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SECURITY

MAGAZINE FOR SAFETY AND SECURITY

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COVER: iLOQ – One for All
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COMMUNICATIONS

One Framework for All Countries?

Since the failed terrorist attempt on the Amsterdam – Detroit flight on 25 December 2009 already six months have passed by. In the meantime some EU member states were increasingly trialling or using security scanners at their airports. The US were faster and do currently deploy approximately 200 Security Scanners in 41 airports as secondary means for screening and more units will be deployed in 2010 and 2011.

At the moment the trialing of whole body scanner in the UK, Finland, the Netherlands, France and Italy currently is done under a patchwork of different national operational procedures and standards. The central question, is if there is a need for EU-wide regulation on the use of scanners or if the status quo - where security scanners fall outside the scope of the EU aviation security framework and are regulated nationally - should remain in place.

At the request of the European Parliament and Member States, on June 15th the EU Commission has issued now a communication assessing the use of security scanners at European airports. The EU commission made clear, that the deployment and operation of airport scanners must be based on common standards and that EU Members must also ensure compliance with European fundamental rights and health provisions. The communication is supposed to be a „fact-finding report". The report (which is documented on our portal www.GIT-SECURITY.com in the white paper section) represents only the start of a discussion and does not prejudge whether there will or will not be any future legislative proposals. It is a technical and factual report which assesses the current situation with regard to the use of security scanning technology in terms of detection capacity, and compliance with fundamental rights and health protection.

The Commission's view is that where member states decide to authorise security scanners, a common EU-wide framework would be the best way to legally guarantee the uniform application of security rules at all airports and provide strict and mandatory safeguards to ensure compliance with European fundamental rights and health provisions. The report does not give the „green light" for security scanners to be used across the EU. The use of security scanners currently falls outside the scope of EU rules on aviation security. The question now is whether they should be included in EU law. If there is a political will from the European Parliament and Council, then the Commission could go ahead with an impact assessment and a legislative proposal.

If there is not that will, then the issue will continue to be regulated at national level. Bear in mind that, even within an EU framework, it would always be for each national government to authorise the use of any scanners or certain types of scanners in their airports.

If one takes a look at the technical side, as a result of the testing, experts are sure that security scanners can significantly increase the security at airports. The most commonly deployed security scanners use active millimetre wave technology (similar to those used in a microwave), and back scatter (low X-ray) technology (used within strict Euratom limit values and principles). Both technologies provide an additional security capacity when compared with traditional metal detectors, which by definition screen passengers for only metal objects and can not detect plastic and liquid explosives. Besides increasing detection performance of non-metallic items and liquids, Security Scanners are expected to assist in keeping throughput times at screening points at an acceptable speed. Airport trials and tests suggest that Security Scanners permit a rigorous screening for a great number of passengers in a short amount of time while providing a reliable detection capability. Although scanner screening requires the person to stand still inside or next to the machine, these tests indicate that they require just about 20 seconds for producing and interpreting passenger data. It is possible that future technology may further increase speed and efficiency of Security Scanners by avoiding the need to divest jackets, boots, etc.

There are important privacy and fundamental rights issues which need to be taken into account in the use of security scanners. The reality is that technology has moved on greatly in recent years, especially when it comes to fundamental rights issues and privacy. Today, for example, software exists which does not produce a real body image but only a stick figure. Software

exists to allow for remote viewing; to ensure that images are not stored, copied, retrieved and unauthorised access is prevented; and to ensure that any image analysed by a human reviewer is not linked to the identity of a screened person and kept 100% anonymous.

The modalities for the operations of scanners would need to be set out in binding rules. So a common EU framework would not only legally guarantee the uniform application of security rules and standards at all EU airports, it would although ensure a higher level of aviation security as well as the best possible protection of EU citizens' fundamental rights and health. Let us hope that the discussion in the next months will lead us to a common EU framework. It is sad enough that a technology to protect people, a technology that already exists for several years, has not been invented as a preventive some years ago.

Enjoy reading this issue,

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COVER

One for All
The key ring in your pocket is probably quite heavy, with keys of different shapes and sizes to fit the front door of your house, the garage, the garden shed, the main entrance to your office and your own room as well as your locker at the gym. Having just one key to open and lock all of these is now possible with a new system that runs entirely without batteries, either in the lock or in the key. 34

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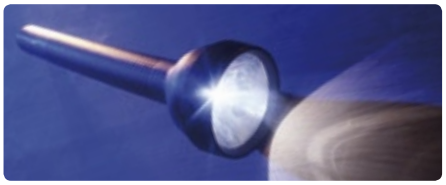

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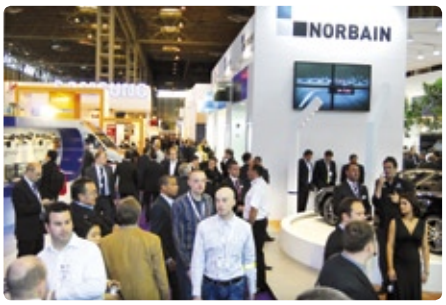

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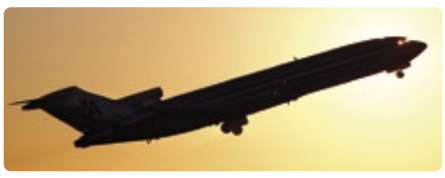

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Nice Acquires Lamda

Nice Systems has acquired Lamda Communication Networks, a provider of satellite communications interception technology based in Israel. Lamda's technology addresses the growing demand for satellite communication interception capabilities and enables law enforcement, internal security, and intelligence agencies to fight crime and terror more effectively. The company does not anticipate material impact on its financial results, as a result of the acquisition, in 2010. The addition of the company's satellite communication interception technology will enhance Nice's existing capabilities and complement the current offering of advanced applications such as monitoring, traffic analysis and voice analytics. It constitutes a flexible, software-based platform for satellite communications interception, with automatic analysis capabilities and advanced system management at a relatively cost-efficient infrastructure deployment.

www.nice.com

Jesper Balser Chairman of the Board for Milestone Systems

Milestone Systems announced that Jesper Balser has now taken over the reigns as Chairman of the Board. Ole Stangegaard, who held the position for nine years, has chosen to resign and enjoy his retirement. Jesper Balser joined the Board of Directors in late 2009. "Jesper Balser has challenged and inspired us since the first day he became a member of the Board. I am sure that as our Chairman he will drive us forward on our track of continued growth. Jesper supports Milestone's strategies to win larger market share in the coming years," says Lars Thinggaard, CEO & President of Milestone Systems. „Jesper Balser has strong experience in developing global channels for software business, and we are pleased to gain from that expertise."

www.milestonesys.com

Sicurezza 2010: Changed Date

Sicurezza 2010 has announced that it will close one day earlier than initially scheduled: The exhibition will take place at Fieramilano exhibition centre in Rho from 17th to 19th November 2010. This decision sprang from the numerous requests received both from Exhibitors and partner Associations that are more and more asking to line up with other International exhibitions. Recently a "Round Table" on "Interconnectivity and inter-operability of IP video solutions: a comparison between ONVIF and PSIA standards" took place. The "Round Table" is a forerunner of the conference which is to be held during the exhibition. On the 19th May the 14th edition of the Essecome Conference & Expo 2010 was held. The purpose of the conference was to present market data and trends, and afford the sector issues with the involvement of both the Associations and the main players of the Italian security sector, while the practical aspects and the concrete development of the topics discussed were covered in the afternoon sessions.

www.sicurezza.it

Geze Launches Manufacturing Plant in Zrenjanin, Serbia

Geze has expanded its production capacities to include Serbia. After a total investment of over five million Euros and a construction period of twelve months, an ultra-modern manufacturing plant for window technology systems (which will soon be expanded to cover other Geze product areas) has been constructed on a 6,000 m^2 area in the town of Zrenjanin. Once the new installation has been officially opened this spring, production will begin with around 100 members of staff. This figure is due to rise to around 200 highly qualified employees over the next two years. The manufacturer's product experts have been advising Serbian customers and partners on location since 2005. The ever-increasing demand for the company's product solutions in Eastern Europe has necessitated the expansion of the sales and service network in the region, the company says.

www.geze.com

BusinessPartner

Indigovision Video Technology for China Theme Park

OCT East, China's newest resort and theme park, has invested in Indigovision's complete end-to-end IP Video technology to deliver its site-wide surveillance. The first phase of the resort opened in 2007 and now boasts two theme parks, three scenic towns, four resort hotels, two 18-hole golf courses, Hua Xing Temple and Tianlu mansion. The resort located near Shenzhen, covers an impressive nine square kilometres and represents an investment of 450 million US-$ by the OCT Group. The company's approved partner China Com designed, installed and commissioned the 360-camera surveillance solution. "With a resort the size of OCT East it was vitally important that we chose a surveillance system that could easily expand as the development grew," commented Lianbing Deng, OCT East Director.

www.indigovision.com

EU Commission: Support for Security Scanners at European Airports

At the request of the European Parliament and Member States, on June 15th the EU Commission has issued a communication assesing the use of security scanners at European airports. The EU commission made clear, that the deployment and operation of airport scanners must be based on common standards and that EU Members must also ensure compliance with European fundamental rights and health provisions. The communication is supposed to be a " fact-finding report". It is a technical and factual report which assesses the current situation with regard to the use of security scanning technology in terms of detection capacity, and compliance with fundamental rights and health protection. The report is a direct response to a request from the European Parliament for information on this issue so as to provide the basis for an informed discussion. It is documented on www.GIT-SECURTY/news

Geutebruck: Koen Pelle Country Manager Netherlands

Koen Pelle (44) has recently joined Geutebruck in the newly created role of country manager for the Netherlands. Pelle has qualifications in marketing and project design, has been involved with CCTV for nearly 20 years, both as an end-user and as a system integrator. Having worked for one of the company's sales partners in the Netherlands since 1998, he is already very familiar with his new employer and is very confident that "the more Dutch end-users and consultants know about Geutebruck products the more they will want to buy".

www.geutebrueck.com

Sagem Sécurité Renamed Morpho

Sagem Sécurité (Safran group) has changed its name to "Morpho". This new name reflects the company's dynamic performance and objective of consolidating all security businesses within the Safran group under a single name. The new name, symbol of a shared strategic vision, embodies the company's core values, namely innovation as the basis of trust and technological excellence, as the company emphasizes. "The name 'Morpho' is anchored in our culture and embodies our corporate values and successful track record," said Jean-Paul Jainsky, Chairman and CEO. "At the same time, it marks a major new stage in our history, fully in line with the recent creation of our subsidiaries Morpho Trak and Morpho Detection." The new identity will be gradually deployed across the company's many subsidiaries operating worldwide.

www.morpho.com

Bosch Security Systems at World Expo 2010 in Shanghai

Bosch Security Systems is one of the principal suppliers of security equipment for the World Expo 2010 in Shanghai, China. This event of global significance, which opened on May 1, 2010 and is scheduled to run until October 31, is expected to receive between 70 and 100 million visitors. Within the 5.3 km^2 Expo site, exhibits from 192 countries and 50 organizations are on show. Over the six months that the exposition will run, it will host around 20,000 cultural performances. The China Pavilion is one of the largest and most important buildings in the exposition. To protect visitors to the China Pavilion, nearly 700 Bosch high-performance cameras were installed inside and outside the pavilion to offer comprehensive real-time monitoring of areas such as the surroundings, interior exhibition rooms and elevators. The Bosch Allegiant 8900 Matrix System was installed in the central control room of the pavilion. Offering full matrix switching capability, the system displays video from any camera on any monitor and provides powerful alarm handling capabilities.

www.boschsecurity.com

Ifsec Security Industry Award

Dedicated Micros has won the Integrated Security Product of the Year category at the prestigious IFSEC 2010 Security Industry Awards for its groundbreaking Closed IP TV system, a plug and play IP video product solution which brings all the physical security of a traditional CCTV system to the IP environment. Closed IP TV integrates enhanced layer 2/3 switching technology, combined with self-configuration software. This has the potential to create secure, self-configuring video over IP networks where from an installation point of view no prior knowledge of IP network configuration and security is required. In practice, through Closed IP TV, IP cameras are automatically identified and configured by the server or NVR (Network Video Recorder) as a point-to-point relationship. Each camera is identified by the socket it is connected to just like an analogue system. The private network of video over IP created by Closed IP TV is immune from outside hacking attack, providing vital reassurance to security managers, as it sets-up an exclusive relationship between the IP addresses of the camera and server products and the associated layer 2/3 switch. Said Pauline Norstrom, Director of Worldwide Marketing at Dedicated Micros: "We are delighted to have received a Security Industry Award for our Closed IP TV system which, we believe, signifies a quantum leap in the security and ease of use of video over IP solutions. Through Closed IP TV, once all products are connected together, the system is completely deterministic configuring itself and assigning IP addresses automatically as required. Crucially, as each camera is assigned a specific network port it cannot be hacked or intercepted – a potential weakness with other approaches – as the cameras are all locked down."

www.dedicatedmicros.com

Ifsec Security Industry Award 2010

Briefcam was awarded the Ifsec Security Industry Award 2010. The company won against five other contenders in the category of "CCTV System Product of the Year". Video Synopsis is its major innovation, a proprietary image-processing technology that creates synopses of original full-length surveillance videos. The company provides a complete representation of all events occurring during hours of video footage in a condensed clip as short as a few minutes in length. The synopsis is made possible by simultaneously presenting multiple objects and activities that have occurred at different times. Video Synopsis enables the rapid review and indexing of captured video footage – with an index to the original source video; live video feed online and archival video footage offline – for on-the-spot event tracking, forensic investigation and evidence discovery.
www.briefcam.com

Dallmeier Nordic Established

With the formation of Dallmeier Nordic customers and partners in Denmark, Norway, Sweden and Finland as of now dispose of a direct contact in Scandinavia. Dieter Dallmeier explains the move to establish an own representation in Northern Europe: "The close proximity to our distributors and customers is very important to us, because it allows us to ensure optimal support. We were able to win a well-attuned team for Dallmeier Nordic. Its members have been gathering market experience throughout Scandinavia for many years. We have already worked together in the past and successfully completed numerous projects." Torsten Ussing, Managing Director of Dallmeier Nordic: "With Dallmeier Nordic, partners and end customers have a personal and competent contact to support them throughout all stages of a project. Whether it is the planning, the commissioning, or the subsequent after sales service."
www.dallmeier.com

Innovation in Network Video Management Software

Based on its recent analysis of the video surveillance market, Frost & Sullivan recognizes Avigilon with the 2010 Global Frost & Sullivan Award for New Product Innovation. Each year, Frost & Sullivan presents this award to the company that has demonstrated innovation in developing a product and leveraged leading edge technologies to offer value-added features while increasing the ROI for customers. Avigilon Control Center 4.0 was chosen for the award for its open, modular design which offers support for third-party IP cameras and analog encoders, resulting in an enterprise-class network video management software (NVMS) platform for building hybrid systems and preserving existing assets cost effectively. "Avigilon undertakes continuous product development and improvement to deliver the most effective and innovative HD surveillance solutions that can lead to increased investigation accuracy and more rapid resolution," says Frost & Sullivan Industry Analyst Dilip Sarangan. "With continued R&D spent each year, Avigilon continues to capture new vertical markets and opportunities by expanding Avigilon Control Center NVMS with additional features such as the HD Point-of-Sale transaction module, expanded alarm management, and a novel interface for managing the layout of large sites."

Nedap: New Business Development Manager for Italy

Cosimo Caraglia, Nedap's new Business Development Manager for Italy more Nedap Security Management has appointed Cosimo Caraglia as Business Development Manager for Italy. Mr. Caraglia's primary focus will be to introduce and extend the market position of AEOS, Nedap's access control system, in Italy.

Geutebruck: Devices Dispatched Within 24 Hours

Alongside its made-to-order bespoke systems Geutebruck is now offering a small range of off-the-shelf pre-configured devices for dispatch within 24 hours. The specifications of these 'Just in time' models of the Geviscope, the Geviscope extension unit, the GSC Speedview and the Reporter represent the current most popular configurations which meet the requirements of a large proportion of security applications. "These 'Just in time' models are the same top quality, high end systems," explained Carmen Lahr, Geutebruck marketing director. "They have the just same compatibility, flexibility and openness for integration and future expansion, but you can now get hold of them faster." The "Just in time" Geviscope digital video platform comes preconfigured for 16 analog video and audio inputs. Its extension unit and the Reporter hybrid recorder are both available with 4, 8, 12 or 16 inputs. The GSC Speedview high-speed evaluation and playback station which doubles as the setup PC for Geviscope and Reporter systems comes with GSC View software preinstalled, four DVI-I outputs and a built-in DVR/RW drive.
www.geutebrueck.com

Smart Access Control

Naval Air Station Fort Worth Joint Reserve Base or NAS Fort Worth JRB, formally Carswell AFB, is a military airfield located five miles (8 km) west of the central business district of Fort Worth, Texas. The base, which is under the operational oversight of the Commander, Navy Installations Command, is a joint defense facility which plays a pivotal role in the training and equipping of air crews and aviation ground support personnel. With such a large facility, there are approximately 4,000 full time military and civilian employees, along with another 7,000 Reservists and Guardsmen stationed at the base, security is a key consideration. The base employs a multilayered security measures approach beginning with perimeter protection and moving inwards to the core facilities. This creates a much stronger overall security system. As part of the on-going process to continually monitor, review and improve this system the Naval Air Station recently received federal funding to upgrade the access control capabilities at its base housing complex, and replace the outdated magstripe locks with new wireless electronic smart locks. The winner of the contract was K & L Contractors, a local construction and security specialist based in Fort Worth with experience of working on military projects. They specified the Salto XS4 RFID system and subsequently configured and installed 1,145 of the locks into the base housing as well as fitting 15 'Wall Reader Points' for key card updating.
www.saltosystems.com

iOmniscient sets up New Offices in Dubai and Cairo

To address the continuously growing markets in the Middle East iOmniscient has established a direct presence in both Dubai and Cairo. The teams there will have both a Sales and Technical Support capability. "Even during these difficult times we have done well in the Middle East and hence it has become important for us to increase our direct presence in this market. Having a local presence will allow us to be more responsive to our customers' needs," said Ms Ivy Li, Managing Director of iOmniscient Corporation. " We tend to implement major projects through our System Integrator partners and having a local presence will allow us to provide them with better support for demonstrations, tender responses and sales".
iOmniscient's systems are already tailored for the Middle Eastern market. The License Plate Recognition system can read plates in Arabic and English and the detection and identification systems have user interfaces in English or Arabic. While the systems are designed to be used by trans-global corporations with infinite scalability and universal connectivity, they appear to each user of the system as though it was designed just for them.

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ALARM MANAGEMENT

Managing the Current Situation

Modern Control Rooms Deliver the Right Information at the Right Time

Control rooms are required to provide the highest levels of security at lower and lower operating costs. They must do this whilst juggling multiple disparate systems and trying to ensure that procedures adhere to the latest internal and external regulations and policies. Situation management is a new technology innovation that delivers a fresh approach to streamlining the information that enters the control room, automating routine processes and freeing surveillance teams to do what they do best – make informed decisions.

Jamie Wilson, Nice Systems Security Group Marketing Manager, UK, Nordics & South Africa

The ideal control room structure is one that combines skilled operators, who have the freedom to use their training, judgement and experience, with automated systems that can be relied upon to manage more routine and mundane processes. The new situation management technologies currently arriving on the market can enhance a security teams' ability to prepare for, detect, respond to and de-brief quickly and effectively, all routine and emergency security situations, whilst reducing the associated costs.

A typical surveillance operation relies on a mass of incoming data from numerous disparate systems that feed into the control room ranging from access control, video systems, perimeter intrusion sensors, location tracking, panic buttons, environmental sensors and communication devices. Traditionally, it is the job of the operator to manually filter and process this continuous data stream, in order to then make the right decisions regarding how the incident should be handled. This is time intensive, not the best use of the operators' skills and therefore an expensive process.

Situation Management

Situation management technology works by converging all of the data feeds from multiple systems, from one or more sites, into a single unified platform. From this single platform the data can be interrogated against pre-defined rules (set by the control room) to determine the type of incident, assess the action required and implement the required level of response.

