Modern CCTV cameras and security cameras

1.Varifo launches new 2MP PTZ IP camera

Hangzhou, China

The VR-C8309P is equipped with a 1/2.8” progressive scan CMOS sensor.

Varifo has launched a new 2 megapixel PTZ IP camera, the VR-C8309P. It is equipped with a 1/2.8” progressive scan CMOS sensor and all-IP architecture. Smooth and fast PTZ control with very low latency makes the VR-C8309P easy to perform with precise movement by control.

The VR-C8309P 1080P outdoor speed dome IP camera has an 18X optical zoom lens(4.7~84.6mm @ F1.6~F2.8), 360° continuous pan and 180° tilt range rotation, which means the lens actually lengthens and shortens when zooming at really fast speeds. Alternatively, the VR-C8309P has a 30X optical zoom version.

The image can be compressed through H.264 for resolution of 1920x1080/1280x960. Under full HD resolution, the VR-C8309P can create images at 25fps@1080P real-time. The VR-C8309P is ONVIF compliant and therefore can be used and integrated with a wide range of leading VMS platforms and NVR control systems.

With the IP66-rated housing, the VR-C8309P is capable of operation under extreme weather conditions. It has been designed for day/night use and the built-in heater allows the VR-C8309P to operate between -30℃ to 65℃ temperature ranges, making this network camera capable of operation in various places including, airports, hotels, schools, squares, jails, areas with high concentrations of people, parking lots, shopping centres and factories making this an effective and viable surveillance solution.

2.Hiqview creates safer learning environment

Taipei, Taiwan

Hiqview, a fast-growing IP surveillance provider, has recently launched a full line of IP cameras and surveillance systems that are specifically designed and ideally suitable to protecting campuses.

Campus safety is a top issue today for schools. A campus is usually a large open space where security is difficult to ensure. Dead-end areas or dark corners may often cause problems to threaten the safety of students. There are chances that one university has to manage a campus in different locations. To protect school staff and students, it is often necessary to upgrade to an intelligent and multi-functional security surveillance system.

Hiqview IP surveillance systems reproduce high quality images with comprehensive functions for school supervisors or staff to view live video at different campuses in HD quality simultaneously. It helps to manage misbehaviour and violence among students, prevent school crime, and minimize the cost of vandalism. Also, it helps to shorten the reaction time of security officers or teachers when incidents occur. In addition, the relevant video clips can be provided for investigating incidents and identifying suspects.

Based on experiences in various school projects, Hiqvew IP surveillance systems are designed for indoor /outdoor areas, such as entrances and exits, hallways and corridors, classrooms and laboratories, parking lots, cafeterias, libraries, as well as playgrounds.

To meet the growing requirements of IP surveillance products in schools, Hiqview has released a series of professional PTZ/ speed dome IP cameras that provide a 3x up to 18x optical zoom function as an option. For example, the HIQ-7390 and 7391 are outdoor speed domes featuring full HD video quality, 18x optical zoom, networking capability, and with 360° continuous pan and 180° tilt supported. Furthermore, both the HIQ-7390 and 7391 can withstand applications in a wide temperature range, from -20°C ~ 60°C (-4°F~140°F) whilst maintaining effective performance.

Hiqview offers a complete IP surveillance solution including IP cameras +NVRs (network video recorders) plus CMS (central management system). The CMS controls the NVR, and the NVR controls the IP cameras. That is to say, the Hiqview IP cameras, NVR, and CMS form a complete IP surveillance solution.

For medium and large scale application IP surveillance systems, Hiqview provides the NVR with a free-bundled CMS (central management system). Hiqview's CMS is capable of

controlling up to 16 NVRs. In working with the Hiqview IP cameras, the NVR and the Hiqview CMS can build a 3-level IP surveillance system to manage up to 256 IP cameras. Thus, two CMS can control up to 512 IP cameras while three CMS can control up to 768 cameras, and so on. The 3-level architecture is certainly flexible enough to fulfill different system requirements in various environmental conditions. This advanced and complete Hiqview IP surveillance solution enables all leaning environments to be more secure and safer.

As the Hiqview IP surveillance systems is easy to set up at the necessary locations and connect different campus areas together, school staff can use remote monitoring to watch over the campus any time 24/7. Video image transmission via the internet is also supported, enabling the Hiqview IP surveillance footage to be viewed via smart phones, tablets, Ipads, or PCs. This allows viewers, for example busy parents, with authorised access codes, to view their children in the classroom and campus at anytime from anywhere.

3.ITS Canon adaptor for high risk areas

High Wycombe, Buckinghamshire

New ITS adaptor for Canon mini dome can be installed in high risk applications

ITS Products has released an innovative flush corner-mount adaptor for the Canon mini dome series that allows the cameras to be installed in environments where there is a likelihood of physical attack.

Locations such as police interview rooms, custody suites, secure mental hospitals and immigration centres make special demands of integrators with the twin challenges of ensuring maximum room coverage and factoring out possible ligature points for self-harm.

The triangular design of the new unit, combined with Canon's wide-angle lens, deliver as complete a view of the room as possible and can outperform many traditional solutions by eliminating the blind spot usually found immediately below the camera.

ITS Products are aware that there are no Europe-wide standards on performance of cameras in these circumstances but individual countries and organisations such as health trusts, police, and border control forces impose stringent criteria on optical performance, flushness of mounting and resistance to impact. In the UK for example, the ACPO guidance on safe custodial detention emphasises the importance of designing out possible ligature points in any custody suite.

