Volume 5
Juni 2009

GIT
EMEA Edition

79 824

# SECURITY
## + MANAGEMENT

4 MAGAZINE FOR SAFETY AND SECURITY

**COVER: Axxon – Seamless Integration of Video and Alarm**

Security for Production

Perimeter Protection

Video Management

Information Security

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# Analog, Hybrid or IP

'Better than expected' was one summary of this year's Ifsec show in Birmingham and I guess the good results of the show brought relief to a lot of people walking through the halls at the NEC in Birmingham and to those presenting their products at the show.

'Exceed your clients expectations' was a concept consultants were recommending some years ago to companies that wanted to build up a long lasting success in business. If we were to assume that the U.S. results of the IMS Research study 'IP Trends in Security' are applicable to the EMEA region, we are a long way away from reaching expectations. A key finding from the study was that almost 60% of the systems installers surveyed thought that vendors do not provide adequate support for their IP-based security products. Over 40% of systems integrators also agreed that vendors were not meeting their needs. Top of the list of requested support was additional training, demonstration materials, telephone and web-based support and better software and SDKs.

One might argue that in the US the adoption of IP technology is far behind Europe and the rest of the world, and users therefore need additional support. That may be true, but from my point of view, educating end users and installers is still the no. 1 task to accelerate the shift to IP. Some say the economic downturn will slow down this shift to IP and they predict that hybrid and analog installations will dominate the next few years. Certainly there are installations where the lack of money simply forces users to stay for a longer period than expected with their old systems. In cases like these upgrades with small money using traditional technology make sense. But once the budget freeze is over and particularly for new projects, those who invest money are well advised to invest the money in cutting-edge technology ready for the future, and not into systems that are only a compromise. Articles in this issue of GIT SECURITY demonstrate how important it is to analyse the exactl needs for a certain project and then start to think about technology. Exhibitors at Ifsec once again demonstrated that for literally any security problem there is an adequate solution on the market: Advanced analog equipment, all kinds of hybrid solutions and increasingly powerful IP based tools.

Enjoy reading this issue
and have a great summer!

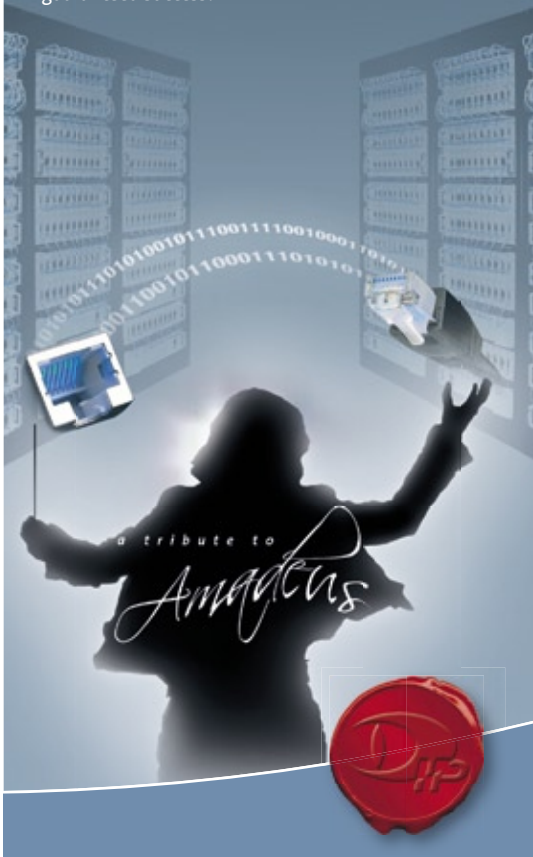
Best wishes from the
GIT Security + Management team

Heiko Baumgartner

VideoIP range
"a tribute to Amadeus"

VideoIP solutions from a single source

Dallmeier has planned and realised the biggest real-time IP systems worldwide. The extensive know-how has been used in the development of the VideoIP range "a tribute to Amadeus".
Just as Mozart, through perfect composition and brilliant instrumentation, created an ingenious body of work, individual high-value IP components can be used to realise top-quality video network solutions.
The arrangement of the Dallmeier IP solution remains variable and flexible. Its composition can range from a duo of camera and streamer to a large ensemble of different elements. With the VideoIP range "a tribute to Amadeus" the high standards of CCTV applications combine with the benefits of pure IP solutions. The best of both worlds, a star-studded ensemble with guaranteed success!

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COVER

**The Market Leader for Management Systems**
Axxon: Seamless Integration of Video and Alarm Data

According to a study by IMS Research Axxon is No. 1 in Europe and No. 3 in the world in the Open Network Video Management Software category. Now Axxon has found new partners and has formed a team of enthusiastic experts that will take care of the EMEA market. 14

## SECTIONS

News .....6–9

Ifsec Review..... 12–13

Security Products .....29, 38

Airport Security Products .....43

BusinessPartner.....46

Company Index / Imprint .....Inside Back Cover

## EDITOR'S NOTE

**Analog, Hybrid or IP**
Heiko Baumgartner 3

## MANAGEMENT

BIRMINGHAM REVIEW

**Doing It Better**
The Big Show in Birmingham Exceeded Expectations 10

COVER STORY

**The Market Leader for Management Systems**
Axxon: Seamless Integration of Video and Alarm Data 14

HOMELAND SECURITY

**Management of Diversity**
Optimizing Inner Security Using Field-tested Total Video and Surveillance Technology 16

## SECURITY

CCTV

**Image Quality: Usability Is the Real Issue**
How to Select the Right Camera System 18

**The Oldest New Company in Security**
Comnet Establishes Operations in Europe 20

**Speed Domes for Every Need**
Samsung Techwin Launches a Complete Range of Speed Domes 21

**A Secure View on Business**
Video Surveillance for a Restaurant Chain 22

**Aha Included**
A Digital Recorder with On-site Support and Individual Training Concepts 24

**Stick Your Finger Out**
Integrating Video, Access Control and Fingerprint Readers 26

**A Special Kind of Dome Camera**
Hemispheric Cameras to Monitor a Scene 28

**New Imaging and Color Technology Platform**
Pelco Is Working on Its IP Product Range 30

# CONTENT


## CONTROL ROOMS

**Presenting at the UN**
Video Walls in the Room of Human Rights in Geneva, Switzerland **25**

## ACCESS CONTROL

**A Lecture on Security**
City College Coventry Installs A Converged Security Solution **31**

## TOUCHLESS IDENTIFICATION

**A Coat of Many Colors**
Changing the Appearance of Readers to Suit the Decor **32**

## PERIMETER PROTECTION

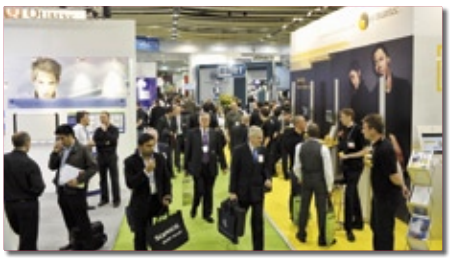
**Art on the Radar**
An Intelligent Way to Protect a Perimeter on a Seaside **34**

**Warning of Trouble**
Perimeter Security from Spain **37**

**A Pillar of the Community**
Italian-made Perimeter Security **39**

## INFORMATION TECHNOLOGY

### EVENTS



**Infosecurity Europe 2009**
Industry Suppliers Meet Tough New Challenges **33**

## AIRPORT SECURITY

### AIRPORT SECURITY

**The Overlooked Aspect of Airport Security**
Perimeter Protection as an Integral Part of a Security Concept **40**

**Integrated Total Solutions**
How to Protect Infrastructures in a Changing World **42**

## FIRE PROTECTION

### GAS DETECTION

**Choosing the Right Gas Detection System**
Closer Inspection of Specification, Functionality and Features Reveals Major Differences **44**