To illustrate how situation management can be used consider a typical daily (or often more frequent) occurrence that the surveillance team are presented with: A sensor positioned on the perimeter fence is disturbed and as a result a chain of automated events is immediately triggered. First the sensor sends an alert to the control room, where the operator is presented with

a pre-defined message; at the same time the system deploys the organisation's perimeter intrusion procedures. In this instance the process involves automatically pointing the relevant CCTV camera toward the sensor and displaying the monitored and pre-recorded video to the operator in the control room, who is overseeing the incident in real-time. Meanwhile, the system locates the personnel best equipped to respond to the alert and sends a multimedia task assignment to their mobile devices, with an action to report if there is any evidence of tampering. If the responder confirms that there is such evidence the system then activates a further set of procedures for investigation and suspect search.

Throughout the entire process the operator is fully aware of how the situation is being dealt with, but because the system has flagged the event and instigated the correct procedures, he is able to take an overseeing role, providing vital human input and intervention where necessary.

Situation management has been proven to minimise the risk of operator error, enhance security response, protect existing security investments and reduce operating costs, through streamlining data, systems and procedures into a single platform. It is currently being relied upon by a number of public and private sector organisations around the world including Larnaka International airport, ICL, United States Federal Reserve System, Transnet and the Port of Virginia, to protect their critical infrastructures. One major implementation that is currently taking place is at the busiest container port in the United States and one of the largest cruise ship centres on the West Coast, The Port of Los Angles.

The Port of Los Angeles has begun implementation of situation management to provide an integrated command and control platform to fuse, correlate and analyse information across 16 security systems. In addition, it will enhance inter-agency collaboration and response capabilities for the port. The situation management software platform will help the port improve its situational awareness and incident response capabilities to ensure the safety and security of passengers and continuity of operations, by fusing siloed systems into an integrated command and control platform, and by correlating and analysing these different sources of security information.

Seamless External Communication

Through its integration capabilities, situation management will also seamlessly connect the Port of Los Angeles with external agencies to enhance the Port's ability to collaborate, share information and respond to incidents. In addition, the Port will use the system to automate its response plans for managing incidents, ensuring that standard operating procedures and best practices are always followed. All activity that is managed through the system is also logged, so port officials will be able to see what actions were taken, under what conditions, when and by whom.

The Port Police Technology Manager for the Port of Los Angeles, Julia Kirwan recently commented on the project: "Security is unquestionably a top priority for us. NICE Situator enhances our security capabilities by connecting the dots across all of our available information sources, and by streamlining and coordinating our response actions. It facilitates operational response so that field personnel and incident commanders know what's happening and what to do."

It is inevitable that control rooms will continue to become more and more complex and demanding environments. With situation management in place those best-of-breed yet disparate systems, that have seen significant investments made in them, can be managed with ease, ensuring that the right people have access to the right information at the right time, to deliver the appropriate level of response to every alert or incident.

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CCTV

Innovations on the Doorstep

Mobotix Is Growing Internationally and Is Expanding Its Range

According to the figures of the last half-yearly report, the business of Mobotix AG is growing splendidly. Against a consistently difficult economic background, in the first six months of the 2009/10 year under review Mobotix was able to achieve an increase in turnover of about 9%, to € 23.9 million. These good figures were crucially aided by the successful product launch of the Q24 camera line, Mx2wire technology and a continued growth in export trade. At Light & Building in Frankfurt, Germany, Mobotix AG presented for the first time an innovative IP-video door station, the T24. At the exhibition, Heiko Baumgartner had the opportunity to talk to the Mobotix founder and CEO Dr. Ralf Hinkel about these new products and international trade.

Mobotix founder and CEO Dr. Ralf Hinkel explains the T24 IP-video door station.

GIT SECURITY: In what way are you satisfied with the product launch of your Q24 camera with its hemispherical lens?

R. Hinkel: Since its introduction last year, the Q24 has become a bestseller. Mounted in the ceiling, it provides an uninterrupted 360°panoramic view of the whole room and that's truly unique. Since then, we have produced 2,500 Q24s in Germany each month and the camera is being used by our customers for the widest range of tasks. Securing entrance areas is one of these, where the camera, in combination with a detailed sensor, the hemispherical lens and internal DVR, shows off its strengths and allows a complete room to be recorded using just one Q24 camera. The Q24 is also used at service stations, where it can replace several analogue cameras, as well as in large, prestigious projects such as the underground in Shanghai, where Q24 cameras monitor the underground stations using high-resolution images. With the Q24 Night, we are currently expanding our range with a special night variant for environments where poor light conditions predominate.

In the international market, taking the classic sales route through installers, you are less obvious than your competitors, but nevertheless you are successful on the international stage. How do you do that, and how do you view your position in international trade?

R. Hinkel: Our export trade is an important engine for our growth. In spite of the difficult economic market, we have an export share of 75% and are number four in the world in IP cameras; our market position in mega-pixel cameras is even better. What is important is that we also use our channels through wholesalers and IT companies, in addition to the classic sales channel through video installers, and we have been very successful through this.

You have now expanded the new product range with hemispherical optics and are presenting a new IP-video door station at the Light & Building exhibition. What are the advantages of this system?

R. Hinkel: The new T24 IP-video door station covers the whole entrance area without interruption – from wall to wall, from the ceiling to the floor. Standard door cameras often only

record visitors when they are directly in front of the lens. Essentially, the fish-eye lens represents the scene in front of it as a complete, uninterrupted 360° image. Using integrated image correction software, the image is corrected even in the live view, and delivered to the remote video station. It is then easy to digitally tilt, pan and zoom the subject area. The T24 is based on the VoIP/SIP and H.264 international video-telephony standards. When the doorbell is rung, a connection is made through the network to a VoIP videophone, a standard PC or tablet PC. Video and voice access to the door station is now possible from anywhere in the world. The door can also be opened remotely. The Mobotix key module, which can be used individually, also serves as professional access control through the entry of a PIN code or by using a RFID transponder. Via MxBus, the module communicates directly with the security door opener and be programmed with a time control. The security door opener in the interior area makes it impossible to open the door by forcefully disconnecting and short-circuiting the connection cable.

You promise a system that is simple to install. Often there is just a two-core bell wire available at the door, and systems are often already installed. How can your system be installed, and is it possible to upgrade existing installations?

R. Hinkel: In the case of our T24 system, quick and easy installation means that one network cable is used for the network connection and electricity supply for the IP-video door station, or alternatively a two-core bell wire can be used with the Mx2wire expansion set. The T24 product line is a modular system that can be adapted to customers' individual requirements. With minimal expenditure, an existing doorbell or simple door communication system can be converted to a multi-functional access control system with a high-resolution Mobotix camera. Furthermore, the hemispheric camera module also fits the Siedle Vario system. In this, individual Siedle modules are integrated using a specially developed Mobotix IO connection board.

Will we see more new products from Mobotix in the future that go beyond video monitoring?

R. Hinkel: We are working at full stretch on an alarm control unit for private use, which links elements of video monitoring, a door station, and also burglar and fire alarms.

Dr. Hinkel, thank you for talking to us.

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INTERVIEW

Creativity, Progress & Excellence

Lilin Pioneers with ONVIF Compliant IP Products

Founded in 1980, Lilin has more than 600 employees worldwide and offices in more than 13 countries and partners in over 20 countries. With 30 years experience in CCTV the company recently has undertaken huge efforts to become a big player for digital video. At Ifsec in Birmingham, Heiko Baumgartner spoke with Jason Hill, Managing Director of Lilin UK about the company's position in the market, its future plans and their new products.

According to market studies, Lilin is not amongst the Top 10 players in the world for network cameras, but here at Ifsec your company shows a strong commitment to IP technology. What is the reason for Lilin's strategy to position the company so clearly as a serious player in the emerging IP Video market?

J. Hill: For us there is no doubt that the future of video surveillance is IP video. In 2009 analog video equipment sales decreased as the recession took hold, additionally the products themselves were devalued as a result of intense price competition, this market sector is unlikely to recover to its highest levels again. We believe that 2010 heralds a dramatic change in the market towards IP video technology; we have been planning for this transition for 3 years, as you can now see from our significantly improved IP video offering and our plans for future developments.

Do you believe that there will also be a change regarding the channels for video products to the market?

J. Hill: Yes, the change is already apparent. Unfortunately it is unlikely that the majority of existing security installers will have the resources and capabilities to become network experts. So we will also utilise IT distribution channels in the future and we will continue to invest heavily in education. We have just announced the launch of our Resource Zone, designed to help customers understand IP products and system solutions in greater detail. We have recognised a need for immediate information on this emerging technology and have invested in these web based tools for the benefit and education of installers, distributors, resellers and end users alike. A growing library of multimedia videos covers Lilin IP products, ranging from feature overviews to technical guidance. These informative tools are freely distributable and are great for use as part of a system design or quotation. With 3 technical videos also online, customers can immediately learn more about our Common Interface, IP Scan and the ActiveX Installation. We will expand the online Resource Zone as new technology and products emerge.

What products are you introducing to complete your offering?

J. Hill: We have introduced new hybrid NDRs (Network Digital Recorders), IP mini dome cameras, vandalproof cameras, IR cameras and H.264 video encoders here at Ifsec. The new cameras are available in D1 resolutions or HD, with a choice of CMOS or MOS megapixel sensors. The new GVD-Series is a range of high per-

formance IP network video recorders for HD Cameras, capable of recording and displaying up to 32 Megapixel streams simultaneously. They support a wide range of IP cameras and are very simple to use and benefit from a number of intuitive, useful features. For example, a brilliantly easy time-line search with a drag and drop facility for exporting clips to the DVD burner or network location makes this one of the easiest NVR products to operate.

Our new H.264 day/night mini domes are bringing the total number of Lilin open standards compliant products to eleven. Utilising H.264 compression and delivering high frame rates even across 3G networks, the Mini Dome is compatible with many third party devices and software applications, including Milestone video management systems and the Apple iPhone. All of the products we are showing are ONVIF compliant.

You rely on the ONVIF standard and Lilin is one of the first companies to introduce ONVIF compliant products. What do you expect from the ONVIF initiative?

J. Hill: We are very excited that we are pioneers in introducing ONVIF compliant products and we are already working on an ONVIF compliant recording system. I think ONVIF in general is a good opportunity for all manufacturers to help to make IP technology more successful and working closely with companies that might be considered competitors has been very refreshing! ONVIF as a global standard will allow us to play on the same level as other key IP manufacturers and will enable us to integrate with all the key video management systems. In the past this integration was expensive and very complicated. As ONVIF appears to be coming more accepted as a global standard we are now seeing end-users specifying ONVIF compliance as a requirement for their projects. Interoperability should be expected from IP products in our industry, openness is what the end users want and deserve.

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HACKING

Security in RFID-based Personnel Identification

Hacked RFID Read Procedure – How Safe Is Safe? (Part 2)

Verification example: ID card plus fingerprint
(Photo: PCS Systemtechnik)

The first part of this article (GIT Security 3/2010) explained the fundamental principles of RFID systems as well as the three basic categories of equipment. This second part looks at technology combinations and a very interesting development called the Dual-Interface Card as well as the subjects of encryption and resistance to hacking.

The characteristics, functionality and applications of various RFID technologies can be unified through the combination of multiple coding. For example, a chip card that has a magnetic strip on the back can be enhanced with a concealed bar code. In a dual-interface card, the functions of a contactless and a contact chip card are combined on one chip so that the exchange of data can take place either via an inductive coupling (contactless) or via the contact interface. As well as combining with traditional ID systems, different contactless systems can also be combined with each other. The combination of a high frequency system (13.56 MHz) with a low frequency system (125 kHz) is possible without problems, either in an ID card or within a key fob.

Because many users are now changing over from the basic Legic prime and Mifare classic technology to the current Legic advant and Mifare DESfire EV1 systems there are a number of possible combinations. For example, combining Legic prime with Legic advant, or Mifare classic with Mifare DESfire EV1.

The philosophy behind this idea is a total independence between the chip card interface (contacts, without contacts, infrared, etc.) and the chip card logic and/or the chip card application. Contactless technology is largely secure against sabotage and allows the easiest operation for identification purposes. For security-relevant read/write operations with a relatively large amount of data, such as payment functions, either a contact or a contactless chip card with the appropriate amount of memory can be used.

Different Encryption of Legic and Mifare Generations

Most RFID cards or transponders are used these days for personnel identification. Typical applications are staff time recording or access control to buildings and rooms as well as to computers, networks or machines. Systems with cryptology functions are mainly operated on a frequency of 13.56 MHz. Much more complex algorithms to encrypt and authenticate the data stream can be created by applying corresponding microprocessors and a higher clock rate than is possible with the 125 kHz systems. For the non technically-minded user, the differences between the 13.56 MHz systems are mostly very small. Legic comes from the Swiss manufacturer Legic Identsystems. Currently over 200 official Legic licensed partners belong to the worldwide partner network who provide a multitude of applications, amongst them for time and access control as well as composite applications. The Legic applications are subject to a licensing procedure with a binding authorization concept. The cards are created according to the so-called 'Master Token System Control' (MTSC) principle with non-editable hereditary data. The structure is exactly described by the licensor. The Mifare system was developed by Philips (now NXP Semiconductors) and is the most widely used contactless chip card technology worldwide. Mifare chips are also manufactured by Infineon Technologies. There is no binding concept in this case. No license is required. There are recommendations on authorization and data organization but they don't have to be followed. Mifare chips are increasingly being used for payment procedures, for example in public transport, because of the higher memory capacity available. Both systems permit a number of applications on one card. This feature is called multiapplication-capable.

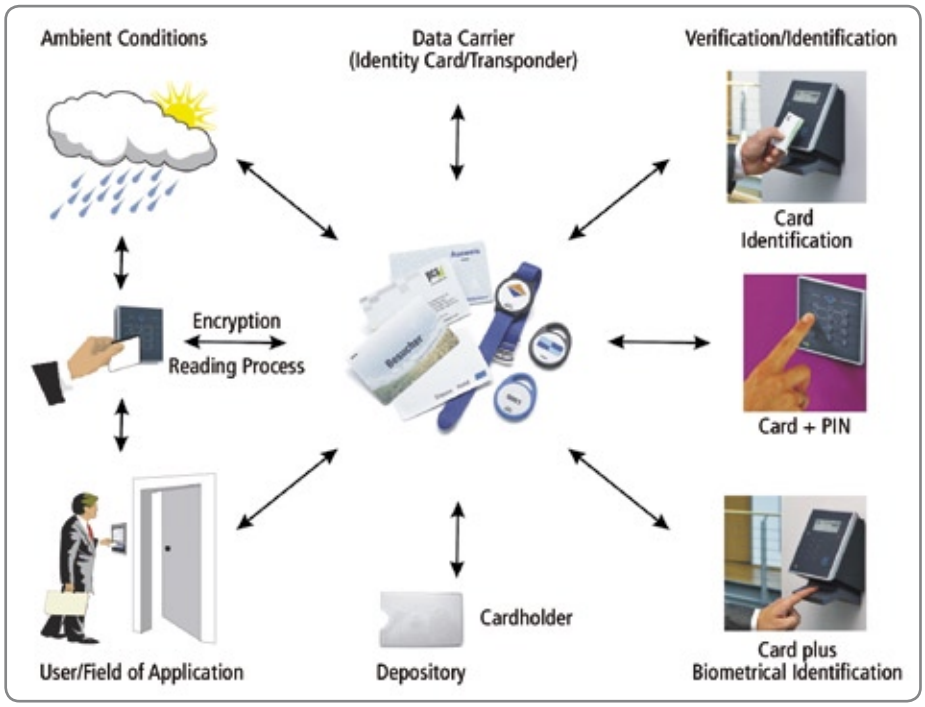
Cryptic Considerations

Labels can also be used as a generally universal ID medium for products and people on the same frequency of 13.56 MHz. The encryption of the chips and information exchanged with a reader that not only looks after data protection but also the security of the system is dependent upon the type of chip (manufacturer, version, etc.). Older RFID systems such as Legic prime and Mifare classic still use quite weak and proprietary encryption methods. These systems were susceptible to 'data theft' and could be easily hacked because of their security vulnerabilities. In contrast, new generations of chips provide a relatively high standard of security through their mature and standardized encryption.

Specialists from the Chaos Computer Club (CCC) were able to prove how the old RFID systems previously mentioned could be hacked by

so-called proxy or relay attacks. Simply put, the 'data theft' works like this: the RFID reader sends electromagnetic waves. When a company pass is brought near, the waves activate the radio chip on the card which now sends its data over the air interface. A reader, built as a copy with not inconsiderable electronics and programming effort, a so-called 'emulator', can read out and save the chip data when it is physically near a company pass, for example concealed in a trouser pocket. For example at an airport, a targeted 'collision' with another person in a busy terminal or the elevator is sufficient because many employees wear their passes openly on their bodies. A smart thief would, however, not exercise so much criminal energy but would simply steal the card instead.

According to the CCC, this emulator can generate and send a valid identification number of an RFID tag. For this, the received legitimate authorization is used, the same routine started and answered with the recorded communication.



Influencing factors of ID security

Security Around RFID-based Company Passes or Transponders

Contactless personnel identification using RFID passes or transponders is now widespread. Until recently much praised by the providers and users alike for its high security and simple handling (identification on the move), the Mifare classic und Legic prime have now attained a sobering status through successful hacking. There was a big commotion in 2008 as the successful hacking of Mifare classic technology by a Dutch university and the CCC went through the media. Then as 'data theft by radio' by the CCC on Legic prime was published in the press in December 2009 many Legic customers were unsettled.

In the meantime, the situation has calmed down and it is known among experts that the effort required to crack a security pass or a transponder in an RF-based (Radio Frequency) identification system is in most cases in no relation to the potential gain (for example compared to the theft of a card). Especially with access control systems, the security problems lie for many users with their careless issuing of cards and card management or in unlocked doors at the rear of buildings, i.e. breaking the most fundamental rules of security. Despite this, the final choice of the 'right' card technology should be carefully made and should be oriented toward the long-term needs of the customer. Mistakes in the conception phase can be expensive later.

Worth the Effort?

One should always remember one thing: absolute protection is neither organizationally nor technically possible. One can only increase security measures to such a level that is appropriate and necessary to breach a protective mechanism. Criminals also work as efficiently as possible and avoid unnecessary effort. The criminal energy to steal an original access card is much less that to secretly clone a Mifare classic or Legic prime card. Why then go the complicated way when one can reach the same destination with a simpler route?

Those who demand a lot from their access control system and want to be sure that someone with a cloned access card cannot gain entry to the building must first of all ensure that misuse will also be prevented when an original card is lost, stolen or unlawfully given to someone else. In this case the application of a second distinguishing feature such as a PIN or a biometric feature (e.g. fingerprint or hand vein scan) is compulsory according to VdS Guideline 2358 (ZKA Class C). In addition, and as an immediate measure, the following options can be considered for existing Mifare classic or Legic prime ID devices:

- simple, but effective: access cards should be stored in a metallic case, such as a business card holder made out of aluminum or stainless steel. This makes it impossible to clone an original card without it being noticed.
- transponders as key fobs are more difficult to steal than openly worn ID badges. Additionally, a transponder provides more security against data theft by being embedded in a metallic key.
- verification by RFID plus PIN; depending on the software used and the local conditions, the access control system can be set so that, for example, input of a PIN is not necessary during peak times when a doorman is watching the entrance but is only required when the entrance is unmanned.
- access repeat control; although this doesn't help when the employee with the original card is present, at least you notice if the same card is used twice.
- there is a significant amount of effort required to make the change from Mifare classic or Legic prime cards and readers to other devices such as Legic advant or Mifare DESfire EV1.
- only cards with microcontrollers (so-called Smartcard Chips), in which the microcontroller administers the memory with a highly secure operating system (e.g. Java Platform) possess additional security features that are certified by the BSI (Federal Office for Information Security) and – at least currently – present an extremely high hurdle. This type of chip is used in electronic passports.

One thing is clear: the competition is on; the security measures will be even more sophisticated in the future. Industry and hackers will attempt with ever more effort to prove to the other that they are better. Whether the unauthorized copying of cards represents a security problem in daily life, or whether everything only has an academic relevance, remains to be seen.

In summary one can say that the introduction of Mifare DESfire EV1 or Legic advant compatible readers and terminals is to be recommended because one is then best equipped for the future. This doesn't mean, however, that one must apply this transponder technology immediately. The advantages and disadvantages must be weighed up soberly and with a solid understanding in order to find the optimum solution for every customer, tailored to his needs and his budget.

