Volume 6
January 2010

# GIT SECURITY

EMEA Edition

79 824

MAGAZINE FOR SAFETY AND SECURITY

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www.seetec.eu
SeeTec
network-based video surveillance

## Am I safe traveling home?

COVER: SIEMENS – Siveillance
Perimeter Protection
Alarm Systems
Video Analysis
Fire Protection
Access Control
Megapixel Lenses
Airport – Safety + Security

SIEMENS

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3:15 AM
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AXIS COMMUNICATIONS

# The Naked Truth

Nothing happens until something happens. One may have come easily to this conclusion following last month's discussions about body scanners for airport security. But in this case that's only half the story.

Full-body scanners probably would have spotted the explosives stuffed into the underwear of Umar Farouk Abdulmutallab, the Nigerian man who tried to blow up a U.S. airliner on Christmas Day. Following that day, a lot of announcements were made that the 'new' technology will be introduced as soon as possible at different airports worldwide. As a reaction to those announcements, a big public discussion about respecting passenger privacy started.

The truth is that the first whole-body imaging machine was already introduced at an airport in Phoenix in November 2007. According to the U.S. Transportation Security Agency (TSA), there are already about 40 machines installed in the U.S. and are being tested and used in 19 airports. Six airports in the U.S. are using whole-body imaging as a primary security measure (San Francisco, Miami, Albuquerque, Tulsa, Salt Lake City and Las Vegas). Others present body scanners as a voluntary secondary security option instead of a pat down or frisking, when somebody repeatedly sets off the metal detector or has been randomly selected for additional screening. So far, the testing phase has been promising. According to the TSA, when given the choice, over 99 % of passengers choose this technology over other screening options.

Like other technologies recently introduced to support the security for airports and other sensitive locations, body scanners were already on their way to being introduced on a large scale. The incident on Christmas Day will only accelerate the introduction and also the discussions.

Advances in the technology so that the human image is like a stick-figure and any anomalies are auto-detected and highlighted should help for the future and also a more sensitive communication that takes people's concerns seriously. The public should be informed about the advantages for its security. A big advantage of the technology is the speed. A body scan takes between 15 and 30 seconds, while a full pat-down can take from two to four minutes. And for those who do not like the idea of being touched by a security official, or are forever assigned to a pat-down because they had hip replacements, for example, the machine is a quick and easy way to avoid that contact and hassle.

But not only the public has to be informed. When we asked a producer for an article about the new technology early last year to inform our security professionals, our request was blocked. Nothing happens until something happens. I guess related to communication so often this is true. Some people start to communicate only after the bad news has spread.

Good news for our readers and for the companies whose products have been selected for the GIT SECURITY Award 2010 can be found on page 18 following.

Enjoy reading this issue!

Best wishes from the GIT SECURITY

Heiko Baumgartner

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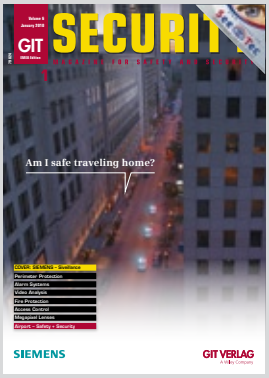
COVER




**Siveillance – Bringing Security Under One Roof**

Siemens presents Siveillance – the new family name for its security solutions portfolio. With Siveillance, Siemens unifies its entire security portfolio under one roof. The name Siveillance was chosen as "it already exists in some of our key security systems and we can capitalize and build on the current market awareness", explains Frank C. S. Pedersen, CEO Security Solutions of Siemens Building Technologies Division. "In addition, Siveillance reflects the innovative and forward looking approach the company is taking in developing security technology." The Siveillance family provides command and control, wide-area surveillance, security management and leading analytic solutions.

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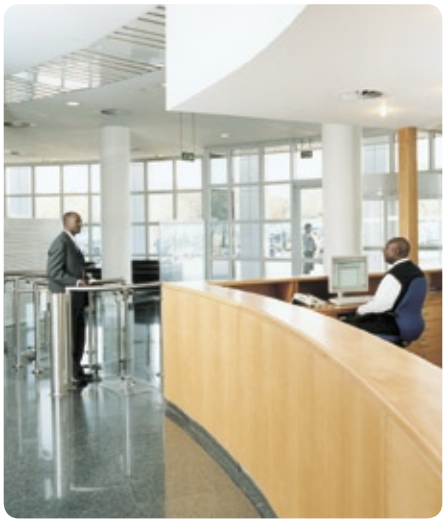

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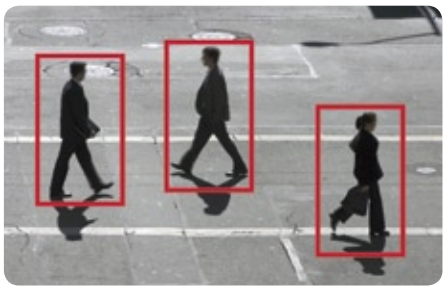

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## IDL: The Queen's Awards for Enterprise 2009

Integrated Design has been awarded the prestigious Queen's Award for Enterprise: International Trade in 2009. Lord Bilimoria of Chelsea presented Margaret Lauder, the company's longest serving employee, with the award. The Queen's Awards for Enterprise are the UK's most prestigious awards for business performance. They recognize and reward outstanding achievement by UK companies. The Queen makes the awards each year, on the advice of the Prime Minister who is assisted by an Advisory Committee that includes representatives of government, industry and commerce, and the trade unions.
www.fastlane-turnstiles.com

## Geutebruck Opens New Vienna Office

In November 2009 Geutebruck opened a new office and showroom on the edge of Vienna. Managed by Helmut Matzner, the company's area manager for Austria and chairman of the video working party in the Austrian security association (VSÖ), the new facilities are primarily intended for the benefit of the Austrian market but will also provide a venue for training and sales presentations for Eastern European customers.
www.geutebruck.com

## Eyevis: New Office in Rome

Due to many projects in Italy in 2008 and this year Eyevis decided to open an office in the Italian Capital. The office in Rome will support the company in its efforts to market products for large video systems or video walls in command and control rooms but also systems for simulation and virtual reality in the Italian market. Eyevis Italy will be equipped with a showroom to present new products and solutions. The company will offer technical assistance and advanced design support for multinational corporations with operations in the region, and facilitate implementation of its systems by local businesses.
www.eyevis.com

## Briefcam Adds Nice Systems as Technology Partner

Briefcam announced that it has added Nice Systems as a technology partner. Nicevision users can now also integrate to Briefcam to benefit from Video Synopsis technology, which creates a summary of original surveillance video and gives users the ability to review hours of footage in just a few minutes time. Nice Systems is a global enterprise and security solutions powerhouse, providing solutions that enable organizations to operate in an insightful and proactive manner, and take immediate action to ensure safety and security and to improve business and operational performance. The company's security solutions help security organizations to better detect, verify, respond to, investigate and resolve incidents, in order to ensure the safe-keeping and protection of assets, infrastructure, and people. Video Synopsis is Briefcam's proprietary image-processing technology that synopsizes original full-length videos.
www.briefcam.com

## EMEA Sales Team Expanded

Avigilon announced the appointment of Pedro Simoes as the company's director of sales for Spain, Portugal, and Africa; Celestino Gheoni as director of sales for Italy, Greece, and the Balkans; and Stefan Teuber as sales manager for Germany, Austria, and Switzerland. Simoes, Gheoni, and Teuber will be responsible for all sales activities required to support the needs of each region's expanding market. "We continue to experience widespread global demand for our award-winning HD and megapixel video surveillance solutions," said Dave Tynan, vice president of global sales and marketing at Avigilon. "Pedro Simoes, Celestino Gheoni, and Stefan Teuber will leverage their experience and deep industry knowledge to lead Avigilon's growth and support customer needs in their respective regions."
www.avigilon.com

## ADT Promotes Its First Graduate Engineers

This autumn ADT celebrates the company's first graduate trainees moving into permanent positions after their 18-month induction program. Despite the challenging economic climate, the firm has remained committed to bringing new talent into the fire and security industry through its graduate scheme. The company plans to take on a further six new graduates in 2010. The graduate scheme has enabled the five participants, mainly from electrical engineering backgrounds, to acquire a wide variety of skills from both colleagues and external experts. They also had the opportunity to rotate between departments.
www.adtemea.com

## Jari Valtonen Selected as Engineer of the Year

Jari Valtonen, managing director of Idesco Oy, has been selected as Engineer of the Year. The selection was made on Friday 20th November, 2009, by the Union of Professional Engineers in Finland. Headed by Valtonen, Idesco Oy develops remote identification solutions based on RFID technology that are used for access control, vehicle identification, payment systems and logistics among other applications. The company employs 25 people in Oulu, and a total of 100 people through networks.
www.idesco.fi

## Proveo Changes to Zebra Enterprise Solutions

Proveo has changed its name and will now conduct business under the name of Zebra Enterprise Solutions. Zebra Technologies Corporation acquired Proveo in July 2007 to be a part of a division, which also includes Navis, Wherenet, and Multispectral Solutions. Over the past two years, these four companies have been integrated into one business, to better serve customers throughout the world as Zebra Enterprise Solutions. This new division will unite technology and people under one identity and will continue to deliver the broadest range of real-time asset management solutions that enable customers to put the right asset in the right place at the right time.
www.zebra.com

## BSIA Welcomes Reduction in False Alarms

The British Security Industry Association (BSIA) has welcomed another significant reduction in false alarms across England, Wales and Northern Ireland following the release of figures from the Association of Chief Police Officers (ACPO). The figures demonstrate a 13.9 % reduction in police attendance to false alarms over the last year. Tim Geddes, the Association's Security Systems Section Chairman, says: „These figures are testament to the work that the private security industry is undertaking to reduce the level of false alarms. With the industry working closely with the authorities, valuable police time and resources are being saved and the use of the technology means arrests of offenders are being made."
www.bsia.co.uk

## IQinvision and Nuuo Provide Security for Bulgarian Auto Dealer

IQinvision announced that the largest Toyota dealer on the Balkan peninsula has deployed a Nuuo network video management system and megapixel cameras from IQinvision. The integrator in charge of system design and installation is Maxtel. About 50 cameras, ranging in resolution from VGA up to 3-megapixel, monitor the main showroom, a large parking lot, and the service areas – a complex of 11,000 $m^2$. The management system provides high-quality video, with recording during business hours and recording on motion after hours. The system also features foreign object detection video analytics for more effectively monitoring critical surveillance zones.
www.IQeye.com

## Protection for Exhibits in Museums and Galleries

Geutebruck's 'VA-Missing' software detects the removal of static objects from video-monitored scenes in museums, galleries and other exhibition venues, and in some environments it also provides useful information on abandoned objects. The software compares the current image with its own background model of the scene and checks out discrepancies for matches with freely defined criteria such as location, duration and object size (corrected for perspective). It avoids unwanted alarms by continually updating its background model to incorporate gradual changes – such as slow moving shadows, and by suppressing transient changes – such as those generated by passers-by.
www.geutebruck.com

## Pixim's Digital Pixel System for Security Cameras

Pixim announced that major security equipment manufacturers are continuing to adopt the company's technology in their latest cameras. Manufacturers recently adding it to their line up include Cisco, GE Security, Siemens Building Technologies, Rainbow, Clinton Electronics, Deview, Wren, Digimerge, and Innotech. The new offerings cover the full spectrum of security cameras including indoor domes, vandal-resistant domes, box type, and ATM cameras available in both IP and combined NTSC/PAL video formats. The technology enables video security cameras to achieve the highest levels of performance, delivering very high image quality, natural color, and lower compression rates across all lighting conditions.
www.pixim.com

## Successful Premiere for Security Russia

The subsidiary event of the premier global fair Security Essen presented itself as a subject pavilion in a prominent position at the leading Russian security fair Interpolitex. Over 15,000 visitors from 54 nations obtained information about innovations from the security sector. The exhibitors showed a comprehensive overview of the market: Security Russia focused on the field of civil security while Interpolitex concentrated on technologies and equipment for state security. "The objective of creating added value for the expert world as a result of the combination with the established Interpolitex has clearly been achieved," according to Klaus Reich, Director of Fairs and Exhibitions of Messe Essen. Because of this interlinking, both visitors and exhibitors profited from a wide-ranging spectrum of services and subjects. The 52 exhibitors presented themselves to a market with a lot of potential. In Russia, there is still a strong demand for security solutions for the civil and state fields; the Russian market is regarded as one of the most interesting anywhere in the world. The individual product segments of the security sector are registering growth rates between 10 and 35 %. Security Russia was organized by Messe Essen and the Russian fair organizer Bizon. The trade public at Security Russia, including military attachés, embassy representatives and security experts, praised the wide range and high quality of the products and services on display. The Russian Minister of the Interior, Rashid Nurgaliev, and the Russian Minister for Civil Defence, Sergei Shoigu, obtained information about new developments in situ.
www.messe-essen.de

## Kentec Protects National Art Treasures

Founded in 1856, the National Portrait Gallery, London, holds the most extensive collection of portraits in the world, from Holbein to Hockney, and the collection includes work across all media, from painting and sculpture to photography and video. Kentec's Syncro fire control panels were specified for this historic building's fire detection system upgrade. The system, engineered and installed by fire protection systems specialists Stalleon Services, includes a Kentec 8 Loop Syncro Control Panel and Syncro Response repeater panel, with over 700 Apollo Series 90 and XP95 devices supported by Apollo's open protocol fire data communications.
www.kentec.co.uk

## Nedap and Kapsch Announce Partnership in Austria

Nedap Security Management and Kapsch Businesscom have announced that they entered into a partnership agreement to collaborate on the Austrian security market. System integrator Kapsch Businesscom will become the new Business Partner of Nedap, the Dutch manufacturer of security management and access control systems. The agreement between both parties is aimed at expanding Nedap's activities in Austria. Kapsch is not only active in Austria, but also in the Czech Republic and Slovakia.
www.nedap-securitymanagement.com
www.kapsch.net

## TEB Reinforces Its International Team

TEB has appointed Richard Mamecier as director of international sales. He began working for the company as salesman in the early 2000s, and has then served as export sales manager in the electronics industry in Asia and Middle East mainly. Back in the company in October 2009, Richard Mamecier was responsible for the firm's international business development.
www.teb-online.com

## Multi-technology Reader Market Growing

A report from IMS Research entitled the world market for electronic physical access control equipment, predicts strong, sustained growth for multi-technology readers. Despite the global economic slowdown, multi-technology readers are forecast to account for over $35 million of global reader revenues by 2013, with a CAGR of 14.2 %. An increased need for verification and integration is causing a shift in the market from proximity to smart card technology. Housing both proximity and smart card technology in a single reader, multi-technology readers create a less expensive and ideal transition pathway between the two technologies.
www.imsresearch.com

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## Conway Seeing Clearly

Conway Security Products has supplied a wide range of products that has been installed on behalf of port authorities at Antwerp, one of the largest commercial harbors in Europe. The solution forms a key part of the harbor's liability dispute management operations and has already proved successful in settling claims for damage to port structures. Belgian-based Viziocam, who distribute Samsung Techwin products in Belgium, were asked to provide a CCTV installation that could operate in tandem with the harbor's radar under low light conditions. Working with Dutch integrator XVR, the company created a solution involving the Samsung Techwin SHC-750 ultra low light camera that can provide usable images even in overcast starlight. The whole solution, including the telemetry receiver, has been assembled into an IP66-rated Conway camera housing complete with wiper.
www.conway-cctv.co.uk

## Dallmeier Supports José Carreras Centre for Somatic Cell Therapy

In late September, Minister of State Dr Wolfgang Heubisch and star tenor José Carreras himself inaugurated the José Carreras Centre for somatic cell therapy at the Regensburg University Hospital. The center is designated to become a driving force in the development of new immunotherapies that are meant to give new hope to cancer patients. José Carreras knows what the disease is like as he himself developed leukaemia in 1987, but thanks to stem cell therapy he was cured and survived. He has since been pursuing one goal, which he sums up by stating: "Leukaemia must become curable. In every single case." Over the past few years, the trust he founded to fight the disease has invested more than three million Euros in research conducted in Regensburg. The José Carreras Centre alone has been supported with one and a quarter million Euros.
www.dallmeier-electronic.com

## Thermal Cameras for CCTV Applications

Videor has been marketing Flir thermal imaging cameras on the UK market. Phil Wilkinson, Videor UK General Manager: "We are proud to offer the full range of thermal imaging products from the world's leader in the infrared technology segment. Videor customers now benefit from Flir's 50 years of experience in the development and production of infrared cameras for thermal night vision applications." Flir Systems, based in Wilsonville (USA), has been supplying security technology for the German market to Videor for three years. In addition to the sales success achieved in Germany, the easing of export licence restrictions by the US Government has also played an important role for the extended distribution rights.
www.videor.com
www.flir.com

## Hikvision Establishes Europe Branch Office in Amsterdam

Hikvision Digital Technology announced the establishment of its Europe Branch Office Hikvision Europe in Amsterdam, the Netherlands. Dedicated technical teams will conduct product training and provide technical support to customers. The Europe maintenance center will also be located at the Branch Office to provide timely maintenance services. In addition, the warehouse will also enable Hikvision to deliver products within the shortest time in the European region. Very shortly after establishment this office will provide sales, delivery and after-sales service covering all of Europe, both EU countries and non-EU countries.
www.hikvision.com

## Ioimage Receives Lenel Factory Certification

Ioimage has obtained Lenel factory certification for Onguard 2009 and has become a member of the Lenel OpenAccess Alliance Program. Onguard offers advanced access control, alarm monitoring, digital video, intrusion detection, asset tracking, information security integration, credential production, and employee and visitor management functionality. As a result of this partnership, the company's intelligent video devices can be seamlessly integrated. Video from the company's intelligent encoders and cameras viewed through Onguard's user interface provides real-time detection, alert and tracking of intruders, vehicles and threats, transforming video surveillance into a proactive, event-driven process.
www.ioimage.com

## Brivo Relies on Solution from Dell

Brivo Systems announced that its ongoing rollout of OVR Webservice benefited greatly from a highly productive technology collaboration with Dell. Brivo completed this major new addition to its Software-as-a-Service (SaaS) access control solution – an integrated, online video recorder (OVR) that streams IP video from customer locations to a secure Web hosting facility – and launched OVR in April of this year. The company built the video hosting platform in response to a large, under-served market for Video-as-a-Service, particularly among small businesses and geographically distributed enterprises with widely dispersed assets. Dell was an essential technology partner on the project.
www.brivo.com

## Suprema Wins India's Coastal ID Project

Suprema, a provider of biometric technology, said that its RealScan-D live scan system has been selected for the coastal ID project of India under the ministry of home affairs. As part of this coastal ID project, citizens demographics, photographs and all ten fingerprints are being taken to prepare the biometric smart cards that can be useful in identifying illegal immigrants and terrorists using the sea route. The 26/11 terror attacks on Mumbai have expedited the Union government's move to create a National Population Register (NPR) for residents in the coastal areas. The initial project will cover 12 million citizens living in coastal villages of 13 states/union territories and will be expanded to national level subsequently. The project is being carried out by the consortium of public sectors including Bharat Electronics (BEL), Electronic Corporation of India (ECIL) and ITI.
www.supremainc.com