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www.bunkerseguridad.es

## Norstrom Appointed to AD Group Board

CCTV specialist AD Group, parent company of Dedicated Micros, announced that Pauline Norstrom has been appointed to the main Group Board. Her new role will incorporate her existing responsibilities for the direction of worldwide marketing but in addition she will now contribute directly to the overall strategic direction of the Group. Pauline Norstrom: "There are a number of exciting new developments, at a corporate and product level, which are due to come to fruition in the next few months; innovations which I am confident will ensure that as a Group we continue to set the agenda for the worldwide CCTV industry on the ground, in the air and on the move."
www.ad-group.co.uk

## Major Contract for Bosch Security Systems

Bosch Security Systems will provide the communications and security technology for Hamburg-Moorburg coal-fired power plant run by Vattenfall Europe Generation. The contract covers everything from public address systems to alarm signaling and evacuation, as well as fire detection technology, video surveillance, and communication and low-voltage networks for dual-unit plants. The company is installing a Praesideo public address system to ensure emergency warning and evacuation requirements are met. The system operates with around 1,600 loudspeakers and 900 strobes. For the twelve elevators planned within the coal-fired power plant, the company is fitting a self-contained elevator emergency call system using PC-based system management that records and processes all incoming alarms.
www.bosch.com

## Axis Appoints Country Manager for Middle East

Axis Communications has appointed Baraa Al Akkad as Country Manager for the company's operations across 19 countries in the Middle East. Al Akkad has more than nine years of sales and product management experience in the network video market. He will be responsible for building on current business relations with partners & customers across the region. Commenting on his appointment, Al Akkad said, "this is an exciting move and I am confident that my substantial experience will hold me and my team in good stead to steer Axis's operations in the Middle East. I look forward to build on the joint achievements of the current management team, and develop Axis Communications leading position in the ongoing shift from analog to digital video surveillance and extend our market presence through our unique set of partnership programs."
www.axis.com

## SCM Completes Merger with Hirsch

SCM Microsystems announced that it has closed its merger with Hirsch Electronics. The shareholders of both companies approved the transaction, which included the payment of cash and the issuance of SCM common stock and warrants to purchase shares of SCM common stock in exchange for the securities of Hirsch. The merger closed on April 30, 2009, and Hirsch is now a wholly owned subsidiary of SCM. Each company's products and services will continue to be marketed, sold and supported using their existing brand names. "We see this merger as the completion of another milestone in the successful business relationship that SCM and Hirsch have been building together," said Felix Marx, chief executive officer of SCM Microsystems.
www.scmmicro.com

## Pivot 3 with New Sales Director EMEA

Pivot 3 announced that as part of the current European expansion strategy, it has appointed Martijn Kolenbrander to the position of EMEA Sales Director. In this role Kolenbrander will focus on growing Pivot 3's market share across the region by developing relationships with technology and channel partners. Reporting to the company's Chief Marketing Officer Lee Caswell and its CEO Bob Fernander, Kolenbrander brings a wealth of industry knowledge and expertise: prior this latest move, he spent six years at IP video solutions provider Iqinvision, ultimately as Director of business development, and before that he founded one of the first IP video security vendors in Europe and co-developed one of the first IP video management systems in the industry.
www.pivot3.com

## Partnership: Lenel and Onssi

A new user-friendly video management platform that provides software tools to seamlessly monitor and manage hundreds of cameras while simultaneously investigating video, is now available as a result of a partnership between Lenel Systems International and On-Net Surveillance Systems (Onssi). In the new agreement Lenel will private-label Onssi's video surveillance software, Ocularis, under the name Skypoint. Skypoint's intelligent, open-architecture IP video platform offers a simple, intuitive interface for desktop and control room video wall settings. It also offers integration potential with other aspects of security. A further benefit of the platform is that it requires fewer system operators to detect and respond to events, helping to reduce costs for users.
www.lenel.com

## Cirque du Soleil Works with Bosch Communication Center

The Canadian Circus Cirque du Soleil – renowned for providing top-class artistic entertainment for many years – turns to Bosch Communication Center for sales support and customer care. The Bosch agents provide detailed information regarding program contents and are responsible for reservations and ticket sales. The service repertoire also includes a team of specially trained associates who offer specifically targeted VIP care for business customers. The Communication Center agents are also tasked with handling the 12,500 calls received each month, as well as the 1,000 e-mails and 1,000 outbound calls. Europe-wide sales support project of Cirque du Soleil is coordinated from the Nijmegen (Netherlands) and Madrid (Spain) sites.
www.bosch.com

## Dedicated Offers Pixim-powered Cameras

Dedicated Micros and Pixim announced an expansion of Dedicated Micros' line of Pixim-powered video security cameras. The new cameras include the Camvu Hyper D Internet Protocol (IP) camera using the newest member of Pixim's popular Orca chipset family, as well as automatic number plate recognition (ANPR)-optimized cameras with Hypersense technology, based on Pixim's Eclipse ambient light rejection system. New Camvu IP cameras offer improved low-light sensitivity. The Dedicated Micros Camvu Hyper D is a box IP camera that uses Pixim's latest Orca-E digital imager, which significantly improves low-light performance while retaining Pixim's Digital Pixel System technology advantages of very high image quality and color fidelity, even in variable and high-contrast lighting conditions.
www.dedicatedmicros.com
www.pixim.com

## Samsung Techwin's SPD range of speed domes

The SPD range of fully functional speed domes from Samsung Techwin has been designed to deliver unrivalled image quality and offer excellent value for a wide range of new and retro-fit applications.

With a host of advanced features already included as standard, there are also models within the range that contain extra functionality; such as inclusion of the world's first 37x zoom module, automatic subject tracking and enhanced wide dynamic range.

A complete range of mounting brackets is available and a choice of external housings ensure weatherproof protection to IP67 and operation in temperatures down to -40°C (-40°F). What's more all SPD range domes are supplied complete with a power supply unit and a comprehensive three-year warranty. Now that is attention to detail.

Samsung Techwin. Security solutions beyond your imagination.

SPD Range

| Part number | Optical zoom module | Resolution (colour/ monochrome) | Wide Dynamic Range (WDR) | Auto-tracking | Pan/Tilt speed (per second) | Continuous Rotation | Presets | Optional external housing | Mounting accessories |
|---|---|---|---|---|---|---|---|---|---|
| **SPD-3750T** | 37x | 550/680TVL | 128x | yes | 500° | yes | 255 | yes | Full range |
| **SPD-3750** | 37x | 550/680TVL | 128x | n/a | 500° | yes | 255 | yes | Full range |
| **SPD-3350** | 33x | 550/680TVL | 128x | n/a | 500° | yes | 255 | yes | Full range |
| **SPD-3700T** | 37x | 550/680TVL | BLC | yes | 500° | yes | 255 | yes | Full range |
| **SPD-3700** | 37x | 550/680TVL | BLC | n/a | 500° | yes | 255 | yes | Full range |
| **SPD-3310** | 33x | 550/680TVL | BLC | n/a | 500° | yes | 255 | yes | Full range |
| **SPD-2700** | 27x | 550/680TVL | BLC | n/a | 500° | yes | 255 | yes | Full range |

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## Opax: Integration with Milestone Xprotect Analytics

Opax and Milestone Systems announced the integration of Opax video analytics software with Milestone Xprotect Analytics (XPA). The integration enables alarms from Opax video analytics software – including object bounding boxes and zones – to be presented in the Milestone Smart Client. In addition, the Livemap feature is made available in the Milestone client, displaying the position of all objects in a map. The positions are dynamically updated and marked with icons describing the object type, providing operators with an invaluable situation awareness map. "I believe the Livemap feature to be an essential tool for many customers seeking to strengthen perimeter security", says Gabriel Rudbäck, Sales Manager of Milestone Systems.
www.milestonesys.com