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Further information

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SECURITY FOR POWER PLANTS

Power to the People

A Multilayered Approach to Power Plant Safety

Horst Köhler
Head of Utilities
Solutions, Siemens
Building Technologies

Coal, gas, nuclear or hydro-power, solar power, geothermal, renewable energy, combined cycle or biomass – every power plant is different. From the way in which it produces energy, its location, its design, age and time of commissioning, national legislation and local regulations to regional fire departmental regulations and even insurance stipulations; all need to be recognized as factors which influence the demands of each site for security, fire safety and building comfort.

Horst Köhler, Head of Utilities Solutions at Siemens Building Technologies Division, has examined the benefits of an integrated approach to danger management in protecting the continuity of power supply. All these different types of generation are similar in that their commercial success depends on the capability to manage operational risks and to provide continuity of supply. Given that a power plant plays such a fundamental and critical role in a country's infrastructure, supply disruption can have significant effect – both economical and political – with even short-term interruptions leading to inconvenience on a massive scale, price increases and/or rationing for the areas supplied.

Supply Reliability

Power facilities carry many inherent operational, security and fire risks that threaten their daily operations, from theft, vandalism and equipment failure to fires and leakage of potentially hazardous materials. And various political situations around the world, along with the volatility of energy prices, are provoking a new wave of terrorist threat. Safeguarding power facilities against the diversity of internal and external threats calls for an integrated risk management strategy, with integrated solutions in security, fire safety, electrical installation and building automation.

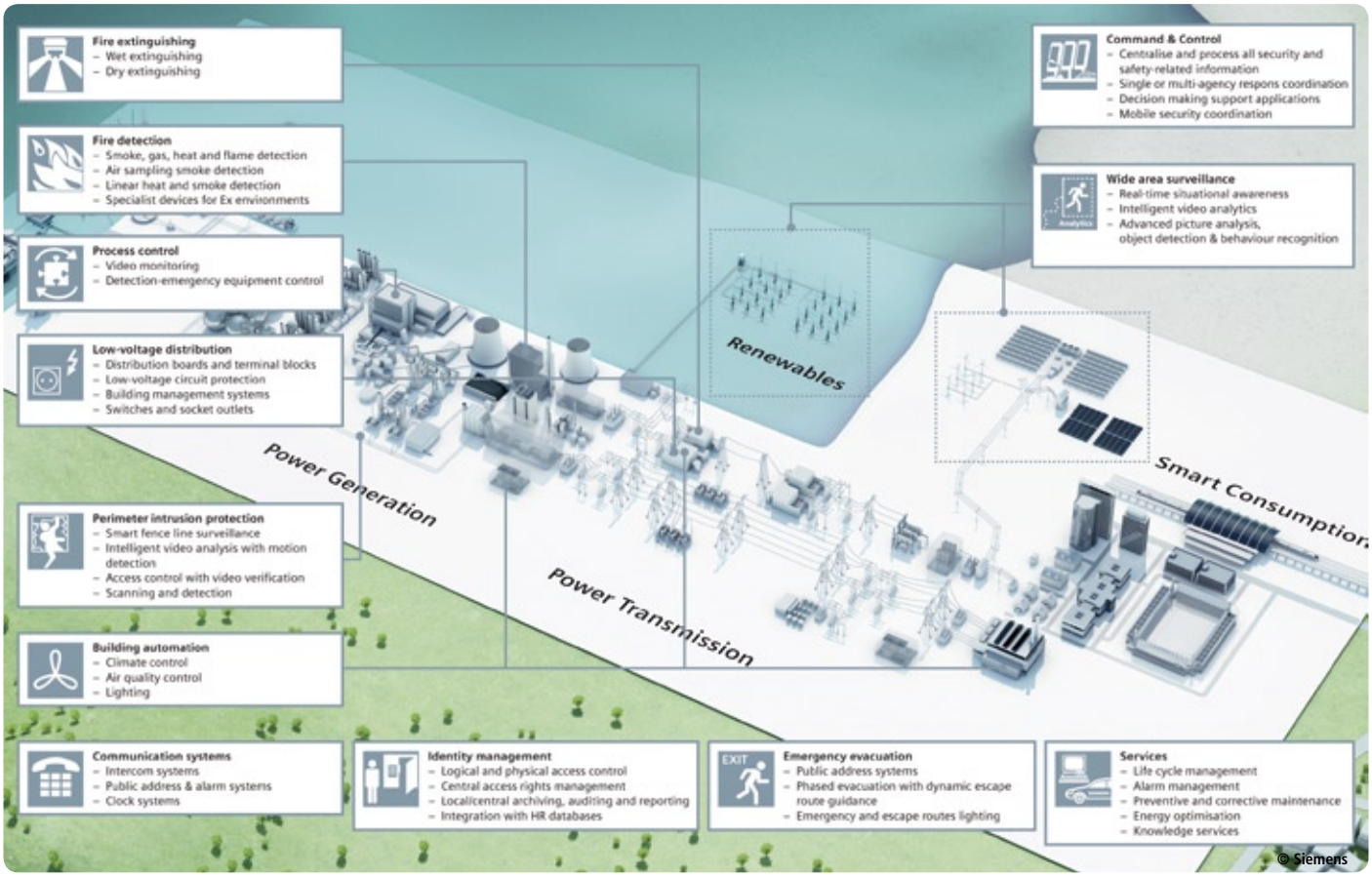
An effective safety and security system needs to be modular, scalable and adaptable in order to cope with changing requirements. The risks and threats facing any power plant can include major events resulting from a terrorist attack, fire, industrial accident, arson, malicious damage or sabotage to normal 'everyday' problems such as trespassing or political activists, vandalism, internal theft, data theft, leaking of hazardous materials etc.

Such a system also needs to cater for large numbers of staff, visitors and contractors, as well as multiple buildings that, on a power plant, can often be far apart. Critical functionality includes the flexibility to be able to set or unset alarms locally whilst allowing for central monitoring, the ease of identification of the origin of an alarm and reliable alarm verification to ensure an adequate and appropriate response.

From the Outside Inwards

A 'multi-layered' safety and security strategy, which involves a range of systems and capabilities - both physical and electronic - is the best way to keep the sites of our power plants safe and as secure as possible, from the perimeter fence to the turbine room. External fences or walls are the first line of defense against unauthorized intrusion, so the monitoring and surveillance of perimeters is therefore vital for large and complex sites such as power plants. External motion detectors have an important role to play in a multiple-layered approach to plant security. Systems offer versatile alarm transmission methods, as well as the capability to integrate with danger management stations and video surveillance systems.

When used in combination with video surveillance, external detectors can offer proven



reliability and high effectiveness in pro-active surveillance, even in harsh, fast-changing environments. They can support remote maintenance and alarm status verification for cost-effective monitoring and speed of intervention. They will normally trigger an alarm as soon as intruders set foot in restricted areas, allowing for real-time verification and response before access to critical areas has been gained. Intelligent alarm verification processes also ensure a high detection accuracy and unparalleled false alarm immunity.

Patrolling and Video Surveillance of Outer Areas

Sites such as power plants are usually large and complex with an extended perimeter. Ensuring their integrity can require a large number of security staff, either patrolling the site or watching images and data transmitted by a large number of surveillance cameras and other alarming/sensor devices. Research has shown that observers find it impossible to concentrate sufficiently or for long periods of time to monitor even a modest number of video screens efficiently, let alone the large number needed to cover the surveillance systems of extensive sites.

Integrated intelligent video security solutions, based on a combination of risk-appropriate protective measures, can assist in the protection of life, assets and critical infrastructure with accuracy, reliability and short response times. Video sensory analysis, technology able to gather and filter available data to an extent that a single operator can handle and manage all available information without fatigue, allows security personnel to focus on critical situations. It supports their decision-making by providing the critical information required to detect, manage and prevent potential security breaches in real time. Efficiency of the system can be further enhanced by policy-based alarming, object identification, automatic flagging and preventive risk indication.

Secure and Authorized Access to Buildings and Offices

With the perimeter patrolled by guarding staff for out of hours or in high risk plants, fences electronically monitored and external areas filmed by surveillance cameras for attempted break-ins and other potential problems, outbuildings and storage areas are the next level needing protection.

Provided these areas around the site are secured with strong defenses and reliable locks, electronic systems can provide secure and authorized access. These access control systems ensure that only people with pre-arranged clearance are given physical access to controlled buildings, rooms and offices within the site. And, more importantly, that unauthorized people are kept out.

Fully integrated access control systems can provide high levels of security and convenience at the same time, offering freedom of movement in a secure environment for workers, management, contractors and visitors alike. From outbuildings to offices, they enable entry to the many restricted areas in power plants (including access to sensitive computer data and systems), to be controlled at all times. They allow staff or visitors to be issued with an access card that determines areas to which they can gain access – and the times at which they can do so. Plants running multiple satellite buildings benefit from central management of access rights, allowing staff to access any building with a single card. The same card can be used for realizing a 'Time & Attendance' solution, checking employees in and out and registering their hours.

Open systems architectures again allow the surveillance systems to link to other electronic equipment such as access control and intruder detection solutions, interworking with other security and building management functionality e.g. video surveillance, fire safety, intruder detection or management stations for added flexibility and control over the site's management.

With the advance in technologies, video surveillance can be set to record on alarms generated at an access control point (in case of forced entry for example) and video cameras and recordings can be accessed and managed remotely over the network from a central control room. Access rights are managed via a central database, and can be tailored to suit the access requirements of each member of staff, based upon seniority or working hours. Doors are permanently locked unless a legitimate user presents an authorized card to a reader at the door, or enters the correct code. Biometric technologies (fingerprint, 3D face recognition systems, iris scanning etc.) can be integrated to reach an even higher security level for special areas.

Control of Office Building Systems

The offices and buildings on power plants are becoming increasingly complex and differ in many ways: use, size, operating hours, central heating, air conditioning or changing occupancy requirements and environmental conditions. But automation systems do not just control the basics. With appropriate system tailoring during planning, installation and commissioning, they are able to integrate common open protocol devices into a single, robust control system. They regulate airflow, monitor energy use and can now be called upon to integrate with security, lighting and other systems throughout buildings to deliver comfort, safety and energy efficiency. And automation can make office comfort and security systems easier to manage and operate – controlling everything through a single workstation with remote access from anywhere via secure networking technology.

Protection of Power Plant Processes and Personnel

Customized security solutions for all different plant types – and their possible future development – ensure rapid detection, fast and adequate reaction, and help to trigger the appropriate response against all type of incident. With wide-scale video surveillance of process areas and all other sensitive places, real-time verification of incidents can take place immediately an alarm has been triggered either by a detector or a member of staff. This helps to protect personnel and assets, as well as improving operational efficiency and recovery times, while reducing costs and downtime.

Protection against fire, heat and smoke naturally plays a key role in ensuring power plant safety, especially in problem areas like turbine halls and cable trays. Intelligent fire protection solutions offer the latest systems for the detection of fire, smoke and heat in even the very earliest stages of combustion, tailoring detection to each specific area or environment, to spot dangers as soon as they occur before they have the potential to escalate. But if, through unavoidable circumstances they do and a fire takes hold within the plant, various extinguishing methods are available depending on its location, including foam deluge systems and gaseous extinguishing systems.

Danger Management of the Whole Site

The growing need for plant security brings new solutions, systems and processes that facilitate the free, safe and efficient movement of people, commodities and information. Today more than ever, with the risks and threats that exist, making security decisions is not an easy thing to do. And providing a plant safety and security solution that integrates different systems into one comprehensive administrative entity is not just about merging equipment, systems and technology. It is about putting into practice a design concept to support normal working life and business operations whilst ensuring fast and efficient response to emergency situations. Importantly, post incident reporting analysis – a regulatory requirement – provides data analysis should an incident occur, enabling the necessary procedures to be put in place to help prevent it happening again or to have a robust response if it does.

In conclusion, it is important to recognize that the requirements of no two power plants are identical. Appreciating those differences is crucial in establishing an integrated solution which truly safeguards energy provision, from power generation on to transmission and through to distribution. With the world focusing more than ever before on providing continuous energy supply and the means through which we can now meet the rising demand, protecting the infrastructure and reliability of supply has reached its highest ever level of importance.

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SECURITY FOR POWER PLANTS

An Eye on Atoms

IAEA Purchases Surveillance Equipment for International Nuclear Protection Training

The International Special Training Center situated in Obninsk in the Russian Federation, 100 km from Moscow, provides practical training on the protection of nuclear materials and installations. May 2009 saw the official opening of its new facilities following completion of an extensive upgrade. Official guests had the opportunity to view the new indoor and outdoor training and testing grounds and the array of new state-of-the-art security equipment from manufacturers in Canada, Israel, Italy, Japan, France, Germany, Russia, UK and the USA.

Guests in the outdoor training area admire Geutebruck's Argus high precision pan and tilt system.

The ISTC is a national certification and testing laboratory for physical protection equipment for Russian power plants and engineering structures. It was set up in 1993 as a result of intergovernmental co-operation between Russia, USA, EU and Japan with a view to re-directing former Soviet weapons scientists to peaceful research and reducing proliferation of mass destruction weapons technologies through the spread of dangerous knowledge and expertise from Russia and other CIS countries. The Center supports a wide variety of science and technology projects in biotechnologies and the environment as well as nuclear studies and the improvement of nuclear safety.

Well Secured

With Canada's support through its Security Fund, the International Atomic Energy Agency (IAEA) has been able to upgrade facilities at Obninsk. This is where operators and inspectors of physical protection systems at nuclear facilities all over the former Soviet Union and other IAEA member states receive practical training and where newly developed equipment is tested and approved for use in this high risk field. To ensure that its training on how to combat attack, sabotage and theft of nuclear materials is as realistic as possible, the centre now has a range of security equipment typical of current nuclear installations. Key recent acquisitions included Geutebruck's Reporter and Geviscope video security platforms which have been integrated with a large number of other third party systems including person and vehicle access control systems, and a variety of different intruder and perimeter detection facilities to simulate the complex systems used in nuclear plants.

Faster than the Eye

"Besides always being networkable and open for integration," explains Lev Datsenko, Geutebruck's regional manager for Eastern Europe, "Geutebruck systems are particularly suitable for this kind of application because of their excellent video and alarm management characteristics which ensure that operators have complete control of extensive and complex installations. And an additional attraction is that their video encoding is so fast that there are no latency problems, so users get normal real-time handling of speed dome cameras and pan and tilt systems too." Geutebruck's own high speed, high precision Argus pan and tilt system was also on the IAEA's shopping list and is now in service in the Obninsk outdoor training area. This particular unit is equipped with a color camera and an IR spotlight but alternatively Argus can take a CCD camera and a thermal imaging camera to enable the identification of intruders in fog and smoke as well as round the clock.

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VIDEO SURVEILLANCE

Shedding Light on Cabling

How Fiber Helps Protect Surveillance Systems

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With the migration from analog to digital video surveillance continuing there remains a crucial requirement for reliable transmission of the video signal during today's period of coexistence when a company is using both analog and digital side-by-side. With many legacy installations, it has been coaxial cable handling images from a camera to monitoring or recording, or both.

Coax has its limitations, however: restricted transmission distance, signal degradation over long cable runs and interference, to name a few. This latter problem cannot be underestimated. For instance, a steel works using an electric arc furnace will quickly discover that the magnetic interference from the furnace prevents any copper based solution from working reliably, no matter how much shielding is used. In addition, networking, digital and Internet Protocol (IP) have ushered in Cat 5/Unshielded Twisted Pair (UTP) cable and high-speed Ethernet, employing IP to carry the digitalized video images. In some installations, wireless transmission – radio frequency, microwave, Wifi and mesh nets – play a role. Even then, most enterprise security video designs are not totally wireless. The technology is typically applied only to meet certain geographic or operational challenges.

The Light Solution

Then there is fiber optic cabling with its interference immunity, which solves the problem of magnetic interference at the afore-mentioned steel manufacturer. It also provides better inherent security, robust cabling distances and huge bandwidth capability. Fiber optic technology, a method of sending and receiving information over great distances using light as the carrier, boasts significant advantages, whether as a backbone or a total transmission solution. Among the advantages of fiber optics are better quality transmission; no interference from lightning strikes, short circuits, crosstalk, EMI or RFI; no interference from the high voltages used in fluorescent lights, card access door strikes and outdoor lighting systems. Fiber optic routes are also lightweight, stable within a wide temperature range, have a long service life, are more secure – i.e. they are not easily tapped into or interfered with – and they have an extremely high bandwidth. This last characteristic is important when one considers that ongoing developments will continue to increase the amount of data transmitted.

High Fiber

Fiber as a prime security tool opens the applications doorway extraordinarily wide. There are almost unlimited capabilities of security video transmission and pan/tilt/zoom controls. For example, a single fiber strand deals with bi-directional signaling, so one fiber between two points can carry multiple streams of security video in one direction while pan/tilt/zoom control can go in the opposite direction, all simultaneously.

Additionally, fiber is superior to copper cabling in all performance measures. There is noticeable return on investment in cabling distanc-

es with inexpensive fiber. Scores of cameras can transmit their signals over only one or two fiber strands.

Whatever the mode, fiber wins over Cat 5/UTP. The bandwidth capacity of a single strand of standard multimode fiber is more than 45 times that of a Cat5 cable, while the maximum bandwidth capacity of single-mode fiber has yet to be reached, according to fiber optics experts. So, even though IP-based video is gaining users, there remains a serious distance limitation with UTP cabling infrastructure, hindering placement of cameras.

For example, using Cat 5/UTP, if a camera is located 1,000 feet from the head-end without any active signal conditioning, about 37% of the information will be lost in transmission, not counting the need and cost for signal amplification, ground fault correction and surge protection. Meanwhile, fiber optic devices can move images up to two miles from end to end on multimode fiber, while high-bandwidth single-mode fiber can carry signals up to 60 miles before regeneration of the signal is needed.

The Physical Properties of Fiber

Fiber optic cabling comes in two basic types: multimode and single-mode. Multimode fiber has a core size of either 62.5 or 50 microns and is commonly found providing connections between telecommunications closets within a building or campus. Preferred for most physical security applications, multimode uses low-cost LEDs or inexpensive lasers for transmission. It's easier to terminate and test. The multimode drawback: It has a distance limitation – usually out to three miles. Single-mode fiber, with a core size of 7 to 10 microns, typically handles longer distances of more than 50 miles in high bandwidth applications.

Fiber within most buildings is multimode. Some infrastructures have a combination of multimode and single-mode. No matter the mode, there needs to be a way to convert the video signal over to an optical format and back again. As a result, there are devices which are part of a fiber optics transmission system, such as receivers and transmitters, which can be combined into transceivers and video to fiber converters, connectors and adapters. Fiber connectors, for instance, come in several common styles, such as ST (round), SC (square) and LC (also square). This comes into play when realizing that devices for interfacing physical security equipment to fiber optic links can usually be ordered with either the ST or SC connector. Various adapters convert connections, such as connecting an ST video fiber encoder to an SC connector on a network fiber patch panel.

Dedicated Infrastructure, or Not

There always remains the debate between creating and maintaining a stand-alone security systems transmission infrastructure or piggybacking on the corporate backbone. Interestingly, it is not necessarily one or the other; some designs can play it both ways. However, an obvious outcome of a separate, dedicated IT infrastructure for video and other physical security applications is isolating that traffic from the general enterprise network. As a result, there are no "competition" or video quality issues and there is often a finer focus on security system functionality and dependability.

Yet, there are technology advances – both on the physical security and IT sides – such as higher speed general networking, video compression/decompression modes and analytics at the edge, which are tending to moot the stand-alone advantages. Uniquely with fiber, physical security can have its own strands in the shared fiber bundle, thus achieving a stand-alone posture while also being part of the overall enterprise infrastructure.

Lighting the Darkness

"How much dark do we already have?" is one big question IT will ask during the planning meeting. Dark fiber, what some call unlit fiber, refers to unused optical fibers available in buildings and throughout local, regional and national networks. A good guess is that there are an estimated 80 million dark fibers installed in North America, thanks to the dotcom bubble of past years, new construction practices and technological advances in getting more traffic through the installed base.

Often on the IT side, installers have almost always included extra fiber strands when installing structured cabling backbones between telecommunications closets and separate buildings, for example. That's because the cost of individual fiber strands is quite low, so extra strands have little impact on the budget. During installation, it's not uncommon to break a fiber, so spares are handy to have with the aim that enough usable fibers will be available. Plus, additional spare fibers will often future-proof an installation. Testing of dark fiber must be undertaken before considering it for security video transmission. The type, quality and lengths of existing fiber links to be used and the style of connectors installed on each end of the link also must be known.

