300 is a low cost, two-door controller designed to interface third party read heads with CEM AC2000. This intelligent CEM hardware is easy to install, utilises the Ethernet network and gives full off-line validation and decision-making capability at the point of entry when host communication is not available.



## New developments

Since the original installation the security solution has continued to grow and there have been several new developments such as turnstile access for stewards, single door additions and one-shot process for remote access. CEM will continue to work with ADT and Aviva Stadium to ensure all security needs are met. Donal Colfer, commercial Manager ADT Dublin commented, "AC2000 VIPPS provides Aviva Stadium with a cost effective method of producing both permanent and reusable temporary passes." **SST**



# What's Your Position On Transmission? Five Tips When Deploying Or Upgrading Video Signal Transmission Products



By: Frank "Skip" Haight, Vice President of Marketing,  
ComNet Communication Networks

## Introduction

Creating a successful video surveillance system has become very different than it was 10 years ago. Taking a backseat in the process is the traditional point-to-point analog surveillance system consisting of analog cameras transmitting over coaxial cable (coax), UTP or optical fibre. Traditional analog systems are very much in play and are still being specified and used very successfully; however, network or IP video is gaining significantly every year.

Whether you are planning an analog video CCTV or IP video network, here are some tips to consider when planning your video transmission system.





**1. Choose the system that best meets your needs, whether it is analog or IP video.**

Although IP is now on the leading edge, analog systems still work well, are cost-effective and easy to install. If you are recommending an analog system, what distances are you facing? For extended distances, fibre optic is a better choice. Instead of being limited to the accepted 750 to 1000 feet distances that coax cable supports, fibre offers distances in kilometres and miles for multi-mode fibre; and larger numbers of miles and kilometres using single-mode fibre optic cables.

Media cost is very close, but optical fibre gives you the option of transmitting up to 32 channels of uncompressed full-motion, full-colour, real-time video and eight channels of camera control data simultaneously on a single strand of single-mode optical fibre, at distances up to 35 miles.

Most CCTV projects are a fraction of that distance, but it gives you a perspective on the bandwidth available. Fibre optic, video transmission allows for RS-232, RS-422 and RS-485 or "up-the-coax" camera control data and audio to be transmitted along with the video. It also gives you options regarding video quality and can easily transmit RS-250C Short-Haul quality; 10-bit digitally encoded video with no latency over these distances.

When you factor in the cost of fibre optic transmission vs. traditional coax or even UTP, it becomes an easy choice. Fibre Optic networks also give you many options in terms of system topology, in addition to point-to-point and star topologies, fibre optic networks can be designed as add, drop and repeat; and as closed-ring, redundant networks.

**2. IP or Ethernet-based video transmission networks are becoming a greater focus as a solution to today's video transmission challenges.**

The move to IP video networks using IP cameras and network products has produced a significant technology shift. Technology continues to evolve and ever-improving advancements such as megapixel and cloud topologies have surfaced, and this has helped secure the demand for IP systems.

The advantages that a complete, networked solution gives you are significant. Ethernet is standards-based, so in theory, if you interconnect different manufacturers' components, and transmit all types of signals over the same network-video, intercom, access control, data and more - everything should operate seamlessly. The flexibility in how you connect these edge and network components is also very attractive.

Scalability is also very important and you can easily add on additional edge components at a much less expensive rate much more easily. The network itself has incredible intelligence for self-monitoring, redundancy and optimization.

You now also have lots of intelligence pushed out to the edge of the network, enabling capabilities like analytics and systems monitoring that far exceed older abilities.

### 3. Encode, rip-and-replace or retrofit?

Once the decision has been made to move to an IP CCTV Network, you are faced with a few options regarding video transmission. If the move is in a current facility with an existing analog CCTV System, you must:

- Encode the existing analog video;
- Start over completely; or
- Retrofit existing equipment and media

Encoding entails keeping the existing analog CCTV cameras and their corresponding media, be it coax, UTP or Fibre Optic and, using a video encoder/decoder; converting the video to Ethernet and inserting it onto the network through a network switch. The IP video is then directed to a network video recorder for monitoring and storage. Encoding is most likely the least expensive way to move to IP video. The encoding/decoding can be done at the remote location using video encoders or at the head-end, where the video can be transported over existing media and encoded before being inserted on to the network. Encoding at the remote location can be made with any of hundreds of video encoders available today. If the remote location is unconditioned, then a hardened encoder must be selected, and they are a little more difficult to find. The downside to encoding analog video is a limitation in video quality. As good as most analog cameras are, they are no match for today's megapixel or high definition cameras.

First, are you dropping cameras onto an existing network that you are using for normal company operations? That might not be the best planning, as IP video requires a lot of bandwidth. Disrupting or slowing down a company's existing operational network might not be a prudent decision. Starting a new Ethernet network for security might be the safer bet in the long run.

When planning an IP Security network, for each location, you need to understand a current need for the number of devices, plus what you expect to need for expansion (vs. cost). You must also be able to determine and plan.