## Collaboration: Equitel and Ipronet Sistemas

Equitel and Ipronet Sistemas have decided to collaborate in the development of IP video solutions. The first step in their cooperation is the compatibility of the video server C104 with Ipronet Video Management Software. Ipronet Sistemas provides solutions for any monitoring, recording, alarm management and remote actuation needs, regardless the complexity of the installation. Equitel will offer their video server along with Ipronet software solutions, thus fostering the approach of a cutting-edge quality and highly demanding analogue environment to the IP world and its distributed management possibilities.
www.ipronet.es

## Basler IP Cameras Supported by Onssi

Basler Vision Technologies announced that they have teamed with On-Net Surveillance Systems to integrate the Basler IP camera series with Onssi's Ocularis platform for IP video control. Currently, all seven of Basler's IP camera models are supported by the company's Ocularis. This intelligent IP video surveillance management platform is a solution for video detection, analysis, delivery, and response. In addition to the conventional security applications, the platform enables the use of video as an information resource for the corporate enterprise. Customers can choose from seven different camera models with VGA to two megapixel resolution and day/night functionality.
www.onssi.com

## Viasys Smart Analytics and Milestone IP Video

Milestone Systems and Viasys announce integration of the Smart Analytics solution that works both at the server and at the edge. This double capacity addresses the industry's questions about which approach is best – the answer is having the option of both: together in one unified interface. Video content analysis (VCA) is an exciting area of innovation in security surveillance and Viasys is an advanced player with offerings in next-generation motion detection that handles intruder detection, perimeter protection and alarms. These intelligent capabilities help to reduce false alarms in video surveillance, adding value to security monitoring in more relevant and faster responses to incidences. "Viasys has a strong focus delivering well-defined analytics solutions at very reasonable prices," says Martin Kaufmann, MSP Program Manager at Milestone Systems.
www.milestonesys.com · www.viasys-iv.com

## Certification Requirements Lifted on Pelco Endura Encoders

Pelco has removed the Endura certification requirement for selling Endura Net 5301 T and Net 5308 T Encoders. Now, the company's line of Endura IP video encoders is also available for use with non-Endura recording and management devices. This offers more customer choices for keeping their existing analog dome cameras while migrating to IP video transmission and recording. The Net 5300-series of high performance encoders generate two streams of MPEG4 compressed video, each at up to 4CIF resolution and 30/25IPS, from each camera input. The encoders feature bi-directional audio support, built-in motion detection, and support the Pelco P, D, and Coaxitron PTZ protocols.
www.pelco.com

## Raytec Illuminators in 'Deep Space' 3D Art Display

Raytec's Raymax 100 Infra-Red illuminators are at the heart of a 'Deep Space' 3D attraction at a state-of-the-art exhibition centre in Austria. The robust, high performance illuminators have been key to creating these innovative displays at the Ars Electronica Centre (AEC) in Linz, Austria – billed as a 'Museum of the Future'. The exhibition features breathtaking '3D stereo universes' with jumbo format, high definition images on a 16 x 9 meter wall. "This provides visitors with the experience of traveling through time and space, using artistic works that use an array of graphic techniques," says Ars Electronica Futurelab's Senior Researcher, Daniela Kuka.
www.raytecctv.com

## Flir Systems Has New Sales Director Europe

**David Montague**

David Montague has joined the Flir Systems CVS Division as Sales Director Europe – Security & Surveillance Distribution. He has worked for the past eleven years at Cooper Security (intruder alarm and access control). Three years as the UK Sales Manager and six years as International Sales Manager. In November 2006 David Montague was appointed EMEA Sales Manager where he was responsible for supervision of the UK and International sales teams and the management of the distribution network. He was responsible for business-development and account management in Germany, Italy, Benelux, Scandinavia, UAE, Iran, Russia, Czech Republic, Poland, Hungary.
www.flir.com

## Partnership: Matrox Graphics and Milestone

Matrox Graphics announced a partnership with Milestone Systems to provide enhanced surveillance solution performance to the security market. Matrox and Milestone will be launching this collaboration through an integration of the Milestone Xprotect Smart Client with the Matrox VDA-1164 Video Decoding Accelerator for surveillance systems and operator stations in large-scale IP security networks. "Matrox is committed to delivering the best security solutions possible to its customers, and partnering with Milestone, the leading provider of open-platform IP video management software, is a very positive progression," says Alain Thiffault, Business Development Manager, Matrox Graphics.
www.milestonesys.com
www.matrox.com/graphics

## ONVIF Ready for Global Interoperability

Open Network Video Interface Forum (ONVIF) today releases its test tool and conformance process, strengthening its position as a standardization initiative for network video products. The release makes it possible for product manufacturers who have joined the Forum to declare conformance to the ONVIF specification. "It is now only a question of time before we see the first ONVIF conformant products on the market," says Stefan Alfredsson at Axis Communications, Chairman of ONVIF's communication committee. "The core specification and test specification, which were published at the end of 2008, enabled interested parties to prepare their products for the common interface. Today's release of test tool and conformance process makes it easy to verify interoperability and allows companies to market ONVIF conformant products." "This is a significant milestone for the industry and for the more than 55 members of ONVIF," says Simon Harris at IMS Research. "With the rapid market growth of network video products, the need for a standardized interface has become more and more evident."
www.onvif.org

## Arecont Cooperates with Genius Vision Digital

Arecont Vision announces its collaborative effort with Genius Vision Digital. The joint effort confirms interoperability of Arecont Vision's H.264 megapixel cameras, offering a highly efficient megapixel surveillance solution on GVD's M630-1000 Enterprise Level HD NVR platform. "Our cooperative effort with GVD further accelerates the integration of our powerful H.264 megapixel cameras with their popular NVR solutions," said Raul Calderon, Vice President of Strategic Relations, Arecont Vision. "We will continue to work closely with other industry leaders to make the implementation and operability of our advanced megapixel imaging solutions ultimately seamless across all platforms."
www.vidicore.com · www.arecontvision.com

## CCTV by CBC Beams Images Across River

The latest CCTV technology from CBC – and a microwave link across 500 m of open water – are helping to protect a regeneration area in Rochester, Kent, following a series of high-value thefts last summer. Ganz Infra-red illuminators and rugged C-Allview speed-domes are playing a key part in an upgraded surveillance system which has been deployed at key points around the 32-acre Rochester Riverside site. Images from one PTZ camera with Ganz IR lighting, mounted on a historic crane, are being transmitted across the River Medway via microwave, and from there carried back to the council's 24-hour monitoring centre in Strood. Other points along the riverside are being kept under surveillance with C-Allview cameras which were chosen because they can cope with both adverse weather and tough operating conditions.
www.cbc-europe.com

## Sony Cameras for Chicago Suburb

The city of Burbank, which neighbours Chicago and has a population of more than 28,000, has installed a new video surveillance system using 22 Sony SNC-RX Series IP network security cameras to aid the police department in preventing and solving crimes. Since completion of the upgrade in November 2008, images captured by the cameras have helped police make more than 13 arrests and recorded evidence for use in more than 45 cases. The cameras are programmed to patrol and move from position to position automatically to assist officers with 24/7 video monitoring in the control room. "It's like having an additional 22 sets of eyes at your fingertips," said Burbank Police Captain Joe Ford. "It is a force multiplier, enabling us to see areas not currently being patrolled while officers are concentrating on other assignments. Our ultimate goal is to enhance our law enforcement function with all the tools available, combining good police work with advanced technology."
www.sony.com/security