So which transmission medium should one choose: coax, Cat 5/UTP or fiber optics? Take your pick, but in coexisting analog/IP security video situations and future fully digital and IP environments, fiber optics can light the way.

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CCTV

Zoom: Less Can Be More in the World of Surveillance

A Closer Look at Zoom Factors and Image Quality

In many surveillance situations, being able to effectively magnify an image to reveal specific details is a necessity. Often, the small details that are picked up by a security camera are the most important; in criminal prosecution cases, for example, obtaining clear pictures of faces and clothing can affect the course of justice.

It is a common assumption that the higher the zoom factor of a lens, the better its ability to magnify a scene and make details more visible. This is not always true. In the world of security cameras, 18x zoom can be equal to 36x. More specifically, a high-resolution security camera with 18x optical zoom can provide images that, for surveillance purposes, are just as, or even more useful than those delivered by a standard resolution, 4CIF camera with twice the zoom capability.

Fig. 1: Max. tele view with a 36x zoom, 4CIF camera

Which Has Better Zoom: 18x or 36x?

HDTV network cameras can easily fulfill demanding surveillance requirements using just half the zoom, demonstrating that what appears to be less can actually be more.

Compare the pictures (Fig. 1–4). Figure 1 shows a 36x zoomed-in view using a pan/tilt/zoom (PTZ) camera with 4CIF resolution (704 x 480 pixels). Figure 3 shows an 18x zoomed-in view using an HDTV 720p PTZ camera with a resolution of 1.280 x 720 pixels.

The pixel resolution in both cases is virtually the same: the newspaper's name, for example, is readable. However, the HDTV camera offers the same details with just half the zoom capability of the standard-resolution camera. It is also important to note that the HDTV camera's wider (16:9) field of view makes it possible to monitor a larger area without compromising image details. In the image from the 4CIF camera (Fig. 1), only one person can be seen in the picture, while in the HDTV image, the operator can see more than one person and simultaneously pick up small details such as texts on the newspaper. So while the level of detail is similar, the HDTV 720p camera enables more of a scene to be seen, which is advantageous in surveillance situations. The wider field of view in zoomed-in mode also makes tracking easier and more reliable since the risk of losing sight of a person or object while panning or tilting the camera is reduced.

Fig. 2: Cropped view of image at left

Fig. 4: Cropped-out view of image below

Fig. 3: Max. tele view with 18x zoom, HDTV 720p camera

How Can a 18x Zoom Camera Produce the Same Level of Detail as a 36x Zoom camera?

A zoom lens is an assembly of lenses with the ability to vary its focal length. A longer focal length means stronger magnifying power, but also a proportional reduction in the angle of view. The zoom capability of a lens is usually expressed as the ratio between its longest and shortest focal lengths. For example, a zoom lens with focal lengths ranging from 50 mm to 200 mm is referred to as a 4x zoom lens, or sometimes a 4:1 zoom lens. (Or seen another way, using the maximum zoom on this lens will reduce the angle of view to roughly one fourth of the widest angle.) Two different lenses with the same zoom factor, therefore, may perform very differently since their focal lengths, and hence, the magnifying power, may not be the same but their ratio is. Furthermore, a lens with a higher zoom factor may not necessarily have the stronger magnification capability. For instance, a lens with a focal length that ranges from 15 mm to 150 mm – a 10x zoom lens – would actually have a weaker magnifying capability than a 4x zoom lens with focal lengths ranging from 50 mm to 200 mm, since the 200 mm focal length has a stronger magnifying power than a 150 mm focal length.

However, like zoom factors, determining the magnification capabilities simply by the focal length number can also be misleading. The 4CIF camera used to produce the image samples above has a longer focal length than the HDTV 720p camera. How then can the level of detail in the zoomed-in images be similar?

Let's take a look at how the cameras perform in wide mode; that is, using their smallest focal lengths (with no zoom). Compare the pictures (Fig. 5–8).

The field of view in both cases is almost identical. However, the higher resolution and better color fidelity in the HDTV camera is immediately

apparent, producing sharp, crisp pictures with great detail. Compare the cropped-out views of Figures 6 and 8. The numbers on the score board are visible in the HDTV image while hardly visible in the image from the 4CIF camera. These images show that in wide mode, the HDTV camera offers much more details than the 4CIF camera. In fact, the HDTV camera has almost double the number of pixels for the same field of view. In tele or full zoom mode, the HDTV and the 4CIF camera offer virtually the same level of detail, but the HDTV camera has a wider field of view.

Fig. 5: Wide view with a 4CIF camera

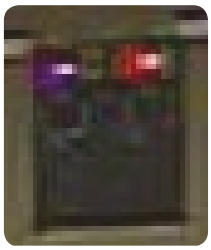

Fig. 6: Cropped-out view of image at left

Fig. 8: Cropped-out view of image below

Fig. 7: Wide view with an HDTV 720p camera

Look Past Zoom Factor for Image Quality

These results illustrate that comparing a camera's magnification capability simply by looking at the zoom factor can be misleading. It is important, as this exercise demonstrates, to take into account the camera's pixel resolution. Compared with a standard 4CIF camera, an HDTV camera with 1280 x 720 pixels will have two to three times more pixels in every frame. The high pixel resolution is why an HDTV camera can perform just as well with limited zoom. High resolution PTZ cameras, in fact, can be used in different ways: either maintain the same field of view as 4CIF cameras and improve the level of detail seen as in the case with the HDTV camera used here, or increase the field of view with the same level of image detail as standard cameras.

Image quality, however, is not defined by pixel resolution alone. Other elements, such as the resolving power and overall quality of a lens, as well as the properties and quality of the glass in a dome cover, have an impact. Another important factor is having full frame rate video streaming so that activities in a scene and fast-moving objects can be easily seen and captured. An HDTV camera that is compliant with the SMPTE standards in resolution, frame rate, color fidelity and aspect ratio ensures that a rich viewing experience with excellent image detail is achieved.

On our business portal www.GIT-SECURITY.com we have hosted a webcast that demonstrates the strength and image quality one can achieve by using a HDTV camera with a 18x zoom: http://www.git-security.com/webcasts/axis-p5534

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CCTV

Sunny in South Africa

Another Large Casino Equipped with Video Surveillance

Slot machines, roulette tables and entertainment – the choice at the Grand West Casino near Cape Town leaves nothing to be desired. The Grand West, which is part of the Sun International Group, is the largest casino in South Africa and now also relies on video security technology from Dallmeier. It follows the Golden Valley Casino which is already operating with a solution from the German manufacturer.

Grand West is a huge entertainment hub close to Cape Town in South Africa and operated by the Sun International Group. The heart of the Victorian style complex is the casino building. 2,500 glitzy slot machines and 68 gaming tables – including Blackjack, Poker and American Roulette – provide undiluted gambling pleasure at the highest level. As with the whole facility, the casino itself is designed to reflect the history of Cape Town.

The casino is surrounded by a variety of bars, bistros and restaurants that cater for all tastes. There is also a jazz venue which offers live music on a regular basis. A cinema, a spectacular bowling facility and two ice rinks round off the facilities. Families with kids are welcome too at the Grand West as the small ones have an entire park at their disposal, modelled on the Fort of Good Hope dating from the year 1652. Carousels, a miniature golf course, a rollercoaster as well as a huge ship that can be boarded by the kids prevent any boredom. Additionally, two hotels, the Cape Dutch City Lodge hotel and the Grand Hotel, provide convenient overnight accommodation close to the casino.

Technology in the Course of Time

The security of the guests across the entire entertainment complex and surveillance in the casino have always been a top priority, which is why the casino has been operating a video surveillance system ever since its formal opening in 2000. Meanwhile though, the system originally used no longer met the high requirements of the security

personnel. For a long time, analog recorders were used which recorded on VHS cassettes. The system was a high-maintenance installation; wear and tear parts had to be exchanged regularly and the VHS cassettes needed to be changed by hand once the tape was full. Whenever the casino wanted to retrieve relevant image sequences for research purposes, the search was usually very laborious and time-consuming. The individual video cassettes had to be looked at one by one until the required sequence was found. Through frequent viewing, the quality of the tapes became ever worse, which meant that they often had to be exchanged.

The management thus decided to switch to digital recording. A digital matrix was to be used for playback, while the existing analog matrix was to be further used for displaying the live images. In order to realise this a hybrid solution had to be created. The requirements for the new system were also clearly defined for all other aspects of application: reliable recording with the highest possible availability and high-quality images which would provide detailed and clear evidence in the case of an emergency.

When it came to choosing the suitable products, Regensburg based CCTV/IP experts Dallmeier came out on top. Sun International Group had already made positive experience with the German company during the installation work at the Golden Valley Casino.

Recording with 99.99994% Availability

Jaco Coetzee, who is the Director for Gaming Compliance and Tables at Sun International, explains: "Particularly the high availability and reliability of the system were the main reasons for our decision to choose Dallmeier." Thanks to sophisticated technology and an intelligent structure (modular concept), the Dallmeier video system achieves an availability of 99.99994%. This is made possible by storing the data directly at the encoder, the DIS-2/M. Therefore, recording is network-independent, which means it remains intact even in the case of disturbances or a complete network failure.

The DIS-2/M is a one channel audio and video encoder, designed for installation and operation in a 19" module rack. The system is highly service and maintenance friendly. If a disruption occurs, the defective components can be replaced channel by channel. The hot-plugging functionality of the modules enables the exchange to be carried out during operation, thus reducing downtime to a minimum. All in all, more than 900 channels with a total storage capacity of over 500TB are operated at the Grand West Casino.

User-friendly Management

A total of 22 operator stations were installed to facilitate total control and administration of the CCTV system. Fifteen of these workplaces are equipped with a Pview Station PVS IV Plus, a stand-alone evaluation and management station for Dallmeier recorders. Its high-performance CPU delivers judder-free video display at high image quality in up to 14 independent splits. The other seven workstations are equipped with the Semsy security management system, which facilitates efficient control of the complete installation. For example it offers, amongst other things, an easy to use graphic user interface and the facility to integrate site plans to provide intuitive camera selection. Frank Oetjen, Dallmeier Sales Manager for Southern Africa, explains: „We designed the system together with Sun International. Based on the customer's special requirements the system has been customized in order to achieve highest efficiency for the casino's CCTV operation. With the Dallmeier Semsy management system, Grand West Casino is very well prepared for the possible next step of migrating to a full-IP matrix solution."

Custom-made Casino Solutions

The Grand West Casino is in good company with its new CCTV system as Dallmeier has long been successfully equipping casinos around the world with high-class video security technology. Frank Oetjen once again highlights the company's formula for success: "Like other projects before, the Grand West Casino has again demonstrated that the high requirements regarding video surveillance cannot be met by standard mass products. Only a tailor-made solution whose individual components are all specifically developed and manufactured with the operating conditions of casinos in mind can provide the quality and high availability which is partly required by law and is thus so important to casinos."

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CCTV

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Combining Technology for Day and Night Vision

Grouped together under the Discoverii product name, Secura Systems provide a range of day/night cameras that meet perimeter surveillance demands of up to 3 km at night and 10 km by day.

Critical assets such as power supply installations, chemical plants and government premises as well as leisure and entertainment venues often require video surveillance over the long distances around their borders. However, the cost of installing dozens of cameras along the boundary would be prohibitive so the answer lies in using cameras that provide sharp images over long ranges, and also at night. This has traditionally been achieved by utilizing general infra-red illumination that can be 'seen' by conventional cameras. The image clarity though often leaves something to be desired and, at a long range, only shows blobs of movement.

Secura have developed a patent-pending laser illumination system that provides sharp images, even under zero light conditions. These appear close to what the human eye normally sees, with people and faces being recognizable and writing easily readable. The laser works together with a synchronized CCD imaging element and delivers clear grayscale pictures in night mode. Active illumination means that the view in shot is always lit at night, even if glass is in between the camera and the object under scrutiny, without producing any shadows. During the day, the cameras deliver sharp, full-color video over an even longer distance.

One Part of the Solution

But having images to look at is only one part of any comprehensive security concept, which would normally include other sensory elements such as fence or microwave sensors, ground radar, proximity sensors or wide-area thermal systems. The Discoverii camera system can be seamlessly integrated into an existing security infrastructure, interacting with Pelco D, American Dynamics, ICD-1000 and other transmission protocols to provide sensor-to-PTZ response. It can also automatically respond to alerts generated by other devices that provide GPS coordinates or it can be programmed to follow predetermined tours to provide automated area scanning.

Thanks to the sharp images, intelligent video analysis software produces much better results than when it is coupled only with thermal imaging systems. The accompanying Omnii situational awareness software package deals with the potential difficulties of retaining an overview while analyzing close-up images of a particular area. It enables the operator to point and click on a static panoramic image of the entire viewing field and to synchronize the live image with any chosen part of the static picture. The GUI is intuitive and does not require lengthy operator training before being effective.

The Broad View

The Discoverii range includes three camera models to address different detection ranges. The model 1000 enables human detection during the day at a distance of up to 3 km, up to 1.5 km at night. Using this camera it is possible to positively identify a person at 180 m distance. The continuous optical zoom provides a variable angle of daytime view between 2.2° and 55°. This narrows to between 0.6° and 6° to provide pinpoint accuracy during nighttime operation.

The model 2000 extends human detection capability up to 6 km during the day (2 km during the night) with absolute identification possible at up to 400 m away. Here the power of the 22x optical zoom can be effectively increased with a 2x extender to double the image size on the 1/3" CCD.

Top of the range is currently occupied by the model 3000 with an astounding human detection range of 10 km by day and an equally impressive 3 km by night. The 60x optical zoom utilized here enables positive human identification at up to 1,000 m, day or night. The field of view is correspondingly narrow ranging from 0.18° to 2.1° by day and 0.4° to 4° by night.

The effective combination of near infra-red, continuous wave laser illumination with the synchronized CCD of the Discoverii range provides far greater coverage than is usual from cameras of this category. Cost and effort savings can then be made by strategic system planning, with corresponding reductions in cabling and other infrastructure.

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CCTV

Hybrid Video Surveillance

Retaining Investment in Analog Cameras

IP CCTV specialist distributors Controlware have supplied an advanced CCTV surveillance system to Ashford and St Peter's Hospitals. Working in partnership with installers Central Security Systems and Runnymede Borough Council, the new CCTV recording system is an extension of the Council's CCTV network that monitors video from more than 200 cameras.

With a population exceeding 82,000, Runnymede Borough Council is committed to reducing the fear of crime and increasing public safety. To help meet these aims, the council moved to a new purpose-built 24 hour control center in 2008. CCTV was upgraded across the Borough to take advantage of digital transmission, management, recording and all the benefits that IP-based surveillance systems can bring. Today Runnymede Borough Council's control center provides central operations for intruder and fire alarms, lone worker security, disaster recovery services and borough-wide CCTV surveillance that record more than 20,000 incidents a year. Last year the Safer Runnymede system was honored with Government Business magazine's Public Sector Security award for delivering improved security services to the Borough. The surveillance system at Ashford and St Peter's Hospitals has been upgraded as part of Runnymede Borough Council's continuous program of development.

The Right Mixture

The council network includes a mixture of both analog and IP cameras, with numerous sites linked over broadband. The hospitals are connected over Ethernet via a high capacity fiber backbone that consists of four fiber pairs connected back to the central control center. Previously CCTV at the hospitals was recorded to video tapes which required ongoing maintenance, changing the tapes in order to keep the system recording. Today the recording process is wholly digital, ruling out the possibility of losing recordings through human error and making instances such as tapes running out or not being swapped over in time a thing of the past. Working closely with installation partners Central Security Systems, codecs were installed to cost-efficiently encode video from more than 64 analog cameras situated around the hospital sites. The video is digitally recorded locally at the hospitals, but there is also a connection to the control center so that operators and police can review archived video from up to seven cameras at a time in the Borough Council control center.

Community Safety Manager for Runnymede Borough Council, David Dodd said: "Controlware continue to support us with the extension of the network to provide advanced IP video management, control and recording of CCTV from cameras situated across Ashford and St Peter's Hospitals sites."

High Resolution

The recording system provides greater resilience, enabling digital video to be distributed across the Borough Council network. At the hospitals, 16 channel codecs convert video from 64 analog cameras so it can be stored digitally on iSCSI-based RAID servers. The MPEG-4 video is recorded at 6 FPS CIF resolution and kept for 31 days locally. CCTV video from any seven cameras is also monitored remotely at the Borough Council control center and is recorded at the higher resolution of 12 FPS 2/3 D1. Security operators are able to search and review recorded video from the 64 cameras both locally at the hospitals and remotely in the Borough control center, a significant improvement on the previous system where video could only be monitored at the hospitals. Time-consuming searches of multiple video tapes to look for specific incidents are also a thing of the past, further improving operator productivity.

Ashford and St Peter's Hospitals NHS Trust now benefits from high quality digital recordings that are secure and easy to search through, and the hospitals are also supported by external monitoring. The hospitals are able to save costs by retaining investment in their existing 64 analog cameras by utilizing 16 channel codecs instead of replacing their cameras. Support for expansion of storage capacity and reliability is also assured as new cameras are added to the network and the hospital's recording requirements evolve in the future.

Rapid Reviews

Staff, patients and visitors benefit from improved security thanks to fast access to recorded video both locally at the hospital and remotely at the Borough Council control center. "Today operators in the Borough Council control center can view both live CCTV and archive video of the hospitals side-by-side and at the same time," explains David Dodd. "Operators can therefore quickly review incidents while tracking suspects in real-time and this is a powerful tool which is already producing identifiable results", Mark Harraway, Country Manager of Controlware said. "The extension of the Borough Council system to Ashford and St Peter's Hospitals demonstrates the flexibility that IP-based CCTV systems can deliver. Anyone who is looking to replace or upgrade their security solutions should consider IP as the only technology that can meet the quality, operational and future proofing requirements of today while addressing the challenges facing modern surveillance systems".

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CCTV

Storage Solutions for Video Surveillance

What Is Behind the Invention of Veracity's Revolutionary Storage Solution?

Alastair McLeod

Video surveillance storage is different from standard IT data storage. First, it is important to realise that video surveillance data is fundamentally different from IT data and yet we use the same technology to store both. This technology is based on Hard Disk Drives (HDD) often set within Digital Video Recorders (DVRs), just the same in as in a standard networked data server or PC.

How Different Is Video Data from IT Data?

This is clear from looking at what actually happens in the process of storing and retrieving the different types of data. Video data is written to the storage device sequentially in a relentless, never-ending 24/7 process. Video data is 97% input (i.e. recording) and only 3% output (playback). Video is only reviewed if an event is spotted by the security monitoring team, an alert sent by video analytics software or somebody reports an incident.

IT data, by contrast, is typically processed in a 'read-modify-write' manner via random access Input/Output (I/O) to a database, usually involving high data rates but small data volumes each time a document modification is made.

Modern HDDs are generally very reliable for typical data storage applications. However in more data-intensive storage applications such as video surveillance in DVR systems, HDDs are frequently stretched to their limit. So much so that the HDD is today commonly considered to be the weakest link in any disk-based DVR system. When the volume of data generated by a video surveillance system is large and the required storage period before overwriting is extended (i.e. up to 30 days) then typically 'arrays' of HDDs are used to store the data. But when quantities of HDDs are used in a disk array the likelihood of a drive failure increases in direct proportion to the number of drives employed.

This is worrying enough for enterprise video surveillance systems but it gets worse. As the recorded data can be critically important, perhaps even a regulatory requirement, so vendors have built-in redundancy using fault tolerant disk array schemes, again developed for the IT industry (e.g. RAID 1, RAID 5 and RAID 6).

RAID

RAID (Redundant Array of Inexpensive Disks) allows computer users to achieve high levels of storage reliability from low-cost and intrinsically less reliable PC-class disk-drive components. RAID 5 is the most commonly used RAID system in IT applications today and is now in wide use for video surveillance systems. The basic concept is a good one. Data (and a copy of the data also called 'parity data') is spread over all the disks in the array such that any one disk can fail without causing significant data loss. In the event of a failure, the RAID controller regenerates the data on the failed disk onto a new disk from the main data and the parity data which spread across all the surviving disks.