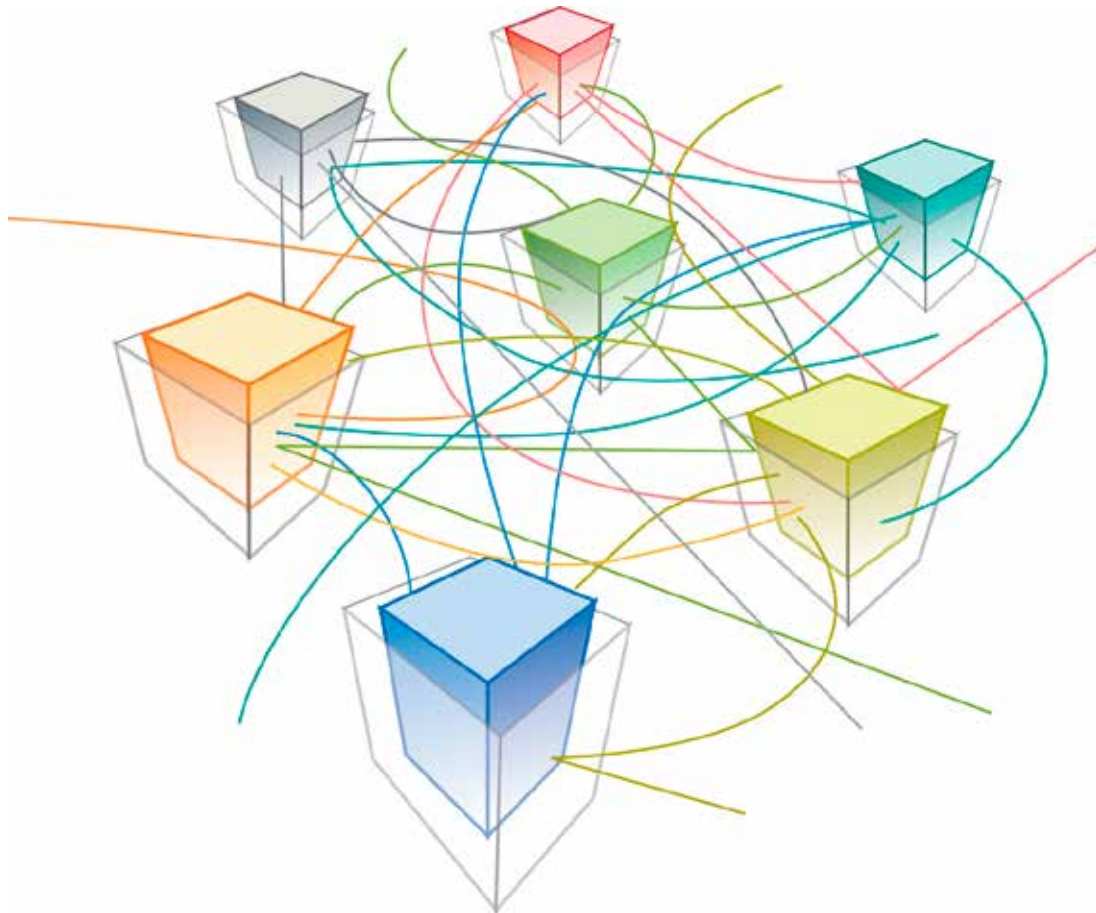
#### Questions that will come up are:

- **How much bandwidth will your devices need, across each segment and aggregated?** By using

wireless Ethernet transmission, you can avoid the logistical nightmare of running copper or fibre optic cables back to a central monitoring or command and control centre.

- **What distances do you need to cover?** The answer to this question determines what type of media you will need to select. For systems that use megapixel or HD IP cameras with distance considerations, single-mode fibre optic equipment is a safe choice.
- **Are you using a Managed Ethernet Switch?** A managed switch enables a user to control the IP address and features of the switch, giving the ability to precisely optimize and control traffic on the network; thus allowing the media to be used more efficiently. Using managed switches helps the chosen media – copper, fibre or wireless – to use the available bandwidth more efficiently.
- **Retrofit. Can I re-use existing cabling?** If a fibre optic CCTV network is/was in place, chances are the fibre can be re-used with simple fibre optic media converters or switches with optical ports.





If the existing CCTV surveillance network is/was in place and the move to Ethernet is being made, IP video can be transported over the existing coax or UTP. Manufacturers can offer products that can extend distances over existing coax or UTP and support PoE, enabling the transmission of 100Mbps of Ethernet data to distances of approximately 600 meters without PoE or approximately 200-300 metres depending on IP camera power consumption with Class three 13 watt PoE. There are variations to account for when using higher power, but these distances are good general recommendations. All are greater than the 100-metre generally accepted maximum distance for fast Ethernet.

#### 4. Is wireless the right Choice?

Wireless Ethernet transmission holds great potential, as it does not bind you to the logistics of running copper or fibre optic cables. It sounds simple, but there are many parameters that must be factored in to get a favourable installation. Network topology, obstacles, weather and time of year all have to be considered. But many wireless Ethernet product lines promise installation that is basically power, point and play - meaning you power up the access point and the field deployed client, point/aim the units using the antenna alignment tool and start transmitting

Ethernet. Taking the complexity out of using wireless is a major advantage to acceptance and use. It is still not for every application, but it has its place.

#### 5. Will the system operate seamlessly?

The promise of Ethernet and the entire IEEE802.3 set of standards is to ensure that all IP devices that meet that standard theoretically operate seamlessly over the network. The reality of that promise is that many times, IP devices from different manufacturers do not seamlessly operate.