Installers working in high-security environments will know that engineers are regularly accompanied on site by overseers to minimise the risk of tools being mislaid and appropriated by inmates. This is combined with laborious counting in and out of every item in an engineer's toolbox.

The new adaptor is installed by fitting a mounting frame complete with an IP-rated seal in the corner of the room. The installation can be enhanced by using anti-pick mastic that further prevents any risk of ligature points. The normal outer cover of the dome is discarded so as not to produce a second lens effect and safeguarding Canon's market-leading optical performance.

Installation is completed with three screws to secure the camera in place. Now fully integrated, the clamping bracket and dome are fitted back onto the front panel and fitted into the frame.

The whole installation process takes a matter of minutes which is a great advantage compared with traditional offerings in facilities that are occupied by vulnerable or potentially disruptive residents.

Installers will also appreciate that the mounting frame has a degree of flex which accommodates the fact that few corners form a perfect 90-degree angle. The minimal requirement for tools will appeal to any facilities manager securing a building where there is a potential for appropriation and misuse of tools by residents or inmates.

The corner unit's dome and the camera itself remain concentric so the optical performance is not compromised and there is no change to the focal point if a PTZ camera is being used. The dome is certified to be optically correct even when used with cameras of up to 5MP.

ITS Products have anticipated the likelihood of casual vandalism and sustained physical attack on the unit by making the cast acrylic dome with a scratch-proof coating and the ability to withstand an impact specified by the IK10 rating.

Installers will be aware of the need for optically correct corner units for quality control in machine vision applications. There is also provision for an integrated audio system within the unit's design which requires local power. A flying lead is supplied ready to connect directly to the mini dome.

Austin Freshwater, Pro-Imaging Director at Canon UK, said: "At Canon, we strive to work with partners to develop solutions that meet specific industry needs. Our mini dome range offers customers superior image quality and functionality, within compact and discreet designs. Partnering the camera with ITS provides a solution for use in demanding niche verticals that offers a greater angle of view and greater protection for users."

Designed and manufactured by ITS Products in the UK, the new Corner Adaptor for the Canon Minidome is available through Canon authorised resellers.

4. New compact Megavideo G5

Glendale, Ca (USA)

Arecont Vision releases new compact version of Megavideo Megapixel camera line

Arecont Vision has released the company's new Megavideo G5 IP megapixel camera, with new features including the in-house engineered Stellar technology.

This new line of affordable Megavideo G5 IP megapixel cameras have been upgraded to include multiple new features including Corridorview, non-integer scaling, Stellar technology, remote focus/zoom, p-iris lens functionality, and on-board storage.

The new Corridorview feature allows the camera’s image to be rotated 90 degrees to reduce capturing unnecessary data. This works great for narrow hallways where pixels are often wasted due to capturing the surrounding walls. Non-integer scaling provides the ability to scale

images to different resolutions down to 128x96. This flexibility allows users to tailor their system for their specific need; reducing system bandwidth and storage costs.

The 1.2MP models feature the patented Arecont Vision Stellar (Spatio Temporal Low Light Architecture) low light technology. Stellar utilises advanced algorithms to reduce motion blur and noise, while enhancing contrast and generating high-quality colour video under the most challenging lighting conditions – including near complete darkness. In addition to unparalleled low-light performance, Stellar simultaneously reduces bitrate and storage requirements to further enhance the value of the Arecont Vision megapixel imaging solution.

The Megavideo G5 includes remote zoom/focus, making it easy for an installer to accurately focus the camera remotely. The new optional p-iris motorised lenses (sold separately) are available in 2.8-8.5mm and 3.3-8.5mm options. These lenses optimise the image for the best video clarity under different lighting conditions through the easy remote zoom/focus feature.

On-board storage reduces the risk of losing important data from short network outages and helps reduce network strain from high storage costs due to a local storage slot supporting up to a 32GB SD/SDHC card.

The Megavideo G5 is a standalone camera for indoor applications or can be used outdoors when paired with a compatible Arecont Vision exterior housing (HSG2, D4SO, or Dome4-O). This camera is best suited for businesses that require ultra-high resolution at a low cost per pixel. With a diameter of only 3 inches (7.62 cm), the Megavideo G5 camera is about 70% smaller than many traditional box-style cameras. These compact dimensions make this camera ideal for discrete indoor surveillance applications. It is a cost-effective solution for time sensitive applications, which require a quick, simple install.

The Megavideo G5 is ONVIF Profile S (Open Network Video Interface Forum) and PSIA (Physical Security Interoperability Alliance) compliant, providing interoperability between network video products regardless of manufacturer.

5. G-Sim boosts security information management

Windhagen, Germany

Security, planning, processes – the right information is always important. It usually comes from different systems. G-Sim from Geutebruck has been designed to provide the comprehensive overview. In the version now available, thanks to 64-bit architecture and GPU acceleration, this now also happens three times faster. And because the stringent demands placed on security information management do not depend on the size of the system, there is also G-Sim Express, an interesting starter package.

G-Sim has been engineered to provides maximum performance for all product generations, both for existing systems or along with a first introduction to the Geutebruck world of video security. The latest 64-bit architecture and integrated GPU acceleration provide image processing that is three times faster, for both live images or saved video. This not only simplifies operation, it also reduces the load on the hardware.