The problem with this approach is that reconstruction of the lost data on the new disk is both processor- and disk-intensive and complex. If you put this stress into a real-time recording application it is further complicated by the need to carry on writing new data (across all the disks including the new one) whilst simultaneously reconstructing the lost data.

For large RAID 5 arrays in DVRs today (i.e. with disks holding several thousand GBs each) the reconstruction process for a failed disk can take many hours or even days. During this period the disk array is under considerably increased read/write stress, especially if the incoming data streams (for recording) are high bandwidth. The fundamental problem here is that if another drive fails during the process (or indeed before the failed drive has been replaced) then ALL the data is lost across the entire array – a catastrophic data loss.

Very Real Risk of Disk Failure Cccentuated in RAID Devices

Mean Time To Failure (MTTF) figures quoted by drive manufacturers appear to understate disk

failure rates as reported by real Annual Return Rates (ARRs) by more than three times. One extensive study, carried out by Bianca Schroder and Garth Gisbo at Carnegie Mellon University, which tracked 100,000 drives, estimated that manufacturers' MTTF average was 0.88% (that is the likelihood of failure within the first one million hours of service) whereas real analysis of failed disks returned to manufacturer in a single year (the ARR) found the numbers to average 3.01%, with some batches of drives running at 13% ARR. Worrying findings indeed, particularly when you think disks storing video surveillance data are under much more stress and usage than the normal IT usage they were designed for.

Three key reasons for failure are temperature, vibration and wear. Conventional JBOD (Just a Bunch of Disks) and especially RAID arrays present hard disks with a dangerous combination of these three factors, exacerbating problems and shortening disk lifetimes, especially when low cost PC-class components are used. Increased disk capacity, as I explained earlier, extends disk drive rebuilds on failure and increase the risk of catastrophic failure.

In addition both RAID 5, and its successor RAID 6, are energy hungry and complex. They really require heavy duty HDDs which are totally inappropriate for mass transportation of evidential data. These constraints have been compounded by the explosion in use of megapixel cameras which require far higher storage capacity levels.

Electricity supply issues such as power spikes and surges can also cause disks to fail, as can 'power droops' (sometimes called brown-outs) when lower voltages are delivered to disk drives, often for a fairly short time periods. Individually and with light use, such as in a standard PC network, disk drives are extremely reliable. However in tightly-packed arrays, running hot with 100% duty cycles and constant vibration from the activity of all the other disks in the array, the hard-working disks do occasionally and understandably fail. This is what is required of them today in DVR systems up and down the land and essentially the technology is not suited for it.

Creating a New Storage Solution: Coldstore

To create Coldstore we looked at the problem of video surveillance storage from first principles. We studied how video is recorded and how it is retrieved and analysed in this market. We then designed a storage solution which recognises the specific needs of video surveillance systems. We designed a solution which offered four key elements which, our knowledge of the video surveillance market, told us were key: simplicity, reliability, energy efficiency and scalability, all at a reasonable price.

Simplicity, Reliability and Energy Efficiency

Simplicity

Simplicity was achieved by building a Network Attached Storage (NAS) array which can use any make and size of SATA disk and indeed any mix of disks. Disks can be added 'on the fly' and will automatically be incorporated into an array. Disks may also be extracted at any time (if key evidence needs to be transported and shown to the police rapidly for example). And because they record in strictly sequential pattern (i.e. fill up disk in bay number one before moving to disk in bay number 2) the recorded time span of any disk can be displayed on the front panel of each disk. This means that we can extract disks at any time and also that individual disks may be played on a standard PC via a USB cradle. Simplicity does not end there. Veracity provides a simple Software Developers Kit (SDK) to DVR/NVR manufacturers who wish to provide their end users with the benefits of Coldstore. Direct control of Coldstore via defined network protocol is an alternative method of integration. Coldstore even supports browser-based array configuration and management remotely. The idea is that disk management is now simple enough for the end user to manage it themselves, without calling in their installation partner and incurring call out charges.

Reliability

Much lower risk of disk failure was achieved by developing our own Linear Array of Idle Disks (LAID TM) and a unique Sequential disk Filing System (SFSTM) so that video data records sequentially through the array, in a unique overlapping mirrored pair scheme, which provides redundancy without requiring twice the number of drives. The result of this for Coldstore is that all disks are off (on average) for 87% of the time. SFS controls the disk read/write heads, moving them across the disk very much like a vinyl record player, virtually eliminating disk vibration caused by the normal random movement of the read/write arm.

Energy Efficiency

The additional advantage of the sequential approach is that much less power is used because most disks are not running and disks' read/write arms are working much less hard. Taking both LAID and SFS, together with a custom-designed low-power main CPU board, results in a unit which hardly needs any cooling at all (more energy saved on driving fans), we have found Coldstore uses no more power than a standard light bulb at 56 watts (and often less than even that figure) even with a fully loaded 30TB array.

Scalability

Scalability is achieved by enabling multiple DVRs to access a single Coldstore, or vice-versa. Further, multiple Coldstores can be linked in series, or in parallel, for very large camera counts or very long archive periods.

Summary

We are not expecting RAID5/6 systems to disappear overnight, although we believe that it is now an inappropriate and outdated technology for modern video surveillance. Coldstore has been designed to meet the specific requirements of the surveillance market and is ready for a future dominated by megapixel video surveillance recording, where storing and easy transportation of vast volumes of video data is essential. All this has been achieved with extremely low running costs and very high reliability.

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COVER STORY

One for All

Realizing the One-Key-Fits-All Dream

The key ring in your pocket is probably quite heavy, with keys of different shapes and sizes to fit the front door of your house, the garage, the garden shed, the main entrance to your office and your own room as well as your summer cottage. Having just one key to open and lock all of these is now possible with a new system that runs entirely without batteries, either in the lock or in the key.

Key rings just seem to grow and grow. Over the years we accumulate lots of different keys, even forgetting sometimes what some of them are actually for because we've been carrying them around with us for so long. Even if we take the trouble to sort them out occasionally, we can seldom get away with less than six or seven keys on the ring that we need on a daily basis. Security personnel need to carry a big b unch of them.

The Finnish company iLOQ Oy from Oulu has come up with a solution to this problem in the form of their Privus (for "private") and S10 locking systems. The metal keys that both systems use are in fact electronic keys with a unique identity. Working together with pre-programmed lock cylinders, these allow controlled access to specific areas by selected people.

Already available to replace the typical Scandinavian oval lock cylinders, the Europrofile DIN cylinders will also be available later this year, extending the potential customer base even further across Europe. The iLOQ system is specified for applications with a need for high security combined with flexible management of access rights. iLOQ installations can be found in commercial premises, office buildings, apartment houses, governmental and municipal authorities, banks, hospitals, schools, universities, rental buildings & cottages all around Scandinavia but also in office complex in London or private housing project in Africa. The iLOQ systems are now serious alternatives to the likes of Assa, Kaba and others in this field.

The Same, but Different

All the keys look identical externally, but the digitally encrypted high-security code that is contained in each of them cannot be copied and makes each key unique. The "iLOQ Privus" system is delivered with a pair of programming keys that make the addition, or indeed deletion, of keys from the system a very quick job. It takes just 5 seconds to add new keys or to eliminate specific keys from further access. An unlimited amount of further locks can be added to the Privus system later that will accept keys already in use elsewhere, and the whole system can consist of up to 32 keys. This is more than enough for the whole family, close relations and any staff who also need access. Unlike other competing systems, the locks do not need any internal battery to function properly. They get their power from the movement of inserting the key each time and are effectively self-powered. This makes the Privus system ideal for homes, for small businesses and also, for example, for sports and other recreational facilities because there are no batteries to be replaced and the mechanical shape of the key is not a security-relevant element.

Central Management

The patented S10 system is the big brother of Privus and has been conceived to meet the demands of larger installations, possibly with a need for audit functionality. For example, industrial premises, public offices, rented offices or apartments would benefit from the introduction of such a key and lock system. No cables are necessary between the central management software and the lock cylinders, the programming of locks and keys taking place with the help of a handheld device. Where the requirement is for a centrally-managed system with a high security level, the S10 management software enables multi-site programming, administration and management of iLOQ keys and locks in combination with the programming device and a Windows-based PC, PDA or mobile phone. This enables time restrictions to be imposed, the definition and alteration of access rights, blacklisting of lost keys and audit trail reports. A user-friendly graphical interface shows the lock locations on floor plans so the sytem can be put to good application in leisure property complexes, schools and universities, banks and local government for example.

Online Updates

The S10 system can be expanded as necessary to meet demand as it grows. In fact, the unique identity of each element means that up to 32,000 keys can belong to one system, each with access to up to one million locks. In other words, there will hardly ever be a situation where the capacity of the system is stretched to the limit. In large installations, the N10 network module provides management of the cylinders and keys over an Ethernet network by connecting the locks with the management software. This also enables very rapid updating of access rights and reading the audit trail from each lock. The high security employed on the system meets the BS7799 standard by using powerful SHA-1 and SSL encryption.

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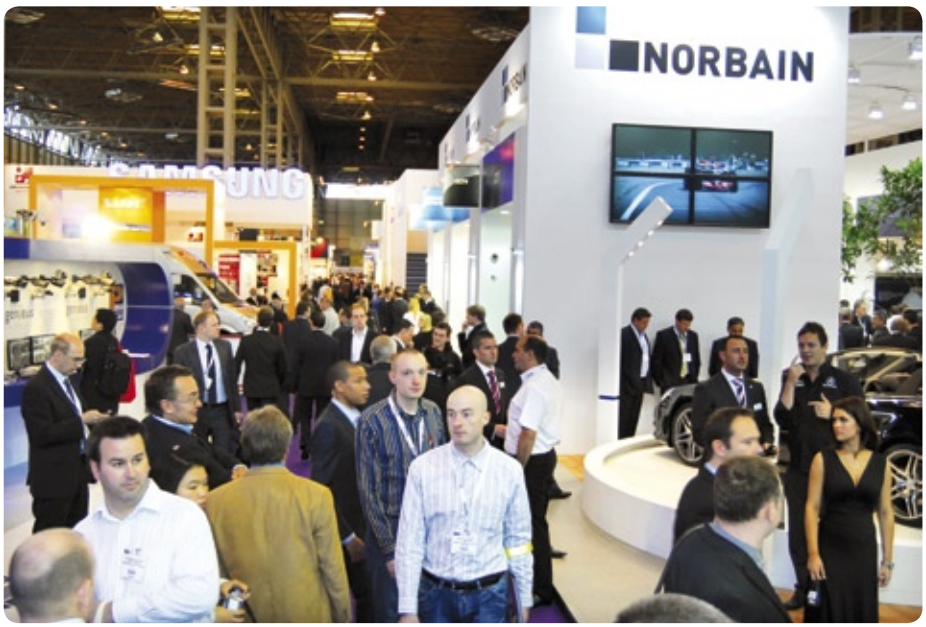
IFSEC

Meeting Place for the Security Industry

Ifsec 2010 Attracts More Than 750 Exhibitors

For the 38th successive year, Ifsec delivered a first-class event for the international security industry when it took place from 10 – 13 May 2010 at the NEC Birmingham. Established as the world's largest annual security event, thousands of visitors descended on Birmingham to see more than 750 industry-renowned companies showcase their latest developments and take advantage of more than 30 hours of free educational content.



James Blue, Director of Fire & Security at UBM Live, organisers of Ifsec, said: "As the economy continues its recovery, the security industry was in buoyant mood over the four days of Ifsec 2010. With business being generated across all three halls of the event, thousands of security professionals benefitted from more than 750 exhibitors and a vast amount of free seminars at the NEC Birmingham. The results were fantastic with positive feedback from both our visitors and exhibitors and we look forward to continuing our success with our global Ifsec events in Africa and India throughout the year."

Axis, Dallmeier, Genie CCTV, HIK Vision, IndigoVision, JVC, Norbain, Panasonic, Samsung, Sony and Tyco were amongst those exhibiting. Ifsec has long been the platform for these companies to launch their new products and 2010 proved no different – Axis, for example, took the opportunity to demonstrate their series of high-performance, outdoor-ready pan/tilt/zoom (PTZ) domes, including two HDTV models, at the event. Within the exhibition there was also seven dedicated international pavilions in which visitors could seek the latest products and services from all over the globe.

Country Pavilions

Supported by the US Commercial Service, Ifsec 2010 featured its first US Pavilion. Based in hall 4, this pavilion housed a plethora of innovative manufacturers, allowing visitors to source US security products and services in one concentrated location. Commercial staff from the U.S. Embassy in London were on hand to answer any queries.

In addition to the US, visitors could source products and services from Belgium (new for 2010), China, France, Italy, Korea and Taiwan. Furthermore, the Secartys association, a voluntary organisation which represents more than 1,200 industries in electronics, information technology, telecommunications and solar energy across Spain, also introduced new Spanish exhibitors in the different product areas within the exhibition.

The annual 'Meet the Buyers' event, which provides UK exhibitors will unrivalled access to international buyers of security products and services, was also a great success. Through strategic partnerships with UK Trade & Investment/ UKTI Defense & Security Organisation and British Security Industry Association (BSIA), Ifsec invested in bringing 125 buyers from all over the globe to the event as part of the Inward Missions programme. A record-breaking 722 meetings took place which demonstrates the importance placed on this initiative to the international buyers' UK trade network.

Showcase Seminar and Conference

Free-of-charge seminars ran in the New Products & Technology Showcase Seminar Theatres (one in hall 4, the other in hall 5) so visitors were able to hear about the latest developments in this evolving industry.

Also within the exhibition, the new Loss Prevention Certification Board (LPCB) Red Book Pavilion housed seminars and presentations based on all aspects of LPCB third party approvals, training schemes and research relating to physical security. The free-of-charge educational programme was led by industry experts from the LPCB and dedicated staff were on hand to answer any questions.

Returning for 2010, the Ifsec Conference delivered an unparalleled educational programme packed with carefully researched high-level content aimed at senior security professionals. Running alongside the Ifsec 2010 exhibition, the content took a fresh and unique look at the key issues facing the security industry, including countering terror, protecting critical national infrastructure, preparing for London Olympics 2012, corporate security issues, security guarding and recent technological developments.

Each day of the Conference was dedicated to a different area of security:

- Day one – Countering Terror and Protecting the Nation
- Day two – Corporate Security in the Recovering Economy
- Day three – Next Generation Technologies

The high-level seminars were delivered by some of the most senior players in the industry, including Prof Adam Ogilvie-Smith, Industry Secondee, Office for Security & Counter-Terrorism, Home Office; Chris Phillips GCGI, MSyl., DCI Head of The National Counter Terrorism Security Office (NaCTSO) and Don Randall MBE, Head of Security, Bank of England.

Ifsec is returning in 2011 to the NEC Birmingham from 16-19 May.

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IFSEC

Total Security Solutions on Display

The theme for our stand this year is 'Total security solutions beyond your imagination', said James Smith, European marketing manager for Samsung Techwin Europe at the Ifsec press conference in Birmingham." This reflects how much the company has evolved over the last two years. We are a manufacturer known for introducing innovative products that are truly best in class. Having bolstered our portfolio to encompass a full suite of video surveillance products, our stand at Ifsec 2010 demonstrates how much further we have progressed with access control, door entry and intruder detection systems on show, as well as a very large number of innovative and exciting new CCTV and IP products.

SCB-3001: A 650 TVL True day/night camera

The SRD-1670D – one of 16 new H.264 DVRS from Samsung introduced at the show

Visitors to the Samsung stand could see demonstrations of the very latest cameras and domes which incorporate Samsung's W-V, A1 SV-V and WiseNet1 DSP chipsets. Each chipset has its own distinct functionality designed to provide the optimum solution for specific types of applications. The WiseNet1 DSP included in Samsung's new megapixel camera range, for example, can offer the option of H.264, MPEG4, MJPEG and JPEG compression and provides users with the ability to simultaneously transmit images to multiple locations at various frame rates and at different resolutions, including 1.3megapixel, 16:9 HD, QVGA, SVGA and VGA.

Samsung's new breed of DVRs and NVRs were also on display." The key message to customers is that there is no need to compromise on product specification even if there is a limited budget available for the recording elements of a CCTV system," added James Smith. "We can confidently state that Samsung now provide a recording solution for virtually any application or project with 4, 9, 16 and 32 channel options in our DVR range and with 32 and 64 channel options in the NVR range – each with fully scalable hard drive sizes to choose from."

'All in one" High Speed Pan/Tilt/Zoom Camera

On show for the first time was the Samsung SCU-2370 'all in one" high speed Pan/Tilt/Zoom camera which is supplied complete in an easy to install, robust, vandal and weather proof enclosure with an integrated wiper. The SCU-2370 incorporates a true Day/Night camera with a 37x zoom capability to allow users to see the detail of far away objects and can be programmed to pan, tilt or zoom with 0.1 degree accuracy. SSN-RII, Samsung's Super Noise reduction technology ensures 'noise' is eliminated in low-light conditions without creating ghosting or blurring, with the additional benefit of up to a 70% reduction in bandwidth requirements or video storage space, compared to standard cameras. The SCU-2370 supports RS-232C and RS-485 controls as well as multi-protocol Pan / Tilt / Zoom control.

True Day/Night Camera

Another highlight presented at Ifsec is the SCB-3001 true day/night camera that capitalises on the advanced technology built into Samsung's SV-V DSP chipset to capture superb high resolution 650TVL colour images by utilising the new 960H SuperHAD CCD. As well as ultra-high resolution capture, the SV-V DSP chipset contained within the SCB-3001 delivers a range of technology designed to provide the best possible image quality, regardless of the lighting of environmental conditions.

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IFSEC

Nine in a Row

For the first time in Europe, Sanyo presented their new camera portfolio at Ifsec. "We have always benefited from exhibiting at Ifsec but this year was particularly successful for us with a record number of visitors making their way to our stand," said David Hammond, European Sales Manager for Sanyo's CCTV division. "I am sure other exhibitors equally found IFSEC 2010 to be busy but I am very pleased to say that we seemed to have more than our fair share of visitors." The nine new cameras presented are collectively designed to provide a solution for virtually any project with vandal resistant domes, PTZ cameras and a zoom camera included in the range, as well as a choice of three fixed cameras with CS mounts to provide a choice of lens.

All the cameras have the capability to capture full high definition (1,920 x 1,080) sharp and crystal clear colour images at 25 frames per second and are equipped with a Dual Codec to support both the latest H.264 compression standard as well as MJPEG. Top of the range models incorporate a multi-streaming function to enable simultaneous transmission of up to four video streams with, for example, one low resolution stream being used for real time surveillance and another set for recording at full HD for post incident investigation.

Commenting on the launch of the new HD camera range, Sanyo's Doug Gwilliams said: "Sanyo believe that HD cameras will inevitably be the preferred choice for end-users who are looking to achieve maximum benefits from their investment in CCTV. Our design engineers have excelled themselves in introducing that 'wow' factor to our new HD cameras, all of which have a large number of technically advanced features including a video analytics function which can be programmed to identify the behaviour of subjects and a 3D-DNR function to reduce 'noise' in low light conditions."

The Sanyo HD camera range will certainly make life easier for installers as all the cameras have a Focus Assist function. Simply pointing the camera at the target and pressing the Focus Assist button results in the lens camera automatically adjusting to the optimum position. There is also an Auto IP Setup Utility to facilitate IP address setting. A camera connected to a network is automatically detected by the software and an IP address is set automatically.

All the cameras are 40% smaller than conventional CCTV cameras as a result of utilizing Sanyo's miniaturization and mounting technical know-how acquired through the development of its digital movie cameras and digital cameras. In addition customers can opt for HDMI output allowing the full quality of the cameras images to be observed on an HD monitor. Power over Ethernet) is also available, as is the ability to add an external HDD for storing recorded video.

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IFSEC

HD Cameras and Alarm Systems Integration

Panasonic launches SmartHD Cameras and the Panasonic Alarm Manager at Ifsec

At Ifsec it was time for Panasonic to present the third generation of i-Pro SmartHD cameras to their European customers and to show the new Smart HD concept, GIT SECURITY had already reported about in the cover story of issue 3/2010. Visitors at the show could also see Panasonic's entirely new system called Panasonic Alarm Manager. The system monitors multiple third party alarm inputs and generates multiple, customisable outputs.