## Dedicated for Sun Microsystems

Digital, networked, CCTV solutions from Dedicated Micros, part of AD Group, including its high performance DV-IP Servers, are playing a key role in allowing Sun Microsystems, headquartered in Santa Clara, California, to enhance the security of its offices worldwide, and to realize an impressive return on investment. With 34,440 employees spread across more than 300 offices in over 100 countries worldwide, Sun Microsystems has a massive security challenge. The company needs to make sure employees feel secure, while at the same time protecting valuable assets and limiting liability. Most security cameras are placed at building entrances and exits, providing a facial view of people as they enter and leave the facility.
www.dedicatedmicros.com

## Game and Match for Victaulic at Wimbledon

Wimbledon Centre Court's latest asset was given a dry run at a special event to test its functioning before the famous tennis tournament fortnight got underway in June. Thanks to a feat of engineering, 'rain stopped play' will be a thing of the past this year, as major refurbishment at the All England Lawn Tennis Club (AELTC) has given the court a state-of-the-art retractable roof. Behind its success is the partnership between leading mechanical and electrical services contractor, Skanska, and Victaulic. Not only did Skanska need to route 350 mm (14") diameter chilled water piping and 100 mm (4") heating piping in between the kilometers of steel struts that would support the retractable roof system, it also had to find a way of installing the pipework whilst keeping onsite hotworks to a bare minimum. In addition, due to the transference of weight of the 10 prismatic steel trusses as they open and close, expansion, deflection and rotation within the tight, curving roof space had to be accommodated in the design of the piping system.
www.victaulic.com

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IFSEC2009

BIRMINGHAM REVIEW

# Doing It Better

## The Big Show in Birmingham Exceeded Expectations

The signs of the economic environment were not really the best but this year's "Protection & Management Series" consisting of Ifsec, Firex, Safety & Health Expo and the Facilities Show still exceeded expectations. To quote a famous exhibitor's slogan: The shows were "doing it better". Better than expected. GIT SECURITY's team was there with its own booth and with the motivation to look for all those news items and products that are or could be important for you, dear Reader. You will read about the products in this and the next editions of GIT SECURITY. But now take a look at some of the people of this years show.

## Adoption of IP format

Sony Professional announced the launch of a new encoder series. Committed to encouraging the adoption of IP technology in the video security market, the new encoders can be used to convert signals from analogue to IP enabling customers to move from analogue to IP without having to replace their existing security infrastructure. At Ifsec the company presented the new network video encoders that range from the basic one-channel SNT-EX101 model to the 12 blade, 48-channel rack-mount SNT-RS3U model. The complete range of encoders is capable of dual streaming video at 30 frames per second up to full D1 resolution in JPEG/H.264, JPEG/MPEG4 or MPEG4/H.264 configurations. This promotes much easier integration when migrating from an existing analogue camera system to an IP-based system by eliminating the need to replace the existing security infrastructure.
www.sonybiz.net

## Surveillance Technologies at Ifsec

Ifsec 2009 saw the debut of CBC (Europe)'s latest Ganz systems and Computar lenses, including the exciting new Night Vision and Thermal Vision systems and Thermal Dome camera. They lined up alongside the company's C-Allview vandal resistant camera with its 36x optical zoom lens option, as well as the company's Radar Vision. Night Vision combines the optical/operating advantages of the C-AllView camera with infrared lighting fully built-in to the camera housing. Add-on, external infrared lighting is therefore not required for this model, ensuring the correct nighttime illumination is automatically provided for the camera operator. This feature also offers simpler and easier installation for day/night images. Night Vision combines low running costs without the need for extra bolt-on lighting of non-essential areas. The system's 'green' LED technology provides comparatively low running costs with a power consumption of only 10 W.
www.cbceurope.com

## Thermal Imaging Cameras

Flir's D-series are extremely affordable thermal imaging domes. They incorporate a thermal imaging camera, which produces clear, crisp images in total darkness. A thermal imaging camera can also see through smoke. The series incorporate the same thermal imaging technology found in many of the company's most sophisticated systems, but is packaged for users who have indoor security and safety as their primary application. Contrary to other technologies, thermal imaging does not need any light whatsoever to produce an image on which the smallest of details can be seen. The D-6 is equipped with a 6.3 mm wide-angle lens. It features an extremely wide field of view (52 °) so that a large area can be covered.
www.flir.com

## Wireless Security Solutions

RSI Video Technologies has developed a range of products securing residential, commercial and difficult outdoor applications such as construction sites and critical infrastructure. The company integrates cameras, illumination and motion sensors in a single device. It has also developed a full complement of accessories including smoke detectors, sirens, arming devices and sensors that work together seamlessly as a complete security solution. Multi-path transmission of events over telephone, IP and the cellular network provide reporting flexibility. All system components are self-powered and operate on batteries, allowing for totally wireless video security – detection, illumination, video capture and transmission. The company's "Videofied" concept – that has recently been presented at Ifsec – is a property protection alarm system, both for the private market (individual house or apartments), and for small businesses (commercial spaces and warehouses, etc.). In the event of a false alarm, confirmed by video, the monitoring station can remotely neutralize the alarm, without bringing in a security team.
www.videofied.com

## Perimeter Protection System

Future Fibre Technologies has launched a new world-class perimeter protection system at Ifsec. Secure Zone is a mid range derivative of FFT's proven flagship product, Secure Fence, and is designed to fill a need in the market for a highly reliable yet cost-effective zone based intrusion detection solution. It is equipped with FFT's patented Arad technology to overcome the traditional problems of nuisance alarms that are so common with current solutions. The technology uses signature recognition and advanced learning algorithms to "know" the difference between an environmental nuisance alarm and an attempted intrusion. Simple and intuitive to use, it has the ability to interface and activate CCTV systems, lighting, gates, email, plus a broad range of external devices and systems.
www.fft.com.au

## CCTV Product of Year Award

Sanyo's VCC-HD4000P High Definition network camera has been voted CCTV Product of the Year by the Ifsec 2009 Security Industry Awards judging panel. Daniela Dexheimer, the company's product manager CCTV, said: "Our design engineers deserve considerable praise for developing a camera which brings broadcast standard imagery to the CCTV industry. Since its launch in October 2008, the VCC-HD4000P has generated considerable interest amongst installers, system integrators, end-users and specifiers and has been acclaimed as the future of CCTV." The product is a full High Definition (HD) network camera equipped with the world's first 4 million pixel lens which has been matched with a 4 million pixel progressive scan sensor to deliver incredibly sharp, crystal clear images.
www.sanyo.com

## Precise Iris Control

Axis Communications and Kowa introduced P-Iris, a precise iris control that allows fixed network cameras to deliver better image quality in both indoor and outdoor applications. A P-Iris lens, together with specialized software, can automatically and precisely regulate the iris opening to enable better contrast, clarity, resolution and depth of field. The advanced iris control will be especially beneficial for megapixel/HDTV cameras and demanding video surveillance applications. DC-iris (auto-iris) control for surveillance cameras with fixed/varifocal lenses does not enable the camera or user to know the exact position of the iris opening, which is needed in order to optimize image clarity. Axis saw a need to solve this and found Kowa, an innovative optics manufacturer, to jointly develop a solution.
www.axis.com

## Cost-Effective H.264 Video Server

Optelecom-NKF announced the release of its Siqura S-60 E, a triple-stream video server. Capable of streaming H.264, MPEG-4, and MJPEG simultaneously, the S-60 E's design makes it a cost-effective and future-proof encoder – well suited for installations intended for long-term use. The use of Open Streaming Architecture (OSA) ensures effortless third-party integration and guarantees compatibility with equipment from other vendors. The S-60 E, with a separate hardware chip dedicated to the H.264 video stream, provides video quality unparalleled by any other server available on the market today. The encoder is available in two rack-mount versions as well as a stand-alone version. It has a web interface and is easily upgradeable in the field, making it a future-proof encoder.
www.optelecom-nkf.com