## Milestone: New Managers for DACH Region

Milestone Systems has hired Harald Zander as Country Manager for Germany, Austria and Switzerland and Roger Meier as Regional Sales Manager in Switzerland, Austria and southern Germany. Their focus will be to support and further develop the company's partner channel and sales of its Xprotect IP video surveillance software. "Milestone heartily welcomes the addition of Harald Zander and Roger Meier to Milestone Systems in the DACH countries. This dynamic and experienced duo will serve as the new commercial nucleus for our aggressive plans to expand our open platform VMS business in Germany, Austria and Switzerland," states Lawrence de Guzman, Sales Director – Northern Europe.
www.milestonesys.com

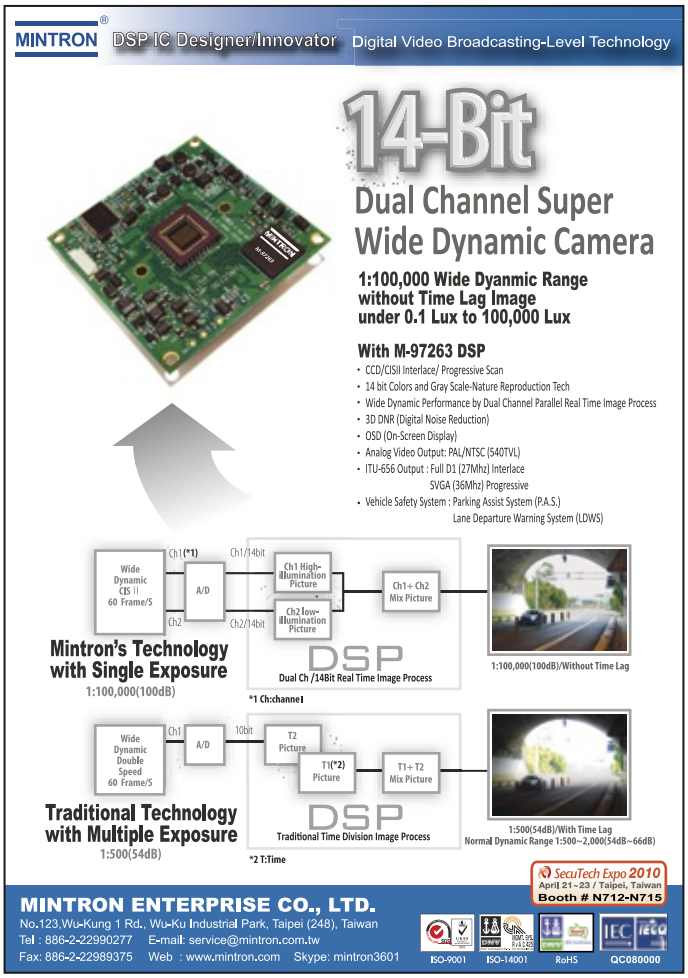
EVENT

# IIPSec Co-locates with IP Expo

## IP Security Event Moves to London Earls Court on 20–21 October

**IP User Group informed exhibitors and potential visitors in December that IIPSec 20ten, the IP based Security Technology event, has been re-scheduled and co-located with the UK's No.1 IP infrastructure event IP Expo and moved to London Earls Court on 20–21 October 2010. The event was planned for February 2010 in Birmingham and will now be together wit IP Expo. IP Expo is now in its 5th year and attracts over 7,000 IT professionals across all verticals with a particular strength in public sector and finance.**

IIPSec has welcomed more than 10,000 visitors, delegates and exhibitors over the past three years to what has become a recognised calendar event in the UK, Europe and beyond. The arrangement with IP Expo will now allow exhibitors, delegates and visitors to both events to move freely between IP Expo and IIPSec, engage with one another, enhancing the overall participant experience and further increasing the knowledge base within both sectors. The structure and educational content of IIPSec will remain as strong as ever and the „spending quality time with quality people" ethos will continue to underpin the event.




### Looking To The Future …

Paul Hennings, Event Director commented: "We are all aware of the continued convergence between the physical security, life safety and IT worlds with the IP UserGroup and the IIPSec team having always been at the cutting edge, so when an opportunity such as this arises we take it very seriously. We all know that for Networked Security and Safety Applications to grow and thrive it is essential that the industry learn to engage with the IT industry as a whole and the IP infrastructure players in particular and this relationship with IP Expo will provide such a platform." Paul added: "I believe that this is a significant move forward helping to increase the awareness and acceptance of new IP based applications across many market areas and I am sure that you will agree, this is an extremely exciting development. Having worked closely with the IP Expo team over several years we have been able to identify many areas of synergy and are keen to make Earls Court in October the centre of the IP Universe."

IIPSec's partners, Imago Communications organisers of IP Expo are equally excited about the prospect of further growth into "Application Areas" and are committed to delivering a first class technology event. Adam Malik, Content Director and General Manager at Imago Communications commented: "We are pleased to be working with Paul and his organisation to facilitate the co-location of the IIPSec event with our flagship IP Expo event. I have long thought that the next evolution of IP Expo will be built on new network devices and applications which are now leveraging the core IP Network much akin to the addition of voice a decade ago. The co-location and Imago's relationship with IIPSec fast-tracks our entry into the Life Safety, Building Systems and Security arena and is an exciting addition to our autumn hub. It is particularly exciting from the audience perspective based on the level of interest we saw this year at IP Expo in CCTV and surveillance seminars. I personally look forward to working with Paul and his team to deliver this event".

### ►CONTACT

**Paul Hennings**
IP Security Events & Media Ltd.,
Horley, UK
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EVENT

# All-over-IP 2009 Business Forum in Moscow

## Expanded Product Lines, Key Customers and Star-studded List of Exhibitors

**On November 19, 2009 Groteck Business Media held the second annual All-over-IP Business Forum at Sokolniki Expo in Moscow, Russia. The show was attended by over 700 security experts. For 2010 the organizers aim to attract even more attendees.**

Alexander Vlasov
Groteck Business Media

All product areas covered in 2009 have been significantly increased. Along with IP Security, systems and solutions for corporate communications (IP and hybrid PBXs, equipment for network access and backbone networks, systems for operational investigative activities in telecom applications) and information security were as well given and discussed at booths, seminars and presentations. A special forum area was dedicated to hybrid and analogue video surveillance solutions. The number of key customers (regional system integrators and corporate users) showed 3.2 times growth in 2009. The total number of attendees reached 1,188 decision-makers.

Also the conference program was expanded by factor three: The number of events went up from 12 to 36. Over 700 attendees had made over 2,500 appointments with the exhibitors and seminar organizers by means of Direct.Groteck.Ru – the systems that helps to plan visits well in advance. So vendors and distributors could prepare necessary solutions and offers, according to the customers' needs and interests.

### Exhibitors And Partners 2009

The Second All-over-IP Business Forum has gathered a star-studded list of partners – exhibitors, seminar organizers and presenters. The list can be seen at http://eng.all-over-ip.ru/forum/exhibitors_2009. As for video surveillance, all the members of ONVIF Steering Committee Axis, Bosch, Cisco, Panasonic and Sony - have participated this year. The event has united further top 10 world leading vendors of CCTV and IP video cameras. Additionally, the range of the forum exhibitors and seminar organizers have been expanded by means of Russian system integrators, distributors and resellers.

### All-over-IP'2010

Groteck officially announced that the preparations for the All-over-IP'2010 have started. The next forum opens its doors on November 18, 2010 and the organizers expect to raise the number of attendees up to 2,500–3,000 decision-makers. The expo area and the number of seminars will be increased 1.5–2 times.

www.all-over-ip.ru/eng

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COVER STORY

# Siveillance – Bringing Security Under One Roof

## Siemens Building Technologies Answers Your Toughest Security Questions

**Siemens presents Siveillance – the new family name for its security solutions portfolio. With Siveillance, Siemens unifies its entire security portfolio under one roof. The name Siveillance was chosen as "it already exists in some of our key security systems and we can capitalize as well as build on the current market awareness", explains Frank C. S. Pedersen, CEO Security Solutions of Siemens Building Technologies Division. "In addition, Siveillance reflects the innovative and forward looking approach the company is taking in developing security technology." The Siveillance family includes command and control, wide-area surveillance, security management and leading analytic solutions.**

### Enterprise Solutions for Security with Siveillance

Security Solutions as a part of Siemens Building Technologies Division offers intelligent integrated solutions for industrial and commercial buildings and public infrastructure. Siemens can look back upon more than thirty years of experience in the field of security solutions. With its worldwide representatives, the company is a strong partner for clients in different areas. For example, emergency responders, such as police, ambulance and fire fighters. Siemens offers a solution to meet these challenges with its command and control platform, Siveillance ELS Web, which supports a complete approach to security and response to incidents. The highly developed control system enables fast and effective planning and decision making for daily routine and time-critical processes, as well as for crisis and emergency situations.

With its Siveillance ELS Vantage solution, Siemens has specifically designed a command and control platform to support operations for critical infrastructure sites. This solution gives operators more than just a display of videos and alarm incidents and when combined with Siveillance Site IQ, a comprehensive video surveillance solution, provides complete situational awareness. Siveillance ELS Vantage streamlines security management and offers a reliable, scalable and efficient security platform that greatly enhances the routine and high-intensity operations of critical infrastructure.

Siemens also markets appropriate security technology for corporate customers, whose requirements span several sites. Therefore, they need multi-site solutions. With Siveillance Fusion, Siemens offers an integrated security management system for today's business world. This solution provides reliable, scalable and user-friendly security management by natively combining access control, video surveillance and intrusion detection on one platform. The system provides an optimal solution for delivering risk management, security control and coordinated responses to evolving security challenges – offering complete visibility and control of your entire operation. In addition, information can be received from a variety of other sources including building management and fire safety systems.

Siemens also offers solutions for small customers limited to a single site, e.g. stand-alone video, access or intrusion solutions.

## New Premises: Focus on Prevention

The terrorist attacks of September 11, 2001, in New York and those in Madrid and London the following years have accelerated the change in requirements placed on security technology. Before the attacks, the focus was on generating alarms as and when an event occurred. For that purpose, traditional security products, such as CCTV, intrusion protection and access control were used. After the attacks, there was a demand for smart solutions, driven not only by the requirement to prevent incidents from happening, but also the need to deal with actual incidents and reduce their consequences. To respond to these requirements, Siemens is constantly developing its portfolio and technologies to be able to provide innovative and technically advanced products and systems.

## Open Systems for Security

The Siveillance portfolio enables Siemens to satisfy current market trends. These include open standards, the convergence of physical and IT security as well as the importance of management stations. Siemens is the first major security integrator to join as a full member the ONVIF Industry Forum whose mission is to further the development and use of global standards for interfacing network video products. By offering solutions based on this standard, Siemens can ensure interoperability between network video products regardless of manufacturer.

The security management station from Siemens enables customers to integrate IT elements from various inter-company departments with security disciplines. Older elements – even those installed by third-parties – can also be included in the advanced system, thus saving costs. In addition, as technologies continuously evolve and the boundaries between physical and IT security become less significant Siemens is developing innovations that help to facilitate this process by offering a multi-faceted approach to organizational risk prevention.

The innovative Siveillance portfolio helps customers achieve their desired level of security, offering peace of mind. They may rest assured that Siemens takes care of their security issues from start to finish over the entire life cycle of their facility, and delivers measurable return on investment for the long term. What's more, all systems are user-friendly, with intuitive usage and smooth integration while meeting present and future security requirements in terms of quality, functionality and flexibility.

"We are confident that our innovative Siveillance portfolio delivers answers to your toughest security questions – today and in the future", says Frank C.S. Pedersen.

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Frank Pedersen,
CEO of the Business Unit Security Solutions
of Siemens Building Technologies Division

Gert van Iperen,
President of Bosch Security Systems

VIDEO SURVEILLANCE

# Partners in Video Surveillance

## Cooperation by Bosch and Siemens

**In October the two companies Cisco and Pelco surprised the market with an extensive cooperation in the field of IP video cameras. Now, Siemens Building Technologies Division and Bosch have announced their future cooperation in the field of video surveillance. For GIT SECURITY, Dr. Heiko Baumgartner had the opportunity to speak about the cooperation with Frank Pedersen, CEO of the Business Unit Security Solutions of Siemens Building Technologies Division and Gert van Iperen, President of Bosch Security Systems.**

**In your press release, you talk about a strategic alliance in the field of video systems. What form will the cooperation between the two companies take in the future?**

**F. Pedersen:** Bosch is one of our "tier one" strategic suppliers, especially for video products. We will enter into a very intensive relationship with Bosch and closely integrate their products into our solutions. We will also work together with Bosch for future products and offers.

**G. van Iperen:** In the context of this partnership we will supply Siemens with a comprehensive range of video products. Our wide range of products offers Siemens the opportunity to provide a state-of-the-art video surveillance solution for all applications. Cooperation with customers such as Siemens gives us the opportunity to continually improve our range. Integration of Bosch video products into the existing Siemens systems landscape is also a significant factor for success, as with this Siemens will be able to offer its customer even more comprehensive integrated system solutions.

**Up to now, Siemens and Bosch have been direct competitors. How will you now explain your close cooperation in a limited field to your customers?**

**F. Pedersen:** The cooperation between Bosch and Siemens has a long history – I only need to mention Bosch and Siemens consumer appliances – therefore a close cooperation is nothing new.

**G. van Iperen:** We are only active in the same business sector in Germany and Holland. On a global level, Bosch is a manufacturer and supplier of security products, whereas Siemens Building Technology is an installer and system integrator.

**Are you considering the inclusion of video products from other manufacturers in your range?**

**F. Pedersen:** The cooperation with Bosch is not exclusive. As a system integrator which does not depend on particular products, we will also cater for other customers´ requirements.

**What innovations can Bosch – and in future Siemens customers – expect from the Bosch video technology product pipeline?**

**G. van Iperen:** Bosch continually works to expand of its range of products. For example, in 2010, the Dinion 2X cameras will be supplemented with an IP version. The Bosch IP 200 series of cameras will be extended to include new models such as minidomes and megapixel versions. The Divar digital recorder family will also be supplemented by further analog and IP recorders.

**Are there plans to extend the cooperation to other fields of security technology in the future?**

**F. Pedersen:** Our long-term strategy is to have a few, but intensive partnerships.

**G. van Iperen:** Our objective has always been to build up long-term, sustainable relationships with our partners and customers. Therefore we are always open for extending this partnership.

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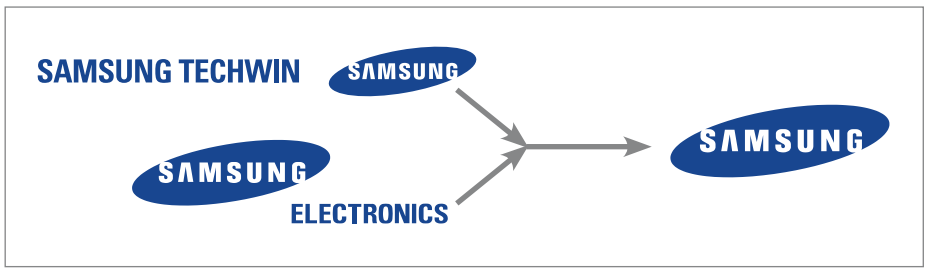
INTERVIEW

# Samsung Techwin Plus Samsung Electronics Equals Samsung

## Samsung Set to Reorganize CCTV Business Areas of Subsidiaries

James Smith,
European Marketing Manager
for Samsung Techwin




**Since the spring of 2009 there have been reports surfacing that the management of Samsung Group had been discussing the company's strategy for their professional security businesses. Two subsidiaries were covering the market for video surveillance in Europe with their products at the same time: Samsung Techwin, whose products are supplied and supported by Samsung Techwin Europe Ltd across the territory and Samsung Electronics, whose products are supplied and supported directly from Korea. The result of the discussion has been presented and effective January 1st 2010 the Security business of Samsung Electronics will transfer to Samsung Techwin in Korea. In Europe this means that Samsung Techwin Europe Ltd will take responsibility for the supply and support for both existing Samsung Techwin and Samsung Electronics product ranges and all new Samsung security products into the future. GIT SECURITY had the opportunity to ask James Smith, European Marketing Manager Samsung Techwin Europe Ltd, about what this means for the industry.**

**GIT SECURITY: Both Samsung subsidiaries in the video surveillance market have shown significant growth last year despite the economic situation. Can you give us an overview about the market situation for Samsung before the merger?**

**J. Smith:** Our combined success during 2009 has been phenomenal despite the economic downturn. I believe this is down to three reasons; firstly the support of our distribution channels and clients has been excellent, secondly our new products have been very well received in the market place, a number of which have topped independent benchmark results, and thirdly our team have worked tirelessly to ensure that the benefits of using Samsung have been understood and the product has been demonstrated at every single opportunity. The value that we are able to offer our clients as Samsung is by far and a long way better than what our competitors can offer and this has resulted in our market share increasing as a group quite significantly throughout 2009. Being a combined force going forward we are very confident that this will lead to even greater results throughout 2010.

**How will the business be organized in the new constellation regarding R&D, product development and marketing & sales?**

**J. Smith:** Our R&D and product development teams have come together in Korea, which means that future products will benefit greatly from the sharing of ideas, knowledge and technology. In addition to the Samsung Techwin products it already services, Samsung Techwin Europe Ltd now has responsibility for the supply and support of all product lines from Samsung Electronics. Sales, marketing, product management and training for all products will be handled by our growing number of local offices across Europe, ensuring all our clients receive the highest levels of pre and post sale support.

**Samsung Techwin and Samsung Electronics always had a pipeline full of new products. What can we expect in 2010 and under what label will the new products appear?**

**J. Smith:** One of the things that we were told regularly was that there was confusion in the marketplace about Samsung having two "brands" (Electronics and Techwin). Everybody will be pleased to know that new products introduced over the coming months as a direct result of the two company's combining will simply be known as "Samsung" products. What this allows us to do is to pick the best technology to use for the specific need and gives us an excellent opportunity to widen our product ranges. As an example, in the pipeline we have a host of ONVIF compatible network products, H.264 digital video recorders, new camera and dome products and we are continuing to bolster our product offering into areas that allow us to provide complete solutions, such as Access Control.

**Samsung Techwin and Samsung Electronics both have some multinational distributors in Europe and some exclusive distribution contracts in the different countries of Europe. How will the distribution be organised in 2010 and for the future?**

**J. Smith:** All existing distribution agreements remain in place throughout 2010. This means that nothing changes in terms of supply or access to existing Samsung Electronics and Samsung Techwin product ranges. As new products get introduced, either as completely new products or to supersede existing products as part of the usual product lifecycle, they will be available to all Samsung distributors whether they have historically purchased Electronics or Techwin products. This approach will ensure that our clients get the best possible service and can continue to deal with their preferred distributors.

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INTERVIEW

# Small and Sophisticated

## Basler AG Is Becoming Established in the Security Technology Market

**Eighteen months ago, Basler AG took the bold step of entering the video surveillance market with newly developed IP cameras. This company, which already has more than 20 years of experience in the field of industrial image processing, has already caused a sensation at the ifsec 2008. Because of the extremely compact design, at first sight Basler cameras are easy to overlook, however the company itself has already made a lasting impression after only a few months. At the company headquarters and production site in Ahrensburg, Heiko Baumgartner spoke to Hardy Mehl, IP Business Director of Basler AG about further development of the products, the marketing strategy and plans for the future.**

**GIT SECURITY: It was certainly a great step from industrial image processing to supplying video solutions for the security sector. What experiences have you had in the past months?**

**H. Mehl:** We are very satisfied with our start, and in spite of the global economic crisis, we are now where we wanted to be at the present time. From the point of view of the company, entry into this market was a step in the right direction, because it makes us less dependant on the economic cycles of the industrial image processing sector. Our approach was, and is, to offer customers the benefits of network technology with IP cameras, without making compromises with regard to image quality and reliability in comparison with analog cameras. For this we use our long experience in the development and production of digital cameras and closely involve our customers in the development of our products. We are very pleased to see that our products are becoming established on the market. This motivates our employees, who have to keep pace with a rapidly moving market and have to resolve demanding problems. It is very exciting to see that almost every day we receive suggestions from the work with our customers, which we integrate into the development of future products. We are very confident that in the coming months and quarters, even more customers will become enthusiastic about our products and will strengthen our market position.