The Smart Six i-Pro SmartHD Cameras

With increased market demand for truly converged IP surveillance and communications systems added to a greater than ever expectation for high resolution images, the new range will satisfy both trends whilst also minimising total cost of ownership and maximising efficiency. The first three clever cameras in the i-Pro SmartHD line-up are box type network cameras that yield high data compression rates to minimise network data traffic through the H.264 format. WV-SP306 and WV-SP305 HD network cameras plus the WV-SP302 network camera are all scheduled for release in June, 2010. Additionally, Panasonic was showing off a further three fixed dome network cameras, equipped with 3.6 variable focal auto iris lens, the WV-SF336 and WV-SF335 HD fixed dome network cameras plus the WV-SF332 fixed dome network camera (available in July 2010).

Panasonic Alarm Manager

Security system installers know very well that with every security customer there can be a different security requirement and a multitude of different security solutions that can answer those requirements. Intruder alarm systems, CCTV security systems, alarm monitoring systems and even security staff on the ground, all play a vital role in securing physical and intellectual property. At the same time organisations are diverse; small, large or sited physically close or dispersed. What Panasonic Alarm Manager provides is a bridging solution to help manage the flow of information within any network of simple or complex security systems and ultimately aid faster response to eradicate any security threat.

Essentially Panasonic Alarm Manager extends the capabilities of PSNE's smart security systems; Panasonic Alarm Manager creates a relationship between common intruder alarm systems and Panasonic CCTV security systems. In essence, Panasonic Alarm Manager uses previously inaccessible information detected by third party sensors to point and coordinate faster deployment of 'on the ground' security resource.

For example in an installation at a prestige vehicle manufacturing site Panasonic Alarm Manager can be used to help security staff immediately bring up images of compromised areas during a 24 hour alarm zone. Cameras are assigned to devices such as alarms through the Panasonic Alarm Manager Configurator. When alarm sensors are triggered the Panasonic Alarm Manager Live system immediately switches monitors to the cameras overlooking the compromised area so that security staff can quickly assess the threat and deploy a response.

Meeting with Football Legends

During the Ifsec week Panasonic System Networks Europe invited partners and customers to an evening with England's football legends Bryan Robson and Peter Reid at the Panasonic industry evening. The night was held at the Crown Plaza Hotel in Birmingham and offered a great opportunity to relax and ask Bryan Robson and Peter Reid about their career and the the upcoming World Cup.

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5 Megapixel Lenses for Day and Night

At the Ifsec Fujinon presented new 5 Megapixel lenses for Day/Night. Two models for 2/3" are available, both offering high resolution of 5 Megapixel and IR correction for applications by daylight and IR. The HF35SR4A-1/SA1 with a focal length of f = 35 mm and F2 and the HF50SR4A-1/SA1 offering f = 50 mm and F2.8. Iris control is done manually or automatically by DC signal. Due to the combination of high resolution and IR correction these lenses are best suited for CCTV and security as well as for traffic applications – such as automatic number plate recognition. Fujinon did also show the continuously growing product range of 3 Megapixel Vari Focal lenses for 1/3" and 1/2", including the latest model for 1/2" sensors and a focal length range of 8 ~ 80 m: DV10x8SA-1/SA1.
www.fujinon.de

Genetec Releases Security Center 4.0

Genetec announced the release of the latest version of its unified security platform, Security Center 4.0. The Security Center now seamlessly unifies Genetec's Omnicast IP video surveillance and Synergis IP access control systems with its AutoVu IP license plate recognition (LPR) system, offering customers a single point from which to monitor their security and safety systems.One of the most significant enhancements is the unification of AutoVu, Genetec's IP LPR system, within the Security Center. AutoVu LPR system users will now enjoy access to Genetec's cutting-edge and intuitive client application, the Security Desk, as well as the Security Center's enterprise-level functionality such as seamless scalability over IP. Moreover, users can now centralize monitoring, reporting, and data mining for all their fixed LPR installations using the Security Center in tandem with the AutoVu Sharp camera.
www.genetec.com

Super-slim LCD Monitor

The JVC GD-32X1 is a stunningly-thin and lightweight full-HD 32" panel, designed for gorgeous image reproduction. Just 6.4 mm in depth at its thinnest point, and weighing a mere 5.7 kg, the GD-32X1 features advanced technology, delivering a versatile performance for any application. The monitor features an advanced picture engine, ensuring beautifully natural yet vivid still images and video reproduction, while the 100 Hz/120 Hz Clear Motion Drive III anti-blurring technology significantly reduces motion blur for impressive picture quality. It delivers faithful colour reproduction, thanks to 90 % coverage of Adobe RGB's wide colour space along with a contrast ratio of 4,000:1. The GD-32X1 also has an LED edge-lighting system, realising a super-thin and lightweight form, while the use of fewer material resources minimises impact on the environment. Perfect for 24/7 use, the GD-32X1 is an innovative monitor that can be flexibly and conveniently positioned anywhere. Whether mounted on a wall or even hung from the ceiling, this new monitor is ideal for use in locations such as buildings for the general public, stores and shops, businesses, and academic institutions, as well as for surveillance and medical reference applications.
www.jvcpro.co.uk

Single-Channel Analog to Digital Video

At Ifsec Infinova announced its V2509-M Series, which efficiently lowers bandwidth concerns The new single-channel video server features MPEG-4 and MJPEG dual encoding and provides users with two independently configurable video streams, one for viewing and the other for recording. "When companies make the leap from an analog to an IP video surveillance system, a major fear of the IT department is that the new digital solution will use up bandwidth, interfering with the company's present data/information network," explains Mark S. Wilson, Infinova's vice president marketing. "The new V2509 lets our integrators show their customers how they can work with the IT department to alleviate such fears." The V2509 single-channel video server can be flexibly applied in an intelligent video surveillance system since it provides video-synchronized bi-directional communication and intelligent motion detection. It also provides a web server to easily let the user watch live video.
www.infinova.com

Offline and Wireless Lock Developed for OnGuard

Lenel Systems presented at Ifsec the first integrated electromechanical locking system specifically engineered to be configured, programmed and managed directly from the OnGuard total security solution. Available in both offline and wireless variants, Lenel ILS extends a security system's reach by bringing traditional OnGuard access control functionality to electromechanical locks – enabling users to secure more doors within a facility from a single security platform, and providing real-time priority alerts and single seat management of cardholders. Integration with the OnGuard solution allows users to manage all access control functions from one application and eliminates the need for traditional lock and key. "Lenel ILS responds to customers' requests for a complimentary system to traditional online readers that is cost effective, secure, and manageable from the OnGuard system," said Luis Orbegoso, Lenel President and General Manager. The Lenel ILS platform is modular in design, enabling customers to choose the network connectivity, credential type and reader technology (magnetic stripe, Proximity 125 KHz and Smart Card 13.56 MHz) that best fits their business.
www.lenel.com

Long Range Vehicle Access

Nedap AVI's newest reader, the uPass Reach offers long range vehicle identification up to 4 m using the latest UHF technology. Based on battery free passive UHF transponders you have a reliable, cost effective and enduring solution for parking access. The UHF system is based on an uPass Reach reader and a passive UHF tag. These tags are battery and maintenance free. The reader output allows the access control or parking system to open the gate when authorized without the need for card readers or PIN pads. A built-in, high intensity LED provides visual feedback to the user that the tag has been read. The system reads at distances up to 4 m reliable and consistently. The uPass system is the ultimate solution for commercial and residential parking applications, such as car parks, gated communities and employee parking access.
www.nedap.com

High-Density Video Server Solution

Optelecom-NKF announced the release of its Siqura S-68 E video server. The S-68 E is an easy to install encoder that requires very little maintenance while still providing outstanding performance and reliability. With the capacity to compress and stream video in H.264 from 88 analog cameras per one 19 inch/3U power supply cabinet, the S-68 E is now one of the industry's most efficient and high-density solutions, making it ideal for large, professional installations where space and cost per video channel are a concern. Moreover, since each module only consumes a mere 0.9 watt per channel, the S-68 is also an environmentally-friendly and cost-effective solution. Through an intuitive access-controlled web interface, it is possible to configure an array of features included in the S-68 E, such as the use of video motion detection (VMD) or serial data streams to control a PTZ camera or implement access control. Additionally, these compact video servers are based on an open streaming architecture (OSA) standard that simplifies their use in third-party systems.
www.optelecom-nkf.com

Keyboard Simplifies CCTV Management

Videotec's new DCZ keyboard allows users to manage CCTV applications from a PC via USB connection. This keyboard comes with jog shuttle, joystick, 38 backlit keys and alarm buzzer and can be easily integrated with control systems using basic programming techniques without an SDK. Its functions depend solely on the application concerned. You can use the DCZ keyboard to manage applications already on the market, emulating a 4-axis HID joystick with 24 keys. It can also be connected together with ordinary PC peripheral devices such as keyboards, mouse, joysticks or other accessories. It is powered via USB cable and requires only one cable for its use. The use of the keyboard can be made even more intuitive by personalizing the captions on the key panel: the user can therefore easily personalize and print the pre-cut sheets included when the unit is supplied. A layer of transparent plastic protects each printed panel against wear. For the 10–20 % of people who are left handed, due to its Unique and innovative design The DCZ Keyboard is easily reversed for Left or Right hand operational use. The DCZ USB keyboard has been recently tested with Milestone XProtect Professional 6.5 and Exacq Tecnologies to control Network PTZ and Domes, including the Videotec Ulisse IP.
www.videotec.com

Energy Saving Reader Accepts Mifare Tokens

Paxton's Energy Saving Reader now accepts mifare tokens. Mifare is now the most widely used technology on contactless smartcards and proximity cards in the world. Paxton have developed their Energy saving reader to accept Mifare tokens. This makes the reader a really diverse, cost efficient product that is suitable for a wide range of environments. All the benefits of the original Paxton Energy saving reader can now be enjoyed at sites that use (or want to use) Mifare cards. The reader accepts an authenticated Mifare card to switch on power to utilities and electrical equipment. Once a card has been detected, the reader toggles a relay that switches on lights, heating and air-conditioning, amongst others. This straightforward energy saving concept works because a user has to remove their proximity card from the reader in order to move freely around a site. This is perfect for sites that want to save money on energy bills. Controlling who can operate factory machinery is also easy with this intelligent reader. Equipment can only be used once the reader recognises the presence of an authorised card. This restricts the use of machinery to staff who are trained to do so which is great for complying with health and safety regulations. The Energy saving reader is designed help you manage your premises more effectively.
www.paxton.co.uk

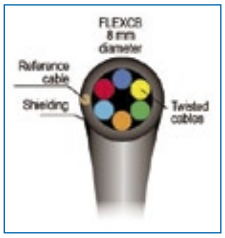
HD Portfolio

Sony Professional has announced the European launch of two new video security cameras to continue broadening the company's extensive HD portfolio. The SNC-DH180 and SNC-DH240 were on show for the first time in Europe at Ifsec 2010, following the initial unveiling at ISC West in March, and will complete Sony's HD range. Market demand for HD products is growing but until now there has not been the breadth of products to provide the means or motivation to move from analogue to IP. Market research suggests that in 2010, 35 % of security cameras sold will be IP and together, IP and analogue equipment will take 50 % of the market share in 2012. To meet these demands, Sony is enhancing its video surveillance line up by offering a wider range of HD products from the high to the low end of the market. The new security cameras are focused on image quality coupled with the powerful video analytics of Sony's Advanced Distributed Enhanced Processing Architecture (DEPA).

Upgraded 35x Camera Domes

Vicon's 35x SurveyorVFT domes, which have been a highly popular choice among installers and system integrators since they were first introduced in 2004, have been upgraded to deliver even higher quality video. All 35x SurveyorVFT domes, including standard indoor and outdoor, impact-resistant and pressurised housing versions, now utilise Progressive Scan technology which offers a higher quality video image than interlaced video with better vertical resolution and no visible flicker. Two modes are offered, "normal" for average to high-motion video and "high sensitive," for low-motion video. Additional new features include Digital Noise Reduction to improve picture quality in low light environments by digitally sampling the video image and removing excessive noise that interferes with image clarity. When adjusting for white balance within the camera's set-up menu, there is a new Special Mode which allows for further adjustment based on the lighting source. As fluorescent and conventional lighting affect video differently, this special mode allows the users to capture video with the most visually pleasing white balance.
www.videotronic.de

Security Runs Over Cable



The Sicurflex perimeter protection system introduced by Sicurit Alarmitalia provides reliable and cost effective solution for protecting properties from unauthorised intrusions. Developed for the recent demand for cost-effective solutions for the protection of solar parks as well as photovoltaic frames, Sicurflex can be employed in many different applications and can be installed on any type of fence available on the market:

- Cost-effective solution
- High detection capability
- Fast and easy installation
- Can be mounted on existing or new fences
- Ideal protection for solar panels
- Setup of non-sensitive zones
- Easy to maintain

The system operates by means of a sensor cable, which is mounted all along a perimeter fence (or photovoltaic frame): An electrical signal in response to movement or deformation of the cable will generate, within the desired threshold level, an alarm condition.
www.sicurit.net

High Definition Camera

TEB introduces its new High Definition Bulle camera offering ultra high resolution video. Delivering superior image quality, the Bulle camera HD 1080 offers a 10x high quality optical zoom which deliver greater flexibility in finding and tracking targets. The new camera provides sharp, high-quality video images with details that other cameras are not able to detect. Whatever the conditions, picture quality is outstanding. In addition, the camera offers image quality four-time superior to that of a standard PAL camera. The image quality of a CCTV camera is comparable to that of medical imagery or broadcasting monitors. These high quality images are without doubt the future of the CCTV industry and the key for improved security applications.
www.teb-online.com

Secure Closed IP TV

Dedicated Micros launched its Ecosense NVR (Network Video Recorder) at Ifsec 2010. This pure IP video product is designed to provide plug and play IP camera connection and recording for installers without any prior IP network knowledge. It also integrates an enhanced layer 2/3 switch, with self-configuration software, to deliver an extremely secure Closed IP TV capability. The manufacturer sees the system as an ideal entry-level NVR solution. The latest model comes with many of the features which made the original DVR variant popular including: multi-channel recording with real-time multi-screen display, simultaneous playback and viewing, USB and DVD archiving and, significantly, embedded help videos as standard to assist with user and configuration features.
www.dedicatedmicros.com

3D Control and Supervisory System

ASL Safety & Security unveiled iVENCS, the first in a new generation of 3D-based situation management and integrated control platforms at Ifsec. iVENCS is an infrastructure-scale offering aimed at mission-critical facilities where global disaster recovery and lifelike visualisation of events are paramount. iVENCS is a sensor and event fusion environment in which voice, data and video can be filtered, analysed and directed from across the full spectrum of subsystems found on major projects including CCTV, access control, perimeter intrusion, telephony, BMS, vehicle barriers, fire, intercom, data networks, Passenger Information Displays, Public Address and Voice Alarm. Use of a distributed and open standards-based 'publish and subscribe' model for messaging delivers efficient use of bandwidth compared with the current generation of 'hub and spoke' architecture control room software. This means the system can be scaled reliably from, say, a single workstation at a school to a global network of oil facilities monitored centrally from regional command hubs. Sousan Azimrayat, Director of ASL, said: "Our visual expectations have been altered by innovations such as the iPhone and Google Earth. We now look for real-time, three-dimensional animation and fingertip control. Life safety decisions need to informed and rapid. ASL has invested in providing control room operators with tools to visualise, explore, and act on relevant data."
www.asl-control.co.uk

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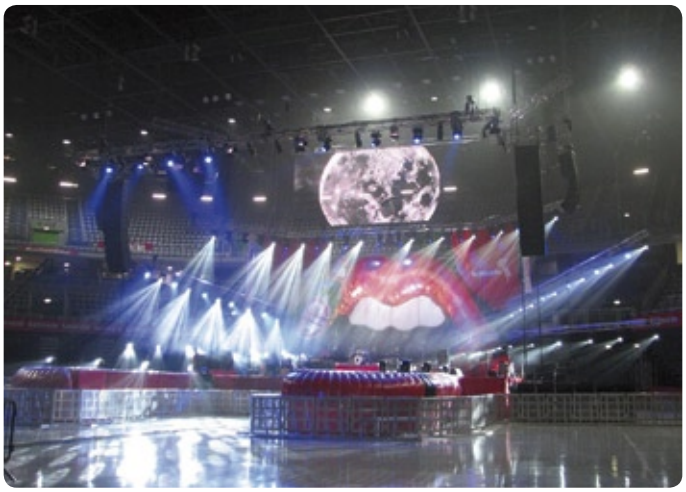
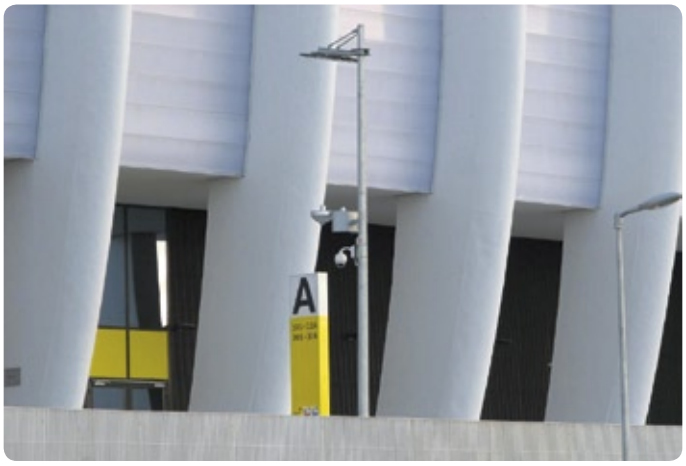
ALARM SYSTEMS

All Sorts of Sports

Highly Integrated Security Systems for the Arena Zagreb

The Arena Zagreb is a new multi-purpose sports center with a seating capacity of around 16,000. Located in the south west of the Croatian capital, it was completed in 2008 in time to host the 2009 World Men's Handball Championship. The Arena will also now be used for football, handball, athletics, basketball and other sporting events. In addition, the site which extends over 5 floors includes the Arena Complex – an extensive building complex housing Zagreb's largest shopping center as well as concert, congress, convention and exhibition facilities. The Arena Zagreb and the Arena Complex also share services such as an underground parking lot, a multiplex cinema and wellness center plus numerous restaurants, cafés and stores.





As with all multifunctional facilities where large numbers of people congregate, security is a major issue at the Arena Zagreb, and with a venue of this complexity it was obviously preferable to integrate the security systems as much as possible. For this, the venue owners and Tehnozavod Marusic, the company responsible for installing the systems selected Bosch Security Systems, principally because of their solid reputation in fire alarm, emergency-evacuation with professional sound and CCTV-surveillance systems, but also because of the extensive possibilities for integration provided by the company's Building Integration System (BIS). Throughout the installation, Tehnozavod Marusic was also supported by the Hungarian Bosch national sales organization which is responsible for a large part of the Balkan region.

The BIS provides a single, unified web-based point of control for keeping all the security systems in the Arena running smoothly. Systems that are seamlessly integrated by the BIS include fire and intrusion alarm, evacuation, access-control and CCTV. Once integrated, all systems are controlled via one platform, with one user interface based on Windows and using familiar Internet browser technology. And all communication between systems can take place via the BIS. In the event of an emergency, the BIS is capable of starting predefined procedures and sending predefined warning messages over the Public Address and Voice Evacuation system. It therefore simplifies the monitoring and emergency processes and reduces the chance of mistakes, enhancing the safety of the whole complex.

The BIS works with worldwide open and tested IT-standards such as OPC, XML, HTML and Windows – which means that security programs from third parties can also be as easily integrated. Examples of third-party systems integrated by the BIS include the Arena's Building Automation System, the CO detection system which comprises 12 detector lines that interface with the fire alarm system and with the BIS, and the access-control system which allows only authorized access to special rooms within the Arena complex.

Fire Alarm and Voice Evacuation

The Arena's fire alarm system is certified according to EN 54 and comprises almost 1500 420 series intelligent fire detectors and other peripherals meeting the diverse requirements of the many areas within the venue, including the parking garage, catacombs, corridors, restaurants, conference halls and reception areas. These detectors are controlled by two 5000 Series Modular Fire Panels connected to BIS, each operating with around 750 detector units. The system also features built-in redundancy with each central system supported by a second 5000 Series panel available to take over the fire alarm system if the main panel should fail.