## PoE IP Camera

JVC's new PTZ network dome camera, the VN-V685U, was on display in Europe for the first time at IIPSEC 09. It is a Power over Ethernet (PoE) IP camera with 27x optical zoom and continuous 360 degree rotation. Its innovative direct drive PTZ mechanism features very accurate (± 0.03 degrees) and very silent pan/tilt movement, at speeds between 0.04, and 400 degrees per second. Its quiet operation makes it virtually undetectable. The camera uses MPEG4 and Motion JPEG dual stream compression. True Day/Night functionality ensures excellent definition in low light, delivering images in light levels as low as 0.04 lux. Other features include 100 preset positions, intelligent auto tracking, hot swap functionality, LCD mode, image stabilizer, motion detection and privacy mask. Digital zoom is 32x (with 27x optical zoom).

www.jvcpro.co.uk

## Card Personalization Software

HID Global has launched its Asure ID 2009 card personalization software. A complete rethinking of the most effective ways to design and produce personalized IDs, the software enables users to control how data is sequenced and entered, greatly improving the speed and throughput of enrolling card holders and making smart card development and deployment simple. Available in four editions with increasing functionality, the software is especially designed for organizations looking to complete multiple ID card projects and produce high quality ID cards in the most timely, secure and efficient manner. Incorporating a highly intuitive user interface that utilizes familiar Microsoft Ribbon-like controls, it integrates extensively researched practices and user-tested tools that make ID card design, data entry and data management easy.

www.hidglobal.com

BusinessPartner

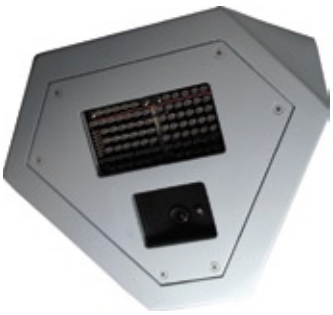
## Fiber Optic Video

Comnet has introduced a new fiber optic video product line that can seamlessly restore a CCTV network. The Comnet SHR line consists of the FVT/FVR 1010 SHR single channel with data series, the FVT/FVR 4014 SHR series four video channels with four data channels and FVT/FVR 8018 SHR series eight video channels with eight data channels. All models are digital fiber optic video transmitters and receivers with bi-directional data that incorporate a unique self-healing feature. In the event of a broken fiber connection the video and data transmission is seamlessly re-routed when the system is configured in a ring topology. This feature, combined with Comnet product's exceptional reliability ensure a virtually failsafe CCTV network, the company says.

www.comnet.net

BusinessPartner

## Camera Portfolio Expanded



Following the acquisition of the Extreme CCTV Group, Bosch Security Systems is extending its already extensive CCTV product portfolio with the launch of a new range of IP cameras. The Extreme IP200B Series effectively integrates Extreme CCTV's renowned environmental and low light performance with a Bosch IP encoder, providing full compatibility with all the company's products. The product range has been designed to meet surveillance requirements not fully addressed by standard camera formats. The series includes the Ex 7 IP which can view directly along walls and ceilings at angles of up to 90 degrees, a known problem for 99 % of dome cameras, and the Ex 36 IP, a corner mount camera which gives a clear unobstructed view of an entire room without blind spots.

www.bosch.com

## Protection at Extreme Temperatures

Videotec has presented new camera housings at Ifsec. From the most rigid cold to the sultriest heat, they ensure protection, thanks to the careful choice of materials and special technical solutions that protect and isolate the internal electronic instruments, and at the same time allow for optimal operation of each function. "Verso Polar" offers global protection against temperatures down to –55 °. Made in techno-polymer for increased resistance to strong mechanical vibrations, it is equipped, like all products of the Verso line, with an internal heating system and cable glands in nickel plated brass suitable for the harshest temperatures.

www.videotec.com

## Microwave Detectors for Perimeter Protection

The current versions of Sicurit's "Digital Microwave" series represents a further technological step forward in perimeter protections. It has been designed for quick and easy installation and is suitable for any kind of environment situation that require medium-high standards. The major innovation is the implementation of the microprocessor that increases the capability performance of the system while reducing false alarm rates. With an additional board the products called "Dave" provide: CPU Connection for data analysis, settings of all the operational parameters from CPU, parameters analysis of each transmitter and receiver, parameters control, detection of crossing times, sensitivity adjustment, alarm storage in log files, serial board RS485 and the possibility to install in series up to 15 systems. The operation: Intrusion detection, using a modulated amplitude system, takes place within the invisible pattern microwave energy existing between transmitter and receiver. Changes in signal amplitude at the receiver are directly related to the object's size and density, allowing the sensor to discriminate between objects. "Dave" is able to inform the user also on power and battery status, eventual interferences, over temperature and installation faults. The system still can be set and aligned in the traditional way, by using trimmers and dip-switch. If your job is protecting perimeter you should ask for more information about "Dave" by Sicurit Alarmitalia. Just send an e-mail with a "free info on Dave" notice to export@sicurit.it.

www.sicurit.it

COVER STORY

# Video Management's Best Kept Secret

## Axxon Opens Its First European Offices to Sell the Most Complete Video and Security Management Software Suite

**Market leaders in a field of technology are supposed to be known and enjoy high brand awareness for most people in the marketplace. For Axxon this is only the case in Russia and Eastern Europe, where the origin of the company lays. The major software developer started in 2003 in Moscow, when his founder Murat Altuev assembled the industry's most influential security software experts – leaders who had been around since the birth of the field – and formed Axxon. Since then Axxon has become No. 1 in Europe and No. 3 in the world in the Open Network Video Management Software category according to a report by IMS Research. Nevertheless there are great parts of the EMEA region where Axxon's reputation still has to grow and this is the target during 2009. In these times of crisis and recession, Axxon has just recruited a professional management team to proof that having the best products and people makes anytime a good moment to invest.**

### Complete Software Solutions for Security

In the security industry there are also leagues and categories as there are in the sports field. Just a few companies in the world can talk about handling tens of thousands of cameras using their management software. Axxon is one of them, being its flagship the Moscow SafeCity project: more than 80.000 cameras used to keep an eye over the 20 million population capital of Russian Federation. The Government relies on Axxon software to handle traffic monitoring, security surveillance, intelligent video analytics and other cutting edge features. We are talking here about premier league in video management software.

**During their press event in Birmingham Murat Altuev, board member and president of Axxon made clear that the success of Axxon is not only based on high quality products but also on an enthusiastic team that stands behind the products and service the company offers. To expand their business in Europe, Middle East and Africa Axxon did hire two security professional that will lead the company in that territory. We had the opportunity to talk to Carlos Angeles, managing director at EMEA headquarters in Barcelona and Torsten Anstaedt, managing director for the German speaking countries based in Wiesbaden about Axxons plans for the future.**

Torsten Anstaedt (Managing director for Germany, Austria and Switzerland) and Carlos Angeles (Managing director EMEA)

**Axxon's solutions are very popular in Russia and Axxon has realised a safe city project in Moscow with over 80,000 integrated cameras. What are your plans to expand the company's presence in the EMEA region?**

**C. Angeles:** Axxon managed to became market leader in Europe selling mostly in emerging countries. The plan consists in consolidating our position by reach the same market share, brand awareness and customer loyalty in western Europe, middle east and Africa. Axxon in Russia is the obvious choice for most of the installers. We have the same ambition in the territory under the new offices.

**T. Anstaedt:** In these regions we will offer various product trainings and webinars for different target groups. In Wiesbaden we have already installed demo rooms and a training center for product demonstrations. AxxonSoft will develop the market in the German speaking countries together with system integrators and installers. For us, system integrators and installers are a very important target group and we will offer not only a great product but also excellent conditions and a good service.