**Which sectors are you concentrating on?**

**H. Mehl:** The field of application of our cameras is not restricted to particular sectors. Many vertical markets require reliable IP products with high image quality and light sensitivity. However, we have notices an especially high demand in the bank sector, where in addition to reliability and image quality the discrete design of our cameras offers advantages. As well as this, in the field of traffic surveillance, where we already have well developed relationships with customers, our high resolution IP cameras are in great demand due to the light-sensitive CCD sensors and special product features such as multiple streaming and trigger functionalities. Logistics companies are also enthusiastic about our products. In this field, high image quality and a high dynamic range is also very important.

**How far have you progressed with the development of the sales structure?**

**H. Mehl:** Internally, we have recently reinforced our sales department for Europe and the Near East. We only sell via distributors and are further expanding our sales network. With our sales partners we pay attention to quality, because the advisory service must be competent in order to emphasise the added value of our products to enquirers. In individual countries we prefer to cooperate with a few, very active and especially competent partners. In the DACH region and the Benelux countries we have made good progress with regard to our sales structure and we are also expanding in Southern Europe, Scandinavia and Eastern Europe. Beyond the EMEA market, since March we have been actively selling our products in Asia. As in the USA, we use the infrastructure and branches of the Basler AG from the field of industrial image processing.

**As well as the functionality of your cameras you continually emphasise the high manufacturing quality of Basler products. How do you ensure this?**

**H. Mehl:** Throughout the world, the Basler brand stands for excellent image quality. As we have our roots in industrial image processing and not in the manufacture of consumer products, our security products must also meet the very highest demands. In industrial image processing our cameras are not only used for the simple monitoring of processes, but rather are used as precision measuring instruments. The production of IP video cameras is also orientated to these quality standards. In order to achieve this in a cost-effective way, we use several state-of-the-art automatic testing processed in our production. We test all cameras with a special camera testing tool called CTT+ (Camera Test Tool). CTT+ ensures that each camera which leaves our factory is optically calibrated and has been subjected to a final function test. In this way, customers can be confident that cameras from different deliveries have identical characteristics.

**You also go your own way with sensors?**

**H. Mehl:** Yes, for the current and future products we deliberately rely on high sensitivity CCD sensors with progressive read-out methods to prevent blurring due to movement. The image quality essentially depends on the quality of the sensors. However, for a good depth of field, these must be precisely positioned in the camera. With our patented CSAT technology (Camera Sensor Alignment Tool) the focus of each individual Basler camera is precisely measured, adjusted and fixed. This guarantees that each camera which leaves our factory has the same consistent quality.

◄ **The new Basler IP Fixed Dome Camera**

**What are your plans to round off the range?**

**H. Mehl:** We now supply cameras from VGA resolution up to 2 megapixels, and in spring we extended our network cameras to include a day/night functionality and provided all our models with an optional automatically swivelling infrared cut filter. Brand-new for 2010 are our first dome cameras. We start with two outdoor proof models with built-in heater and fan in a vandal resistant aluminium housing. Like with our other cameras, the outstanding image quality of this dome cameras comes from highly sensitive CCD sensors. Both versions are available with dual-encoding with MJPEG, MPEG4 or H.264 and multi-streaming functionalities for multiple customized streams. As well as this, we are continuously working on the further development of the sensors and software. Customers always receive a free upgrade of each software version.

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GIT SECURITY AWARD 2010

# And the Winners Are…

## Presentation of the GIT SECURITY AWARD Winners 2010

**READER PRICE**

The winner of the Pentax camera K20D is

Albert Simons from the planning and consulting company Schmidt Reuter in Cologne, Germany

Since September we were presenting the ten nominated products for the five categories in our magazines and online on www.PRO-4-PRO.com. Since two years the winners of the GIT SECURITY AWARD are elected internationally by the readers of GIT SECURITY and our German sister publication GIT SICHERHEIT. The participation once again was great and we did get hundreds of votes via e-mail and fax and even more votes via our voting tool on www.pro-4-pro.com/security.

Except for one category it was a very tight race until the last minute and a lot of products had had good chances to win. We would like to thank you all for the participation. All products nominated did win a lot of attention and have been presented to a wide audience. We hope that you join us again next year for the GIT SECURITY AWARD 2011 and now applause for this year's winners!

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## Yes, you read it correctly –

**we´ll do anything that´s necessary to ensure that you, our customers, partners, readers and authors are happy.**

And we bring you in contact with the opinion leaders in the world of safety and security. So read our industry-leading publications GIT SICHERHEIT + MANAGEMENT (circulation: 30,000; region: Gemany, Austria, Switzerland), read the GIT Special Issue PRO-4-PRO (circulation: 30,000; region: Gemany, Austria, Switzerland) or read GIT SECURITY (circulation: 20,000; region: Europe, Middle East, Africa). And click on and use our product platform PRO-4-PRO.com and the GIT Business Webs.

You can build on us. We are your Number One in communication with the world of safety and security.

**Contact:**

**Dr. Heiko Baumgartner**
Tel.: +49 6151 80 90 137
heiko.baumgartner@wiley.com

# Category A
## Safe Automation

WINNER

### SICK AG
Camera system V300

V300 – SICK AG's newest camera technology for innovative protection of hazardous places.

# Category B
## Fire Protection

WINNER

### Novar a Honeywell Company
FlexES control Fire Alarm Control Panel

This Esser brand fire alarm control panel sets a milestone in the development of technical fire protection.

# Category C
## CCTV

WINNER

### Dallmeier Electronic
VideoIP range "a tribute to Amadeus"

Dallmeier's high requirements regarding image quality and reliability also apply when it comes to IP solutions. With the IP range "a tribute to Amadeus" the high standards of CCTV applications are combined with the benefits of pure IP solutions and offers the best of both worlds.

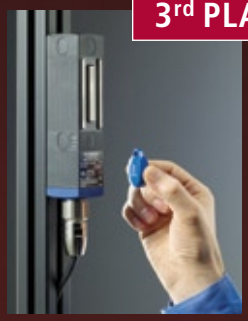
2nd PLACE

## Axelent

X-Guard

Axelents X-Guard has a unique and extremely smart design that is quick to assemble, easy to renew, change and supplement to suit different applications.

3rd PLACE



## K.A. Schmersal

Non-contact solenoid interlock MZM 100 R

A new model of the non-contact solenoid interlock MZM 100, which generates the necessary locking force of 500 N electromagnetically, is equipped with an innovative feature.

## Hekatron

Fire alarm control Integral Evolution

Integral Evolution – a strong system concept optimally primed to set standards in the future and to give you a unique investment security security without compromises.

2nd PLACE

2nd PLACE

## Panasonic

WJ-ND400 Network Video Recorder

A lot of our readers are convinced that the new WJ-ND400 by Panasonic is ideal for large scale surveillance systems with 9 serial ATA HDD slots with each optional extension unit also containing 9 serial ATA HDD slots for additional capacity.

3rd PLACE

## Wagner Group

Air sampling smoke system Titanus SL

With the development of the innovative Titanus SL air sampling smoke system, Wagner has succeeded in significantly reducing the noise produced by air sampling systems.

3rd PLACE

## Mobotix

Mobotix Hemispheric Camera Q24M

The new Mobotix Q24M Hemispheric camera is a user-friendly system solution for room surveillance without any blind spots, including video and audio.

# Category D
## Locks and Access Control

WINNER

### Kaba
Kaba TouchGo

The Kaba TouchGo electronic locking system allows doors to be unlocked without having to pick up a key or access card.

# Category E
## Safety at Work and Hazardous Substance Management

WINNER

### Zweibrüder Optoelectronics
LED Lenser X21

The launch of the X21 caused a sensation because it allows a whole range of new applications in light engineering.

2nd PLACE

## Winkhaus

ActivPilot Control RFID

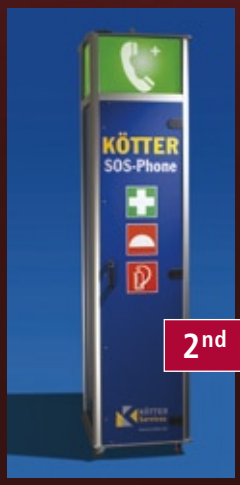
With its pioneering technological design activPilot Control RFID, Winkhaus is setting new standards for window surveillance systems.

## Sorex Wireless Solutions

Sorex Wireless Key

The Sorex Wireless Key is a high-secure access system, which makes your Bluetooth compatible mobile phone to an electronic key.

3rd PLACE




2nd PLACE

## Kötter Security

Kötter SOS-Phone

The Kötter SOS-Phone has been developed in order to guarantee quick first aid in case of accidents, assistance of first-aiders and reliable communication with and among the rescue team.

3rd PLACE

## ABS Safety

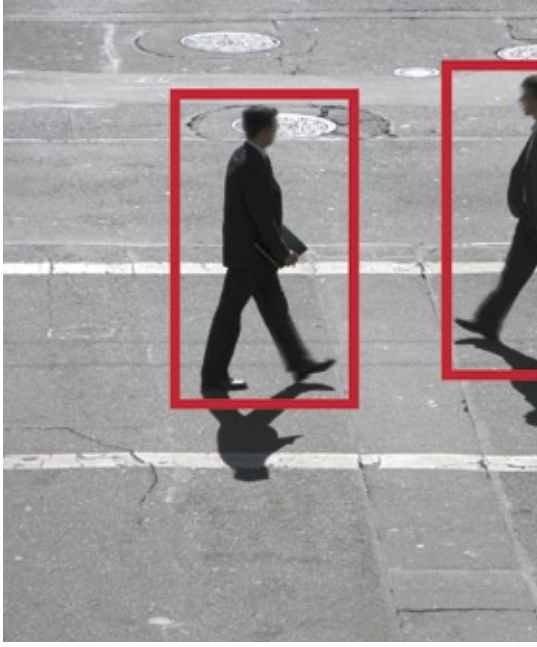
ABS-Lock EG 260

The ABS-Lock EG 260 is a mobile attachment point for platform roofs that offers reliable fall protection for one person.

CCTV

# The Future Is Open

## Open Platforms Offer New Opportunities for the Market



**2009 has been a pivotal year for the network security market. The adoption of open platforms has presented new opportunities for application developers, VARs and end users. This new development in the security market means more unique offerings for a growing range of requirements.**

Historically, analog-based CCTV systems operate on a point to point dedicated system which is closed in architecture and is based around proprietary protocols from one vendor. This has led to end to end solutions being developed for the end user, effectively locking in the customer to this one manufacturer. Network or IP based video surveillance systems are inherently more open, based around common IT standards allowing for greater vendor interoperability, flexibility and integration between systems. Now we are moving to the next stage of development in an IP based video system. We are starting to see the opening up of the edge devices (cameras and encoders) allowing for third party software developers to create a wide range of intelligent applications that solve specific end user security or business challenges.

### Axis Camera Application Platform

Axis Camera Application Platform is an open application platform that enables development of third party applications that can be downloaded and installed on Axis network cameras and video encoders. The platform makes it possible for integrators, resellers and end users to meet specific needs by selecting the most suitable applications for their Axis network video products.

Compatible applications can be installed on Axis network cameras and video encoders to extend their functionality to meet specific end-user needs. "This is only the beginning," says Johan Paulsson, Chief Technology Officer at Axis. "The platform is a cornerstone of our video analytics strategy and will be implemented in the majority of our products during 2010." The open application platform has attracted great interest among Axis' development partners. AgentVi, Aimetis, Cognimatics, IBM and Via:Sys are five of Axis' partners that have participated in the development of the concept.

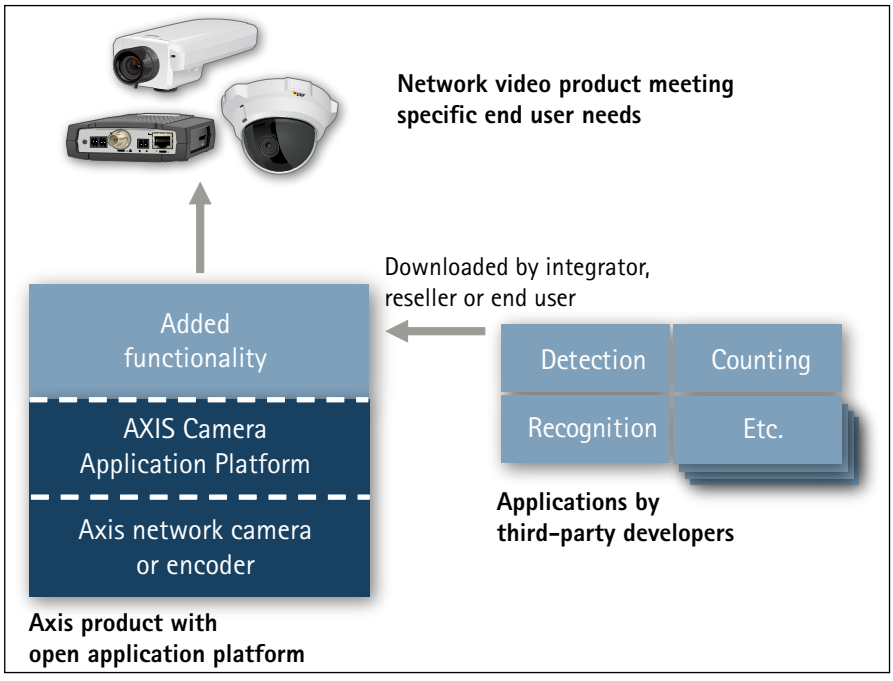
**The Axis Camera Application Platform consists of four components:**

- Software Development Kit (SDK) for development of embedded applications. The SDK package includes compiler system, APIs to access on-board device functionality, documentation, example code and a debugger and profiler tool.
- Open application platform, which will be implemented in the majority of Axis network video products to allow download of compatible applications.
- Compatibility tool to guarantee the functionality of the Axis network cameras and video encoders. Compatible applications will be listed on the Axis web site.
- Optional copy protection tool to ensure that all applications in an installation are properly licensed.

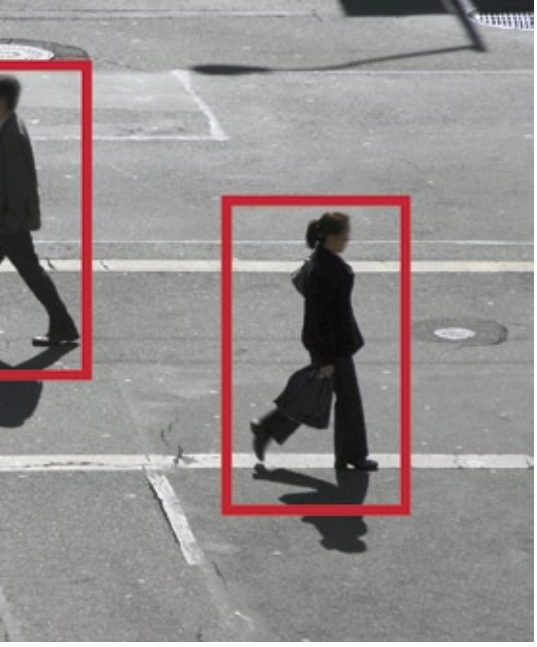
The first compatible applications are expected to be finalized during Q4, 2009. Moving forward, the number of applications is expected to increase significantly, as Axis will implement the open application platform in a majority of its products during 2010.

**Develop Axis-compatible applications**

Companies interested in developing applications can sign up for the Axis Application Development Partner (ADP) program. As a development partner you get access to the components listed above, and your Axis-compatible applications will be listed on the Axis web site.




Axis Camera Application Platform: How it works



## Video Analytics at the Edge

These days, a massive amount video is being recorded, but never watched or reviewed, due to lack of time. As a result, events and activities are missed, and suspicious behavior is not noticed in time to prevent incidents. This has led to the development of Intelligent Video (IV) or video analytics.

Intelligent video systems that include video motion detection and audio detection minimize the need for storage space by recording only video that contains activity. Furthermore, by placing intelligent video 'at the edge', that is, processing as much as possible of the video in the network cameras themselves, the load on the network is significantly reduced as only relevant video is streamed from the cameras. Intelligent video applications help build video surveillance systems that are more cost-effective.

An open platform enables a wealth of applications to be added at the edge because this literally bypasses the compatibility issues presented by centralized analytics and closed protocols. Axis recently announced its open platform, where its cameras and encoders are open to third party applications. Ray Mauritsson, Axis CEO said, "There are many skilled application developers with unique competences and ideas. Our open application platform enables them to develop applications that bring extra value to various target groups; as a result, it will be possible for integrators and end users to select the best combination of camera and application, or encoder and application, to meet specific needs within transportation, education, city surveillance and other industry segments."

A parallel can be drawn with the telecom industry – where downloadable applications are available for various mobile devices. Open platforms mean network camera providers will have an application range that they could not have develop alone, or just with a few select partners. The network camera provider is not the only party to benefit from Axis's open platform…

## Benefits for all parties

**Application developers** will have access to the world's leading range of network video products, the possibility to develop/offer unique applications and global market visibility through Axis web site and partners.

**Integrators & Resellers (VARs)** will have a combination of leading product range and leading application range. They will be able to create unique offerings that bring added value to selected target groups.

**End users** will have access to world's a range of applications and the possibility to meet their unique security/surveillance needs.

The open application platform will be implemented in the majority of Axis's products.

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**Tamron's Megapixel Lens Series provides ideal solutions for Next Generation surveillance**

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1/3" 3-8.0mm F/1.0
(Model M13VM308 / M13VG308)

1/3" 5-50mm F/1.4
(Model M13VM550 / M13VG550)

1/2" 4-12mm F/1.4
(Model M12VM412 / M12VG412)

**Tamron Europe GmbH**; Robert-Bosch-Str.9; 50769 Köln, Germany
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CCTV

# A Close-up View: MP Lenses

## Tapping into the Full Potential of Megapixel Cameras

**Increasingly, megapixel cameras are conquering the security technology market, which offers not only high-resolution cameras, but now also megapixel lenses. The following technical report provides recommendations for applications with a megapixel camera and explains what you should keep in mind when using this kind of technology.**

Quite a few users will be wondering why MP lenses are being introduced to the market. After all, when choosing a lens, you need to consider the view angle and the light intensity, but certainly not the resolution, right? Generally speaking, the choice of a lens is ultimately a compromise, because any visual image has an error of some kind. The problem with designing a lens is that if you manage to get around one error, there will inevitably be another one. Therefore, an error can never be fully eliminated, but only minimised. A good quality lens not only requires a good deal of design experience, but also a large amount of expertise in the production of it.

### Resolution Is of Utmost Importance

Resolution plays a key role in video surveillance and makes it possible not only to see objects, but to also clearly recognise them. High-resolution images make it possible, for example, when viewing the image material later on, to zoom in on details, such as faces. To analyse the resolution of lenses or rather the image quality, the modulation transfer function (MTF) is primarily used. The term resolution in this case refers to the number of details that are individually distinguishable – if two separate objects can be distinguished in an image, the lens has "resolved" them. Generally, lenses for high-resolution IP or megapixel cameras cannot be compared with those used for analogue cameras: In a scene being monitored in an analogue environment the number of pixels is broken down into 600.000 pixels. When using megapixel technology the number is two million and more. A lens used with a high-resolution IP or megapixel camera should be able to present this high number of image pixels and allow them to be clearly distinguishable from one another in order to fully tap into the potential of these cameras. In the process, the resolution of megapixel lenses differs just as much as that of the cameras. Reputable manufacturers provide this information for optimal coordination of camera and lens.