G-Sim aims for the highest standards in graphical representation, alarm management and documentation. To help everyone take advantage of these functions, there is now also G-Sim Express. The starter package is targeted at small systems and yet provides the functionality of

an enterprise solution. From map-based operation to safe alarm processing to comfortable video search features; from central setup and user management to manipulation-proof audit functions to increased availability thanks to failover options. Setup wizards are included as part of the package. The wizards help the user perform configuration quickly and thus inexpensively. Plus, the entire system configuration is performed centrally, for everything from camera allocation to recording parameters to alarm processing. The subsequent creation of site maps is a simple drag-and-drop operation.

6. CEM launches 2 door intelligent IP door controller

Belfast, UK

CEM Systems, part of the Security Products business unit of Tyco, is releasing the OSDP v2 compliant EDCM 350. The CEM EDCM 350 OSDP is a two door intelligent IP controller that is designed to interface to Open Supervised Device Protocol (OSDP) compliant smart card readers, which provides a secure encrypted communication channel between the smart card reader and the door controller. CEM Systems is an HID Global partner supporting a selection of OSDP v2 compliant HID Global card readers.

OSDP is an Open Supervised Device Protocol for peripheral devices. With added Secure Channel Protocol (SCP) specification, it provides bi-directional communications and advanced security features for connecting to OSDP compliant card readers.

With the CEM EDCM 350 (Door Control Module) intelligent internal database, cards can be validated even while offline, ensuring the highest levels of system uptime and reliability. The EDCM 350 OSDP can be configured to support two OSDP compliant readers on two separate doors with optional exit push buttons, or to support two OSDP compliant readers on a single door for entry/exit control. The CEM eDCM 350 OSDP supports a range of HID Global ODSP v2 compliant readers, including Iclass SE R10, R30, R40 and RK40.

“HID Global’s OSDP SE reader range can be perfectly integrated with the CEM EDCM 350 (Door Control Module), providing our joint customers a wider range of highly secure solutions. HID Global is at the forefront of developing industry standard based compliant products and the successful partnership with CEM Systems reinforces our leading position in the marketplace,” said Volker Kunz, Sales Director, EMEA with HID Global.

“This newest version of our CEM EDCM 350 cost effective intelligent two door controller, offering full OSDP v2 support, provides our customers an even greater choice of secure readers and card technology solutions with the potential for enhanced functionalities,” said Rick Focke, Senior Product Manager, Tyco Security Products. “We are delighted to have completed this integration to support a select range of HID Global’s OSDP v2 readers.”

7. Mobotix latest 6MP ceiling camera

Langmeil, Germany

New P25 celing mount camera with 6 megapixels

The new P25 6MP camera from Mobotix is equipped with the brand-new 6 megapixel Moonlight sensor technology, engineered to provide best low-light performance to cope with every indoor situation. The P25 is positioned at competitive price point and includes all the usual Mobotix features and the Mobotix VMS MxMC security solution.

The new P25 is a ceiling camera with a manual pan/tilt functionality providing full installation flexibility. Equipped with a telephoto lens, the P25 can be directed to a specific spot in the room, with a 90 degree lens and mounted in the corner the P25 covers the entire space in 6MP resolution. A hemispheric version is available, too. For all indoor models (I25, C25, P25), there will be a surface mount kit to cope with concrete ceilings, as well as an optional audio package incl. microphone and speaker, to enable a two-way audio communication.

"With Mxanalytics, the P25 provides people counting and analysis of people behaviour, without any extra costs, which is perfect for indoor locations like retail stores, museums, etc. Without any extra PC or license fees, the P25 represents highest flexibility and cost savings for end users.

Besides Mxanalytics, all other Mobotix features are included, such as Mxactivitysensor - which avoids up to 90% of false alarms - on board and/or NAS recording, notification via email, FTP and IP request, and much more. The Mobotix low power design achieves power consumptions of 4 watt and below via standard PoE, which enables one of the lowest energy bills in the market.

8. Collision Call app could save lives

Alkmaar, The Netherlands

A new app which automatically calls and alerts emergency services after a heavy collision can save thousands of lives after a traffic accident. This Collision Call also sends an e-mail to family, work and friends, allowing them to take immediate action. This saves crucial time which is vital after a crash.

Simply speaking, the app measures G-forces which occur during a collision. If those forces exceed a certain level, dangerous to humans, the app automatically calls the alarm number in the country you are in and sends e-mails to programmed contacts. To prevent this from

happening when someone is dropping or tossing away his phone, the app only works after driving above 30 kilometres an hour for ten seconds.

Each year 1.3 million people die in road traffic crashes and 50 million get injured or become disabled. Currently, some expensive cars have in-built systems which alert alarm services. The EU has declared regulation which requires all new cars to be equipped with the Ecall emergency alert system from 2018. This systems calls 112 after collision sensors and airbags detect a car has crashed. The EU expects to save 2500 of the current 25,000 traffic victims each year.

The Collision Call app provides a safe and cheap alternative and also works in second hand cars, Dutch inventor Ramon Veneman of Collision Call states. "I believe it can save many lives. Surveys show 60 percent of all traffic victims die at high speed collisions. That is what this app is programmed for."

Collision Call - available in Google Play and very soon in the Apple store - also works when driving a motorcycle, scooter, truck, bus or even travelling by train. It doesn't matter in which country the accident happens, because Collision Call works in 144 countries worldwide and is available in 9 languages.

The app is deliberately being launched during the summer vacation, allowing travellers abroad to use it.

In the future Veneman wants to update the app, making it possible to send an e-mail to emergency services with the exact location of the accident and the amount of G-force, allowing ambulance personnel to take this into account.