**On the market there are already several software offerings that concentrate on video management and there are software tools that are specialised on security aspects like video analysis. What does the Axxon solution offer, that distinguishes it from the competition?**

**C. Angeles:** Our competitive advantage are 250 engineers, the world's biggest CCTV system managed under single software, the financial stability to heavily invest on R&D and marketing activities, seven years enterprise level system experience, and the best price versus performance ratio in the market.

**T. Anstaedt:** Our solution offers an extraordinary high number of integrated cameras, ATM devices, access controll and POS systems. This allows the system to cover all vertical markets like security, traffic, finance and retail with a broad variety of tools. We do not see a system on the market that offers such a complete solution as we can offer. Software from other vendors may also offer various tools, but the crux of the matter is that unlike our competitors we develop 99% of our products inhouse and do not buy these products in addition. This give us an advantage in time during projects and a price advantage since we do not have to acquire third party knowledge and support.

**Solutions that offer a broad variety of tools are expected to be expensive. Is that true for Axxon products?**

**T. Anstaedt:** We already mentioned the attractive pricing we offer with our products. We will accelerate the technology transfer from analog to IP through our distribution and price structure. This will also make our products very attractive for installers and producers of IP components.

**C.Angeles:** Our solution is modular and can grow upon customer needs. Cost for the partners grows linear as system grows, and extra features are charged at a flat rate. This is something that allows all customers to start with a common core system and add features and new channels at will. This pricing schema is appreciated by our partners, and will be very hard for our competitors to match.

**What will be in your focus in the near future?**

**C. Angeles:** We will focus our efforts in growing fast in the whole space. I am sure you will hear from us everywhere in a short time from now.

**T. Anstaedt:** One development is also important for our customers: Within the next days Axxon will be ONVIF contributing partner and will co-develop the new ONVIF pattform. Our two products on the market, „Axxon Smart" for the professional and "Axxon Intellect" for the enterprise level are already cutting-edge products but we have already a brandnew product for the professional market in our pipeline that will be launched in October and it will be the first of a new generation of video management software products in terms of user-friendliness and designs. That is all we want to so say at the moment...

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HOMELAND SECURITY

# Management of Diversity

## Optimizing Inner Security Using Field-tested Total Video and Surveillance Technology

**The product palette of surveillance technology is as varied as all its suppliers. Networking their components together is therefore often difficult, so the realization of technically feasible applications often fails due to the lack of a unified approach. The long-established German company Telefunken Racoms in Ulm wants to change this and is looking, amongst others, at systems that that were originally developed for military purposes. Matthias Erler of GIT SECURITY spoke about these with Dipl. Ing. Ulrich Skubsch, a Management Consultant and recognized authority in the industry for over 30 years. He is currently advising Telefunken Racoms on the subject of Homeland Security.**

**GIT SECURITY: Mr. Skubsch, would you please explain to us first of all what the technology introduced by Telefunken Racoms is all about?**

**U. Skubsch:** I must go back to basics to do that. I've been intensively involved for many years with video surveillance technology and have come to realize that a unified approach is often missing in this sector. There are companies that offer superb cameras but who do not have the ability to process, distribute or network the image data - they're missing a good, functional management system. On the other hand, presenting an open interface is often a big problem for providers of management systems, so the integration of cameras and other technologies is not possible just like that.

**But there is definitely a trend to offer solutions from one source?**

**U. Skubsch:** That's true. A very few globally active and often market-leading companies offer ‚one-stop-shopping'. Very often, however, it quickly becomes obvious that a customer-specific solution has to be developed and certainly cannot be delivered off the shelf. Video technology is on the other hand still a niche technology in many cases that makes it difficult for the specific needs of users to be satisfied by one single supplier. Simultaneously there is a lack of specialists who are capable of digging out exactly what's required from all that's available in the market. Prime contractor solutions do not always lead to the desired results.

**How does the product range of Telefunken Racoms look here?**

**U. Skubsch:** Thanks to its contacts to a shareholder from Israel, Telefunken Racoms is capable of transferring relevant military technology to civil usage. The company is therefore able to provide field-proven products that I could see for the first time during a technical information trip in summer 2008. I saw a management system with really universal, open interfaces that are capable of integrating the most different systems, including video and diverse sensor technology as well as communications systems. The current migration of military technology that has only recently begun in some countries is already complete here and civil usage is already possible.

**Can you give us some examples of the capabilities of this technology?**

**U. Skubsch:** In my past career the tactical use of video technology was always limited, for example by poor visibility and weather. In Israel I was shown that one can see the details of a ship 8 km away perfectly through fog and heavy rain, also at night, and even identify the ship. I have not yet seen a comparable system anywhere. Another example is an unmanned vehicle at the Ben Gurion airport. It checks the fence at a variable speed and immediately reports any damage, by day and night. Alongside the unique sensor features that serve man so well here, the system functions only because the data of all other vehicles involved and all the other technologies are brought together in one management system. This can also incorporate existing or older technologies and thereby integrate previously installed equipment. The Telefunken Racoms product portfolio includes the most varied unmanned sensor carriers on land, in the air and on water. In my view that builds a complete system for the first time that can be sensibly and efficiently utilized by government administrations, security organizations and industrial enterprises.

**How could that look?**

**U. Skubsch:** Let's take the example of a town in which an important football match is taking

place. A large number of the most different people travel to the town for such an event. A small cadre of uniformed officers are paid for by the tax payer to police such operations that rarely correspond to the ideal image of a job with the police force. This is all about the required support technology. Those technologies mentioned before can of course be employed individually and separately by different operators, for example at the railway station, at the bus terminal and other important points. And it doesn't matter if all the control rooms are equipped today with totally disparate systems from different suppliers. Telefunken Racoms makes a solution available that not only links these infrastructures together but also makes it possible for a leading control room to be connected, regardless of location and at any time. The operation commanders can be at the railway station today and, with a click, at the airport tomorrow for example. Something like this has already been implemented in Zürich.

**Is the European market ready for this technology?**

**U. Skubsch:** The market has been ready for this technology for a long time and now a company is offering a field-proven management system for the first time that really is capable of networking the most varied systems exactly as required. In some countries, and in contrast to others, there is the problem that the current generation of digital radio still does not permit the transmission of video images of a bank robber to a patrol car. According to the information available to me, this is not even a focus of the systems that have been chosen, such as Tetra and Tetrapol. Here it would be sensible to achieve a really international, uniform standard according to the state of the technology. The management system offered by Telefunken Racoms is capable of that - i.e., a digital BOS network can be simply integrated and, for example, expanded with video transmission capability. An important aspect is the fact that the technologies described here produce qualified jobs. These are not for low-paid watchmen, but in control rooms that are filled with decision makers and engineers.

**Are the products already available?**

**U. Skubsch:** All the products are available after the necessary customer adaptation and do not have to be developed first. Market introduction in Germany is through Telefunken Racoms, whose 80 employees have started to build up relevant contacts and product specialists.

**Many thanks for the conversation Mr. Skubsch.**

## ▶CONTACT

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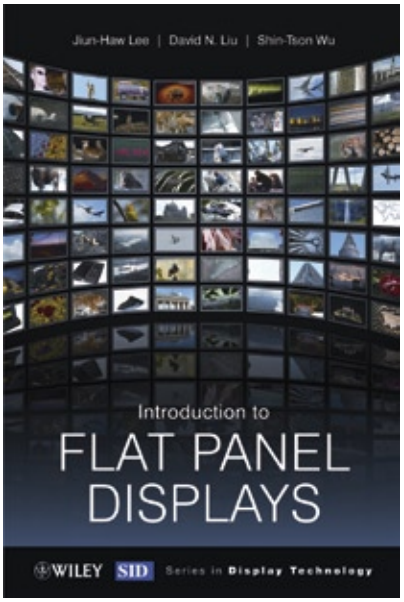
### Introduction to Flat Panel Displays




"Introduction to Flat Panel Displays" by Jiun-Haw Lee, David N. Liu, and Shin-Tson Wu, describes the fundamental sciences behind the various flat panel display technologies: LCD, PDP, LED, OLED and FED including carbon nanotubes. It contains a comparative analysis of the different display technologies in which detailed overviews of each technology are linked together so as to provide a comprehensive reference for students and display engineers, alike. Solved problems as well as homework problems are provided in each chapter. Solutions are hosted on an accompanying website. Features include: the classifications and specifications of display technologies as guidelines for developing a display and judging its performance; principles for designing color displays with good color saturation and wide color gamut; basic operating principles of thin-film transistors (TFTs) and their applications to state-of-the-art TFT-LCD and TFT-OLED; and an overview of FED fundamentals comprising the physics of field emission, as well as FED structure and display mechanism.
www.wiley.com

CCTV

# Image Quality: Usability Is the Real Issue

## How to Select the Right Camera System

Fig. 1: Goal Definition: Is it enough to detect people or do you need to identify faces?