### Fixed Focal Length and Varifocal MP Lenses

When discussing megapixel lenses, professionals distinguish between fixed focal length and varifocal MP lenses. Fixed focal length lenses have a fixed focal length and are often equipped with a manual aperture. They are found in the machine vision sector, in which MP cameras have been used for a long time and which is the reason why a large number of high-resolution lenses are available on the market. However, for their use in CCTV cameras there are several disadvantages. Not only are these lenses highly inflexible because of the fixed focal length and the manual aperture, but they are primarily designed for rugged use in machines under constant mechanical stress loads. To that effect, these are typically priced higher than varifocal MP lenses for use in CCTV applications.

In most cases, varifocal lenses are used with CCTV cameras. The advantage of varifocal MP lenses is the fact that they are clearly much more flexible as compared to fixed focal lengths. In comparison to fixed focal lengths, the focal length is variable, meaning the view angle can be changed – just as with a camera with a zoom function. Automatic aperture controls also make it possible to adjust better to fluctuating lighting conditions. Varifocal lenses, however, are quite different from zoom lenses, for which, because of the lens design, the focus remains constant in the image when making changes to the focal length. Because the lens of a surveillance camera is usually set up for a specific view angle, in this case these corrective elements are not needed. If the focal length of a varifocal lens is changed, the focus must be corrected.

▲ **A complete solution for IP video surveillance: Housing, pan/tilt unit, IP camera and MP lens.**

### Day/Night MP Lenses for 24 Hour Surveillance

Day/night cameras switch to black and white mode in poor lighting conditions and even if the lighting is extremely poor, they can still produce good images. When in this mode, the cameras do not work with normally visible daylight, but instead with infrared light. The sensors of these cameras are IR sensitive, which is why the camera delivers clear images despite low light levels. If lighting conditions are sufficient, day/night cameras use a retractable IR cut filter to block the IR light, because otherwise the results would have an incorrect colour reproduction. But why would special lenses be needed for these kinds of cameras? If one were to use a day/night camera with a normal lens, the image would be out of focus when switching from day into night mode. For day/night lenses, this effect does not occur; the image remains focused in both cam-

◀ **The compact design of new MP zoom lenses with 1.3 Million Pixel resolution makes it possible to incorporate them into an already existing housing in a way that saves costs and in doing so expands the application options for megapixel cameras.**

Zoom and varifocal lenses for security applications (Fujinon)

era settings. Special coatings prevent the infrared light from reflecting in the lens and the result is that these lenses allow more infrared light in than normal lenses.

## MP Zoom Lenses for Day and Night Use

In surveillance cameras, MP zoom lenses are used less commonly than MP varifocal lenses. Zoom lenses are well-suited for surveillance of very large areas, for zooming in on details and thus for efficiently monitoring sensitive areas. Recently, the world's very first megapixel zoom lens was introduced by a leading manufacturer in a compact design for day/night megapixel cameras. The latter are being used more and more frequently and as a result quality expectations for lenses are increasing, for example the need for high resolution levels for distance surveillance in day and night applications. The compact design of this lens makes it possible to incorporate it into an already existing housing in a way that saves costs and in doing so expands the application options for megapixel cameras with MP zoom lenses. The combination of the optical and digital zoom provides the ability to produce high-performance systems in a compact design. One successful example is the system recently introduced by Videor in which an Axis 223 M network camera (a resolution of 2.3 million pixels) is used with a Fujinon megapixel zoom lens and the optical 32X zoom can be combined with a 2X digital zoom. This equals a 60X zoom, whereas the designs of the Fujinon D32x10HR4D-YE1 used are 50 % smaller than a 60X zoom lens! This makes the housing and the pan/tilt unit significantly smaller, and because the entire system is controlled by a single LAN cable, which at the same time also transmits the image data, it can be easily integrated into existing video surveillance systems.

## Conclusion

It has not even been three years since the megapixel lenses became available for the first time for video surveillance cameras and today they are already being supplied by various different manufacturers in fixed focal length versions or as varifocal and zoom lenses. By the same token, in the meantime series of lenses are being offered especially for high-resolution day/night or network cameras with respective characteristics. Not until very recently have high-resolution wide-angle and ultra wide-angle lenses become available on the market. With their sophisticated lens design and innovative technologies, these further expand the application possibilities in the field of high-resolution video surveillance systems.

When selecting the MP lens, what is critical is the type of application or rather the IP or megapixel camera used for this purpose: Decades of experience, a large selection of lenses and quality support services are a huge benefit when it comes to choosing the ideally suitable MP lens for any surveillance scenario. One tool that helps you to become familiar with the available options is the ability to compare products on the website of a multibrand distributor, on which MP lenses being offered by several leading manufacturers are compared side-by-side.

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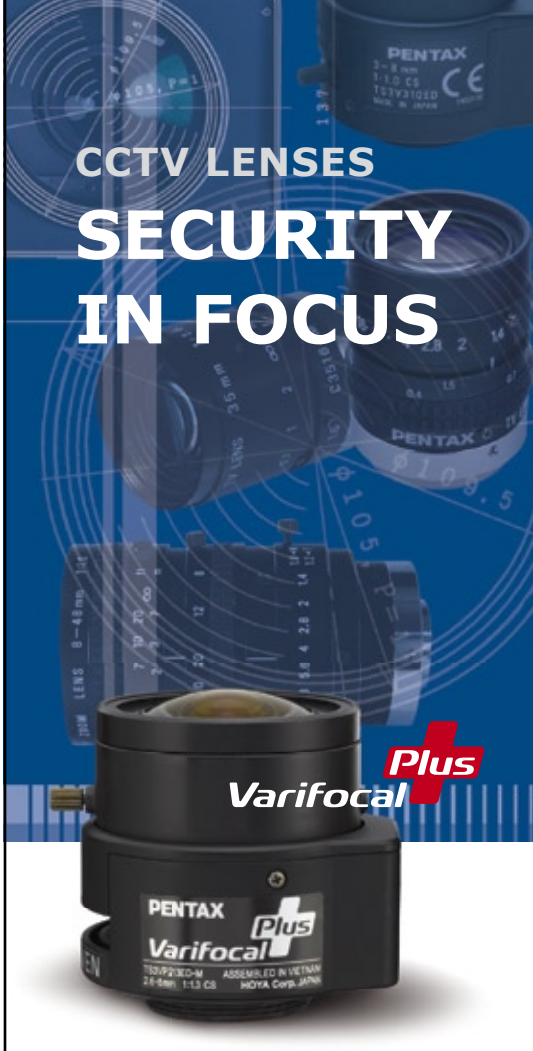
CCTV LENSES
SECURITY IN FOCUS




- Day/Night Applications
- Durable Construction
- Megapixel
- High Transmittance
- High Image Contrast
- Focal Length from 1.6 mm to 1680 mm

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Security Systems Division
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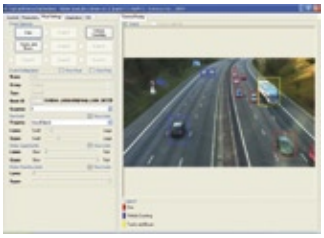
PENTAX

## Value Added Lenses

Tamron's Megapixel lens series was introduced over two years ago as the first Megapixel vari-focal series designed especially for video surveillance. Up to this day, the company's Megapixel lenses still show some features that – according to the manufacturer – cannot be found in any other lenses on the market. The M13VG308, for example, is the only Megapixel lens for 1/3" cameras with an F-stop of F/1.0. To achieve this F-stop, the company uses a technology well known from its photographic Megazoom lenses: hybrid-aspherical lens elements. This technology is also applied in the other models of this series. The M13VG246 with F/1.2 and the M13VG550 with F/1.4 are also the brightest lenses in their category. The F-stop is an important lens characteristic, particularly for less light-sensitive Megapixel sensors. Another of the company's distinctive features is the increased movement for focus adjustment. The rotation angle of the focus ring was enhanced from 80° to 240°, so finding the right focus point requires less effort. This simple mechanical modification makes the setting up of the camera a lot easier, without increasing the price of the lens.
www.tamron.de

## Evaluation Kit



Eutecus has released the latest version of its Multi-core Video Analytics Engine (MVE) Evaluation Kit supporting HD and composite TV (NTSC or PAL) input for both live and pre-recorded video. The system comes bundled with an assortment of different pre-configured videos allowing users to test the system's video analytic capability in various indoor and outdoor scenarios, at different resolutions. The Engine includes an entire high-performance video analytics event detection application on a single low-cost FPGA, the Spartan 3A DSP from Xilinx. The company's chairman and CEO Stephen D. Hester commented, "MVE Evaluation Kit 2.2 enables our customers to test embedded video analytics on both indoor and outdoor video input in a variety of different resolutions and standards. By supporting pre-recorded video we enable repeat testing of a single video file, allowing users to optimize their testing parameters and also providing them with a learning tool to master the MVE environment".
www.eutecus.com

## HD Products at Intersec 2010

Dallmeier dedicated its attendance at the Intersec 2010 to its High Definition products. The German manufacturer showcased its entire range of HD end-to-end solutions, from image capture to recording and display, right up to video management. Highlights included the full HD fixed domes and PTZ cameras and the new HD-ready software Pview 7. This software provides many useful features and functions for video image display in the user area as well as the administration. All the digital recorder's important user options can be accessed via LAN/WAN. It therefore not only enables recorder configuration and management over the network but also extensive interrogation of current or recorded data. Live picture transmission, backup, virtual tours or synchronization are just some of the functions that make it easy to monitor with the software. It is possible to trigger message display in the Pview window through Pguard advance (central evaluation and management software for messages).
www.dallmeier.com

## Outdoor Day/Night Network Camera

Everfocus presents its 1/3" vandal-proof outdoor day/night CCD network camera EDN 850 H. Being part of the Nevio IP product family, it provides H.264, MPEG-4 and MJPEG compression for multi-streaming capability. The four independent video streams offer different resolutions and compression formats, e.g. H.264 compression format for optimizing bandwidth and storage requirement without sacrificing the video quality. The camera is equipped with a 1/3" Sony Super HAD color CCD sensor with PoleStar solution pickup device achieving a horizontal resolution of 560 TV lines. With the integrated DSS digital slow shutter, the camera offers up to 0.002 lux sensitivity. Local alarm video storage is obtained through the built-in SD/SDHC card slot. The two-way audio function allows the interactive audio transmission between camera and monitoring site. Further features include: Automatically swiveling IR cut filter; local alarm input and output with various event trigger and reaction options; pre-alarm recording; integrated motion detection; alarm e-mail and network alarm function; high resolution stream: up to 704 x 576 pixel; integrated 2,8 ~ 10 mm DC varifocal lens; vandal-proof metal IP66 outdoor housing; PoE (Power over Ethernet) supported optional wall bracket (ED WMA).
www.everfocus.com

## License Plate Recognition

Hinn has expanded its license plate recognition system for controlling barriers and gates: „Pollux" is a smart module that easily fits into any barrier case. It handles the entire license plate recognition, and only opens the barrier or gate if the plate has a release. The release list can handle up to 200, 800 or 6,000 license plates, depending on the system volume. The module is easy to use via LAN connection and by operating the included PC software. If requested, the barrier control is delivered with a special barrier beam camera. The system can be retrofitted at every barrier. An integrated LED lamp and the special LED control enable dependable recognition even of slightly soiled and dented plates, also at night or at bright floodlight.
www.hinn.eu

## Mobile Video Unit

Secura Systems presents a Mobile Video Unit. In many situations, whilst reacting to an instant need for enhanced security, the rapid deployment of temporary video surveillance equipment is vital. The deployment of such temporary video surveillance systems i.e. for police use but also at events, construction sites, road works and in public areas is a difficult challenge. In most cases power for the whole system as well as the respective constructions for mounting the cameras at an appropriate height are unavailable. The company's solution solves those issues: The fully stand-alone, fast deployable, robust and well secured container is equipped with a pneumatic telescopic pole of six meters, 230 V power connector with inverter, back-up power supply with a 1,000 Ah battery as well as cameras and recording equipment. The whole unit can easily be relocated with the dedicated trailer. Once at the site the Unit delivers high-performance Day/Night video surveillance using the pre-mounted SentryScopes and/or Speeddomes and optional Infra-Red Illuminators and records all to the recording system installed inside the unit. The system can be equipped with a complete video transmission system – using i.e. GPRS/UMTS/HSDPA and/or Wavesight Wireless Transmission products – making sure that the video footage coming from the unit can be watched from literally any place in the world. In order to make sure that the unit is not re-located or accessed by non-authorised person's intrusion detection and/or GPS systems can be installed.
www.securasystems.de

CONTROL ROOMS

# The Big Picture

## Making the Choice between Desktop Display or a Video Wall

**The increase of applications and sources to be presented and controlled in a control room has led to an increase in the use of large screen solutions. These generally consist of a matrix of LCDs or rear projection cubes connected to a display wall controller. This provides the information on a very large desktop with a high resolution to the operators. But are the high tech equipment of control rooms, or their impressive appearance the only reasons for the use of video walls on top of individual desktop monitors?**

A large screen solution means that a central visualization unit is used in addition to the individual desktop displays of the operators. The most appropriate technology when such video walls are used 24/7 is rear projection as this technology does not suffer from image burn in or image retention. Nowadays DLP rear projection cubes are available with a lifetime of more than 60,000 hours for the LED lamps, whereas technologies such as LCD or plasma have a lot of restrictions when used 24/7.

If a control room is operatedused by a single person, displaying the information on a desktop display might be the best option. In multiple operator control rooms, using a video wall is the most appropriate choice. The advantages of a central video wall are manifold; all operators are able to see all the information at the same time and are able to discuss their observations with the other operators. Also it is possible to have task sharing between the operators, or representation during a pause, for example.

### Added Intelligence

With a video wall, the number of screens on the desks can be reduced, with consequent reduction of costs and energy. When an incident or an alarm occurs, the operators are able to determine it quicker and are more efficient in taking countermeasures. The use of intelligent wall management software with video wall systems enables operators to use alarm management functions with which, for example, they can place events on the video wall and immediately attract the attention of all operators. Good management software allows reception of these alarms by SMS, TCP/IP, RS-232, I/O connections, ODBC or SNMP. When displaying images from video cameras, this would mean to display the image only if there is something happening within the field of view. This is possible if the camera is equipped with a motion detector, triggering the window of this video camera to pop up automatically if movement is detected.

### Content Everywhere

Numerous options for integration arise when a professional video wall system consisting of DLP rear projection cubes is used in conjunction with the appropriate video wall controller and wall management software. Such a video wall system is not just a big, dumb display; it can be far more complex, and competent vendors are able to effectively interface the system with existing customer systems, such as SCADA, DCS, video camera management or building management software, for example. A professional solution will also provide an API to integrate the functionality of controlling the video wall via other systems. For the managers, who in general do not sit directly in the control room, such a central video wall system is ideal to immediately see what is happening when they enter the control room. A video wall management software package such as eyecon from the German manufacturer eyevis provides the ability to put the content of the video wall on any desktop monitor, PC or laptop in the network. This means that somebody does not have to be physically in the control room to see what is happening on the video wall. The content can simply be streamed through the network to any PC located in the network. All kinds of data can be presented on a large screen system when used with a display wall controller, such as IP video, analog video and PCs either through their RGB or DVI connection or by capturing them through the LAN.

### Make a Plan

Another argument for using a video wall is the improvement of control options; if one operator does not notice an incident immediately, another one probably will see it. When making the decision for such a video wall solution, detailed planning is required because many aspects have to be observed. These are, for example, the number of operators, the arrangement of consoles and the video wall, the amount and nature of data to be presented, viewing angles, viewing distance, the size of fonts, the resolution and size of display, the display technology, the aspect ratio, ambient lighting, air conditioning and interior design amongst others. In principle, there are no rules for determining the exact required display size. Sometimes it might be determined by the application which will be displayed on the video wall, for example in energy distribution or railway control rooms, which require a huge total resolution. If a turnkey control room is required, it is wise to work with specialized companies who take care of the complete project from the design right up to commissioning. They can take care of all the associated tasks such as interior design, flooring, wall covering, the ceiling, enclosures and consoles, the ergonomics as well as the video wall system and its implementation.

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ALARM MANAGEMENT

# A West-side Story

## Secure, Safe and Stimulating Shopping and Leisure in Switzerland

**No, this is not another remake of the famous musical Broadway show and movie. It's about making the huge Westside shopping and leisure complex near Bern, Switzerland, secure and safe for visitors, residents and staff. Building technology has advanced over the years in pace with demographics and cultural changes, culminating in increasingly large shopping complexes constructed some distance from urban centers.**

Westside is a typical example of this in the sense that it is an enormous complex located outside the city center, but atypical in its unusual and spectacular architecture. This article describes the new mall and its public address and emergency evacuation system provided by Bosch Security Systems. Like the complex itself, the Praesideo 3.1 system is essentially unique, integrating public address with emergency alarm and ambient music, resulting in an optimal and elegant safety and security solution.

### Third Time Lucky

Three attempts were made to establish a major shopping complex within the suburban development plans of Bern. The first attempt, planned to start in 1972, was abandoned due to the disastrous oil crisis of that year. The second development plan, in 1978, was voted against by the public. Finally, the people of Bern approved a new proposal and work began in the autumn of 2005 on what came to be known as the Westside complex, the largest private construction project in Switzerland. It includes more than 60 stores and boutiques, 10 restaurants and bars, an 11-screen cinema, a fitness club and water park, a 144-room hotel, a retirement home with 95 apartments and a car park for around 1,200 vehicles.

Designed by internationally famous architect Daniel Libeskind, Westside was officially opened to the public at the end of 2008. Covering over 141 thousand square meters, the complex is located on the outskirts of Bern only 7 minutes by metro from the city center and easily accessible by car from the main A1 highway. The complex is owned by Neue Brünnen, a wholly-owned subsidiary of Migros Aere Cooperative.

Libeskind's unique architectural style is dominated by an enormous façade made of locust wood, which is noted for its hard polished surface and resilience to decay. Clever use of concrete structuring is employed in the colossal concrete beams that cross the main building, while geometric shapes grace the ceiling of the huge swimming bath area. In short, the total complex is a truly impressive work of art, both inside and out, designed for maximum leisure, pleasure and shopping experience.

### System Overview

The Praesideo digital public address and emergency sound system from Bosch uses an optical network configuration that allows optimal freedom in system design. This flexible system architecture permits any type of equipment to be located wherever required in a building. What's more, multiple systems can be easily connected and controlled over TCP/IP using optical or standard copper cabling. And Bosch's Open Interface allows connection to systems and peripheral devices of other manufacturers. Distributed signal processing enables the central system unit – the network controller – to concentrate on functions such as supervision, routine announcements, background music and pre-recorded messages.

The Praesideo system is certified according to current IEC, BS, EN and SOLAS standards, and is used to distribute public announcements, scheduled events, background music and voice evacuation messages. All audio in the system is distributed in the form of prioritized calls, so that when two or more calls are addressed to the same zone or need shared resources (e.g. the message player), the system only starts the call with the highest priority.