9. Dallmeier launches new video analysis appliance

Regensburg, Germany

Dallmeier completes entry level analysis line with DVS 800

The DVS 800 IPS completes Dallmeier's entry-level analysis portfolio. The video appliance supports the analysis of up to four IP video channels and the recording of up to eight IP video channels.

The DVS 800 IPS is a compact and versatile Sedor video analysis server appliance. The proven platform of Videonetbox II is used as hardware. The Sedor analysis server software for analysis as well as the Smavia recording server software for recording are already installed ex works. The DVS 800 IPS supports the analysis of up to four IP video channels and the recording of up to eight IP video channels.

Both the analysis and the recording software can be configured easily with a browser via Ethernet.

The Smavia viewing client is available for evaluation of the recordings. In addition to the fast and intuitive display of live views the client software supports sophisticated navigation functions for playback, numerous search functions for metadata, the Dallmeier Smartfinder for finding of sequences with movements and Premote-HD for transmission in narrowband networks.

The analysis results can be output in real-time directly to the Smavia viewing client. In addition, they can be sent as a message in XML format or used for the control of external relays over Ethernet. They can also be output to the external management client Pguard advance. The results of counting applications can be represented graphically or in tabular form using the optional display and evaluation module Sedor Divistic over Ethernet with a browser.

The DVS 800 IPS has a compact housing and is ideally suited for wall mountings.

10. New affordable IP video line from Tyco

London, UK

Tyco releases Illustra Essentials series

Tyco is introducing a new range of IP cameras and NVRs designed to meet the budget of small to medium sized businesses, while satisfying their need for high-quality video surveillance.

lllustra Essentials, which features 1 and 2MP resolution variants, including bullet cameras and mini-domes with IR LEDs and an indoor mini-dome option, is the latest addition to Tyco's extensive Illustra camera portfolio. All Essentials versions offer H.264 and MJPEG dual-stream, a 3.6mm-fixed lens, 30 images per second at 1080p or 720p to produce crisp, clear images and IR illumination up to 20m.

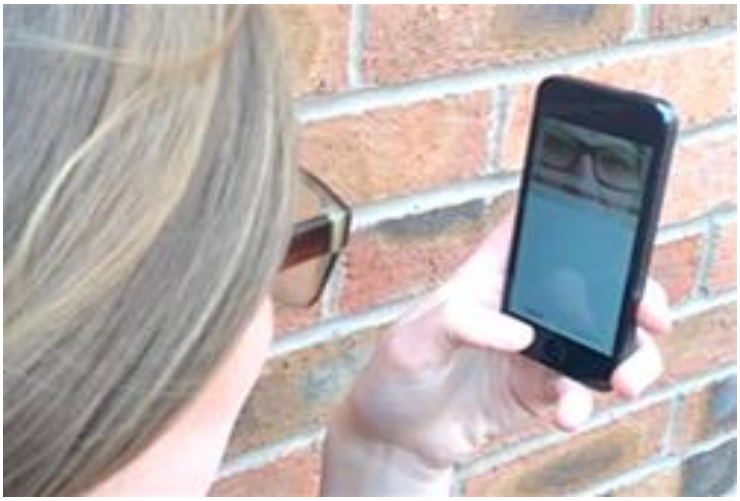
The Essentials outdoor mini-dome and bullet cameras are equipped with IR illuminators, true day/night filter and wide dynamic range to capture quality video in a variety of indoor and outdoor settings. The wide dynamic range capabilities of the Essentials indoor mini-dome also captures video in challenging lighting conditions, making it ideal for a range of indoor applications.

The second part of the low-cost IP surveillance equation, is Tyco Security Products' new Holis range of 4 and 8 channel NVRs featuring 1080p resolution, video search and export functions. With PoE support on all ports, a start-up wizard that includes automatic camera discovery, and simple installation, Holis NVRs greatly reduce the total cost of ownership and minimize labour costs and time on site. The Holis range have been specifically designed to support small camera count installations in an economical and efficient manner, such as independent retailers, small offices and restaurants, providing the dependable recording solution they rely upon.

"There's a growing segment within the commercial community, ranging from corner shops to doctors' surgeries, that want to embrace security for their premises, but they need products that are inherently trustworthy, easy to operate and budget friendly," said Julian Inman, Product Marketing Manager, Video, EMEA, Tyco Security Products. "With the affordable addition to the Illustra IP camera portfolio and new Holis NVRs, we've struck the right balance between high-quality features and a truly affordable price."

11. Solus launches 2 factor biometric

London, UK



Solus works by simply taking a selfie

Solus, a biometrics security solutions specialist based in London, Hong Kong and Jakarta, has launched its 2 factor authentication (2FA) which uses a simple selfie to login to any apps and web services.

Solus uses Eyeprint ID technology and scrambled Pinpad to give secure 2FA to any enterprise, with any web services or mobile apps fully integrated and single sign-on within hours.

Typically 2FA has relied on expensive additional hardware like scanners, card readers and dongles to provide encrypted login for customers and staff. Solus utilises the HD camera in a person's existing smartphone so a company doesn't need to distribute, support and replace additional hardware.

For the user the promise of simple, password access to applications like banking, healthcare or any web sign on is appealing. Set up takes less than a minute and sign-in takes one or two seconds.

Matt Ainscow, CEO, Solus said: “Every month the news is abuzz with stories of damaging hacks that cost companies millions in direct losses and irreparable damage to brand and customer confidence.

“What we’ve done at Solus is solve two important issues. Impenetrable, secure access to web services and enterprise systems, coupled with a better, simpler user experience.”