The safe bet for IP video transmission is to choose the transmission products from one manufacturer. If you can find a single source for your Ethernet transmission equipment, be it wireless Ethernet, Fibre Optic Ethernet, Ethernet over copper, Ethernet switches, media converters, having it all operate seamlessly is more likely to occur.

In many cases, working closely with the product manufacturer and supplying them or working with them on the system design will allow configuration testing to happen before the installation. Working closely with the manufacturer allows interoperability issues to be solved in the lab and not in the field. *Article courtesy of ComNet Communication Networks (www.comnet.net) SST*



# City Of Aspen, Colorado Installs IP License Plate Recognition To Enhance Parking System

## Background

The city of Aspen, Colorado, at an elevation just shy of 8000 feet, is a popular ski and snow destination resort. It draws a large tourist population every year, including a number of world-famous celebrities. Though the city, a four-hour drive from Denver, is home to a mere 5200 residents, it holds a bed base for 25,000 and imports around 13,000 workers per day. With all of this activity, parking in Aspen is at a premium, and there is little space left to build.

## The Challenge

Tim Ware is a veteran of the city's parking enforcement team, having served as the director of the Department for the past 18 years. The Department oversees around 850 commercial on-street parking spaces in the city centre, a 340-space public parking garage and around 3000 residential parking spaces with its parking system. Most of the commercial on-street spaces in the downtown area are managed with a pay-and-display system, with the remainder located in small pockets of unpaid spaces with time limits between 30 and 60 minutes. The parking garage is gated, and therefore mostly self-regulating. The greatest challenge to Ware's team, however, has been monitoring the residential parking spaces. The popularity of the town coupled with the scarcity of parking has, over time, caused visitors to spill into the city's surrounding residential neighbourhoods in search of a place to leave their vehicles. In 1994, Ware implemented regulations on parking in residential zones that allowed visitors to park

for a maximum of two hours. Tire chalking practices were employed to enforce this regulation.

Unfortunately, Ware found that people simply moved their vehicles every two hours, defeating the purpose of the limit, which was put in place to regulate congestion in the area. A no-re-park ordinance has since been instated (allowing visitors to park for two hours total in any given eight hour period).

Today, residential parking zones provide for three parking methods: free permits are provided to residents, and visitors can choose between paid day passes or free parking with a two hour limit. These new parking provisions rendered the practice of tire chalking obsolete. Chalk was too rudimentary a method for tracking vehicles, as the only information it could provide was whether a car had moved since originally parked. This method was not sophisticated enough to track vehicles for potential re-park infractions. The situation necessitated a system that encompassed a database, tracking cars throughout the day on a system-wide level, instead of just on a spot-by-spot basis. It was at this point that Ware set out to find an improved solution to aid his enforcement officers in effectively carrying out their jobs.

## End-User Needs

It was estimated that between 400 and 800 cars were shuffling parking spots in the residential districts every day to beat the two-hour time limit, meaning that an average of 20 per cent of the cars parked in the residential

areas at any given time were in violation of the no-re-park ordinance. With a residential area approximately 12 blocks tall by 18 blocks wide, the three-person team allocated to Aspen's residential parking enforcement was not physically able to patrol the entire area in a day. Ware was in search of a parking system that would provide his team with the efficiency needed to canvas all of the residential spaces every day. In order to evaluate his options, Ware issued an RFP (request for proposal) for parking system solutions to help his department tighten their enforcement. He received a bid from Genetec with their AutoVu license plate recognition (LPR) system, as well as a bid from another company, but found his decision easy to make. He had already seen Genetec's solution at trade shows, and he took a trip to a neighbouring city in Colorado, which had a well-established installation of Genetec's LPR product, to see the platform in action. He was impressed with the platform's wide feature set and flexibility for integrations with other systems. He brought the solution before the City Council as a consent item, and after discussing in detail the intrinsic value this type of platform would provide, the bid was approved.

### The Solution

AutoVu is the license plate recognition (LPR) system of the Security Center, Genetec's unified security platform. AutoVu allows parking enforcement officers to enforce time-limit regulations without leaving the enforcement vehicle. With specialized LPR cameras, AutoVu automatically reads surrounding vehicle plates, compares them to a database and alerts parking enforcement staff when they need to take action.

On the first pass, the officer selects the zone he is about to enforce, which contains pre-configured information such



as the time limit as well as other operational parameters including a grace period. Once selected, the officer simply drives through the zone at full cruising speed, with the cameras and computer storing the license plate information in an on-board database. Later, on the second pass, the officers will be automatically alerted if a vehicle is in violation of the time-limit regulations. Ware had the IT department install the system's support infrastructure, which is housed in a centrally located server. The installation of the AutoVu platform went smoothly, aided by the fact that the system replaced an entirely paper and chalk system so there was no data migration to address. Two Go-4 Interceptor parking enforcement vehicles were outfitted with fixed-mounted AutoVu Sharp cameras, and each vehicle was provided a touch-screen computer.