The system offers virtually limitless multi-zone and networking functionality and combines this with the superior sound quality enabled by digital signal processing. Also included are a number of Cobranet interfaces used for bridging long distances between devices and allowing multiple, high-quality digital audio and control data signals to be carried over commodity CAT-5 or optical-fiber cable that reduces the cost of conduit and cabling. The technique also provides built-in redundancy in the event of cable disconnection, achieved by having a primary and secondary channel, where, if one fails the other will be automatically switched in.

### Impressive Configuration

Praesideo systems in the Westside complex are 'clustered' in central control areas according to the various facilities of shopping complex, spa/fitness and hotel. In total there are eight control areas, each with its own Bosch PA system. There are, in all, 5 network controllers, 18 multi-channel interfaces, 61 power amplifiers, 16 equipment racks, 19 call stations, 5 Cobranet interfaces, nearly 3 thousand EVAC-compatible loudspeakers of various types and 7 customized CD players/radio tuners. Around 12 km of cabling was required to complete the project.

The entire system is controlled through PC-based, primary and secondary data and communications servers located in the main control center that's linked to the seven other control areas. The main control center, the Spa bath attendants' office, the hotel reception and the

MPX technical control center all have local PC-based call stations for general announcements, starting pre-recorded messages and controlling music sources. They provide facilities for connected clients, such as identification, volume control, acknowledgement and reset of emergency modes, time synchronization and license control. They operate on Windows XP and Vista platforms, and there is no limitation on the 2 PCs, which makes it easy to extend the system when needed.

## Web Technology

The Praesideo uses web-based technology to enable authorized monitoring and administrator access to the system from any location. The network controller has an integrated web server that enables system (re-)configuration to be carried out quickly and easily from a PC logged into the network and running a standard Internet browser. This software-based configuration of all functional parameters means no programming is required at the equipment end, and it also eliminates time-consuming changes in the system. Remote diagnostics and logging can also be carried out, which can lead to significant reductions in travel and reaction time.

## A Unique Venue

Switzerland's Westside shopping and leisure mall is an excellent example of the many huge complexes that fulfill consumer and business needs. Correspondingly large public address and emergency sound systems are required to meet increasingly strict safety and security regulations in such complexes. Bosch Security Systems is one of the few manufacturers able to supply such systems on a grand scale and, by means of a total 'one-stop-shop' approach, to effectively and efficiently meet the challenge of modern building safety and security facilities. Bosch has also supplied Public Address and CCTV Security Systems to many major venues throughout the world, including airports, theaters, government buildings, conference centers, schools, stadiums, museums and other public edifices.

More than 100 building companies were involved in the construction of Westside under the supervision of the main contractor Burckhardt & Partner. The entire Public Address and Emergency Evacuation System was installed by Tyco Fire & Security Integrated Systems, the Swiss arm of Tyco International, one of the largest safety and security engineering concerns in the world. All those concerned, along with owners Neue Brünnen and architect Daniel Libeskind, are rightfully proud of this unique project, built for the enjoyment of Bern's citizens and visitors and providing employment for more than 800 people.

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SECURITY

# In the Heat of the Night

## The CCTV Year 2010 Is Starting with a Sensation: Axis is Entering the Thermal Camera Market

Ray Mauritsson, President & CEO

Martin Gren, Co-Founder

Johan Paulsson, Chief Technical Officer

**Axis is starting the second decade of the century with a big surprise: they have announced the first true network-capable thermal camera worldwide – and at a particularly attractive price. The Axis Q1910 and the Axis Q1910-E see everything that radiates even a little heat within a radius of 200 m and they don't need any light for this at all. The camera manufacturer announced its very own brand new high-tech development to the public on 18 January.**

Even dark nights are fundamentally no longer a problem for a modern network camera with day/night functionality. They still see something even with very little available light – and of course one can help with artificial light. However, that can be expensive and wasteful of energy, and light is not always available, nor is it always wanted because, for example, it can create shadows in which intruders can hide.

Thermal cameras do not have these disadvantages but instead many advantages that can be put to excellent use in CCTV systems. They see through complete darkness and deliver images that allow operators to detect and act on suspicious activity. Thermal cameras can also handle many difficult weather conditions better than conventional cameras, e.g. allowing operators to see through haze, dust and smoke. Until now though, they were not a real alternative for many because they were too expensive. Only recently have new sensors and materials made higher production numbers possible. Thermal cameras have already been used for a long time outside their original military field of application, such as in the aeronautics industry, in shipbuilding and also in the security and surveillance industries.

### Thermal Technology for the Security Industry

The Axis Q1910 (indoor version) and the Axis Q1910-E (for outdoors) thermal network cameras are primarily intended for this area of application, according to Axis President and CEO Ray Mauritsson: "We want to make thermal technology and, with that, first-class surveillance technology more easily available – with the first real network-capable thermal camera and the advantages of PoE, H.264, Motion JPEG, distributed intelligence and an audio function". Above all, Ray Mauritsson adds, "they should be used in perimeter protection and high risk environments as well as for monitoring larger areas" and generally in all environments where the manufacturer's cameras are used today. "We see a great demand from customers in high-end professional applications to enhance their IP-Surveillance systems with thermal cameras," says Johan Paulsson, Chief Technology Officer, Axis Communications. "Up until now, there have been no full-featured thermal network cameras available on the market, and analog thermal cameras have proven a challenge to integrate with modern video surveillance systems".

The network cameras can be easily integrated into existing IP infrastructures and utilize leading-edge technology, explains Ray Mauritsson. Laying additional cable can be avoided by using Power over Ethernet (PoE), and there is 2-way audio, H.264 compression technology and Motion JPEG streams in the highest quality. The cameras work with the platform-independent Open API (VAPIX), so that customer specific solutions can be easily developed and a wide spectrum of third-party applications can be integrated. In addition, ONVIF, the global interface specification for network video products, is supported.

As one would expect from such a high-tech CCTV product today, the network cameras also have intelligent video analysis functions such as movement detection, and they also support the video analysis products of third-party suppliers. Particularly remarkable, and one of many definite success factors, is the unusually economic price for thermal cameras of just € 2,229 (or € 2,599 for the outdoor version). This makes thermal technology affordable for users who, until now, would otherwise not have thought of using them for reasons of cost. Ray Mauritsson expects them to be a valuable addition to many conventional surveillance applications: the thermal camera continues to detect intruders even when the conventional day/night camera has huge difficulties delivering usable video images.

## Cool Waves

A thermal camera functions basically just like other cameras: it gathers electromagnetic radiation and converts it into a visible picture. But a normal camera only recognizes visible light with a wavelength between approximately 400 and 700 nanometers (0.4 to 0.7 µm). In contrast, a thermal camera utilizes wavelengths of up to about 14,000 nanometers (14 µm) – one speaks of the infrared spectrum that in itself is divided into short, mid, long, very long and far-wave infrared regions. In this way, the camera can make use of the fact that every object that could be interesting to observe is cozily warm in comparison to absolute zero and therefore emits infrared radiation: it only needs to be slightly warmer than –273 °C, which applies even to every block of ice and every deep-frozen lamppost. Materials also differ in the extent of their emissions, that is, in their ability to transmit infrared radiation.

## Versatile and Born Survivors

The uses of thermal technology can be found in practically all areas in which security technology is applied. In the perimeter protection of, for example, power stations, harbors or prisons, it serves as an invisible, discrete and cost-effective method of surveillance. It complements not only the physical protection of fences, but can also replace expensive floodlight systems. The thermal network cameras can also be used as an elegant method of preventing vandalism, break-ins, etc. but also for car parks, university campuses or high security compounds or in loading bays. They also minimize false alarms because they are not disturbed by thrown shadows. Further areas of application are danger areas such as motorways, tunnels or railway tracks: a thermal camera will immediately recognize that a person is in danger here.

The devices are really robust. The outdoor model, Axis Q1910-E, even operates down to an inhospitable –40 °C and up to an equally unpleasant +50 °C. There is a built-in heated window against the cold and it is protected against dust and strong jets of water. The accessories include software products such as the Axis Camera Station and Axis Camera Application Platform which allows downloading of third-party analytics software as well as Axis' own Axis Cross Line Detection. A pan-tilt motor is also planned.

## Strategically Important Step

The target sales market for the new products is explicitly the civil user: this includes the protection of buildings and critical infrastructures, transport, inner-city surveillance, etc. The company specifically wishes to avoid military applications, says Ray Mauritsson, but also other applications in which thermal technology is used today, such as temperature measurement applications, etc.

For Axis co-founder and board member Martin Gren the introduction of the network thermal cameras is a strategically important step: "They are a very important addition to our comprehensive product portfolio. We are now able to provide even more solutions for high-end applications – in high quality! In addition we are opening up thermal technology to new fields of application in vertical markets in which Axis is already very strongly represented today but where thermal cameras are rarely in use: e.g. on school grounds and university campuses, in city centers and in traffic control as well as in railway networks, at airports, in harbors and on the motorways".

The market for thermal cameras is almost virgin, explains Martin Gren: the ratio of ‚normal' cameras to thermal cameras currently used in industry is 400 to 1. It can be expected that the new technology will be a door-opener to complex high-end projects in which the Axis world will be able to give its entire technology competence free rein. The first feedback from some trusted partners and exclusively selected media representatives of the GIT editorial staff has already confirmed this positive estimate even before the launch: a real sensation in the CCTV market!

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# Panasonic System Solutions and Panasonic Communications Company to Merge

**Earlier in 2009 Panasonic reported its decision to merge the business operations of Panasonic System Solutions PSS, a division that markets professional CCTV systems including Super Dynamic 5, iPro and peripheral devices, Panasonic Communications Company Ltd PCC (a division that markets business telephone systems as Network Communications Group and Home Networking products such as DECT phones and IP cameras) and Document Solutions to become Panasonic System Networks Europe (PSNE). Panasonic can provide the following European update now.**

Simon Wright, Deputy Managing Director of PSNE, explains the advantages of the merger which is aimed at converging company expertise; "The amalgamation of experience and expertise will support Panasonic's strategy to unite communications and security networking products. The net result is aimed at driving a strong competitive edge for Panasonic and their customers through the delivery of products that are designed for the new network age. In turn this will also benefit business scalability for the new organisation; Panasonic System Networks Europe, giving stronger solutions to our customers.

## Purpose of Business Reorganisation and Integration

Panasonic System Solutions has an edge in the visual business while Panasonic Communications Company has an advantage in the communication business. In response to a trend in demand and expectation that is gradually moving away from analogue towards digital CCTV, communications and peripheral products, Panasonic will reorganise and integrate PSS and PCC to promote more effective management of resources and management structure improvement. The business reorganisation will mark a new phase of business which unifies audio, imaging, visual and data in IP networks and is aimed to support business expansion mainly in emerging markets. Panasonic transfers the rights and obligations with respect to the business of PSS to PCC and change PCC's trade name to Panasonic System Networks as of January 1, 2010.

**http://panasonic.net**

CCTV

# Secure for Over 5,000 Years

## A CCTV System Keeps Watch on World-class Ceramics

**A Dallmeier CCTV system has been installed to protect ceramic treasures from London's V&A Museum during the Syrian stage of a world tour. The Victoria & Albert Museum London has sent a repertory of major ceramics from its holdings on an international touring exhibition. During its stay in Syria a Dallmeier surveillance system secures the art treasures.**

The prestigious exhibition was the driver for installation of a sophisticated CCTV network to keep watch over the exhibits, though the system is to remain in place after the exhibition moves on to its next location. In cooperation with Technolead, the specialists from the installer firm OCS managed to meet the demanding requirements of this system. The demand was for a high-quality surveillance that would, at the same time, adhere to the strict provisions for the protection of historic sites that are in effect at the venue.

© Boris/fotolia.com

OCS worked in partnership with Technolead, Dallmeier's partners in Syria. The team was awarded the contract partly as OCS is already the security provider for the V&A. "It was felt that we knew what was required," says OCS Security Systems Corporate Development Director Roger Noakes. The system uses Dallmeier_inPIX cameras and a DMS 240 recorder. V&A Security Manager Dave Flipping was aware of the capabilities of the Dallmeier product as the recorders and cameras are already used in the V&A in London.

### International Exhibition

The major international touring exhibition, "World Ceramics: Masterpieces from the V&A" took place in Syria from 24 November 2008 to 8 January 2009 as the finale to the Damascus Arab Capital of Culture 2008 activities. It groups together internationally-important original ceramics ahead of their display in the V&A's refurbished ceramics galleries. Other places on the tour include Seoul, Düsseldorf and Istanbul.

The V&A has the world's largest ceramics collection. Its holdings range from ancient Egyptian artefacts and early examples of Chinese porcelain to contemporary studio pottery and industrially-designed ceramics. The touring exhibition showcases 116 treasures from the renowned collection, including historic and rare items that had not been seen outside the V&A since their acquisition. "World Ceramics: Masterpieces from the V&A" explores the history of international ceramics from 3000 BC to the present day and highlights the links between the world's ceramic traditions, including showing how international trade and cultural exchange spread the technologies, styles and usage.

### Historic Setting

The display in Syria, which was sponsored by Shell (Syria), was housed at Khan As'ad Basha in the heart of Old Damascus. It is one of the most beautiful historical buildings in Damascus and is a striking example of 18th-century Syrian architecture, built by a powerful governor of Damascus, As'ad Pasha al-'Azm, to house merchants involved in long-distance trade. The V&A points out that this made it an appropriate setting for an exhibition that reflects the transmission of objects and ideas along trade routes. „The exhibition shows how much different parts of the world learned from each other in earlier times," said V&A Director Mark Jones.

Khan As'ad Basha was built in 1752 and the largest of the caravanserais, which provided lodgings and places of work for the merchants and storage for their goods. Its rooms are arranged in several stories around a central courtyard, which is covered by nine domes. The walls are a particularly striking aspect, as they are built of striped masonry and consist of alternate courses of black basalt and white limestone.

## Careful Approach

Khan As'ad Basha is regarded as one of the most important buildings in Syria and strict limitations were imposed. Installing a CCTV system could not be allowed to cause any damage. "Our brief was to install the system without making any screw holes or clipping any cables," recalls Mr Noakes. The demanding requirement led OCS and Technolead to devise an innovative mounting solution based on a clamping assembly around the columns, which avoided any damage to the stonework. That approach allowed the camera mounts to be fixed to the clamps rather than to the columns themselves.

Mr Noakes visited Khan As'ad Basha initially with Mr Flipping to assess the location and design the CCTV system, with the decision taken to specify Dallmeier. Mr Flipping was already very familiar with the quality of Dallmeier equipment, which has been in use at the V&A for about five years. The cameras produce first-class images even in difficult lighting and the recorders are extremely high quality and easy to operate as they are very quick to search through the images.

## Installation Window

The cameras contain Dallmeier's Cam inPIX technology, which converts the picture information of each individual pixel digitally at the point of capture and processes it in the most optimal way. This allows high picture quality, even for situations with a great range in contrast. The hybrid audio and video recorder used is a DMS 240, a stand-alone recorder with up to 24 channels with the latest features. OCS bought the equipment from Dallmeier and used a specialist company for the shipping to ensure that would arrive in time. The British Consulate helped expedite with the complex procedures involved in shipping security items into Syria, which would normally take three months.

The installation was carried out during a temporary closure of Khan As'ad Basha for preparation of the exhibition. Mr Noakes spent time on site at the beginning of the contract, agreeing the procedures with Technolead, which carried out the installation. "We only had access for two weeks and everything had to be installed within that time," he says. Commissioning of the system was carried out by OCS and Mr Flipping, and the system was successfully handed over while the cabinets were being completed ready for the arrival of the exhibits from their previous visit to Germany.


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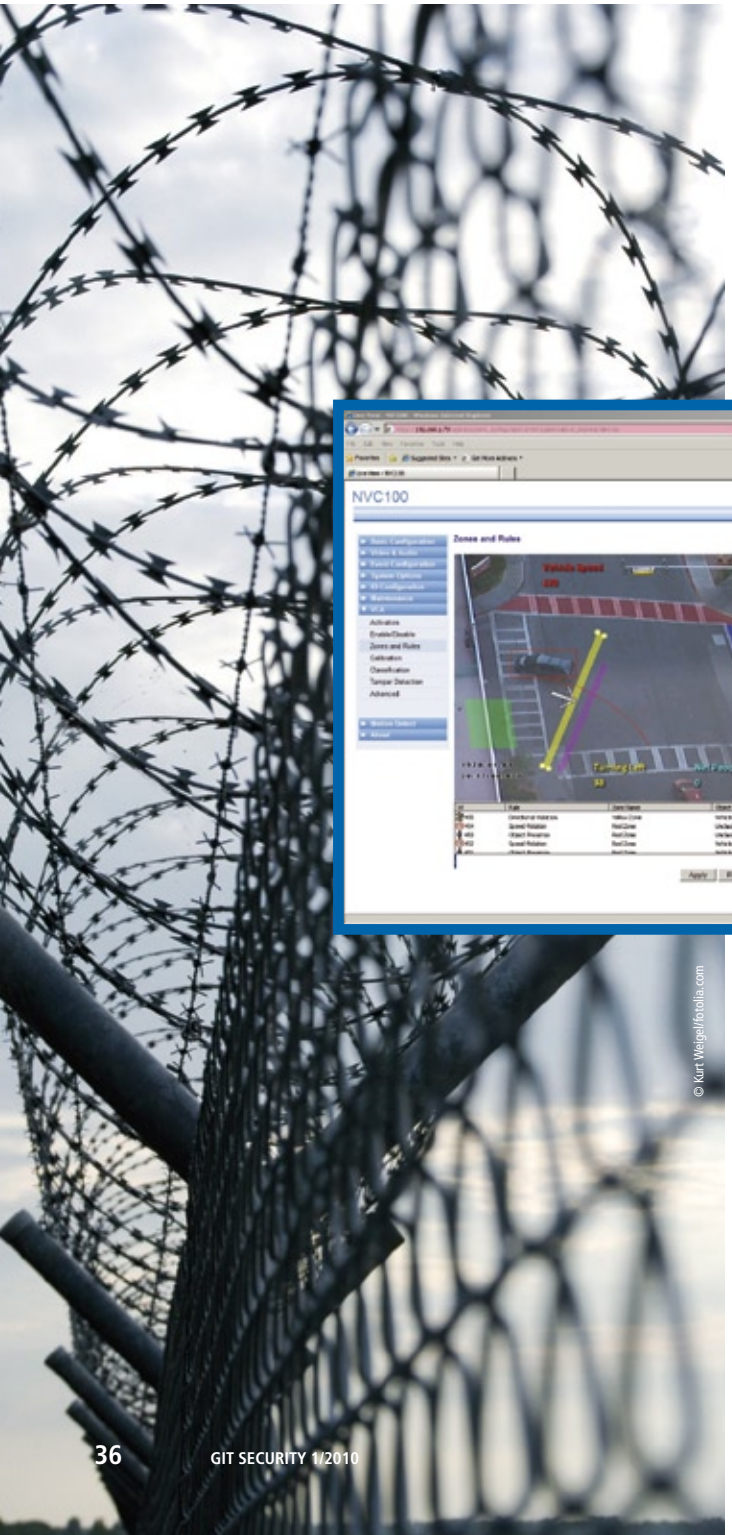
VIDEO MANAGEMENT

# Looking Back & Looking Forward

## Video Content Analytics: The Major Developments

**Geoff Thiel, CEO of VCA Technology, pioneered Video Content Analytics more than 10 years ago when the company he headed then, PI Vision, developed one of the world's first video analytics systems. He went on to found VCA Technology in 2007 which recently launched its analytics software suite VCAsys. This article looks at some of the major developments over that period and takes a peek into the future to see where the market is heading over the next 10 years.**



Geoff Thiel

### The 'Double Knock'

If we look back 10 years to the video analytics projects that we were involved with back then, there were some very key developments that took place in central Government-backed projects such as the Amethyst system. Amethyst focused on tightening security in high security Category A prisons and other key government sites. To make the perimeter alarm facilities more accurate we worked with the then Home Office Police Scientific Development Branch (PSDB) to combine video analytics with the existing Perimeter Intruder Detection Systems (PIDS) in order to dramatically reduce false alarms being generated by the PIDS systems alone.