Solus can be installed on Android and IOS devices and works by taking a print of the blood vessels on the eye. According to the company, these vessels or veins don’t change with age, and can provide effective login and usage in all lighting conditions and even through glasses and contact lenses.

Plus it works simply like taking a selfie – something we’ve all become used to in the last 3 years. Single Sign On is available for companies using Active Directories and LDAP solutions and integration literally takes Solus just a few hours. Additional 2FA elements are available too, including device tying and geo-location services.

12. Pelco launches Spectra Enhanced

Clovis, Ca (USA)

Pelco by Schneider Electric has launched the new Spectra Enhanced full HD, high speed PTZ dome with 20X or 30X optical zoom options. The Spectra Enhanced dome is able to deliver 60 images per second frame rate; includes electronic image stabilisation to eliminate vibration noise; and has Surevision 2.0 wide dynamic range (WDR), with 130dB, to ensure high quality video images are produced in the most demanding lighting conditions. An image defog function helps tackle challenging environmental conditions, as does visibility enhancement mode.

Smooth and fast PTZ control with very low latency makes the Spectra Enhanced dome easy to operate with precise operator control. Pelco's full suite of behavioural analytics provides built-in intelligence, including camera sabotage and directional motion detection.

Single cable HPOE and PoE+ ensure simple installation and ONVIF Profile-S and Profile-G compliance guarantee integration with a wide range of leading VMS platforms and NVR control systems. The Spectra Enhanced dome offers 32GB of local recording via SD Card. It is extremely robust and uses a dome bubble that is optimised for HD video to ensure clear and crisp images with minimal distortion. Stainless steel options are available for saline environments.

The Spectra Enhanced full HD PTZ dome is ideal for surveillance applications where high quality video, precise operation and analytics functionality are required, in virtually any lighting conditions.

13.Duox 2 wire smart digital video entry system

Valencia, Spain

Fermax Duox monitor

Fermax is launching the Duox, a two-wire video door entry system that is fully digital. Marketed as a world first, the company believes this is a pioneering technological milestone worldwide that is set to revolutionise the sector.

Duox has been designed with ease of installation in mind. Technically it is engineered to provide more quality, greater capacity and better flexibility. And, according to Fermax, from the commercial standpoint, it creates a paradigm shift: it means that purchasing decisions are no longer made by the residents' community, but to each individual owner. Duox is potentially capable of opening up a new era for those involved in the video door entry business.

The Duox solution means that owners wishing to install a video entry system in their homes will be able to do so without forcing their neighbours in the same block who prefer to rely on audio alone, to spend any money. The philosophy is that each user chooses the model they like and with the extras they prefer. They can also change their requirements whenever they want without having to ask the other residents for permission.

The new Duox, smart system from Fermax runs on two non-polarised wires and needs no additional elements: neither distributors, nor splitters, nor switchers. This means that the common installation, is surprisingly simple and will be exactly the same for audio or video door entry systems.

Basically, the Duox system transfers all the information generated at the outdoor panel (audio, video and data) into digital data packets which are subsequently decoded by the home terminal, whether audio or video. On paper it is the same principle whereby IP-based protocols are being installed in the most expensive and sophisticated buildings worldwide. But whereas that equipment is designed for new buildings and special wiring, Duox works using the existing wiring in a building, whatever the section. Even the old style bell wire. Of course, this system provides more limited benefits than high-end systems, but the differences in comparison with the traditional analogue systems are convincing.

The first practical advantage is that it provides great audio and video quality: image and sound, now converted into packets of zeros and ones, no longer suffer interference in their journey through the cables. Another substantial improvement is the simplicity of the system, both in terms of installation (as only two wires are needed, thereby avoiding potential errors) and programming (the equipment has a voice-guided start-up system).

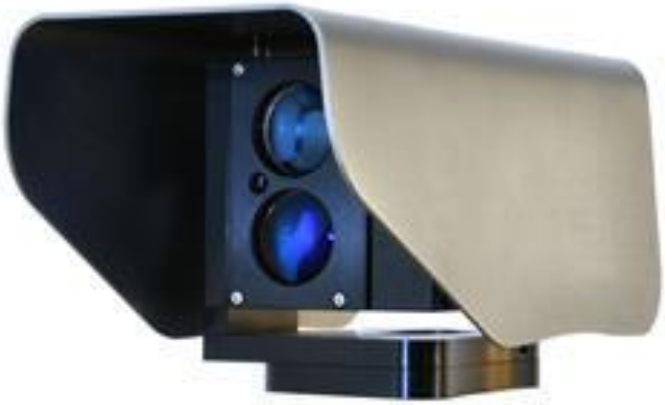
And finally, the system is highly flexible; Duox allows you to meet very different needs within the same project, even at different times. Any owner can change their own installation without affecting the rest of the building's residents.

Fermax ascertains that all this creates a new scenario for all parties involved in the marketing and installation of this kind of equipment. First of all, because Duox will lead to exponential

growth in the number of video terminals installed. And, looking to the future, because the digital system will enable enhanced loyalty in these new customers. There will be homes that will require extensions, additional functionalities and even new applications that will complete a growing system with the Fermax portfolio.

14.GJD launches Laser-Watch at Ifsec

London, UK



Laser-Watch, the latest addition to the GJD portfolio

GJD is launching its brand new IP connected Laser-Watch surveillance sensor at this year's Ifsec exhibition. The Laser-Watch is the newest addition to the company's extensive IP/digital range.