**When we think about a camera's image quality, it's not unusual to think in terms of pixels and megapixels. The consumer camera and mobile phone market is especially focused on image resolution as the main indicator of quality. As a result, the megapixel benchmark has carried across into the surveillance industry, and this means that network cameras are being selected based on only the narrowest criteria. This can mean the camera is incompatible with its function, and cannot provide the image quality required by the user.**

More megapixels don't necessarily mean clearer and more usable images. This is especially true in ultra low or high-level light, conditions for which cameras must be optimised. Megapixel cameras give varied results depending on what they are used for, and so, contrary to popular belief, high-quality images cannot be guaranteed. This means that security cameras are likely to produce lower-resolution images than expected, making them less usable for activities such as face or registration plate recognition.

### All This Talk About Image Quality – Isn't Usability the Real Issue?

By far the most important consideration when purchasing a new surveillance camera is that

Fig. 2: Goal Definition: Is deterrence a factor or discreet surveillance a priority?

the images it produces must be clear and usable – and don't merely satisfy an arbitrary technical requirement. Users of surveillance cameras need the best image quality out there for their specific usages, and have been led to believe that the best is represented merely by pixel number. This just isn't the case.

While megapixel cameras are perfect for overview surveillance (in banks and transportation hubs, for example), one of their current drawbacks is the large size of the recorded video data. Because of the size of the data, it is common to choose a limited frame rate or lower resolution in order to stay within the specified storage limitations of an application. Furthermore, megapixel sensors contain smaller pixels than standard sensors, and are thus not as good at handling low light conditions. This has a negative impact on the video images, which become either blurry or less detailed - so more megapixels, surprisingly, can mean reduced picture quality.

The resolution technology the end-customer finally chooses should not depend on the number of pixels but upon a number of factors:

- What type of surveillance system will be installed?
- Is overview or high detail required?
- Which area needs the surveillance camera to cover?
- What are the lighting conditions (e.g. daylight or night time, light sensitive areas, etc)?
- Where is the camera mounted (indoor or outdoor)?
- Is overt or covert surveillance required?
- Is there a risk of vandalism?

Only by carefully analyzing the video surveillance goals can the exact requirements for the installation can be defined. To optimize an installation the whole system needs to be considered, as factors like video management software, network capacity and video storage requirements often set limits for resolution and frame rate. No single type of camera is optimal for every application. This is also true when it comes to image resolution.

## Resolution Technologies for Superior Image Quality

Whilst megapixels can contribute to greater image quality, there are other resolution technologies available like HDTV or standard VGA that are greatly improving surveillance cameras.

### High Definition TV (HDTV) Resolution

HDTV constitutes a tremendous leap forward in image quality by providing up to five times higher resolution than standard analog TV. This means sharper images, better color fidelity and a wide screen format, i.e. 16:9 ratio. Developments in HDTV are now starting to have an impact on the video surveillance market, as customers seek a higher image quality standard. The possibility of clearer, sharper images is a long sought-after quality in the surveillance industry, particularly in situations where objects are moving or accurate identification is vital. Working with progressive scan, network cameras with HDTV performance deliver true color representation and clear images even if the object is moving fast. This makes it a highly attractive solution for surveillance operations where greater image detail is required, such as at retail stores, airports, passport controls, casinos and highways. This quality development has been long sought after, but it could not be realized until the video compression techniques were efficient enough.

**Fig. 3: Scene Analysis: Is daytime surveillance required or 24 hours surveillance?**

### Standard VGA Resolution

Even with the advantages provided by megapixel and HDTV cameras, there are many application areas where standard resolution network cameras provide the best solution. Standard resolution is usually VGA (Video Graphics Array) resolution (640 x 480 pixels). It is a graphics display system for PCs originally developed by IBM. The VGA resolution is normally better suited for network cameras since VGA based video produces square pixels that match with those on computer screens. In scenes with difficult lighting, there are standard resolution cameras with extreme light sensitivity and wide dynamic range that provides image usability well beyond what an HDTV or megapixel network camera can typically achieve in those conditions. Some cameras provide frame rates higher than the traditional 25/30 frames per second offering the perfect solution to capture fast moving objects. When optimizing the video surveillance installation, it is critical to take the whole system into account, and not just the cameras. Video management software, network capacity and video storage requirements often set limits for resolution and frame rate, and standard resolution cameras can often become the most cost-efficient solution.

### H.264 Compression Technology – A Key Enabler for Superior Image Quality

One factor that is common to all three resolution technologies is video compression. Video compression reduces or removes redundant data, enabling a significant reduction in file size. In this way, video files can be efficiently sent over a network or stored on computer disks. H.264 is the latest and most efficient video compression standard. H.264 reduces the size of a digital video file by more than 80% compared with the Motion JPEG format and as much as 50% more than with the MPEG-4 standard. H.264 was a prerequisite for introducing HDTV in video surveillance and it is expected to accelerate the adoption of megapixel cameras since the highly efficient compression technology can reduce the large file sizes and bit rates generated without compromising image quality. This means that either much less network bandwidth and storage space are required for a video file, or much higher video quality can be achieved for a given bit rate.

## Making the Right Choice

With high resolution follows huge amounts of image data, which more often than not leads to compromises on frame rate. A megapixel camera alone is therefore not synonymous with high image quality – other factors such as the H.264 compression standard are equally important.

Dominic Bruning, Marketing Director, EMEA at Axis Communications insists that surveillance requirements must inform the purchase of camera equipment at every stage. "The selection of the right network camera must consider a number of different factors, including function, position, lighting and available bandwidth. Therefore, it's more relevant to consider image usability – "do the images produced by this equipment satisfy my requirements?" – than image quality or technical specification," he explains. "That way, you're always keeping the end-user's needs at the forefront of the selection process." For further reading on image usability and how to make the most of the unique benefits of each different type of network camera he recommends having a look at: http://www.axis.com/imageusability/

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CCTV

# The Oldest New Company in Security

## Comnet Establishes Operations in Europe

**For most ComNet is a new name in fiber optic and Ethernet transmission products. Those in the fiber optic industry will recognize the name of Litchblau as the original founder of – International Fiber Systems (IFS). George Lichtblau started IFS in 1986 and he eventually sold the company to GE in 2003. Lichtblau established ComNet in 2008 having observed a stagnation and decline in fiber optic product development coupled with an ever increasing technology gap. Many key former employees of IFS were ready and willing to join him in this new effort, and now ComNet consists of some very talented people in the fiber optic industry.**

Comnet has established its headquarters and manufacture plants in Danbury, Connecticut, USA. ComNet produces state of the art transmission products used in the Security, Intelligent Transportation System and Communications market. ComNet's main charter is to go back to basics, supplying superior products and superior service to all. To this end ComNet opened the European HQ Headed by Steve Clarke in Leeds, UK to service Europe, Middle East, Africa and Asia. Satellite offices have also been opened in Germany and Dubai.