A typical PIDS system uses a microphonic cable stretched along the perimeter fence and uses digital signal processing (DSP) technology to detect important sounds, such as someone cutting through the fence, whilst rejecting less important sounds such as the fence rattling in the wind.

Other PIDS systems use infrared beams, microwave beams, buried cables and a host of other techniques to similarly detect intruders and reject false alarms. Unfortunately, prisons and other government sites are often located in remote and hostile locations where wildlife, high winds and torrential rain cause considerable problems with false alarms. None of the above systems are immune to false alarm problems particularly in bad weather.

We worked on the principle of the 'double knock' which is now widely used right across the professional security world. The principle was that the Amethyst system took feeds from multiple alarm systems and would only pass on an alert if the right combination of alarms was detected. Effectively, the analytics system we developed, analysed the video from the camera covering the fence zone that the PIDS alarm came from and would only pass on the alarm to the operator if it had verified visually that an intruder was present.

Very recently a similar technique was applied to a VCAsys pilot system for detecting passengers trespassing on railway lines (this included passengers changing platforms by jumping down onto the tracks and crossing that way just to save time). The specification required a system which could generate no more than two false alarms per month out of tens of thousands of possible movements linked to trains and people moving in and out of carriages and onto the

platforms in a busy station. With one camera on one side of the track feeding into VCAsys it was only possible to reduce the false alarms to a few per week. But with a second analytics camera on the other side of the track the system could cross-refer and eliminate false alarms, suddenly the double knock method enabled delivery of the necessary 0.001% false alarm rate.

This principle can also be applied within a single analytics channel by simply creating two zones in the field of view. If someone/thing crosses the first zone some distance away from a building this may put the system into high alert but the alert would not be sent unless that person crosses the second zone set right at the door of the building. It is possible that a dog or a piece of litter might trigger the first zone and then travel no further but it is unlikely that either of these things would cross the second zone to trigger the door alarm. Combining sensors, or combining multiple detection zones are then a key method of reducing false alarms to a level where the system adds real value to the end-user today.

## Background Subtraction Method

The other major development used in Amethyst, which is widely applied in video analytics today, is the 'Background Subtraction Method' of segmenting tracked objects. The benefit of this method, compared to conventional Video Motion Detection (VMD) systems, is that it can track objects which stop or move very slowly, whereas VMDs cannot. This method is central to VCA Technology's VCAsys system although it has undergone considerable improvement since those early days. Essentially analytics software analyses an image, pixel by pixel, to assess what is static and what is moving. Through this analysis it is possible for systems to tell what is immobile and therefore can safely be considered to be background and what is moving, the so called foreground. More sophisticated algorithms are then capable of checking for different types of movement. For example, systems probably will not want to focus on the movement of tree foliage blowing in the wind but they will be interested in picking up the people moving around that tree at ground level. The Amethyst system included many other features including video stabilisation so that camera sway did not affect the analytics, lighting change compensation so that cloud shadows did not cause problems and also a fail-safe mode that shut off the video analytic verification if the visibility was too poor due to fog or rain.

## Processing Power Requirements – a Barrier to Rapid Adoption?

Although there is some potential for error in the background subtraction method it is nevertheless a fundamental building block of good analytics systems today. Indeed, it is this pixel by pixel analysis which accounts for the massive computer processing power that systems still require. 10 years ago, digital CCTV systems often used reduced frame rates and lower resolutions. However nowadays real-time 25/30 frame per second (FPS) video at full D1 resolution is common and recent innovations, such as progressive scan and megapixel cameras, simply compound the computing load. So analytics systems today are processing many times more pixels than they ever used to and they must process these with ever greater speed and efficiency to keep up with the accuracy levels being demanded of them.
VCA Technology has worked hard to find Central Processing Unit (CPU) efficiencies so that it is able to comfortably co-habit on the CPU of edge devices like encoders and network cameras. It uses just 20% of the processing power of a standard DSP CPU whereas some systems demand a whole second DSP CPU or a large proportion of a standalone PC all to themselves.

## 10 Years from Now

If you look forward 10 years then there appears to be one near certainty in terms of processing power of computers. According to Moore's Law performance doubles every two years so CPU usage will be less of an issue within a few years, despite the increased use of multi-megapixel & HD cameras. You only have to look at developments in the DSP and Integrated Signal Processing (ISP) chips used in cameras to see that more and more processing - from encoding to compression and analytics - can be done at chip level. This, in turn, will enable more of these tasks to be performed inside smaller devices such as cameras and encoders.

Chip manufacturers are already focusing hard on doing more video processing in hardware so that the programmable part of the chip has more space to do analytics-related processing. As chip manufacturers start working more closely with analytics software providers it is conceivable that analytics will become more widely available at virtually mass market prices within 10 years.

This trend towards mainstream adoption will also force some consolidation in the analytics market as specialist analytics providers, which have commanded a high price for their expertise, will find their position under attack. They will be challenged by well-constructed analytics software suites which are easy-to-configure and highly adaptable to specialist analytics tasks such as understanding people traffic flow through a shopping centre (to inform better marketing/sales promotion) or spotting specific criminal behaviours.

For a fuller glimpse into how analytics may be put to work in the future you need to look to the Asia Pacific region where we are already seeing it being used in a 'smart home' environment to help control lighting to create the desired mood within specific parts of the home at specific times of day.

Users ought to be able to deploy a system without having to call in an expert to install and configure the system. I see it as VCA's raison d'être to make analytics as easy as possible for a person to use to enable him to be alert to all things he needs to know but might ordinarily miss. As such it should be a single set of eyes combined with an easily configurable analytics system which can be tailored to meet any visual analytics challenge.

But some shifts may still require the next generation of people to force a change of mindset and more widespread adoption. We may even rely on the arrival of 'Generation Y' into positions of influence which enable them to control necessary budgets, to deliver mainstream adoption. The other trend will be consolidation of analytics vendors into larger IT players that already have a stake in the market today such as Cisco, IBM, Honeywell and Unisys who will be buying more video analytics specialists in the coming years. But why are these big IT players looking at this technology?

Video analytics has already spread outside of the security domain with many retail organisations using the technology for footfall analysis and marketing data. However, you can imagine a time when video analytics will be used in search engines and net applications to quickly access specific types of video content, this in turn will drive greater adoption of the technology by network providers so bringing it to the mass market and significantly reducing its cost. The security market will give to the world an outstanding technology which in turn will deliver back a very low cost implementation; analytics can then become a standard offering in all digital cameras and DVRs in much the same way as VMDs have over the last few years.

I also believe some specialist service and consultancy-driven analytics offerings and perhaps also some that are aligned with specific vertical sectors, will survive and thrive in niche markets even 10 years from now.

## Summary

The market has moved on a good deal since my involvement with some of those early analytics systems but perhaps the most significant change has been the widespread commercialisation of this technology in recent years. A combination of affordability, usability and education of the end-user will continue to push video analytics into the mainstream within the next few years and we intend to play our part in accelerating widespread market adoption during this period in all three of these areas.

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FACILITY SECURITY

# The Key to Techno City

## Renault's Research and Development Center Installs a Key Management System

**Renault has concentrated all its research and development work at its 'Technocenter'. The security of sensitive data, new vehicle prototypes and other product innovations has the highest priority here. A prox-Safe maxx key management system from Deister Electronic manages access by employees of external companies.**

Near Paris lies a town that has only existed in this form for eleven years. It was planned and built with military precision just like the baroque royal palace not far from Versailles, around 20 km before the gates of the French capital. The Renault Technocenter in Guyancourt is a high-tech mini-town covering 150 hectares with its own 20 km long road network. Construction began after a two-year planning period in 1991, and it was opened in the summer of 1998. Some 11,500 engineers, technicians and designers work here, all with the aim of researching new developments in automobile construction, the shortening of development cycles as well as cost reduction. The calculation is evidently working because, on the occasion of its tenth anniversary there, the car manufacturer announced that the concentration of research and development resources in Guyancourt has enabled the reduction of development time of a new model by two-thirds and savings amounting to millions.

### The Vital Subject of Know-how Protection

The development center has effectively become the brain of Renault. Protection against industrial espionage, against the unwanted flow of information to interested third parties, is a vital subject where so much top-secret know-how and engineering skill is gathered. One of the most important security tasks in the Renault Technocenter is the management of the employees of external companies that regularly go in and out. On the one hand this is dealt with by a comprehensive access control system, but this also requires a system for the management of keys and ID cards: in view of the numerous rooms that contain sensitive data and know-how it must be possible for Renault to establish exactly where each employee is, or was, at any time. The responsible staff at Renault implement security in the same meticulous way as their colleagues in development: good solutions are always being sought that are at the same high technical level as their own. The result was a decision to adopt a solution from Deister Electronic who had already equipped the development center with access readers. From this contact came the order to install a key and ID management system that is capable of administering up to 32 key cabinets and up to 1,024 keys.

### Contact-free Identification

It was decided to use the larger version of the system to secure and manage the keys and other valuables in secure areas – the 'proxSafe maxx'. Keys and/or ID cards are fastened to a key tag using a one-time seal, an electronic key ring. This is uniquely identified without contact each time it is removed or inserted. All movements and usage of the key are documented and archived. In this way, it is possible to establish exactly who used which key at what time. Thanks to this system, measures can be taken immediately someone exceeds their security level. The front gate can be informed immediately if a key is not replaced on time and the person concerned can be checked there. The advantage of this system becomes obvious when one compares with the situation before installation: working with the unmanageable multiplicity of keys and potential keyholders was nothing less than a nightmare, as Paul Gilardi of Deister puts it. This led to confusion and also to false alarms. In total around 1,000 keys are uniformly and individually administered in Guyan-

court for technology rooms, offices, conference rooms, but also for cars that are currently being worked on. The ID card holder goes to the terminal of the access control reader. There, he or she is shown which keys may be taken. These keys are released by the key cabinet and must be replaced there after use. The cabinets are physically protected by their own space-saving roller doors.

### Renault's Own Network

A particular challenge during installation of the key management system lay in the necessity to connect this with the highly secure, hacker-protected Renault network, reports Paul Gilardi. It was of decisive importance for the security personnel to be able to manage the key administration from their own system. Deister was able to implement this – helped by the great flexibility of the installed key cabinets. They can be put into virtually any room, expanded or reorganized. The large memory of the operating terminal makes the system particularly resistant against network failure, and power failures can be bridged.

The system has proven itself well in practice, according to Paul Gilardi. In the near future the Renault locations in Boulogne as well as Renault Sport – both also near to Paris – will be equipped with the system.

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SECURITY MANAGEMENT

# Fingertip Response

## A Rapid Incident Management System

Dr. Michael Beller

Joop Bos

Paul André de Jong

**In recent years a raft of new technology has thrust its way into the security industry and now enhances traditional video surveillance systems, intrusion detection, access control and fire detection systems. There are, for example, more intelligent camera systems, GPS applications, geo information systems (GIS), biometrical security systems, more intelligent and sensitive sensors and new communications solutions. Managing and operating those many different components whilst still using conventional solutions is becoming more and more complex.**

Users and decision makers alike are bombarded with an overflow of information which impedes coordinated responses, although the availability of just such aggregated information is intended relieve the operators. Since network technology has found its way into all sectors of the security industry, the way ahead must be the full convergence of those systems.

As in other industries, this growing together is the main driver for the development of new types of security software applications such as security management or crisis management systems. These security management solutions gather and process information from all available sources within an organization and make them accessible through a uniform user interface. The responses are coordinated by pre-defined work-flows in such a way that everyone in operations is fully aware of the necessary actions.

The Simplicity Security Manager is a comprehensive, cost-effective, and easy to use security management solution. It performs a number of essential tasks. Firstly it integrates and manages all existing security and risk systems into one uniform application. Incident responses and operational activities are coordinated through workflow management, thereby ensuring consistency of response and enhanced effectiveness.

### Tamed Technology

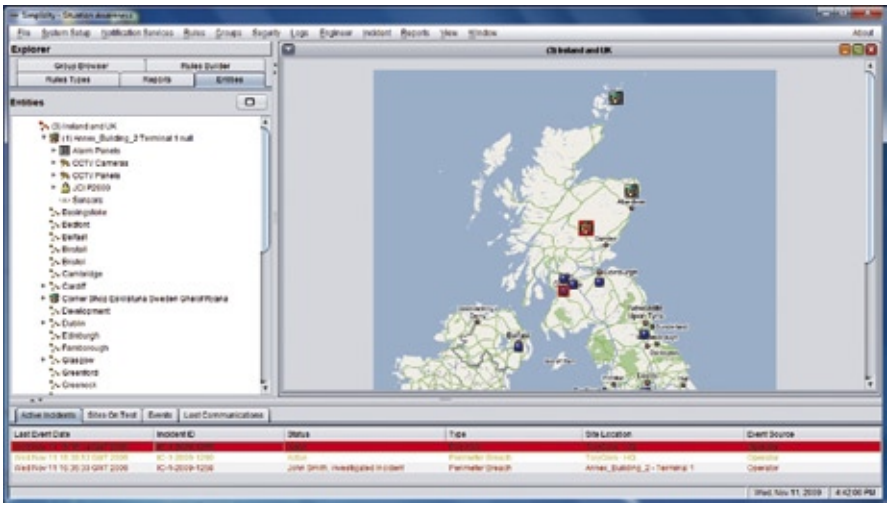
There is full auditing of incident response to ensure compliance with industry and corporate standards. Risks can be proactively managed through advanced analysis capabilities to assess security threats and operational risks. This enables a positive return on investment through cost, loss and risk reductions. Simplicity Security Manager has a simple to use interface that provides the user with all the functionality they need at their fingertips. The interface controls a robust 'work horse' system in the background, designed to manage complex, state-of-the-art command and control centre installations. By combining cameras, intrusion, fire, access control and many other devices under one single platform, users have continuous awareness of, and control over, any situation or incident. The system can be combined with advanced mobile communications to co-ordinate with field responders via PDAs, mobile units, police and emergency services. It is fully scalable and delivers the resilience expected from critical systems.

### Intuitive Sequence

Incidents are logically managed through three screens. The Situation Awareness Screen provides an overview of all fixed and mobile security assets, in one or multiple locations. The integrated GIS gives a rapid overview of the location

and status of devices or assets and incidents are highlighted in this part of the screen. By selecting an incident, the Situation Management Screen is activated and provides incident-specific information with automated, semi-automated and user driven follow-up and response based on pre-defined rules implemented in the system. This enhances response times and reduces human error, making sure that procedures are followed and events are escalated when needed.

No matter which CCTV system, camera, DVR or IP Video System is chosen for a project, the operator will always have the same look and feel, interface and handling. The Simplicity system provides full recording and playback of all incident data, including workflow, sensors and video feeds. Its sophisticated reporting functionality enhances security business intelligence capability through comprehensive incident reports and trend analysis.



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CAMERA TEST

# In Focus: Panasonic WV-NW502

The vandal-proof fixed dome network camera WV-NW503 and the WV-NP502 network camera, which is equivalent except for the physical design and the lens, are new to the Panasonic range this year. Both cameras are equipped with the Panasonic Super Dynamic Technology. The cameras should provide jerk-free images with 1,280 x 960 pixels and excellent dynamic characteristics due to the combination of a 3 megapixel CCD and the Super Dynamic Digital Signal Processor (DSP). The cameras support the transmission of several parallel image streams (multiple streaming) and can transmit H.264/MPEG-4 and JPEG simultaneously, to enable both real-time surveillance and high resolution saved images.

## Performance

**Performance assessment when used with 1,000 Lux**

In comparison with the reference image, at maximum resolution the Panasonic WV-NW showed a slightly milky colour range of clear appearance and good to very good sharpness. In addition, the Panasonic high-end model features a good contrast ratio. Performance assessment when used with less than 1,000 Lux

**Performance assessment when used with less than 1,000 Lux**

At a Lux value or 1,000, lack of sharpness was detected for moving objects in the lower half of the sequence. This did not deteriorate significantly down to 2.5 Lux and resulted in loss of recognition of moving objects below 0.5 Lux. Slight image noise only occurred at 0.5 Lux.

**Performance assessment in backlight situations**

The compensation time with backlight is approx. 4 seconds and shows satisfactory dynamic characteristics. The size of the cone of illumination extends from the edge of the backlight and to some extent over the entire object and shows slight traces of smearing and blooming.

**Performance in use: Bandwidth measurement**

On closer examination of the characteristic curve, the compensation behaviour of the H.264 codec becomes clearly apparent. Depending on the illumination conditions and the movement in the image, a slight to severe increase or decrease can be detected, from which it can be assumed that a variable bit rate is used, which provides higher quality with overall less memory space. With comparable quality, an MPEG stream provides a measured average data rate of approx. *12 Mbps, which corresponds to a reduction in bandwidth by a factor of 3.5 in comparison to the measured 3.40 Mbps of the H.264 stream.

*Average value.

### Technical data for the camera test

| | |
|---|---|
| Manufacturer | Panasonic |
| Model | WV-NW502/WV-NP502 |
| Firmware version | 101E1 |
| *Distance from test chart | 0.35 m |
| Lens used | Fujinon; f 1.2 (wide); f 2.8–8 mm |
| *Set focal length | approx. 6 mm |
| *Compression method | H.264 |
| *Resolution | 1,280 x 960 |
| Compression | 50 % |
| I-frame interval | 1 second |
| *Max. stream bandwidth | 4,096 kbit/s |
| Measured max. frame rate | 29 fps |
| Average bandwidth | 3.40 Mbit/s |

The camera was integrated into the test system with the default settings and modified according to the test criteria listed above

The test was carried out in 1.3 megapixel mode, with which an image data rate of 30 frames per second can be achieved. The Back Focus mode was set to fixed, in order to avoid continuous compensation with changes in lighting. Day/night switchover was performed manually at 2 Lux. The test results also apply to the WV-NP502, as except for the physical design and the lens, this is equivalent to the WV-NW502.

### Assessment table for various lighting conditions

| Criteria \| Lux values | 1,000 Lux | 100 Lux | 10 Lux | 0,5 Lux | 0 Lux + *BL1 |
|---|---|---|---|---|---|
| Colours | 2.5 | 2.5 | 2.5 | b/w | b/w |
| Contrast | 2 | 2 | 2.5 | b/w | b/w |
| Sharpness | 2.5 | 2.5 | 2.5 | 3 | 2.5 |
| Motion shaprpness | 2.5 | 2.5 | 3 | 4 | 3 |
| Image noise | 2 | 2 | 2 | 3 | 2.5 |
| Compensation time for backlight | – | – | – | – | 3 |
| Backlight characteristics | – | – | – | – | 3 |

Assessment was performed according to system for German school grades from 1 (very good) to 6 (unsatisfactory)

## Conclusion

With a resolution of up to 3 megapixel (2,048 x 1.536) and H.264 and MPEG-4 the WV-NW502 is a perfect solution for a wide range of applications. Support of multistreaming and JPEG transmission with a full image rate in 1.3 megapixel mode (up to 30 fps with a resolution of 1,280 x 960 pixels) enables simultaneous surveillance and high resolution image storage. In addition, the WV-NW502 also provides excellent colour reproduction under low light conditions as well as many innovative image setting possibilities. The SD/SDHC slot enables the recorded data to be directly recorded on an SD memory card. Further features of the WV-NW502 are the facility for the connection of a microphone and an analogue monitor and audio output via an external loudspeaker. Areas of use include airports, casinos, department stores or other locations where faithful colour reproduction and a vandal-proof housing are required.