In addition, the solution was integrated with Aspen's Verrus system for pay-by-phone parking in downtown and residential areas to pull daily exemptions based on permit purchase into AutoVu. The parking system has also been integrated with T2 Systems, a fully-integrated Genetec technology partner, which provides software that allows the parking enforcement team to monitor and manage a database of long-term residential parking permits, as well as a database of all parking tickets. The enforcement team currently downloads all infraction ticketing information into the database at the end of the day from their handheld devices. They are transitioning shortly to new handhelds, which will allow live communication between the handhelds and the database, transmitting live ticket and permit data throughout the day. "Genetec is very receptive to working with other companies, making integrations with other hardware or software exceedingly simple. This no-fuss integration capability was a primary concern when evaluating solutions - it is very important for a feature-rich platform to play nicely with our other systems, so we were pleased at how simple it was to implement these integrations," said Ware. Training Ware's officers took a bit of time, since they were transitioning from a technology-free solution. But they picked up AutoVu's intuitive interface fairly quickly.

Aspen's AutoVu system is primarily used to patrol the residential parking zones, however the job is done so efficiently now that the enforcement team is able to also occasionally run through the downtown pay-and-display parking areas as a precaution for locating scofflaw (vehicles with outstanding tickets). It is also very useful for monitoring the pockets of one-hour or 30-minute parking, with which the enforcement team previously had difficulty due to the logistics of orchestrating their patrols to accommodate staggered time limits.

The City of Aspen also has the national wanted vehicle database linked into their platform, ensuring that any rogue vehicles that show up in town will automatically sound an alarm. This allows the parking enforcement team to report the exact location to law enforcement. Though the parking garage is gated, the AutoVu system is also occasionally used to take inventory of the lot. Lastly,

the system will automatically alarm on any vehicle that hasn't moved from a space in 72 hours, which puts it in violation of the abandoned vehicle ordinance, and allows the enforcement officers to generate a friendly reminder to the resident to move the vehicle to a new location.

## The Benefits

Aspen's Parking Enforcement Department had designated the five by five grid of downtown blocks 'the red zone', and identified four residential zones moving outward from that centre. Before installing AutoVu, three officers were devoted to the red zone, sweeping it daily for expired display printouts (or lack of payment entirely). Approximately one and a half of the four residential zones could be properly patrolled in any given day, and throughout the week the officers would rotate, eventually getting to each residential parking spot once or twice per week. Since installing AutoVu, the residential parking enforcement team has dropped to two officers, and each space is patrolled two to four times per day. Where it used to take an hour to sweep one given area, it now takes five minutes. AutoVu has enabled a 900 per cent increase in coverage, with less staff. In addition, the scofflaw list in Aspen has been reduced to nearly zero since implementing this technology, and the number of bootable cars halved. "We now have a photograph of any cited car, so there are no more 'I wasn't there' excuses to throw around. Along with the GPS coordinates, we have detailed images down to the wheels and valve stems of the vehicle that can prove the vehicle has not moved - but you almost never even have to take it that far anymore. You just can't argue with this system because the accuracy is dead on and undisputable," said Ware. "This is one the best tools I have ever bought." Since use of AutoVu began, Ware's department has even helped to apprehend criminals when the system alerted them to a warranted vehicle and they were able to pass the location on to police.



The single best thing that AutoVu has provided the Aspen team is a gross increase in efficiency. Each alarm issued by the system requires its operator to take action (generally to issue a citation) or list the reason for not doing so. At the end of each day, Ware can easily access a hit report, summarizing statistics on citations and vehicles in violation of various ordinances. Visitors who wish to purchase a day pass for parking in residential areas can pay by cell phone, automatically sending information to the AutoVu database to prevent it from alarming after the two-hour period expires. Ware can also track the efficiency of the routes his enforcement team uses by printing a route report. He can even view the location of his team's vehicles remotely from his office, enforcing the rule that the vulnerable and expensive vehicles not be left unattended anywhere other than at their secured parking garage at the office.

The data collected by the system has also proven invaluable after the fact. In addition to the obvious, such as pulling up evidence in infraction disputes and route management to ensure all areas are equally enforced, the data has proven useful in myriad unexpected ways. With all the information collected, it is easy for Aspen's Parking Enforcement Department to build lists of data for nearly any purpose, and over time Ware has found the following uses:

The police have at times requested that a record be generated indicating whether a certain car was parked in a neighbourhood during a certain time period. Reports are occasionally requested to count vehicles for development purposes, for example by calculating

average parking density in a neighbourhood in which a new commercial development has been proposed. The system can be used to conclusively disprove any accusations made by residents that neighbourhoods are not patrolled, by producing reports of patrolling frequency in a given area. The stored vehicle location data can be used for finding "lost" cars for visitors who have forgotten where they parked. By plugging in a license plate number, AutoVu will locate the vehicle from patrol records. During the summer, this is required two to three times per week. These are but a few of the unanticipated uses Ware has discovered for the AutoVu backend database within the Security Center unified security platform.