The fire panels are connected directly to a Praesideo public address and voice evacuation system from Bosch. The fully-digital EN 60849 certified EVAC-compliant system was considered particularly attractive for the demanding Arena application as it offers virtually limitless networking and multi-zone possibilities – the latter allowing for phased evacuation of a

large number of people. In addition, the system's digital audio processing guarantees superior sound quality to provide clear verbal messages directing people to the escape routes in the event of a fire alarm or other emergency.

A Sound Concept

All the 100V Evac loudspeakers which were also provided by Bosch are designed to ensure that emergency messages are not interrupted in the event of a fire. Every loudspeaker is supplied with a ceramic block and heat resistant wiring to protect the circuit from shorts in the event of fire reaching the loudspeakers. In addition, a fire dome can be mounted on the ceiling speakers to prevent fire travelling to adjacent areas through the over-ceiling space. Hosting concerts as well as sporting events, the Arena is the first sports complex in the Balkans featuring a professional audio system. This is provided by an advanced audio installation featuring a combination of Electro-Voice and Dynacord professional audio systems that have proven themselves in demanding concert venues around the world. The systems connect with the Praesideo public address and voice evacuation system to complement the Evac loudspeakers in providing background music. The total system, including Evac and professional audio comprises more than 2,000 loudspeakers and includes an automatic volume control function controlled by the Praesideo which modifies the volume within the Arena depending on the background noise.

Continuous Monitoring Enhances Security

The fully IP CCTV system, comprising several hundred Dinion fixed IP cameras and Autodome cameras from Bosch is controlled by the company's video management system (BVMS) central software. Also under the control of the BIS server, the BVMS is a dedicated enterprise IP video security solution that provides seamless management of digital video, audio and data across the IP network. Most of the cameras are equipped with Bosch's advanced intelligent video analysis (IVA) capability, which acts as a guard-assistant system and is able to detect idle and removed objects as well as loitering, multiple line crossing, and trajectories within the stadium and bring these to the attention of the security personnel. All video, including the IVA data, is stored on iSCSI disk arrays and the BVMS has a powerful 'forensic search' function. This enables hours of video evidence to be searched through in seconds, even while the sporting event is still in progress, to spot suspicious activity and, if necessary, provide video evidence to support prosecutions. IVA can also identify offenders by the color of their clothing and enable them to be tracked throughout the facility, even to the parking garage.

Although not supplied by Bosch, the intrusion alarm system and the ticketing system are also connected directly to the BVMS. Tickets are checked electronically at the gate and ticket numbers are stored by the BVMS which later enables quick retrieval of the archived camera picture of each ticket holder without the need to check the whole recorded video. Advanced megapixel cameras also form an essential part of the CCTV system supplied by Bosch. These continuously monitor the stands and in the event of trouble erupting, the images can be digitally zoomed to clearly identify individual offenders. Moreover, if necessary, the archived images can be compared with the live images from the corresponding seating area.

The Arena Zagreb is destined to become a major sports and entertainment center in the Balkans, and like all such centers could be a high-profile target for terrorist activity as well as hooliganism and theft. Recognizing this, the venue owners and the installers have made no compromises on security, with the result that the Arena, without doubt, offers its visitors the highest degree of safety that modern technology can provide.

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INTRUSION DETECTION

The True Cost of Ownership

A Level of Quality in Motion Detector Design

The Blue Line and Professional Series indoor, wall-mounted motion detectors from Bosch reflect decades of sensor development expertise and provide industry-leading catch performance and false alarm immunity. They also incorporate numerous features that reduce installation time by 25% over traditional detectors, prevent accidental damage and ensure proper installation.

By comparing the Bosch motion detectors with others it is immediately obvious where these detectors differ from most competitors; all detectors are two piece designs, which means that there is a mounting plate where the terminal strip is located, while all electronics and optics are housed in the separate front cover under a protective plastic enclosure. Of course this is more expensive to produce than simple detectors where the pcb is located directly on the mounting plate and exposed to potential damage during installation and operation. There are many reasons for Bosch to locate their pcb in the front cover.

Spiders are notorious for generating false alarms in conventional detectors. They easily crawl in because of the open structure of the optics and electronics within the housing. Each false alarm results in a technician or guard visit. One technician's visit for no good reason costs at least 10 times the price of the detector unit. In Bosch detectors, the electronics and optics are sealed so that no spider or other insect can penetrate.

Protection Up Front

In conventional detectors the PCB needs to be taken out to install the wires and the mounting plate. The installer then wires the terminal strip and mounts the PCB back onto the housing. Typically, there is very little room for the wires, which means the front cover must be closed with force to contain the wires. If there is an accidental nick in the copper after stripping the wire during the wiring process, it could break once the cover is closed by force, which would force the installer to start all over again.

Also, taking out and touching the PCB can cause damage to the electronics by electrostatic discharge (ESD). This type of damage on a detector is extremely difficult to find and can cause false alarms or other unpredictable, intermittent behaviour which is annoying and costly to service. With the sealed electronics in Bosch detectors the PCB is protected from being touched or damaged during installation; ESD damage is highly unlikely to occur. The removable terminal strip on the mounting plate also guarantees easy access, wiring, and mounting. Ample space for the wires makes sure that the detector can be closed securely without force.

Benefits All Round

By looking a bit closer at the complete picture, the total cost of ownership over time for Bosch detectors is significantly less than for conventional detectors, which might have a lower initial purchase price but much higher maintenance and service costs due to false alarms and poor catch performance that result from the above-mentioned scenarios. Not only do Bosch detectors reduce the total cost of ownership, but they also increase customer satisfaction through superior reliability. As we know, satisfied customers are the basis for the success of installers.

The two piece design, removable terminal blocks and screwless locking mechanism reduce the installation time by 25% or more. This was the result of comparision tests made with experienced alarm installers. Bosch is well recognized as a company that provides innovative products with excellent quality, and clearly has many reasons to offer exclusively two-piece design detectors.

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3-Axis IR Dome Camera

The 8,5 mm indoor day/night 3-axis dome camera with IR LED ED 335 from Everfocus is now available. Using the Sony Super HAD CCD image sensor, ED 335 provides excellent day/night low light performance. Thanks to the built-in IR cut filter, the camera delivers excellent color images during daytime as well as clear night vision images. ED 335 can be mounted both on surface as well as flush mounted in any indoor environment. Main features include: high resolution technology (520 TV lines); IR range up to 20 m; Integrated DC varifocal lens (f = 2,8 ~ 10 mm); 3-axis rotation for flexible viewing angle; Mounting options for surface or flush mounting; Day/night switching with automatic IR cut filter.

www.everfocus.de

Video All-rounder

With its Video Netbox Dallmeier showcased a versatile video recording server at this year's Ifsec in Birmingham. Owing to its compact and sophisticated design it is flexible and can be mounted in almost any location. Configuration, recording, transmission and evaluation – the VNB offers full functionality within a small housing. Through individual configuration options the user gets a system that is adjusted to his requirements and network infrastructure. It is also suited for flexible temporary applications, for example at construction sites, for undercover investigations, in branches etc. The small scale VNB is also based on the manufacturer's hardware concept, offering reliability and user-friendliness. The standard version is equipped with two video inputs which can be expanded to up to eight video channels, two at a time. High-definition cameras are also supported (resolution SD, HD 720p, HD 1080i, and HD 1080p, up to eight megapixels).

www.videonetbox.com

Video Security Cameras for Europe

Sony Professional has announced the European launch of two new video security cameras. The SNC-DH180 and SNC-DH240 have been on show for the first time in Europe at Ifsec 2010, following the initial unveiling at ISC West in March. These cameras are focused on image quality coupled with the powerful video analytics of the manufacturer's Advanced Distributed Enhanced Processing Architecture (DEPA). The SNC-DH180 vandal-resistant camera, boasts a built-in infrared (IR) illuminator to deliver excellent images even in absolute darkness. The wide dual-stream network camera supports H.264, MPEG-4 and JPEG compression formats and is specially designed for surveillance applications with its rugged features and image-enhancement technology. The SNC-DH240, with easy focus function and zoom, is equipped with various image enhancers including View-DR and XDNR (excellent dynamic noise reduction) for clear images without motion blur under low illumination.

www.pro.sony.eu

4-Channel Compact Digital Recorder

Abus Security-Center introduces the Eytron 4-Channel Compact Digital Recorder TVVR30000 enabling private households and shop owners to undertake easy video surveillance for their own homes, holiday homes and businesses. The compact digital recorder has intelligent alarm functions and real-time recording. Specifically designed for private or small-scale retail use, the four camera inputs are sufficient to perfectly monitor the most important areas. You can either record continuously using a programmed schedule, or on motion detection. Video and audio signal compression uses the storage-efficient H-264-format enabling simple, global network access through the built-in web server. Fast data backup via USB is also possible. Particularly attractive are the two surveillance kits of the TVVR30100 and TVVR30400 recorders. They include one or four of the waterproof Eyseo IR Mini Outdoor Cameras plus a 20 m-combination cable and compatible power supply.

www.abus-sc.com

IR and White Light Illuminators

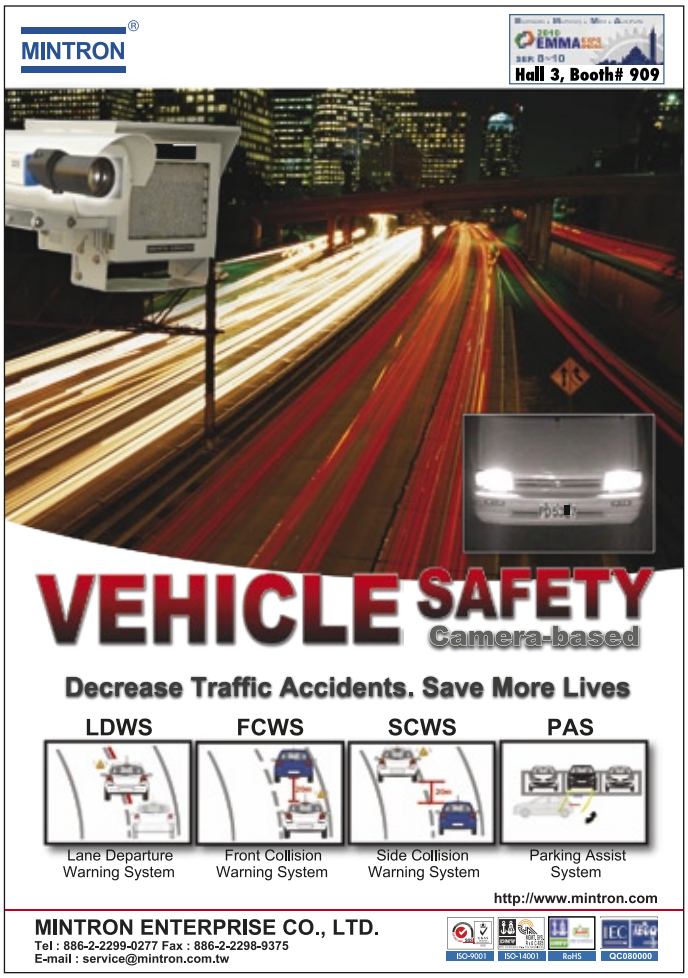
Geutebruck has added a series of new maintenance-free LED, infrared and white light illuminators to its Helios range. Besides the latest high power LED technology to provide even, adaptive illumination, these lights also offer an eco-logic mode to reduce normal power consumption by 50 %, but provide full power on request; timer control of modes; remote dimming; a short term booster to increase the light output by 33 %; and a perma light function for constant output over the whole operating period. In addition, the white light illuminators also have a flashing light deterrent function. All models have two light sources, but come in different sizes, with different adjustable illumination angles and ranges of up to 300 m depending on the camera.

www.geutebrueck.com

Briefcam: Integration Partnership with Genetec

Briefcam has gained Genetec as its newest technology partner. Users of Genetec's IP video surveillance solutions will now benefit from Briefcam's Video Synopsis technology, which creates summaries of original surveillance video, giving users the ability to browse hours of surveillance video footage in just minutes. Genetec is a pioneer in the physical security and public safety industry and a global provider of IP video surveillance, access control and license plate recognition (LPR) solutions to markets such as transportation, education, retail, gaming, government and more. Briefcam VS Online is now integrated to Genetec's Security Center 4.0, a security platform that unifies its Omnicast IP video surveillance, Synergis IP access control systems, and Autovu IP license plate recognition (LPR) system.

www.briefcam.com



Network-friendly DVR

The latest addition to the Samsung DVR range, the SVR-470, utilizing "network-friendly" H.264 compression to minimize storage and bandwidth requirements, is able to simultaneously record video in real time across all its four channels. Equipped with a built-in 3.5" LCD screen for space saving and convenient viewing, it is likely to prove popular with end-users who require a CCTV system with only a small number of cameras but will expect to be able to record and store images of the highest quality. The system has a 1 TB on-board storage capacity with a USB terminal to facilitate the transfer of video evidence. Supplied with them manufacturer's license free CMS (Centralized Management Software), it offers a long list of other user-friendly features including a fourteen language on screen display menu, 10/100 base-T network interface capability and ATM-POS text saving options.
www.samsungcctv.com

Digital FCB Block Cameras for IP Applications

Sony's Image Sensing Solutions (ISS) division previewed its next generation of FCB block cameras at the 2010 Ifsec security tradeshow. The FCB-E range of OEM block video cameras gains a digital output, meaning users can integrate the device, into IP based applications and a number of additional features. The device on display at Ifsec also integrated several technologies that are new to the FCB range, such as true progressive scan, color enhancement and new lens technology. The range's enhanced image stabilization, horizontal resolution, white balance and wide D functionalities will increase the extensive range of applications. Matthew Swinney, Senior Marketing Manager, Image Sensing Solutions, Europe, said: "The range will consist of seven modules and the first in the series will be the FCB-EX1020/P."
www.pro.sony.eu/vision

Long-range Imaging System

Bosch Security Systems announced a new configuration for the GVS1000. This active-infrared system facilitates easier integration with the manufacturer's head-end solutions. With support for its Bi-Phase protocol, customers can now control the system with the Divar, Dibos series of digital recorders, as well as the video management and Vidos systems. Coupling the advanced day/night, pan/tilt/zoom system with high-performance Bosch head-end solutions makes it possible for customers to seamlessly manage GVS1000 video streams alongside images from other cameras. The system uses two sets of active infrared illuminators for both long and medium-to-short range nighttime imaging. The system provides full Detection, Classification, Recognition and Identification (DCRI) capabilities and enables early threat detection in low light or total darkness. The user can see fine details, including clothing or letters, at one kilometer (3,300 feet) for recognition-level imaging and get 1,200 meters (3,900 feet) of classification-level imaging.
www.bosch.com

4-channel Video Server

The new 4-channel video server ERS-4 from Everfocus is now available ex stock. Being part of the Nevio IP product family, it provides up to 100 IPS recording, playback and streaming rate as well as a resolution of max. 704 x 576. The video server is equipped with the latest H.264 compression technology, audio in- and output and two monitor outputs (BNC/VGA) and offers simultaneous network live/playback operation and local recording (manual, schedule and event recording). Main features include: H.264 compression format; user-friendly graphic user interface (GUI) with graphical icons and visual indicators; menu setup local (mouse, local monitor) or via network (browser, CMS); express setup function; audio recording capability; optional one built-in SATA hard disk, and multi-language support.
www.everfocus.de

Video Analytics Product Range

COE released its I-Command Smartdetect, an addition to the I-Command IP management product range. This is a set of high-performance intelligent video analytics products, capable of detection and identification of a wide variety of user-defined events. Aimed at the professional video surveillance market, the system is a powerful technology that can add depth to the functionality of a CCTV network, identifying risks and extracting business value. It is a comprehensive set of intelligent video analytics products, and may either be embedded in COE's hardware products, or operated as stand-alone products through proxy server installation. The product range is compatible with the company's entire product range, either through embedded processing or proxy server architecture. The system is also designed to integrate seamlessly with the I-Command range of IP management products.
www.coe.co.uk

Fire Protection without Side Guides and Pillars

Buildings with several floors bear the danger of smoke and fire spreading all over it in case of fire. Having e.g. escalators passing through ceilings or floors makes it impossible to use horizontal fire protection closures. Till today, using systems which require support construction at the corners and closing the therefore created areas with standard closure systems have been the only possibility to solve this challenge. Besides of just having the pillars there, they also need to match fire rating requirements. Stöbich Fibershield-S creates a closed area from the ceiling to the floor level, e.g. to close an escalator and to avoid the spread of smoke and fire to limiting parts and levels of the building. At the same time it enables for a safe escape through the area which is protected by the system. The solution offers completely closed corners in one system and therefore there are no gaps when the system is in its closed position. It provides a reliable fire protection of such areas completely without the need of having side guides or pillars anymore. The system is completely sealed and has no remaining openings. Another huge advantage is that it does not limit requests from architects as it offers invisible smoke and fire protection. Different designs individually adapted to the special situation on site can be achieved due to this unique development. Very large dimensions as well as variable runs e.g. with negative or positive angles from 30° to 150° are possible. Open and closed base areas can be protected. The technique of folding the glass fiber fabric into the casing offers another world novelty to the market. An additional feature is the self-leveling bottom bar which guarantees for a flush sealing with the ceiling and a safe sealing at the floor level even in case of high temperatures.
www.stoebich.com

Wide Angle Varifocal Lens

EZ 425, the 8,5 mm outdoor day/night camera with IR LED from Everfocus, is now also available with built-in 3 ~ 8 mm varifocal lens for wide-angle applications. Item code for this model is EZ 425 PV1, while the well-known 6 ~ 15 mm varifocal lens model is available as EZ 425 PV2. Naturally, also EZ 425 PV1 comes with the following features: high resolution (520 TV lines); 48 powerful IR LED; IR range 10 ~ 25 m; Multiline OSD with key control at camera back panel; Automatic or manual day/night control; four adjustable privacy zones; 8 x 8 zone motion detection with adjustable sensitivity; IP65 weatherproof outdoor housing; Integrated wall bracket.
www.everfocus.de

Door Locking System

The Security Door Locking System D2 from Winkhaus is particularly simple to install. The multi-point locking system's adjustment mechanism is easy to use, two double deadbolts make this system extremely sturdy. Even wide sash-to-frame clearances and dimensional deviations at the top and bottom of the door leaf do not cause problems during installation. The locking system can be readily installed and adjusted by door manufacturers. The system is suitable both for door leaves featuring a left-hand or a right-hand hinge as the same locking system can be used for both swing directions. The reversible configuration and wide tolerance range give the system its shape. The lock carries the British SBD (Secured by Design) logo, which certifies high security performance in accordance with PAS 23/24.
www.winkhaus.de

Fencing Solutions

Zaun's Armaweave is a high tensile woven mesh fencing range. Developed by an expert design team and produced at the company's manufacturing facility in the West Midlands, the woven pattern requires no welding to hold it together. Paul Painter, MD at Zaun, explains: "The Armaweave range stands out from the rest as it has been specifically developed with a tightly woven mesh pattern to provide a solid solution, guaranteed to withstand heavy-duty damage. It is tailored towards applications that require the highest measures of security, including areas of critical national infrastructure – e.g. utilities, data centers, airports and MOD sites. It is manufactured to make gaps between steel as small as possible, providing no climbing aids for intruders and minimal room for blades and cutting tools to fit. It significantly improves delay times of attacks from cutting with hand, powered or non-contact tools that traditional welded mesh systems would not stand up against."
www.zaun.co.uk

Megapixel IP Cameras

Eneo introduces its NXC and NXD cameras Series. The NXC covers network cameras, the NXD Series fixed domes series have a choice of four versions: with one or two megapixels, and each with and without a removable IR cut filter. In addition to MJPEG, all models offer the efficient H.264 compression that gives high picture quality with low bandwidth requirements. The resolution, frame rate and bit rate can be individually configured for up to four multiple video streams. The resolution of the 1-megapixel models lies at 1,280 x 720 pixels, that of 2-megapixel models at 1,600 x 1,200 pixels. Cameras and domes in both Series support Onvif standard that guarantees products from different manufacturers can exchange information so and they can therefore be installed along with each other in a multi-vendor system. Currently these functions are supported: device identification and management, media configuration, IP configuration, event handling, real-time display, PTZ control, security setting and video analysis.
www.eneo-security.com