# Test the best!

## GIT SECURITY Camera Test in cooperation with SeeTec

### Performance

**Performance assessment when used with 1,000 Lux**
In comparison with the reference image, at the maximum resolution tested, the Axis P3344 showed a slightly overmodulated colour range and very good sharpness. In addition, the device showed a good to very good contrast ratio.

**Performance assessment when used with less than 1,000 Lux**
At a Lux value or 20, lack of sharpness was detected for moving objects in the lower half of the sequence. This did not deteriorate significantly down to 0.5 Lux and resulted in a slight loss of recognition of moving objects at approx. 5 Lux. At 0.5 Lux there is slight image noise, although this is only significantly noticeable after switchover from day to night mode.

**Performance assessment in backlight situations**
The compensation time with backlight is approx. 2 seconds and shows good dynamic characteristics. The size of the cone of illumination extends from the edge of the backlight to over the entire object and shows slight traces of smearing.

**Performance in use: Bandwidth measurement**
On closer examination of the characteristic curve, the compensation behaviour of the H.264 codec becomes clearly apparent. Depending on the lighting conditions and the movement in the image, a slight to large increase or decrease was detected. From this it can be deduced that a variable bit rate is used, which provides a higher quality with overall less memory capacity. With comparable quality, an MPEG stream provides a measured average data rate of approx. 20 Mbps, which corresponds to a reduction in bandwidth by a factor of 9.25 in comparison to the measured 2.16 Mbps of the H.264 stream.

*Average value.

### Conclusion

The Axis P3344 fixed dome network camera provides a resolution of one megapixel or HDTV 720p and fulfils the SMPTE standard with regard to resolution, colour reproduction and image rate. The wide dynamic range and day and night functionality provides clear images both in daylight and under poor lighting conditions. With the aid of the remotely controlled zoom function the optimum angle of view and the required resolution for the environment can be set during installation. By means of the remote controlled focusing the camera can be installed even more conveniently, as manual focusing of the camera is not necessary.

## In Focus: Axis P3344

The Axis P3344 fixed dome network camera with tamper-proof housing is a fixed direction dome camera, which is specially designed for inconspicuous interior video surveillance. It provides 1 MP or HDTV 720p resolution and fulfils the SMPTE standard with regard to resolution, colour reproduction and image rate. The wide dynamic range and day and night functionality provides clear images both in daylight and under poor lighting conditions. Several H.264 video streams and motion JPEG video streams can be produced simultaneously, either at full image rate or individually optimised for various quality requirements and bandwidth restrictions.

CAMERA TEST

**Technical data for the camera test**

| | |
|---|---|
| Manufacturer | Axis |
| Model | P3344 |
| Firmware version | 5.05 |
| *Distance from test chart | 1.05 m |
| Lens used | 3.3–12 mm: f1.6 |
| *Set focal length | approx. 6 mm |
| *Compression method | H.264 |
| *Resolution | 1,280 x 800 |
| Compression | 30 % |
| I-frame interval | 1 second |
| *Set stream bandwidth | unlimited |
| Measured frame rate | 30 fps |
| Average measured bandwidth | 2.16 Mbit/s |

The camera was integrated into the test system with the default settings and modified according to the test criteria listed above

**Assessment table for various lighting conditions**

| Criteria \| Lux values | 1,000 Lux | 100 Lux | 10 Lux | 0,5 Lux | 0 Lux + *BL1 |
|---|---|---|---|---|---|
| Colours | 2.5 | 3 | 3 | b/w | b/w |
| Contrast | 2.5 | 3 | 3 | b/w | b/w |
| Sharpness | 2.5 | 3 | 3 | 4.5 | 3 |
| Motion shaprpness | 2 | 2.5 | 3 | 4 | 3 |
| Image noise | 2 | 2.5 | 2.5 | 2 | 3.5 |
| Compensation time for backlight | – | – | – | – | 3 |
| Backlight characteristics | – | – | – | – | 4.5 |

Assessment was performed according to system for German school grades from 1 (very good) to 6 (unsatisfactory)

## Digital CCTV System Certificated for British and European Courts

LGC Forensics has certificated the Geutebruck Reporter digital CCTV system as being 'a safe digital product for use in British and European courts of law'. With its recent acquisition of Kalagate, LGC Forensics has replaced Kalagate as the official certification authority for evidential quality video equipment. In stringent testing the system was found to meet all the necessary criteria for picture quality and for authentication which ensure that recorded material is accurate and secure against falsification and manipulation.
www.geutebrueck.com

## Camera for Critical Security Applications

Bosch Security Systems released an all-in-one Infrared Imager camera for long range, outdoor day/night surveillance. The ZX55 and ZX55-IP feature the company's proprietary Black Diamond infrared technology for high resolution, low noise nighttime imaging to 300 m. A powerful 9 to 90 mm IR corrected lens eliminates focus shift and IR bleed to enable an unrivalled long range detail capture and deliver the highest levels of 24/7 protection. The ZX55-IP, moreover, features a power processor for on-board Intelligent Video Analysis (IVA) to monitor scene activity and flag user-defined events such as alarms. It embodies a high-performance tri-stream video encoder capable of delivering MPEG-4 and MJPEG Video over IP at 30 fps and full resolution. The tri-stream encoder also allows for simultaneous high-resolution viewing and high-efficiency storage.
www.bosch.com

## HDTV Cameras for Casinos at IGE 2010

Dallmeier presented its complete HD end-to-end solutions for casinos at the International Gaming Expo 2010 in London. Highlights were the two full HDTV cameras, the fixed dome camera DDF4010HDV and the PTZ dome DDZ4010-YY/HS/HD Domera. Both cameras use a native HD sensor with a true resolution of 1,920 x 1,080 pixels and offer 16:9 image format and a five times higher resolution than the best conventional SD cameras. Moreover, the cameras are prepared for ONVIF requirements. The company's high definition cameras are also equipped with the Caminpix technology (image processing) and are thus suited to meet even the highest demands, such as those which can be found in the casino environment.
www.dallmeier.com

## Video Management System

DVTel announced the release of Solus VMS, its IP-based video surveillance software and turnkey solution for the entry-level marketplace. The Video Management System is targeted for configurations of up to 32 cameras. This out-of-the-box solution is suited for installations where the end user wants a networked system and is looking for a single-server solution. Available today, the system offers the following end-user benefits: Easy to use, feature-rich Video Management System; supports multiple video compressions including H.264, MPEG-4, and MJPEG; viewing, recording, and exporting audio and video; integrates with hundreds of third-party IP cameras and encoders; provides multi-level user access rights for added security and management; interactive system administration dashboard for ease of configuration and maintenance. Both software only and turnkey solutions are available.
www.dvtel.com/solus

## Handheld Thermal Imaging Cameras

Flir's H-Series are handheld shock-resistant thermal imaging cameras. They produce a crisp image even in dark nights. Thanks to the H-Series, security professionals and law enforcement officers can see suspects in total darkness, through light fog and smoke, and light foliage. The series are suited as tools for walking patrols that need to secure industrial sites or borders, customs and law enforcement officers and all others that need to see what is happening in total darkness, in all weather conditions, without being seen themselves. The cameras produce thermal images of 320 x 240 pixels on which the smallest of details can be seen. Advanced internal camera software delivers a crisp image without the need for user adjustments.
www.flir.com

## H.264 Camera Line

Optelecom-NKF announces the release of its H.264 Siqura HD6x PTZ IP camera series. This high-speed dome (HD) camera line comprises three pan/tilt/zoom (PTZ) IP cameras, the indoor HD60 and the outdoor HD62 and HD66 WDR. All of the HD6x cameras support open streaming architecture (OSA) for easy integration with video management systems. Each model offers an array of features that make an HD6x camera a valuable addition to any surveillance system. The quad-streaming HD6x cameras support H.264 streaming in addition to MPEG-4 and MJPEG dual streaming. The cameras can move to predefined preset positions at impressive speeds of up to 400° per second.
www.optelecom-nkf.com

## Network Cameras for Video Management Platform

Hikvision Digital Technology announced that a wide range of their network cameras and video encoders are now integrated with the Milestone Xprotect IP video management platform. As of the Milestone Device Pack 4.6, a large number of the company's devices will be supported, including four and one channel video encoders DS-6104HCI and DS-6101HFI and a broad range of fixed dome cameras of the DS-2CD7xx series, as well as fixed cameras of the DS-2CD8xx series. The producer's network cameras deliver very high video quality in real time using MPEG4/H.264 video codec and the advanced TI (Texas Instruments) Davinci platform. The network cameras also support SDHC cards for local storage, this feature provides non-stop recording even when the Internet is interrupted.
www.hikvision.com

## Enhanced Display Capabilities

Bosch Security Systems has announced a new software release for its Dibos Hybrid Video Recorder offering enhanced display capabilities. Release 8.7 offers optimized widescreen 16:9 support comprising seven new views in a special widescreen layout. In combination with widescreen displays such as the Bosch 42RTH 42-inch high-performance LCD monitor, the enhanced display capability now available on the recorder will offer superior video surveillance complying with the current standard for LCD monitors. The new release also offers Trivial File Transfer Protocol (TFTP) support for the company's megapixel IP cameras, which delivers a higher and more stable frame rate performance than Hypertext Transfer Protocol (HTTP). In addition, the digital zoom function has been enhanced with the new release. Video images are now capable of providing 7 instead of 3 digital zoom steps, making zooming-in much smoother.
www.boschsecurity.com

## Improved VMS

Optelecom-NKF announced the release of its recently improved video management system (VMS) software application, Siqura VMS 5.4. This is a software management application for security purposes in which reliable and high-resolution recording and search options are of the utmost importance for preventing calamity and controlling crime. Allowing up to 20 servers and 640 video, audio, data, and I/O channels, it is suited for both local and extended systems. The software includes features such as intelligent motion detection, continuous 24/7 recording, real-time monitoring, and playback of recorded video, and it can handle video with MPEG-4, MJPEG, or H.264 compression. Since it is compatible with an extensive range of third-party products, the software is easy to integrate into an existing system or to use as networks expand.
www.optelecom-nkf.com

## Managed Switch Provides Peripheral Device Power

ComNet has introduced a high capacity managed Ethernet switch. The Comworx CNGE2FE24MSPoE is the company's first environmentally hardened Managed Ethernet Switch that provide a high port density in a compact package and provides Power over Ethernet to peripheral devices such as IP cameras and video encoders. The all-new ComWorx Switch makes available twenty-four 10/100TX ports and two 1,000 Mbps combo ports that utilize easily interchangeable small form factor pluggable optic (SFP) devices as optical interfaces. This hardened Ethernet switch is designed to operate in environments where extremes of temperature and vibration are a consideration. All 24 ports support IEEE.802.3af based PoE. Two ports are Gigabit (Gbps) configurable for copper or fiber media for use with multimode or single mode optical fiber, selected by optional SFP modules.
www.comnet.net

## Mobile Surveillance Application

QNAP Security announced the mobile surveillance application VS Mobile for its Viostor NVR network surveillance systems. By installing the application on the Windows PDA phone, the users can connect to the NVR series over the Internet and monitor the network cameras in multiple locations for IP video surveillance. The application provides adjustable display mode, including 1-channel and 4-channel view, and different screen display. It also offers sophisticated features such as control of the monitoring angle of the PTZ IP cameras, instant snapshot, remote control of manual recording on the NVR, and instant alert.
www.qnapsecurity.com

## IP-CCTV Video Wall

Indigovision has released Video Wall software that allows professional fully-featured IP-CCTV control room video walls to be built to any size, at a fraction of the cost of other dedicated display products. Based on 'Control Center', the company's Security Management Software, video walls can be constructed with complete scalability using any PC monitor type (CRT, LCD and plasma), with standard or High Definition wide-screen format. The video wall is driven using slave 'Control Center' workstations, each of which manages up to four monitors. Up to 98 slaves can be controlled over the IP network from an unlimited number of master 'Control Center' workstations. Each monitor can display up to 25 video panes, allowing video walls with up to 9,800 panes to be constructed.
www.indigovision.com

## Geutebruck: EMEA Market Leader for Boxed NVRs

The 2009 edition of the IMS Research report on the EMEA market for CCTV and video surveillance equipment found that Geutebruck is now the market leader for boxed NVRs, having more than double the share of its nearest rival. The company was also listed among the top ten suppliers of open platform network video management software in EMEA. The German family-owned company produces customized video security systems with open architecture, which enable smooth, cost-effective analog-to-digital-to-IP transition. It therefore sees itself as being ideally qualified to offer customers objective advice on all available technologies. Managing director, Katharina Geutebrück commented: "The Geviscope-IP/SE, Geutebruck's high-end NVR, has been able to take the lions' share of the enterprise class NVR market in EMEA because of its high performance and flexibility, which enable users to make significant savings in security processing and other areas." The company has offices and partners in more than 40 countries. It produces the high quality, high performance digital CCTV systems that protect many of the world's most prestigious and sensitive sites.
www.geutebrueck.com

## Software Platform

Efusion Version 2.0 from Maxxess comprises ten separate software modules, which are able to address specific security issues. When working together they provide a sophisticated global integrated security management software solution. It "provides users with a business advantage as it allows them to respond quickly to events, make more informed decisions, make better use of manpower and share information throughout their organization, whilst dramatically cutting their security costs," said Lee Copland, Managing Director EMEA. The software platform has been designed to transparently adapt to individual user's evolving requirements with individual modules introduced as new needs or threats emerge. Among the modules is Viewpoint, allowing users to display video from multiple sources on one master display regardless of the CCTV equipment manufacturer. Axis, Bosch, Cieffe/March, Cisco, Dedicated Micros, Geutebruck, Pelco, Samsung Techwin, Sony and Vicon are just a few of the manufacturers whose protocols have been integrated.
www.maxxess-systems.com

## DVR with Automatic License Plate Recognition

Bosch Security Systems offers a solution enabling the company's Dibos Hybrid Recorder to be enhanced with Automatic License Plate Recognition. Automatic License Plate Recognition systems are currently being deployed in many advanced surveillance installations throughout the world and are proving highly successful in security, speed-enforcement, traffic management and access-control applications. Among the features offered by the Hybrid Recorder is the possibility to easily integrate with external devices such as the company's REG-Sentry vehicle access control system. REG-Sentry is one of the first automated vehicle access control systems based on Automatic License Plate Recognition. Users can configure the system with specific number plate black/white lists, barring or enabling access for any vehicle attempting to enter a secure site. It offers a flexible, user-friendly solution for a wide range of access-control applications, including access roads, car parks, gated communities, factories, warehouses, ports, offices and schools.
www.boschsecurity.com

SECURITY

# Gateways to Cyprus

## AEOS Solution at Larnaka and Paphos Airports

**The status of Cyprus as a major tourist destination means that air traffic has steadily risen over the years, doubling the demand the airports were initially designed for. For this reason, both airports are working hard to develop the infrastructure facilities further and to increase their capacity. The rapidly changing and complex security environments of both airports have brought the management decision to install a reliable and user-friendly security management system at both airports.**

Larnaka International and Paphos International are the two main airports of Cyprus, jointly processing well over seven million passengers per year and offering employment to more than 6,000 people. With total parking space for 20 aircraft plus a special parking area for around 40 small propeller planes, Larnaka is the bigger airport of the two; Paphos International Airport has parking capacity for 14 aircraft. Paphos already has a new passenger terminal since November 2008 and at Larnaka construction is ongoing to open the new passenger terminal in November 2009, offering modern, world class facilities.

### Access Control

One of the main reasons for the airports to choose Nedap AEOS as its security management system is the combination of its open architecture and configurable software components, enabling the airports to be more in control of the enforcement of the tight security procedures. Another important reason to choose AEOS is its capability of managing the access control at both airports simultaneously. Implementation took place through Glosec Holdings, the daughter company in Cyprus of Nedap's certified Business Partner Orad from Israel. The AEOS security management system implemented at Larnaka International consists of approximately 88 proximity readers and 11,000 Mifare cards. At Paphos International the AEOS system consists of around 30 proximity readers with 5,000 Mifare cards. The project not only includes security management systems, but also CCTV, logical biometric log-in to computers and a central command and control system. With these systems in place, the airports will be able to meet present demands as well as future security requirements.

### Two in One

The airports of Larnaka and Paphos function independently, but are managed and controlled by one company. Therefore, one of the requirements for the installation of the access control system was to have a combined arrangement for both sites. The airports now have their own access control server but, thanks to Nedap's Single Server Multi Site solution, both servers will be connected through an intermediate server in the near future. The big advantage of this is that the data of both airports can be easily transmitted. If an access badge is blocked at one airport, it is automatically blocked at the other airport as well. Similarly, all actions taken at one airport can have direct consequences at the other airport.

### Gate Control

Gate control plays a crucial role at both airports. As at any other European airport, gate control is essential for monitoring the difference between Schengen and non-Schengen passengers. This is

often still managed locally at the gate, where the staff member responsible for the gate has to personally check all the entrances each time an aircraft arrives or departs. In order to make absolutely sure that the various passenger flows follow different routes, Nedap has developed a gate control application that is derived from their security controller. This is the world's first controller that combines all security functions previously performed by separate dedicated systems into one generic device.

Using this, the gates are linked to a network that centrally monitors the door settings and locally controls the gates. To set the gate doors to the right position, the authorized staff member presents his badge, shows his finger print and enters a code (or flight number). This is all done locally at the gate. Given that the control system is linked to a network infrastructure, all the gate doors in the system can now be monitored online with one management platform. All actions performed at the gate locally show up as events in AEOS, making it possible to see, for example, if all doors have functioned properly during a month. The use of a network infrastructure and gate controllers saves time and makes it possible to operate the gates more efficiently and with less personnel. The Cyprus airports are currently non-Schengen but with the Nedap gate control solution the system is ready for post-Schengen.

## Who's Who

Within the framework of the gate controller, gates can be linked to an HR database that contains the personal data and biometric characteristics of the airports' staff. This link ensures that the staff members' personal data are always current and directly available at the gate. An additional module called Photo Events shows photos and additional data in the event monitor of AEOS. It allows for the system user to check whether the person presenting his badge at an entrance is the same as the person whose picture is stored in the database.

For easy and quick identification, airport security at Larnaka and Paphos has also been equipped with a hand-held device to control access. Guards can ask staff anywhere at the airport to identify themselves with their badge and fingerprint. The hand-held device will show the security guard if the fingerprint is identical to the one on the person's access badge. At the same time, the person's photo and personal details will appear.