Moving forward, Ware is evaluating a T2 Systems module that would allow the software to load on the tablets used for AutoVu, eliminating the need for his officers to carry ticketing handhelds. In addition, Aspen currently issues around 3500 residential parking permits per year, and will soon be able to do away with issuing physical permits in favour of simply loading the permitted license plate data into AutoVu. Ware is also looking into installing an additional camera at a parking pass kiosk that issues day permits for carpooling vehicles, allowing them to park in residential areas and dedicated spaces downtown. The attendant at the kiosk currently issues paper slips, but by placing an LPR camera at the kiosk, AutoVu would be able to interpret license plates upon issuance of a day permit and then send the information directly to the database. "I couldn't be happier with the results. This system does exactly what I set out to do. Every goal I had for the system, it fulfilled. I don't know what else to say - I've been very, very pleased," said Ware. **SST**





# Major Port In Italy Implements Megapixel Solution For Greater Security

## Background

Pescara harbour, an Italian port stretching along the Adriatic Coast in Pescara, is extremely significant for trading and tourism around the region. The port covers a dock, a freight yard and a sea bridge, which is one of the biggest cyclo-pedestrians in Europe. Taking the joint effort with Videotrend s.r.l — Dahua's distributor in Italy, Dahua Technology and its megapixel solution successfully secured the Pescara port.

## The Challenge

The complexities once encountered in this case includes the unpleasant weather and high humidity of the region as it may cause the erosion of devices and thus shorten their lifespan; also, the high temperature and moisture may affect the smooth transmission of IP stream during deployment and installation.

## The Solution

In order to solve the mentioned

hassles despite the fact that the climate is an unalterable factor, Dahua, Videotrend and the local system integrator attempted to approach it from a different perspective — the structure. The system adopts a ring networking structure with optical fibre adopted instead of a conventional star-topology one; and to further guarantee an adequate bandwidth at 108Mbps for the cycling lane, the radio transmission system was configured at an access point of dual band 2.4/5.8GHz.





# 2014 Security China

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On the product front, Dahua's three- and two-megapixel IR cameras (IPC-HFW3300P / IPC-HFW3200CP) and two-megapixel 20x speed domes (SD6982A / 6523H-HN) cruised into the finals after a series of testing. Equipped with lens of 3.3~12mm and 8~16mm, these box cameras managed to take a wide range scenario under surveillance. What's more, with the help of high efficient IR LEDs, cameras could also render a superb night vision effect. For the back-end devices, Dahua's NVR, DH-SVR3016H, is applied as it can satisfy the storage of large volume footage as well as its RAID function can manage to enhance reliability and stability of the system.

"The previous problems have been well addressed by this solution, which, at the same time is quite flexible and convenient," said Pasquale Totaro, the ceo of



Videotrend. "It has been almost over two years since the project accomplished, and everything still goes well. The local officials are satisfied with this project as it not only helps with citizen checks, but also makes the whole surveillance system run smoothly."

"We appreciate client's trust and partners' effort in this case, as we are refining network product portfolio, more versatile products will be brought out at different demands,"

said Elmer Zhang, sales director for Europe at Dahua Technology. "Take this port case for example, the speed domes installed on the bridge is IP66 rated, which can withstand the severe environment; and its accurate PTZ function well helps with vehicle tracking. We are confident that we will be able to provide solutions and products in various vertical markets as we have been actively involved in different projects and accumulated valuable experience in recent years." **SST**



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## Beyond Security and Safety

- Within the IP Technology nowadays, the security system can manage more than the securing.
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- Management is able to be enhanced to an advance level by an organization through an excellent integration with the latest access control technology.
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# Largest City In Southern Taiwan Upgrades Its City Surveillance System

## Background

Kaohsiung City, the largest city in southern Taiwan, has over two million residents with rich resources and diverse natural landscapes. Kaohsiung City is also a major port of southern Taiwan and is a transportation hub for land, air and sea.



## The Challenge

High crime rates have been an on-going battle and a threat to the residents of Kaohsiung City. As a major international port and industrial city in the southwest of Taiwan, Kaohsiung City Police Department decided to upgrade its city surveillance system in order to reduce crime rates and provide a safe and secure environment to its residents and visitors.

## The Solution

As a world leading company of linux-embedded standalone network video recorders, DIGIEVER provides comprehensive surveillance solutions to protect Kaohsiung City against crime and crisis. For public safety, Kaohsiung City Police Department installed around 400 pieces of





DIGIEVER NVR DS-8200-RM Pro Series, which are connected to around 6000 pieces of IP cameras to establish the best city surveillance for Kaohsiung City such as road traffic management and car number plate recognition.

The first concern of Kaohsiung City Police Department is safety and stability. DIGIEVER DS-8200-RM Pro Series are Linux-embedded operating systems with up to 32TB internal storage capability. Under Linux operating system, DIGIEVER NVR provides high stability and security so that Kaohsiung City Police Department can successfully avoid virus attack and hacker intrusion.



Brilliant real-time Full HD local display performance and intuitive user interface with same design idea are two main factors for Kaohsiung City Police Department to choose DIGIEVER NVR. Via HDMI and VGA connectors, DIGIEVER NVR can experience high multi-megapixel resolution in both liveview and playback page. User-friendly interface allows users to quickly and easily learn how to operate DIGIEVER NVR so as to decrease learning burden.

With excellent network surveillance performance, a single DIGIEVER NVR can connect multiple IP cameras up to 36 channels. In addition, DIGIEVER NVR can also serve as a multi-NVR server to connect up to 144 channels of DIGIEVER NVR. Kaohsiung City Police Department can install DIGIEVER NVR in each branch station and select a maximum of 144 channels in multiple servers in its central control room to provide promptly actions to solve citizens' problems.