The Laser-Watch is a powerful sensor for detecting objects and humans with great accuracy at long distances. A major advantage is that it can be used without the need for light, reflectors or separate transmitters and receivers that are used by other systems. It is the perfect solution for police stakeout operations and other temporary perimeter security systems including harbours, airports, large industrial areas and large freight terminals.

Offering a new class of surveillance technology, the Laser-Watch reaches distances up to 500 metres and works in conjunction with a powerful web based user interface, enabling the user to remotely change detection settings at anytime from anywhere. Another benefit is the 20 fully adjustable alarm zones with individual sensitivity settings and alarm actions that can meet any situation. Mark Tibbenham, Managing Director at GJD commented: “The new Laser-Watch is an industry leading technology that will deliver utmost precision, regardless of lighting or weather conditions for a wide range of sectors”.

Typical applications include perimeter control as the sensor can detect all objects crossing a virtual fence, which is especially useful when a physical fence is not desirable. The Laser-Watch is also perfect for spot surveillance in a specific area for example a specific part of a road, an entrance to a house or along a wall. The innovative sensor can also be used to detect if an object moves, as it can be located anywhere with a clear line of sight to the object.

Not only does the sensor detect an intrusion, it also knows the precise position of an object or a person. The Laser-Watch is designed for reliability and accuracy as it is offered by GJD with a near zero false alarm rate, whilst increasing the number of genuine detections.

The GJD Laser-Watch sensor is powered with Power over Ethernet and can be used as a standalone unit or as part of a system with multiple IP surveillance sensors and IP cameras connected to a server. Owing to the low power consumption it is energy efficient and environmentally friendly.

Other key advantages of the Laser-Watch include low installation costs, minimal maintenance and a heavy duty weather-proof design.

15. Hard disk drives work hard to ensure data integrity

- Source: William Pao, a&s International
- Date: 2014/09/04
- Related tags: HDD, SSD, storage

Hard disk drives (HDDs) are the core of a storage system, which is critical in a surveillance installation. With growing demand for storage devices capable of storing bigger and more complex video data for longer periods of time, the need for higher-capacity and more reliable hard drives also rises. Today's surveillance HDDs consume less power, have better error detection capabilities, and are designed specifically for intensive writing that is typical of surveillance operations. All this is intended to meet users' growing storage needs.

The history of HDDs goes way back; they were Introduced in the 1950s. Yet for a long time, HDDs focused primarily on the storage of personal and corporate data and lacked surveillance

applications. However, this has changed with the growing importance of the security industry. As camera resolutions get higher and video retention periods become longer, demand for HDDs that are bigger in volume and designed specifically for writing-intensive surveillance operations has increased.

In fact, it can be said that surveillance is a growth driver for the hard drive industry. A recent study by IHS predicted that revenue for both internal and external HDDs in video surveillance applications would rise from US$638.7 million in 2013 to $1 billion by 2017, a remarkable 57% increase. The market research firm attributed the increase in storage demand to various factors, including better performance and the use of high-resolution cameras. “The HDD industry as a whole will reap the benefits of a fast-growing video surveillance industry,” the report said. Indeed, today's HDDs come with advanced features, such as error detection and vibration tolerance, to make sure no data is lost. Capacity, which totals 4 terabytes (TB) in most of today's enterprise-level HDDs, will only increase over time. All this is meant to ensure data reliability and integrity over a long period of time and boost the overall performance of the surveillance deployment.

Consumer vs. Surveillance HDDs

The major difference between HDDs for consumer and surveillance applications is that the former is reading intensive and the latter is designed for data writing most of the time. “Consumer electronics (CE) HDDs' primary focus is entertainment systems, like a consumer DVR, where you typically record content and play it back over and over again. In this environment, smooth playback is very important,” said CN Chu, Technical Manager for Taiwan at Seagate.

Surveillance, on the other hand, requires constant writing of data as video feeds from different cameras are continuously transmitted to the storage device. HDDs for surveillance applications must therefore be designed from a writing-intensive perspective. “For surveillance applications, the customer needs an HDD that writes data 90%of the time, while reading accounts for just 10%or even 5%,” said Patrick Lo, Director of APAC Marketing, Digital

Video and Data Center Storage Division at WD. “If there is no event, the video data is either retained or overwritten.”

Moreover, surveillance HDDs must be able to withstand lots of heat, being often enclosed in systems such as NAS or servers. Surveillance HDDs must also have more stringent fault tolerance requirements, able to perform even in the event of a components failure. Finally, consumer HDDs work at an average of eight hours a day, five days a week. Surveillance HDDs, on the other hand, must work round-the-clock. And given surveillance systems are always on, HDDs with improved energy conservation features can help users save on power.

Comparison between consumer and surveillance HDDs

	Consumer HDDs	**Surveillance HDDs**
Power-on hours	8x5	24x7
Designed for multi-HDD recording	No	Yes (1 to unlimited)
Mean time before failure (hours)	700K	1-1.4 million
Workloads	Balanced between read and write	High sequential write/recording high-resolution videos at all time
Power management	High spin-up current >2amp	Low spin-up current <2amp
Warranty	2 years	3-5 years

Features to ensure data Integrity

Imagine the horror of not being able to find or retrieve a vital piece of data in the event of an accident. Since surveillance HDDs are tasked with storing piles upon piles of video data that is too valuable to be lost, they come with cutting-edge features to make sure all the data is kept securely and intact.