►CONTACT

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## Lighting Systems

Peli Products presents the Mity Lite 2340Z1. Being certified to Atex safe for use in high-risk hazardous locations, Zone 1 (Category 2) areas, it is suited for professionals who work in chemical, pharmaceutical, power, oil and gas, and fire or rescue industries. It is a compact, convenient personal light, but also a powerful professional duty light. A pre-focused Xenon lamp module produces a powerful, bright white, modified spot beam. The body is made of unbreakable Xenoy that resists chemicals and water. The light has a push button tail for easy on/off or intermittent light. It is powered by 2 AA alkaline cells and safety approved for hazardous locations.
www.peli.com

## Explosives Detection System for Airports

L-3 Security & Detection Systems announced that its Examiner 3DX explosives detection systems (EDS) were ordered by ten airports in Europe, Asia and the Middle East. In addition, its Examiner SX was ordered by two airports for their reduced size EDS needs. "International customers continue to choose the Examiner 3DX as their certified EDS of choice," said Thomas M. Ripp, president of L-3 Security & Detection Systems. "With more than 900 Examiner systems deployed world-wide, L-3 continues its leadership position in certified EDS for hold baggage." The product family is powered by 3-D Continuous Flow Computed Tomography that rapidly and accurately screens hold baggage for explosives and other threats, generating full 3-D images of entire objects in seconds.
www.L-3com.com/SDS

## Streamlining Ground Operations

Zebra Enterprise Solutions (ZES) announced the completion of the first phase of Singapore Airport Terminal Services' project to optimize the use of its ground service equipment (GSE) at Changi Airport. Singapore Airport Terminal Services (SATS), with more than 60 years of operating experience and an emerging global presence, is a provider of airport services and food solutions. SATS looked to deploy a telematics system at the Singapore Changi Airport to optimize vehicle planning, reduce maintenance and fuel costs, and enhance driver safety by using real-time data. The company worked with ZES on a three-month pilot program to deploy Airport Visualiser to meet a stipulated set of key performance indicators and installed Infoman hardware in more than 300 GSE. The Airport Visualiser not only helps SATS to easily monitor and manage vehicles in real-time on the Airport Map, but also supports SATS in its day-to-day decision making with graphical analysis of equipment data.
www.zebra.com/zes

## Security Systems for Washington Dulles International Airport

Adesta has been awarded a contract as a result of competitive solicitations from the Metropolitan Washington Airports Authority to install a complete intrusion detection system along the existing western perimeter of the Washington Dulles International Airport. The company has selected Future Fibre Technologies as its exclusive vendor partner for the Dulles installation. The project began in mid-October 2009 and will be complete by March 2010. "Adesta is pleased to support the Metropolitan Washington Airports Authority with their endeavors," said Bob Sommerfeld, President of Adesta. "We are diligent to the important mission of equipping the airport with the most effective and environmentally friendly security solutions available. We are also pleased to be working with a proven leader in airport security, Future Fibre Technologies."
www.adestagroup.com

Barry Scholes (Evacchair) and
Joop Kaufman (ESE International)

EVACUATION

# Taking Care of Evacuation

## What Employers Should Know About Stairway Evacuation

**Most employers are already highly aware of the need to provide a safe and healthy workplace to protect their employees against potential health and safety risks. But the responsibilities toward employees with disability and those classified as mobility impaired are really different to the responsibilities toward all other employees. Heiko Baumgartner met Barry Scholes, Managing Director of Evac+Chair, in Birmingham to discuss the developments in this field.**

**The EU Directives for Occupational Safety and Health from 2006 and several laws in the different European countries force managers and employers to take responsibility for their employees and visitors. What does that mean regarding emergency evacuation?**

**B. Scholes:** Under the new regulations the protection of employees, visitors and guests is now under the responsibility of the respective management and landlords. They have to ensure that fire control systems, evacuation devices and means of fighting fires are in place and ready to use.

**Your company is specialised in the evacuation of people with disability and people classified as mobility impaired. What special demands are there for these persons?**

**B. Scholes:** Stairways are the approved route to safety for most occupants of buildings – but for the disabled and those with walking difficulties stairs can be an insurmountable problem. The strategic placing of evacuation tools like our Evac+Chair throughout the building, together with required escape drills, can help organisations meet the requirements of the EU health and safety laws, and the Equality in the Work Place Law. The Evac+Chair requires only one person to evacuate a colleague, after only a short training session, and considerably improves the security for all in any building above one storey.

**You have mentioned that you have observed different mentalities and approaches in different EU countries?**

**B. Scholes:** Yes, absolutely. Just to give you one example: We are selling more than 25 % of our Evac+Chairs in Germany directly to fire fighting units and fire services while in the UK only about five percent of our equipment is sold to fire services. Fire fighters usually take the Evac+Chairs on board of their fire engines and use them for the evacuation of disabled persons. This is fine if the fire service arrives fast enough. But what if they arrive too late? We expect that in the next years the trend to limit the budgets for fire services in most European countries will continue. This means that the response time, the time a call is received by the emergency communications center to the arrival of the first apparatus at the scene, will increase. This is another reason why I think it is better to take a one time investment that can help with complying to legislation in the workplace, save personnel from unnecessary injury and answer everyone's fears concerning emergency evacuation.

**Since 1985 you are offering several models of evacuation chairs for emergeny use, but in 2010 you are introducing a new model for professional use in ambulances. Can you give us some information about the new product?**

**B. Scholes:** The new Model 300-AMB will come with larger heavy duty 100mm rear wheels and rear brakes. A slight change to the support brackets also improves stability, giving an overall improved and more comfortable ride over rough ground.

**Are there any other markets where the new model will apply?**

**B. Scholes:** Although this latest version is designed for the Rescue services, such as Ambulance and Fire, it is available to all customers, and in particular hospitals and nursing homes. There will be a study about the evacuation of hospitals later this year and we will publish excerpts of it in GIT SECURITY as soon as we have the results.

**To have evacuation plans and tools ready for use is one thing, but to train everyone to use the equipment is also important. What possibilities do offer your customers for training?**

**B. Scholes:** Evac+Chair offers two training courses, depending on the level of training necessary: The Key Trainer Masterclass is a full day certificated „Train the Trainer" course to enable key staff to train 4 members of your staff in the effective use of the Evac+Chair. The Evac+Chair operator course is a 2 ½ hour certificated course, training your staff on how to correctly use the Evac+Chair in an emergency.

We offer training courses at our customer's site, or here in Birmingham at the Evac+Chair Head Quarters, or in our new European Training Division at ESE International in Veldhoven in the Netherlands.

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info@ese-int.nl

## Position Switch with Remote Reset

Schmersal Group's ZSM 476 is a latching position switch with multiple contacts for use both in elevator technology and in general machinery construction. The position switch with safety function features an electrically triggered reset function. When the switch is actuated, the actuating plunger latches, thus opening or closing electric circuits. The switch does not automatically return to its original position; this must be intentionally reset. This reset operation can either be operated manually or through an electric signal. In difficult areas of access or minimal space – e.g. on the inside of machines, in wind power stations or in passenger elevators – the remote reset function is particularly useful.
www.schmersal.com

## Safety Sensor Technology

Schmersal Group's presents a new safety sensor, which is designed to help users make the step from electromechanical to non-contact guard door monitoring. Although the CSS 16 has the latest sensor technology inside, its basic size is the same as that of the AZ 16 safety switch – the mechanical actuator, however, is replaced by a compact target. The CSS technology, which was developed and patented by the company, enables a bidirectional communication between the sensor and the target, and therefore offers distinctive advantages. The "Coded Safety Sensor" (CSS) principle provides for long switching distances. The sensors tolerate a misaligned actuation and emit a warning when the actuator is operating near the hysteresis range. In this way, the user is informed e.g. about guard door misalignments in an early stage, as a result of which he can timely readjust the door.
www.schmersal.com

## Command and Indicator Switches

With its Ex BF 80 series, Steute presents a new range of command and indicator switches, designed specifically for use in potentially explosive atmospheres. This series comprises three enclosure sizes housing up to three different command devices, thus offering users a variety of options. They can choose between command switches (including push buttons, mushroom buttons, double push buttons, selector switches and control switches), indicator lights and key-operated switches. In accordance with the Atex directive, these devices are suitable for use in gas Ex zones 1 and 2, as well as dust Ex zones 2 and 22. They permit different actuating elements to be combined in one compact unit, which can be mounted directly at the place of use. They thus constitute a practical element within an ergonomic man-machine interface.
www.steute.com

## Alarm-LEDs

Newly employed alarm-LEDs enable the status display of the alarms in red, yellow and green. In case of an alarm, the central fire alarm system can react extremely quickly due to simultaneous information retrieval from all alarms or modules of a group and/or of a looped wiring system. From the new alarm series Opal by Notifier, the short-circuit isolator is directly integrated into the fire alarm and can be controlled by the central fire alarm system. Although the diameter of the alarm chamber is now smaller in total, the new measuring chamber has a considerably higher volume. The reaction of the heat alarm can be set via the central fire alarm system at will to thermo-differential or thermo-maximal 58 °C or 78 °C.
info@notifier.de

## Mobile Phone and Online Tracking System

Bartec has introduced its mobile phone Pegasus for explosion-hazardous areas. It has been especially designed for rough industrial environments, e.g. in the chemical and pharmaceutical industry, in the oil and gas sector or in refineries. The high protection type IP 65 and the use at ambient temperatures between –20 °C and 60 °C enables the user to work even under extreme ambient conditions. The design of the keyboard allows it to be used with gloves. All keys as well as the alphanumerical keys have a tactile feedback. The OLED full color display with 128 x 160 pixel can easily be read even under poor light conditions. An efficient rechargeable Li-polymer battery makes sure there is enough capacity.
www.bartec.de

## Monitor for Zone 2 Areas

Ion Science introduces an Atex approved 3-wire Total Volatile Organic Compound (TVOC) monitor, for use without safety barriers in Zone 2 hazardous areas. The monitor can be installed without barriers in a Zone 2 area, to directly replace an existing photoionisation detector (PID). It is also available as an IECEx and ATEX approved 4-wire option for zone 1 areas, with safety barriers. Designed for fixed, continuous area monitoring, the monitor provides rapid, accurate detection of volatile organic compounds (VOCs). The 4–20 mA analogue output allows TVOC to be integrated into a DCS control system to give warning or control of high VOC levels within the working environment.
www.ionscience.com

## Multi-Gas Detector

GfG develops lightweight, robust and high-quality gas detectors for personal safety. The compact instruments are reliable and very easy to handle. Pre-calibrated, longlife sensors permanently monitor gas concentration. Single gas and multi-gas detectors protect users from possible gas hazards by means of clear audible and visual alarm signals. The multi-gas detector Microtector II G460 has now passed the function test BVS 06 Atex E 017 X / PFG 09 G 001. This makes it the first detector for methane, propane and n-nonane (NDIR) with a weight less than 1 kg, the manufacturer says. With only 350 g the detector provides five slots: for a catalytic combustion sensor, an infrared sensor, for two electrochemical sensors, and one for either an additional electrochemical sensor or a photo-ionisation detector (PID).
www.gasmessung.de

## Wireless Switchgear

Designers of machinery and plants often need extremely compact position switches, which can be integrated easily into the surrounding construction, even in inaccessible places. For these applications Steute has developed the "Wireless Cube" RF 10, expanding the company's range of wireless switchgear. This device has an extremely compact design, and can as such be fitted in narrow spaces. Since the product transmits its signals wirelessly to the receiving unit of the switch cabinet, connection cables are superfluous. Maximum transmitting ranges of 300 meters in the open, and 30 meters inside buildings can be achieved. For the electronics of the switch a customary battery is used, which can easily be replaced.
www.steute.com

FIRE DETECTION

# Fire Detection in Buildings with High Ceilings

## How to Detect Smoke at an Early Stage in Premises with High Ceiling Heights

**Many industries today rely heavily on the detection system to be fast enough and give such early warning that the rescue service arrives in time to extinguish the fire before the damage is severe. In some cases they also trust that the detection system gives such early warning that the smoke does not cause any damage like smell and corrosion on the goods stored. However, it is not easy to detect smoke at an early stage in premises with high ceiling heights, as the smoke from a small fire is insufficiently thermally buoyant to reach right up into the ceiling zone.**

It is not certain that the smoke from a small fire will reach all the way up to the ceiling in a high building.

### Ineffective for Small Fires

Tests carried out on small fires, such as of PUR foam or pieces of wood on a cooker hotplate, have shown that the smoke sometimes does not reach up to more than about 5 m above floor level. What is this due to? The answer is that with such a small fire, the smoke movement is affected by the existing air currents and temperature gradients in the room before the fire starts. There may be a layer of warm air close to the ceiling, but as the rising smoke plume cools and its velocity drops, it is unable to penetrate through the layer of warm air as its temperature by the time that it reaches it is less than that of the air. As the velocity of the plume decreases, it will become increasingly influenced by other air currents, such as from the ventilation system, from the warmth from machinery etc. These conditions vary with the time of year and time of day, depending on factors such as which machines are in operation, whether doors are open, whether the plant is running, ambient climatic conditions etc.

Tests and simulations in a recent Swedish Fire Research Board project show that it is very difficult to find optimum positions for smoke detectors. This is due to the fact that the detectors must operate correctly for a wide range of types of fires and micro-climates. Smoke from a larger fire will reach further up towards the ceiling, while that from a smaller fire will level off further down. The local micro-climate depends on the weather, on which machines that are in operation, ventilation etc. A possible solution might be to position sensitive detectors at several different levels. Using such sensitive detectors requires an intelligent system to minimize false alarms.

### What Size of Fire Must be Detected?

It must be possible to detect a fire at a sufficiently early stage to enable it to be tackled before it causes unacceptable damage. This means that it is also necessary to consider the fact that there will be a certain time lapse before the fire and rescue services can arrive. It is therefore necessary to assume that a fire will grow in some particular manner between the time of its detection until measures can be set in against it. Working backwards from this, it is possible to decide what size of fire, or thermal output from the fire, must be detectable. If a fire is likely to grow very quickly, it will therefore be necessary to detect it at a very early stage if it is not to have got out of hand before fire-fighting starts. In such cases, it may for example be necessary to install detectors at several heights in order to ensure sufficiently early detection. The same applies for cases where only limited damage can be accepted. There are no simple design rules today to indicate the size of fire that can be detected in some particular given premises. One way of tackling this problem is, for example, to carry out in-situ tests, using a burner and controlling its output until the output is found at which the smoke just reaches the ceiling or to wherever the detectors are positioned. Tests of this type have to be carried out on a number of occasions, as the interior climate varies depending on the time of year and time of day.

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FIRE SAFETY

# Fire Safety in Tunnels

## International Symposium on Tunnel Safety and Security

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**Since the early 90s fire safety in tunnels has been a topic of lively research both nationally in Sweden and internationally. The Department of Fire Technology at SP Technical Research Institute of Sweden (SP Fire Technology) is one of the leading institute on fire safety and research on tunnel fires. SP has performed tests and conducted research in the field of tunnel safety since 1992.**

The starting point was our involvement in the EU research project Firetun. Nine European countries took part in the project. The overall objective of the project was to optimise protection of people and preservation of property in the event of a fire in subsurface transportation facilities and to examine alternatives open to the fire brigade with respect to saving people and combating fires in such tunnels. In this project large-scale fire tests with different types of road and rail vehicles (train, trucks, cars, but also wood cribs and heptane fires) were performed in the Repparfjord Tunnel (a 2.3 km abandoned mining tunnel) in the northern part of Norway. SP was mainly responsible for measuring and calculating Heat Release Rates (HRR) during these tests. The Firetun project was completed in 1995.

In 1994, SP held a conference in Borås entitled: International Conference on Fires in Tunnels, which was a great success with many participants from all over the world. The results from the Firetun project were presented at this conference together with results from other research and construction projects. As early as this conference, the need for continued research and dialogue concerning tunnel fire safety was clear. In modern times interest has partially shifted from typical safety issues (related mainly to egress and collapse) to include security issues related to new and emerging threats internationally.

Numerous activities have emerged since this first conference, addressing a variety of both general and specific safety issues, both in real tunnels and in model tunnels. The main conclusions from these test series are:

- The smoke spread and smoke concentration, both along the tunnel and over the cross-section, is highly dependent on the type of exhaust ventilation and the longitudinal velocity.
- The thermal exhaust ventilation does not prevent smoke spread downstream the exhaust opening, whereas the mechanical ventilation does. The efficiency of the thermal shaft is highly dependent on the height of the shaft and the temperature inside the shaft.
- The critical flow rate of the mechanical ventilation, which prevents any smoke spread downstream the exhaust opening, is highly dependent on the longitudinal velocity. Fire spread is governed by the longitudinal ventilation, ceiling height and the heat release rate generated.
- The fire spread between vehicles is typically due to heat fluxes from flames crawling along the ceiling.
- The influence of the ventilation on the HRR is not as pronounced as has been indicated in early studies.
- Suppression systems prevent or weaken fire spread between vehicles.

### Change of Paradigm After Runehamar Tunnel Tests

In 2003, SP was responsible for large-scale fire tests performed in the Runehamar tunnel in Norway. The tests were carried out within the framework of Swedish national and European research programs on tunnel safety. These tests were the largest ever performed in a tunnel where the HRR was measured. The Runehamar tunnel is a 1,600 m long abandoned road tunnel in the South-West of Norway. The aim of the tests was to study the fire development, maximum HRR, temperature distribution, flame lengths and fire spread, radiation, and gas concentration in connection with fires in heavy goods vehicles (HGVs) trailer with ordinary cargos ('non-hazardous'). The fuel loads consisted of mixtures of cellulose and plastics. In total, four large-scale tests with different semi-trailer fire loads were carried out. The highest peak HRR ever measured in a tunnel fire test was registered, i.e., higher than 200 MW with a corresponding gas temperatures in the vicinity of the fire above 1350 °C.

The main results were that the gas temperatures and maximum HRR from fires with ordinary goods are much higher than suggested by existing guidelines and can be comparable with what is expected from hazardous goods. It is important to remember that is it the vehicle that burns in a tunnel and it is of utmost importance for the outcome of a fire that one prevents the fire from spreading to the cargo or between vehicles. Details concerning the results are given in several scientific papers and the results are discussed and compared to results from other research project in a doctoral thesis by Anders Lönner-

4 A Fire Test in a Model-scale Tunnel

mark. The results have in many ways changed the way we see modern tunnel fires and have influenced the wording and numbers in updated guidelines dealing with tunnel fire safety.

### International Symposium on Tunnel Safety and Security, ISTSS

If the need for a forum to discuss emerging research concerning tunnel safety was clear after the International Conference on Fires in Tunnels in 1994, it became pressing after completion of the Runehamar tests. The idea for the International Symposium on Tunnel Safety and Security (ISTSS) began, therefore, as a direct result of the need to communicate the Runehamar test data. The name of the first symposium was the International Symposium on Catastrophic Tunnel Fires, held in November 2003. The international interest for this event forced us to change venues at the last minute to accommodate the unexpected number of delegates and the symposium itself was very successful with well over 200 delegates.

The results presented at this symposium were so interesting and the need for continued dialogue so pressing that we were urged to arrange a new symposium, at a new location where we knew that there would be a great interest in the results. Due to SP's longstanding collaboration with the National Infrastructure Institute's Centre for Infrastructure Expertise, NI2-CIE, the venue for the new symposium was chosen to be in the US in November 2004, in close collaboration with NI2. This became the 1st International Symposium on Safety and Security (ISTSS), thereby broadening the scope from fire issues to encompass both safety and security. Since 2004, the conference has been organised every second year, previously in Madrid (2006) and Stockholm (2008). The 4th International Symposium on Tunnel Safety and Security (ISTSS 2010) will be held in Frankfurt am Main in Germany 17–19 March 2010.


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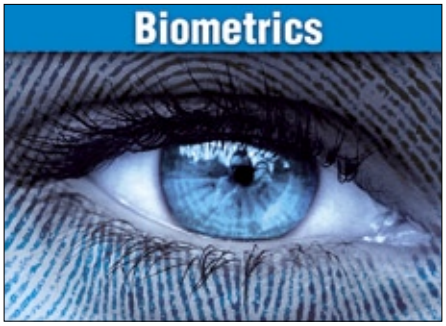


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