"We understand that safety is always the first concern of the government and it is our pleasure to help secure and restore peace in Kaohsiung City, the major port of southern Taiwan." said Allen Tseng, product director of DIGIEVER.

### The Benefits

Powerful performance and diverse features are the main reasons that the Kaohsiung City Police Department selected DIGIEVER NVR DS-8200-RM Pro series. In addition to brilliant features such as an intuitive user interface and real-time Full HD local display, DIGIEVER NVR can also help governments

reduce vandalism costs and save investigation time through powerful event management and complete log record system, which makes DIGIEVER NVR become one of the most useful tools for government to fight crime and to protect citizens. **SST**



# Capital Of Mongolia Implements A New Public Safety System

## Background

Arvaikheer City is a provincial capital situated in the centre of Mongolia. Foothills that flank the city regulate temperature for the most part – a luxury most of Mongolia is forced to live without – but a biting wind and overall harsh environment still pervades the region.

## The Challenge

Even with a natural protective barrier and moderate average temperatures, the city still experiences extremes, with lows that at times dip to a frigid -39 degrees Celsius with wind chill, as well as highs of over 33 degrees Celsius. The city has seen a slow but steady growth in population over the last few years, and the government responded by putting forth an initiative to equip Arvaikheer with a new public safety surveillance system.

## The Solution

VIVOTEK, working together with the local distributor ITZONE LLC., answered the call by outfitting many of the





streets and public areas of Arvaikheer with a strong line of security cameras perfectly fitted for the job.

### Reducing crimes, improving lives

The camera system had to cover a very expansive area of Arvaikheer city, about 64 km<sup>2</sup>. The infrastructure of Arvaikheer is sparsely laid out, which meant that choosing locations for the cameras was limited to the various buildings and utility poles already in place. VIVOTEK cameras are well equipped to deal with such situations, and the cameras were strategically set up to accommodate this barrier. A bigger challenge in the project, however, was the local environmental conditions. Given the bone-chilling absolute lows and sultry highs, VIVOTEK was required to provide cameras that could function in the harshest of environments. In addition to the extreme temperature range, winds can reach speeds of above 90km/h, meaning the elements were sure to put VIVOTEK's equipment to the test.

Arvaikheer City decided to install a new public safety surveillance system to reduce crime in certain public areas. As far as the government was concerned, part of the challenge of a growing population is an increased responsibility to keep the peace. With a new system in place, crimes can be both caught and prevented, which was the basic requirement of the city commission. They requested high quality cameras that could be used to easily detect and identify a crime in progress, and thus deter people from attempting any illegal activity. The city wants its citizens to live in a clean and safe environment, so the



system was designed to cover Arvaikheer City's main roads and public areas, as well as the entries to main highways that connect Bayankhongor, Arvaikheer and Ulaanbaatar.

In December of 2013, 74 VIVOTEK network cameras were installed across two main areas: one for monitoring public activities and the other for monitoring roads and traffic. Within the designated broader areas ITZONE chose a number of specific locations, 26 public locations and six roadside locations. In order to withstand the harsh environment, 14 units of the most durable camera models were installed, including the SD8362E and SD8323E outdoor PTZ models. These cameras feature IP66 rated housing and extreme weather-proof housing. In addition to being durable, the SD8362E model boasts a very high frame rate up to 60 fps while the SD8323 has a very impressive optic zoom capability of up to 36 times. The IP8362 bullet model comprised the remaining 60 cameras, being capable of producing high resolution and high quality video in low light conditions thanks to the WDR Enhancement technology, removable IR-cut filter, and built-in IR-illuminator.

### High performance, high satisfaction

The surveillance system was successfully up and began operation on December first, 2013. A government official who worked as a commission member for the project said, "The image quality and performance of the system are excellent and satisfied our needs."

Steve Ma, executive vice president of VIVOTEK asserted, "We are pleased to provide Arvaikheer City with excellent image quality and outstanding performance from our cameras. It is believed that the surveillance system enhances the peace of mind about security in Arvaikheer and improves the lives of the people tremendously." **ESST**



# World-Leading Premium Workplace Solutions Provider Implements Strong Access Control System In Its Latest Office In Australia

## Background

After some difficult times, the Australian economy is slowly recovering and prospects for continued improvement look hopeful as more businesses' report an upturn in demand for goods and services in this, the fourth most expensive county in the world in which to live.

This is good news for the business community; especially those engaged in commercial property as the demand for office space means new tenants are actively seeking out properties to rent. One of the fastest growing players in this market is Compass Offices, one of Asia Pacific's leading providers of premium workplace solutions and serviced office services.

The company opened its first centre in 2009 in Hong Kong and has

been growing ever since. Now they have serviced offices in 27 locations internationally, including 15 locations in Hong Kong as well as Singapore, Tokyo, Melbourne and Kazakhstan, with plans to open additional offices in a further three to five countries this year.

Among these is their latest office in Sydney, Australia, located on Level 19 at one O'Connell Street in the heart of Sydney's Central Business District. One of Sydney's finest landmark towers, this location has great views overlooking the Sydney Harbour and excellent local



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transportation links. The area is also home to many of Australia's top blue-chip corporations and major multinational organizations.