IP Fixed Dome Cameras

Basler's IP Fixed Dome Camera models have entered series production. The following models are available with dome housings: BIP-D1000c-dn with a resolution of 1,024 x 768 pixels, and the BIP-D1300c-dn with a resolution of 1,280 x 960 pixels. With their vandal-resistant aluminum housings and an operating temperature range from –35 °C to +50 °C (–31 °F to +122 °F), these cameras allow video surveillance in outdoor applications and under tough indoor conditions. They are especially energy efficient. All camera functions including fan and heater can be powered using standard PoE (Power over Ethernet IEEE 802.3af Class 0). The cameras also have a built-in micro SDHC card slot that can be used for local file storage. All of them offer the same functionalities as their "box" counterparts. This includes true day/night functionality for night and low light applications while providing outstanding image quality from the best Sony CCD sensors.
www.basler-ipcam.com

Invisible Security

www.chipbox.at

The Chipbox electronic furniture lock from Data Mobile for drawers and cupboard doors is secure, simple to use and compact. The new Chipbox II generation goes even further with regard to security and design: breaking it open is just about impossible, and an integrated alarm will be sounded if the lock is left open too long. Additionally, the lock can be built into the furniture taking very little space and is not visible to the user – it is even possible to mount it invisibly within glass cabinets. The furniture lock is a mechanical and electronic combination. It can only be opened with an authorized radio data carrier (chip, coded key or chipcard); conventional keys are not necessary. If a data carrier is lost it can be barred and unauthorized access thereby prevented.
www.datamobile.at

Functionality Enhanced

Bosch Security Systems has introduced a new firmware release for its Hybrid Divar XF H.264 recording platform. Simplifying setup and reducing IP camera installation time, firmware release 3.1 provides a fully automated IP discovery and assignment mode. With this mode, the recording platform automatically scans the network for any connected Bosch IP devices. The user is then presented with the option to either assign the IP device directly to the Divar XF or begin recording – or to update/change the IP address. Now IP camera set-up can be accomplished a few simple clicks of a mouse. The firmware release also allows IP camera profiles and the detection fields for motion recording to be managed directly from within the Divar XF, eliminating the need for PC-based configuration and management of the IP devices. In addition, text support (licensed feature) is provided to enable recording of text together with associated video. This is useful for integration with license-plate recognition systems such as Bosch's REG-Sentry.
www.boschsecurity.com

Five New Products at Ifsec

Kentec Electronics has launched five new additions to its product ranges at Ifsec 2010. They are the result of the manufacturer's current R&D program and include Alarmsense compatible Sigma CP-A 2, 4 and 8 zone fire alarm control and indicating panels, utilizing cost-saving two-wire technology; Openconnect BMS Communications Interface for easy-to-configure integration of Apollo Syncro or Syncro AS networks to Building Management Systems via a wide range of protocols; a new range of illuminated Warning Signs featuring high intensity LED indicators; new audible-visual alarm-status Indicator Units, and the new S408 Power Supply Units for continuous power or battery charging.In addition to these new products, the company has featured its flagship Syncro Range, including the Syncro AS Analogue Addressable System. Other featured products were members of the Sigma range of extinguishant control panels, the Syncro Guide fire alarm management system; the Matrix Mimic fire alarm mimic display, and new Syncro Ident LED indicator panels that provide a supplementary alarms location display for the main fire panel. Also on show were VES's UL-listed, FM approved, Elite analogue-addressable fire alarm control system that simplifies local configuration of a diverse range of fire systems scalable from the stand-alone to the highly complex network.
www.kentec.co.uk

Induction Loop Testing Kit

C-Tec has launched a test kit for audio-frequency induction loop systems (AFILS). With its easy-to-read digital display, the Fosmeter Pro Kit is an effective induction loop, containing everything needed to ensure AFILS installations work correctly and comply with the updated requirements of BS EN 60118-4. The kit includes a Fosmeter Pro – an intuitive handheld magnetic field strength, background noise and frequency response meter, and a MP3 player (with headphones) pre-loaded with all the sine wave tones, music and speech tracks required to do the tests. Loop listening circuitry aids subjective listening tests and results are clearly graphed on the instrument's digital display.
www.c-tec.co.uk

All-in-One Digital Recorders

Abus Security-Center introduces the next generation of the Eytron All-in-One-Digital Recorder. This digital recorder family comprises an 8" model and two 19" TFT versions enabling the All-in-One-Digital Recorder to fit easily and discreetly into every working environment – e.g. a hotel reception, a shop counter or an office. The easy to use mouse-driven Plug & Play Recorder makes video surveillance especially user-friendly. In addition to the many standard functions of the new recorder range such as real-time recording of video and audio signals and the storage-efficient H.264 data compression, the recorders come with other extras. For example the integrated LAN connection via a web server enables worldwide access to video data. Suitable cameras and a hard drive are all you need to create a professional video surveillance system.
www.abus-sc.com

Explosion Proof Housings

Maximus, a new Videotec product line, features a broad range of stainless steel housings and integrated positioning units, designed for demanding applications in accordance with the strictest standards for explosion risk environments. The range offers sturdiness, easy installation and low maintenance. It comprises a selection of systems and different versions to meet diverse installation requirements. This includes housings with heater and wiper, integrated positioning units with day/night camera, solutions for thermal imaging and the integration of an infrared illuminator for round-the-clock monitoring. Housings, pan and tilts are made of passivated, electro polished AISI 316L stainless steel for high ultraviolet ray resistance, saline mist, and pollutants in the atmosphere.
www.videotec.com

Wireless Bridging Technology

Wavesight addresses CCTV surveillance requirements with high performance wireless bridung technology. The technology delivers high bandwidth video transmission over low power, unlicensed wireless bridge. The outdoor wireless communications solutions are gaining substantial market traction with security and surveillance systems integrators globally. Featuring extremely high levels of data security and SPG1 – the company's own data compression technology, Wavesight wireless links provide low latency, high quality video links ideally suited to modern security and surveillance installations. The Wavesprint, Waveflow and Wavemax wireless bridging systems provide secure, high bandwidth video communications over distances of up to 40 km, on unlicensed 2.4 GHz and 5 GHz bands. The wireless transmission solutions deliver very high performance at a price-point substantially lower than competing systems. Wavesprint provides short distance wireless bridging, with data rates of up to 54 Mbps as standard or 108 Mbps in turbo mode, at distances up to 1 km. Waveflow meets requirements for wider area communications at distances up to 5 km with data rates up to 108 Mbps in turbo mode, while Wavemax offers the same data rates at distances up to 40 km.
www.wavesight.com

IP Speed Dome Camera

Everfocus has introduced its 6,35 mm (1/4") 36x day/night IP speed dome camera with auto tracking function EPN 3600. Being part of the Nevio IP product family, the high-performing speed dome camera features H.264/MPEG4/MJPEG compression with up to 25 fps digital output at 4CIF resolution. With triple-streaming output, EPN 3600 offers simultaneous live monitoring and high-resolution recording as well as built-in network connectivity. The EPN series is engineered with an intelligent auto-tracking function to detect any progressively moving object and follow it within the speed dome's area of coverage. Auto-tracking also features exclusive masking, pan/tilt limits and flexible resume functions. EPN 3600 further provides Wide Dynamic Range (WDR) for extreme lighting conditions and is available as outdoor and indoor model. Main features include: 36x optical zoom (+12x digital zoom); H.264/MPEG4/MJPEG digital signal output with up to 25 fps; H.264/MPEG4/MJPEG multistream output for simultaneous live monitoring and high resolution recording; smart auto tracking function; Integrated Wide Dynamic Range.
www.everfocus.de

FIRE DETECTION

Fire Detection for Court Buildings

Apollo Holds Court

Court buildings have some interesting fire detection requirements. As public access buildings, comprehensive fire protection is paramount. There are also areas like holding cells which may require special evacuation procedures in the event of an emergency. Apollo fire detection technology has recently been installed at two court buildings in the UK as part of an ongoing programme of refurbishment by Her Majesty's Court Services (HMCS).

Open Protocol Was the Choice

The Magistrate's Court in Milton Keynes, Buckinghamshire, has had a total upgrade to meet L1 requirements. The new intelligent fire detection system was installed by Network Security & Fire, based in Basingstoke. There was no possibility of closing the building while the upgrade was carried out, so installation of the new fire equipment took place out of hours. Around 260 Apollo Discovery devices were used in total, including optical smoke and heat detectors, loop-powered beacons, manual call points and interfaces. The fire system is configured around three networked Advanced Electronics control panels. John Angell, Contract Manager for Network Fire & Security, says: "We would always recommend Apollo as part of a fire detection solution. Their open protocol allows us to choose exactly the right equipment for a project and tailor the solution to the client."

Just 10 Weeks

Maidstone Combined Court in Kent has also been equipped with a new Apollo-based fire detection system. The building was constructed in 1983 and houses both the Crown and County courts. Six storeys in height, the Court is most famous for the recent trial surrounding the £53 million Securitas depot raid in 2006, for which six people are currently serving sentences. The fire detection contract was awarded to R&M Clarkson, who were given a project time of just 10 weeks. Neil Shrubsole, the company's Operations Director, explains: "Working to such a short time-frame, we needed to be certain that the equipment would arrive on site exactly when it was needed. We also needed assurance that the fire system was based on proven technology and that it would be reliable from day one. Apollo fulfilled every aspect of this brief and we had no hesitation in recommending their technology."

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TRANSPORTATION SECURITY

Cargo Screening

Industry Looks to Achieve 100% Cargo Screening but Deadlines Missed

August will see another deadline missed to deliver effective security for belly-hold freight on passenger flights. The news was broken by Gale Rossides, Acting Administrator of the Transportation Security Administration (TSA), in testimony before the Appropriations Committee's subcommittee on Homeland Security in the US House of Representatives in early March. Rossides told the subcommittee that while 100% screening of belly-hold cargo on domestic flights would be achieved by the deadline, it would take up to another two years before the same could be said for inbound international belly-hold cargo.

The delay has been caused by problems in getting foreign government cooperation. Some 20 core countries are responsible for around 85% of air freight shipments to the US. Delegates at the 2nd Lufthansa Cargo Security Conference held in Frankfurt heard that this failure in getting agreements was largely of TSA's own making though.

Warren Miller, the TSA's International Air Cargo Branch Chief, admitted that the organisation had initially been "myopic" in its approach to achieving 100% screening, given a primary focus on purely domestic rather than domestic and international air freight security. He went on to say that TSA is "not even at pilot stage" in rolling out a long term, layered approach based around risk targeting. Aside from stating that rhetoric is poles apart from reality, he proffered only that US experience indicated that focus on the supply chain was the best way forward for imports, adding the usual mantra about harmonising and strengthening global standards.

Which Version Best Version

A cynic might argue that the initially myopic focus he spoke about, was driven by a belief held in Washington D.C. that the rest of the world would simply roll over and accept that their way is the best way and the only game in town. The cynics would, undoubtedly, be correct in that assertion. Europe has, in part, already bent to US will.

European Commission (EU) regulation 300/2008 incorporates many of the tougher US requirements and replaces previously published regulation enforced after the September 11 terrorist attacks. Eckard Seebohm, Head of Aviation Security, European Commission (EC), is on record diplomatically stating that a working group comprising shippers, forwarders, airlines and airports, had examined all the issues pertaining to air-freight security and concluded that mistakes had been made when the previous regulation (2320/2002) passed into law. Consequently, 300/2008 includes three specific and much more robust elements (independent validation of known consignors; a mandatory EU cargo database embracing known and unknown or unaccredited consignors and a distinction between direct and transit cargo) which match US policy.

Introducing new regulation is one thing but turning regulation into practice is quite another though. Seebohm admits that there are huge challenges ahead for the aviation industry and the supply chain, not least of which is the requirement for independent validation of known consignors. He is also on record stating that the US may just have to an accept an alternative (such as sniffer dogs) to x-raying every item of belly-hold freight, given that the piece level 100% screening requirement favoured by the TSA could potentially bring air-freight movement between Europe and the US to a grinding halt if a hardware only solution were to be rigidly enforced.

A disconnect also remains in respect to timing. TSA's Rossides states that it will take another two years before 100% international air-freight screening will be achieved. Seebohm favours a three-year transition period since some countries remain woefully behind the curve in their preparations.

Focus on Compliance

With EC regulation 300/2008 having just become law and much debate consequently still raging between regulators and within the industry over how best to achieve compliance, the key issues will be outlined and discussed in detail at the forthcoming Transport Security Expo & Conference, being held 14-15 September at London Olympia. This annual event will bring focus to many of the fundamental issues the regulation raises, help in identifying who within the extended supply chain has responsibility for what and attempt to answer the vexed at what cost question.

Principal speakers from the International Air Transport Association (IATA), Association of European Airlines (AEA), Swissport, CEVA Logistics, Cargolux and DHL amongst others, will share knowledge and invite in-depth discussion on achieving a 100% cargo screening regime within a one-stop security environment. Considerable disquiet remains about the industry's ability to secure the supply chain fully given that very many questions remain perplexedly unanswered at the regulatory level. Not least of these questions is the unknown cost of accreditation and validation. How many consignors within the supply chain become accredited will depend on both the bottom line figure and how onerous the process of validation is.

Ekhard Seebohm has said that the one-stop security approach for cargo should not be over complicated since it provides a framework for all known consignors and regulated agents to be recognised throughout all European Union (EU) member states. He admits that the validation re-

quirement will probably result in a sharp drop in the number of known consignors though. Whilst it's patently obvious that many low volume consignors will simply not bother with accreditation since cost would likely outstrip value, there are clear rumblings along similar lines from larger volume consignors as well. A representative of Seimens told the Lufthansa Cargo conference held earlier in the year that while it takes supply chain security very seriously indeed, "certified consignor status will increase costs drastically".

Back Story

The back story in much of this discussion is that a strongly held belief remains that centralised screening at or close to airports may be a more viable process. Seebohm makes the point that this approach would serve only to create major bottlenecks at airports, thus severely hampering just in time trade.

He stressed that, for the time being, the priority had to be getting the EU-originating US bound screening methodology right, with focus shifting to other related matters over time. Referring to in-transit air-freight, he says that he's still looking for a measured and reasonable approach that will obviate US All Cargo International Security Programme requirement for exhaustive searches of aircraft loading goods from non certified airports outside of the EU.

Transport Security Expo & Conference

Formerly known as TranSec World Expo, this event enters its 8th successful year as the pre-eminent Transport Security Expo and Conference. It remains the only event of its kind globally to bring together the full spectrum of key stakeholders and industry leaders with the areas of Aviation, Maritime and the Supply Chain security under one roof to debate the major issues facing us today. The event features an exhibition, conferences, workshops and all important networking opportunities. Transport Security Expo & Conference moves to London for 2010 and will take place in the world-renowned Olympia Conference and Exhibition centre, 14–15 September 2010.

These issues and very many more will undoubtedly be aired at the Transport Security Expo & Conference in September and it remains critically important that those with a vested in the air-freight arena attend to let their views be heard. We may only be talking about a known consignor programme that's been given a course of steroids and a US style makeover, but the requirements could have a profound effect on your business and bottom line.

The Author

Chris Yates

Chris Yates is the principal of Yates Consulting, a specialist consultancy with a focus on aviation safety and security matters. He will chair the second day of the Transport Security Expo aviation security conference on 15th September 2010.

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Aircraft Video Camera Solution

AD Aerospace has signed a deal with a major European airline as the launch customer for Cabinvu Witness, a digitally recorded video camera security system which covers not only the flight deck door, but also the entire passenger cabin. "This is a major technological step," said Managing Director Mike Horne. The deal covers an entire fleet of more than 40 aircrafts of several types and represents a major investment by the airline in enhanced security for their passengers, setting them apart from the competition. The system uses the familiar Cabinvu cameras interfacing with an Ethernet accessible Video Server. This allows footage to be viewed live on the flight deck using a stand-alone monitor, as well as being recorded for later review. The Video Server is an upgraded version of the unit which has been available on new Boeing aircraft since 2005, and using the latest technology, offers increased processing power as well as reduced weight and size.
www.ad-aero.com

Supporting Wireless Communication

Wavesight provides tools to allow systems integrators to proactively support wireless communication systems. Systems integrators can now offer improved support and maintenance services without the need for access to customer IP networks. Systems integrators who install wireless private network infrastructure can often add value for their customers by offering support and maintenance services. But often these services can only be reactive, with customer IT departments reluctant to allow external third party access to their internal IP networks. In such instances, the only way for a system integrator to provide pro-active support would be to have personnel placed on site at the customer's facilities. Now the company is able to offer a solution in the form of Wavepulse, which offers a secure, remote monitoring solution without the need for direct access to the customers IP network. Used in conjunction with Wavesight outdoor wireless links, Wavepulse uses GPRS technology to implement a VPN (virtual private network) that links in to the wireless IP network using a standard Ethernet connection. Wavepulse does not provide access to video data streams and so does not compromise security. It monitors the quality of service of the company's wireless communications products on the same network, similar to industry standard SNMP solutions, but with the capability to change configuration, perform a system reset or upload new firmware remotely. The hardware platform is ad-hoc based and can manage a number of devices on the WLAN.
www.wavesight.com

Protective Work Jacket

Sympatex has developed its first 100 % recycled jacket for the protective workwear market. The eco-friendly Sympatex membrane is combined with a recycled external fabric and the first fluorocarbon-free DWR (durable water repellent) finish. All of the materials are produced in Europe using ecologically sound processes. The external fabric of the two-layer protective work jacket is made from completely recycled polyester, derived from old PET bottles. The manufacturer developed the coating used fort he jacket in close cooperation with Rudolf Chemie. The result is the first fluorocarbon-free DWR finish for textiles. This creates a 100 % waterproof and windproof fabric with maximum breathability, without compromising on ecological considerations. A wafer-thin layer of Bionic Finish Eco is applied to protect the clothing from dirt and moisture. It is also biodegradable and free from organic halogens.
www.sympatex.de

Mini-Dome Range

Dedicated Micros has launched its Camvu Mini-Dome range. The two key models are the Camvu Hyperdome and the Camvu Day/Night Mini-Dome which are suitable for deployment both indoors and outdoors. Looking at the Camvu Hyperdome, its Wide Dynamic Range (WDR) sensor means that this Mini-Dome is perfectly suited to difficult lighting conditions, such as those found in reception/entrance areas, correctly exposing shadows and highlights and allowing detail to be seen even when backlit. Turning to the Camvu Day/Night Mini-Dome, this model combines sensitivity to IR (Infra Red) light at night with the ability to deliver true color rendition during day light hours. Both of the Mini-Domes have been designed from the start to be vandal resistant. As such they are suited to installations where there is a requirement to withstand deliberate or accidental damage. Built from an impact resistant die cast aluminum body, with a tough polycarbonate bubble (rated to IP66), the Camvu Mini-Domes are also well equipped to cope with the challenges of harsh environmental conditions such as dust and water spray.
www.dedicatedmicros.com

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ABUS Security-Center is one of the leading manufacturers of electronic security technology. As a full-line distributor, ABUS Security-Center consistently markets an international range of products and services for the market segments of intrusion detection and video surveillance.

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CCTV, system solution, system integration, video monitoring security, building management

Alarm Management

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Manufacture and development of: alarm and conference units, VoIP- or ISDN emergency technology, alarm transmission systems

Security Management

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Video Technology

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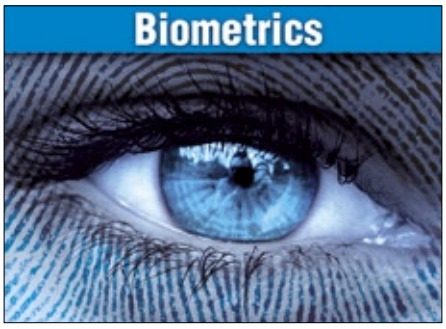

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SRD-1630(D)	H.264	16	No(Yes)	6(5)	4-CIF = 50ips 2-CIF = 100ips CIF = 200ips
SRD-1610(D)	H.264	16	No(Yes)	6(5)	4-CIF = 25ips 2-CIF = 50ips CIF = 100ips
SRD-870(D)	H.264	8	No(Yes)	6(5)	4-CIF = 200ips
SRD-850(D)	H.264	8	No(Yes)	6(5)	4-CIF = 50ips 2-CIF = 100ips CIF = 200ips
SRD-830(D)	H.264	8	No(Yes)	6(5)	4-CIF = 25ips 2-CIF = 50ips CIF = 100ips
SRD-470(D)	H.264	4	No(Yes)	2(1)	4-CIF = 100ips

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