Error Detection

Error detection is a feature that activates when the system detects an impending HDD failure to allow the engineer to act accordingly, such as backing up data or making replacements. To make sure that error detection works, the HDD must be able to “shake hands” with the error detection software developed by the system manufacturer. “We do not just sell HDDs. In this industry, we sell a service and work with system manufacturers from the very beginning during the R&D stage,” Lo said.

Power Management

The more power a hard drive consumes, the more heat it will emit. Overtime, this will shorten a hard drive's life expectancy. Power management is therefore, in the words of Lo, “a topic that, for surveillance players, will never go out of style.”

Power management also plays a major role in the economics of running surveillance. “Because surveillance HDDs run 24x7, power consumption is a big deal. The less power required by the drive the lower overall cost of ownership for the end user — especially as you scale into larger surveillance data centers,” Chu said. To lower overall power consumption, HDD manufacturers have developed various technologies to achieve this purpose, for example minimizing disk operations during periods of downtime and reducing the “spin-up power” — power needed to get the disk from a state of rest to full rotation. A sudden surge in power consumption during this time may be costly and may even affect system operations later.

Read/Write

The hard disk's read and write speeds are dependent upon the user's surveillance system. A hard drive that supports a maximum sustained data rate of 180MB/second, for example, can accommodate up to 32 simultaneous recordings from HD cameras. “If you're streaming from a higher camera count and in higher resolution formats, you will need a drive that can support a higher throughput,” Chu said.

Besides read/write speed, effective and accurate writing into the hard drive is also critical. “Sometimes the HDD will keep recording, yet frame drops may occur, and that can be a huge problem,” Lo said, adding WD has a solution, called AllFrame, for this situation.

Selecting the right HDD

Picking the right HDD to install really depends on various factors. Installers and integrators should consider a range of things, for example the size of the project, the level of reliability demanded, and the number of drives that will be packed in a unit, before choosing the right product.

“Because surveillance HDDs run 24x7, power consumption is a big deal. The less power consumed by the drive, the lower overall cost of ownership the end user will enjoy.”

CN Chu, Technical Manager, Taiwan, Seagate

“For surveillance applications, the customer needs a hard disk drive that writes data 90 percent of the time, while reading accounts for just 10 percent or even 5 percent.”

Patrick Lo, Director of APAC Marketing, Digital Video and Data Center Storage Division, WD

Type of Project

One way to figure out which HDD to get is by determining the size of installation. For a home environment with a camera count of four to eight, the installer may choose a standardlevel drive with workload of up to 60 TB a year and warranty of three years — that's total workload of 180 TB for three years. For companies or businesses with 40 to 50 cameras, an HDD with total workload of 900 TB over a five-year period (180 TB times five) may be considered. For the more missioncritical operations such as casinos, airports, and government agencies, total workload of 2,750 TB over a five-year period (550TB times five) is preferred.

Number of Drives

When HDDs are deployed in multi-drive units such as NAS or large servers, rotational vibration (RV) may become an issue that may cause data loss and corruption. “In systems with more than five drives, vibrations from the chassis or other rotating drives may cause enough vibration to impact the system performance as well as data integrity,” Chu said.

To address this issue, RV sensors are built into surveillance-purpose HDDs to minimize the impact of vibration. WD's technology, for example, has a sensor that detects vibration and triggers a response that keeps the drive heads within the safe operating region during read and write operations.

Level of Reliability

If the user requires a higher level of data reliability, then it's preferable to choose HDDs with a higher mean time before failure (MTBF) — the predicted time before the drive goes out. HDDs in the market now have MTBF ranging from 1 million hours to 1.4 million hours.

HDDs vs. SSDs Solid state drives (SSDs) are storage devices that are based on integrated circuits rather than on electromagnetism like HDD. SSDs do have a place in surveillance. They are more resistant to extreme conditions and vibrations, making them suitable for outside or vehicular applications. They also boast faster read and write speeds.

However, HDDs still have advantages. First, HDDs can stand a lot of roughening up. Enterprise-level HDDs can read or write 600,000 times, while SSDs can do so only 30,000 to 50,000 times. Secondly, HDDs are a lot more inexpensive. The price of a 512 GB SSD, the maximum spec in the market right now, can get the user more than one 4TB HDD.

“SSDs are suitable for many applications, for example car digital recorders which do not require big capacities. But will they completely replace HDDs in the near future? I don't think so,” Lo said. “And I don't think it's an issue of who replaces who, as finding the right storage technology really depends on your operating environment and budget.”

Bigger and faster is the future

As for the future of hard drives, the trends are that they will feature bigger and bigger capacity. Currently, maximum HDD capacity is 4TB, a figure “that is set to double every two years,” Lo said. “You can never satisfy customers' storage needs.” PCI Express (PCIe), a high-speed serial computer expansion bus standard, is meanwhile expected to replace SATA as the mainstream interface for connecting storage to PC systems. PCIe boasts transfer rates of 1 to 2GB/s, faster than 3 to 6Gb/s for SATA.

Good prospects down the road

With bigger capacity, better performance, and less power consumption, today's surveillance HDDs help surveillance players big time by keeping data safe and secure. It has been said that a hard disk will be able to hold 20TB of data by 2020. With storage technology continuously improving, that scenario is no longer a far-fetched dream.

Cracking down on camera hacks

- Source: William Pao, a&s International
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Recent reports on baby cam hacks raised new concerns over malicious intrusion into networked security devices. The threat is even more imminent for home and small business users who are not as well protected as their enterprise counterparts. Luckily for them, most of today's network camera manufacturers work hard to keep flaws to a minimum and equip their products with various security features.