## The Solution

The Salto Access Control system installed by Independent Locksmiths and Security uses Salto's unique XS4 and SVN access control platform to provide a standalone networked locking solution for 80 doors, made up of entrance and individual office doors, without the need to cable or run power to each lock.

Robert Pai, Salto business development manager New South Wales, said "Our XS4 electronic escutcheon platform in a mix of offline and online handle sets, together with its associated control units and wall readers provides Compass Offices with the means to operate a totally keyless environment. This is thanks to their unique ability to distribute cardholder and system information to access controlled doors by using Mifare /DESFire key cards to upload and download information between the on-line and off-line doors.

The client needed to ensure that access is only given to people with the necessary authority. The Salto XS4 wireless access control solution particularly appealed to Compass Offices as with the business expanding and an increasing number of staff and clients on site every day, the number of users and doors the system can manage is unlimited, so this scalable solution was exactly what Compass needed.

The unique bi-directional system of the Salto wireless solution combines the advantages of both on-line and off-line solutions. Any number of doors can be wirelessly connected to the system. The gateways and repeaters act as antennas, collecting and sending information from the PC to the stand-alone wireless locks and one gateway can manage several repeaters and electronic locks, minimizing infrastructure costs and maximizing flexibility.

With a single click Compass Offices can configure or make changes to their access network in real time. They can monitor the network, download audit trail information from individual locks, delete users remotely and securely, collect battery status of the RF locks for maintenance and much more all from a single PC and all

in real-time. And thanks to its self-healing capabilities, if a lock should lose RF connection at any time it will continue to operate as normal offline via its SVN (Salto Virtual Network) capability whilst automatically scanning for a new connection to an alternative gateway or repeater, restoring communication whilst maintaining security at all times" Rees concluded.

## The Result

Whether it's serviced offices, virtual offices or a hot desking, to Compass Offices their business is a people business. That means starting with the customer and working backwards to deliver an optimum solution that makes their business life simple, straightforward and, in this instance, secure. **SST**





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MARCH 2015

# International University In Taiwan Switches To An IP Surveillance System For Greater Security And Efficiency

## Background

National Chi Nan University (NCNU), an international university located in Nantou, Taiwan, offers a scenic learning and research environment to more than 6,000 students and a faculty and staff team of over 500 people. The 21 institutes and departments at NCNU offer 29 Bachelor's, 52 Master's and 18 Ph.D. programs covering the fields of liberal arts, sciences, engineering, electrical engineering and computer science, education, management, and social sciences. The NCNU library, a well-equipped building with six floors, offers quiet and comfortable spaces for students and staff members to study and work between 8 am and 9 pm.

## The Challenge

As a knowledge hub, the library accommodates numerous students and scholars on a daily basis. The large number of readers and visitors causes tremendous pressure to the administrative team, which is responsible for ensuring a safe and convenient environment for its users.

The previous security system installed in the library was an analog CCTV system based on conventional analog digital video recorders. In such systems, point-

to-point transmission is limited between cameras and video players or recorders. Consequently, centralized image management was difficult to achieve. Additionally, the image definition yielded by analog cameras is unsatisfactory. Therefore, NCNU management decided to replace the analog system with an IP camera system, adopting central management software (CMS) to perform centralized image management. The change is vital for providing a safe and convenient learning environment for students.

## The Solution

In September 2013, NCNU cooperated with Zero One Technology Co., Ltd., VIVOTEK's official distributor in Taiwan, to implement a VIVOTEK IP surveillance system in the library. A total of 36 cameras were installed in the indoor spaces of the NCNU library: 12 pieces of FD8135H, IP8151, and CC8130, respectively. Specifically, the twelve FD8135Hs, with WDR Pro technology for coping with challenging lighting conditions,



were installed in the hallways leading to the bathrooms in the building, one on either end of all six floors of the library. These hallways are relatively less travelled, raising concerns for reader security. Furthermore, the bathrooms are located adjacent to escape ladders, which are accessible to all people. Thus, surveillance cameras were installed to monitor these areas and ensure user safety. The IP8151s, featuring the utmost in picture clarity, are able to capture exceptional details during daytime. The cameras were installed to monitor book circulation desks to reduce disputes over book circulation. Previously, when readers borrowed or returned books at the desks, the surveillance cameras were unable to capture well-defined images that would enable the staff to obtain detailed information, such as the number of books borrowed or returned. Consequently, disputes may arise.

Following the installation of the IP cameras, high-definition images showing detailed information including the number of books returned or borrowed are obtainable, thereby decreasing the possibility of disputes. Additionally, CC8130s, designed as compact

cube camera with panoramic view, were installed in the hallway racks to obtain 180-degree horizontal images of the interior of the library. These images have enabled the staff to comprehensively monitor all areas of the building during all hours of a day.

### The Future

Chen-Chieh Liao from the NCNU library, commented, "Although replacing all analog cameras with IP cameras required redeploying the Internet cable network, we believe the installation will yield numerous benefits." Before adopting the IP camera system developed by VIVOTEK INC., the NCNU management had conducted tests to evaluate the performance of the cameras. The test results showed the cameras offered panoramic views and high definition. "After installing and using the system," Liao stated, "we found in addition to the superior images provided by VIVOTEK cameras, the performance of the system is stable and reliable. We will be happy to continue using VIVOTEK IP cameras if we have other projects in the future." **SST**

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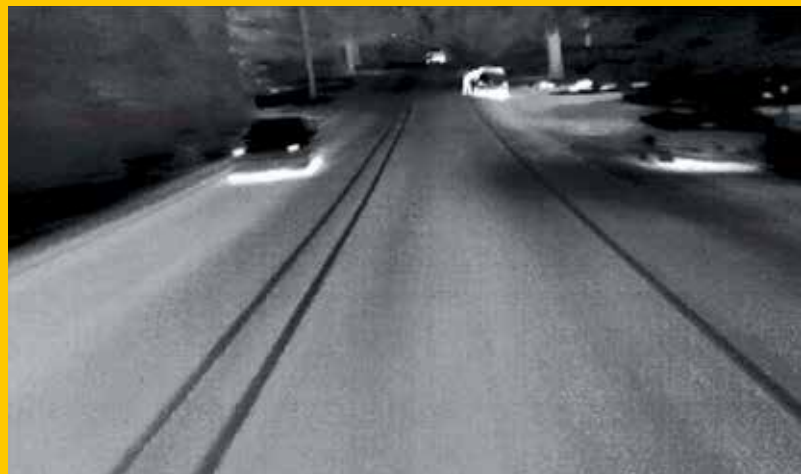
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# FLiR Thermal Imaging Cameras For 24/7 Traffic Monitoring And Roadway Surveillance

## Introduction

Sun glare, shadows, wet streets, snow, and fog – all of these factors can limit the effectiveness of footage from CCTV cameras. Video detection software gets confused by unclear images, making traffic monitoring systems prone to mistakes.

Such errors might lead to problems with traffic light controls, which in turn can lead to congestion. It may also hamper the monitoring of traffic flow and car counts. Bad visibility might lead to road accidents going unnoticed, delaying the arrival of emergency services. These situations may very well be avoided with the use of FLiR thermal imaging cameras, which rely on thermal contrast instead of colour contrast and are therefore not hampered by such limiting factors.





### See in darkness, through smoke and light fog

Thermal imaging cameras detect electromagnetic radiation in the infrared part of the spectrum, which is emitted by all matter as a function of its temperature. Based on the recorded intensity of infrared radiation they produce clear, high contrast images, regardless of lighting conditions. Due to the unique qualities of infrared radiation, FLIR thermal imaging cameras can be used to see in complete darkness, through smoke and light fog.

### Thermal imaging cameras are not hindered by:

- Direct sunlight, even at sunrise and sunset
- Night-time headlight glare
- Reflection off wet surfaces
- Shadows
- Light fog
- Smoke

Just like regular CCTV cameras, FLIR thermal imaging cameras can be used for traffic light control, vehicle counting, traffic flow monitoring, incident detection, tunnel safety, construction safety and cyclist and pedestrian detection.

Unlike CCTV cameras, which rely on colour contrast, thermal imaging cameras can perform all of these functions without being limited by bad lighting conditions, night-time headlight glare, dusk or dawn sun glare, shadows, reflections on wet street surfaces, snow, fog or smoke. FLIR's high-performance thermal cameras solve all of these imaging challenges, giving you uninterrupted 24-hour detection of motorized vehicles, cyclists, and pedestrians regardless of the amount of light available.

### A cost-effective and efficient solution

Because thermal-imaging cameras can see clearly twenty-four hours a day seven days a week, they make video surveillance of roadways for intelligent transportation systems more effective and more efficient. Since they see farther in complete darkness, they can also help you to reduce pole and infrastructure costs. During the day thermal imaging cameras can look directly into the sun and still detect vehicle, pedestrian, and bicycle traffic, thermal cameras let you position them wherever they'll be the most effective, maximizing safety and traffic detection without concern for sun angle or other obstructions. This makes thermal imaging cameras the most efficient, cost-effective way to improve traffic flow, automatically determine traffic volume, and control signals.

All of FLIR's thermal imaging systems for systems control and roadway monitoring contain the powerful thermal imaging cameras for which FLIR is known. Some of FLIR's products for roadway monitoring also include visual light cameras, to deliver perfect vision in all possible situations, housed in a rugged pan and tilt housing for full 360 degrees roadway coverage that can be monitored in real time over the Internet. Roadway monitoring cameras need to give you clear information about what's happening on your roads. FLIR's thermal cameras for roadway monitoring do just that.

### Easy to install and integrate

Whether your aim is to use them for signal control or for roadway monitoring, all of FLIR's thermal imaging cameras provide powerful imaging capabilities, at minimum effort. They are easy to install, as they are compatible with the same mechanical hardware, such as mounting arms, cabling, and processors that are currently commonly used.

Each of them sporting a standard analog video output, they are also very easy to integrate into existing video detection systems. Due to the rugged design of FLIR's uncooled microbolometer thermal imaging cameras they are practically maintenance free. No periodical maintenance is needed, whether they serve as the backbone for the traffic control and roadway monitoring system or as drop-in replacements for existing visible-light cameras, FLIR thermal imaging cameras provide a robust imaging performance that you have to see to believe, making them pivotal pieces of equipment for effective traffic signal control and roadway monitoring. *Article courtesy of FLIR (www.flir.com) SST*