Two recent incidents where baby cams were attacked by hackers caught the attention of vendors and users alike. One happened in Ohio just in April, when a couple was awoken late at night by strange sounds coming from the baby cam in their toddler's room, only to find that the camera had been taken control over by a hacker. A similar incident happened last year, when a Houston couple heard a man swearing through the baby cam in their infant's room and found out the Wi-Fi-connected device was hacked. In both cases, it was found that the cameras, made by the same vendor, contained security flaws that could easily be exploited.

In fact, hacking can happen to not just cameras but also practically any device on the Internet. Last year, the NAS device of a particular vendor was found to have a vulnerability potentially allowing attackers to execute arbitrary commands on the system. The vendor has since released a patch to solve this problem.

The above incidents illustrate the danger facing users of network cameras and other security devices, which may be targets for malicious intruders. That danger is even more imminent for home and SMB users who, unlike their enterprise counterparts, are not protected by firewalls or advanced perimeter defense software. What they can do to protect themselves has therefore become an urgent issue. Luckily for them, today's network camera makers work hard to minimize flaws and equip their products with various security features, which users should take advantage of to reduce the risk of these devices being hacked. “In general it is not possible to guarantee that computers and network devices do not contain flaws that may be exploited for malicious attack. However, there are measures that can be taken in order to reduce the risk considerably and eliminate the obvious flaws,” said Fred Juhlin, Senior Consultant for Solution Management at Axis Communications, whose Companion series targets home and SMB users.

▲ **Fred Juhlin,** Senior Consultant for Solution Management, Axis Communications

▲ **Ben Huang,** Senior Marketing Supervisor, Zinwell

▲ **Konrad Simon,** Product Manager for IP Video, Bosch Security Systems

Access

Unauthorized access to a system can be prevented by a simple yet effective method called password protection. Most network cameras today allow users to create their own usernames and passwords, which can be secured through various means. Zinwell, which makes power line-based home security cameras, has patented a technology that keeps passwords from being sent out to the Internet. “In that case, hackers won't be able to get passwords from the Web,” said Ben Huang, Senior Marketing Supervisor at Zinwell.

Encryption of passwords is another protection method. “The user has the option to let the system remember passwords, and if so the client protects the password with encryption,” said Juhlin.

Once a user accesses the camera, it's a good idea for the device to have multilevel access control based on the user's privilege. For example, a regular user may only view streaming video, while an administrator may access the camera's storage or control the device. In fact, most network cameras today offer this functionality. “This means users can control exactly who can see what in their system, and that their video is safe from any form of third-party manipulation,” Juhlin said.

Encryption

Many IP cams also allow encryption. The videos can be encrypted before being sent over to the network to make sure that unauthorized persons cannot view or tamper with the data. Different encryption technologies are used. One of the most commonly used is SSL/TLS, which encrypts contents with special codes that can be deciphered only by pairs of public and private keys, the latter of which are hidden in the computers of the communicating parties. As private keys can be obtained in a security breach, Bosch, whose Advantage line also targets home and SMB users, makes sure that this will never happen.

“The SSL private key of the device is stored securely on the smart card chip that is directly involved in the SSL connection setup. The private key never leaves the chip and cannot be read out even if the user has complete access to the device,” said Konrad Simon, Product

Manager for IP Video at Bosch Security Systems. “This way no access is possible to the private key, even in a hostile approach someone would have achieved to read sensitive data from internal memory.”

Advanced encryption standard (AES) is a protocol that encrypts contents with 128-bit, 192-bit, or 256-bit keys, making encoded messages harder to decipher by untrusted parties. Among camera makers that use AES is Amaryllo, another home security camera maker. It uses 256-bit encryption, at the same time ensuring that video latency is less than 0.5 seconds.

Keeping Flaws to a Minimum

Vendors who are security-minded keep exploitable flaws to a minimum. One way to achieve this is checking third-party software regularly to make sure problematic software isn‘t incorporated into their products. As an example, to implement SSL encryption, many camera makers use OpenSSL, which drew huge attention in the security world in April when it was found it contained a bug called Heartbleed. If left ignored, Heartbleed could lead to the leak of sensitive data, such as usernames and passwords. One camera maker that managed to avert this disaster was Bosch. “We do not use OpenSSL as SSL implementation on our IP cameras, encoders, and decoders. The SSL implementation in our devices is not OpenSSL, nor is it related, so Heartbleed did not affect us at all,” Simon said.

Crowdsourcing, where users in a community share their collective wisdom, is another way to identify flaws and get them fixed. “We monitor discussions in the network community to quickly identify possible vulnerabilities which may impact our products. If a vulnerability is discovered, we will provide patches, firmware, risk analysis, or recommendation to our customers,” Axis's Juhlin said.

User Awareness

While camera vendors may have included a range of security features in their devices, users should also do their part by taking advantage of these features. For example, it's often the case that users simply use the camera maker's default username and password settings, which are easily obtainable. It is also important to check for notices on firmware updates or security

patches, which are normally sent via e-mail. Moreover, users may consider isolating their cameras from a local network, since hackers may attack other devices in the network through the camera.

A Two-Way Street

Keeping hackers at bay requires a commitment by both vendors and users. The vendor should build their products with the concept of “security” in mind, while users should familiarize themselves with security features included in cameras and use them whenever possible. It's only through this two-way street can security camera users achieve their primary objective — keeping safe — without being harmed in the process.