### Product Development in Close Cooperation with Clients

As part of the product development process ComNet spoke with many installers, integrators and consultants to get an understanding of what they and the market required. It became apparent early on that there was a real need to reduce the number of components used in a system/installation. In response ComNet developed their product concept, Comfit. The Comfit concept allows a transmitter or a receiver to be wall (surface) mounted or installed in a rack chassis. The obvious advantage of this concept means a lower number of product variants being held by maintenance teams and stocking distributors as well as a reduction in the number of product codes resulting in a simplified ordering process.

Another challenge posed by the customers and the system designers was to increase signal density in the fibers thus allowing users to free up fiber in existing systems. ComNet's response was to develop product road map that utilised modern engineering and state of the art technologies. ComNet developed the majority of their product line to utilise a single fiber. This innovation alone will provide numerous savings to the end-user. It can either reduce the cost of the fiber media required or allow more functionality to be built into an existing fiber installation. All ComNet single optical fiber, video, data and Ethernet products are priced competitively against the competition's two fiber designs. By utilising ComNet products you have the potential to save up to 50% on the cost of the transmission media.

### Two New Product Lines

A company's true value is how they are developing new technologies to overcome existing and new challenges. ComNet has introduced two new innovative fiber optic solutions to the market. The first is the recently launched Ethernet suite of products all fully ruggedized for the tough environmental requirements of the Security and ITS marketplaces. The ComNet line of managed/unmanaged Ethernet switches and media converters are all designed to operate under extreme temperatures. These units are used in applications where the products are subjected to high levels of shock and vibration and are generally deployed in unconditioned environments. ComNet offers both a Fast Ethernet Managed Switch and Gigabit Ethernet Managed switch to manage IP video networks.

ComNet's second new introduction is "the first self-healing ring, video product line using only 1 fiber". This video and data transmission product has many of the same benefits offered by IP video without any of the inherent challenges. The FVT/FVR SHR series has the capability to insert up to 8 full motion broadcast quality video channels onto the video network. The system directly supports either a linear add-drop-repeat or self-healing ring topology. Either topology is accommodated with a single multimode or single mode fiber. Transmission distances between field nodes of up to 2 km using multimode fiber, and up to 55 km on single mode fiber. These channels can be dropped at an almost infinite number of monitoring "Head-End" locations.

Compared to traditional Ethernet video/data fault tolerant systems, the ComNet FVT/FVR SHR system offers considerably simpler ease of installation and system integration. Unlike Ethernet-based systems, trained IT or technical personnel are not required for the installation or maintenance of this system, reducing the initial installation cost as well as the life-cycle cost of the system.

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CCTV

# Speed Domes for Every Need

## Samsung Techwin Launches a Complete Range of Speed Domes

Samsung Techwin dome in optional weather-proof external housing

**Speed domes have proven to be very advantageous for a lot of applications. They are extremely useful where one camera can be used to monitor a wide area and track moving objects e.g. in transport, retail and city centre installations. On the other hand in the past for a lot of installations speed domes were not used because they cost more than a fixed dome and speed domes have moving parts that can cause problems. Also there was a high need to man these PTZ cameras so that you do not miss any incidents.**

### Motion Detection and Lower Costs

With video analytics tools and lower prices for modern speed domes, these cameras become more and more attractive. Object detection and motion detection are features that actively alert security personnel to incidents so they can turn their attentions to the relevant camera. In applications that are lightly manned, a combination of intelligent detection functionality and speed dome capability are even more advantageous when it comes to improving workflow. Samsung Techwin has now launched a complete range of new speed domes that take advantage of the new technology and that are so reasonable priced that speed domes are the best option for a lot of projects.

"We now have one or more high performance speed dome to match any CCTV project from small shops and offices to large applications such as shopping centres, car parks and public spaces," said Peter Ainsworth, Product Manager for Samsung Techwin's professional security division.

Seven models in the range share the same design and are suitable for use internally with a range of outdoor housing options for external operation in all-weather environments down to -40 °C. "Hot-swap" back boxes with integrated memory allow a site to benefit from a flexible surveillance solution where any of the seven models can be quickly relocated from back-box to back-box.

### The World's First 37x-Zoom

Continuous 360° rotation, privacy masking, DIS (Digital Image Stabilization), motion detection, multi-language on-screen display and preset, learn and group tour functions with 500° per second pan are all included as standard.

There new speed dome models are available with 27x, 33x, and the world's first 37x zoom module options, ensuring that all viewing demands can be met. Two models within the range, the SPD-3700T and SPD-3750T, benefit from Samsung Techwin's automatic tracking function, which can automatically track subjects and zoom in on them for evidence gathering purposes without any operator intervention. This functionality can be essential for applications such as out of office hours surveillance and perimeter protection. Selected models have enhanced Wide Dynamic Range (WDR) functionality for use in challenging lighting conditions.

The eighth model in the range, the SPD-1000, offers 350° pan at 100° per second, shares many features of its counterparts and comes complete with a 10x optical zoom module. This makes it suitable for virtually any internal application. All models benefit from true day/night operation, integrated IR-cut filter and Samsung Techwin's unique Samsung Super Noise Reduction technology to eliminate image noise, ghosting and blurring in low light conditions – which can save up to 70% hard disk recording and bandwidth space. All eight new models are now available to installers and users throughout Europe now.

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CCTV

# A Secure View on Business

## Video Surveillance for a Restaurant Chain

**The UK has more than 1,000 McDonald's restaurants, with operations split into northern, central and southern regions. Tough demands are placed on the digital video recorders in McDonald's restaurants and the machines must be robust enough to operate in a catering environment and flexible to allow upgrading if requirements change. They need to be easy to operate and, above all, they must provide evidence-quality recordings, with no risk of anyone changing the settings or jeopardizing network security.**

The choice of Dallmeier recorders for the heart of the Southern Region's systems has followed extensive – and continuing – testing of the Dallmeier recorders against other makes. „One of the key things we always investigate is whether a product is as secure as Dallmeier's," says Southern Region Security Manager Andy Lane. "It's by far and away the best product for the money that we have found," says fellow Southern Region Security Manager Robbie Hawes. Although the organization has a long-standing relationship with Dallmeier, „if we thought we could find a similar quality product at a cheaper price we would do so – we are a business. However we haven't found one."

### Long-Standing Relationship

There are about 400 restaurants in the Southern Region and virtually all have CCTV. About half the restaurants are company owned, with the remainder being franchises. „We use only Dallmeier recorders in the company-owned restaurants in the south," says Hawes. So far, almost 80 percent of the region's restaurants have a Dallmeier product, installed by Complete Security Systems Ltd. The remainder are still using older analogue units, which are being phased out. „And I believe that the majority of franchises put in a Dallmeier product. They know it's robust, they know it's reliable," he adds. McDonald's was an early adopter of digital hard disc recorders and the Southern Region's relationship with Dallmeier dates back to late 1999. "We were looking to move from analogue into digital products – they were just coming onto the market at that point," says Lane. The main concern was whether digital images would be allowable as legal evidence. "Dallmeier's products already had security features so that the image couldn't be altered," he adds.

### Safe and Secure

Images are recorded locally whenever a camera detects movement. Some of the Dallmeier recorders are also linked into the company network, which allows any incidents to be reviewed. „We are running alarm monitoring through a number of the systems as well," adds Lane. „The monitoring station can view the cameras. It's very good for reducing false activations."

Other companies regularly submit recorders for testing in an attempt to persuade McDonald's to make a switch. Security is one of the key concerns because of the links into the company network. The security and information services (IS) departments both try their best to expose weaknesses. „In the last 12 months we've probably looked at 10 or 12 different units," says Lane. None has passed the tests. The IS department had already spent a good number of weeks trying to 'destroy' a Dallmeier recorder and was unable to do so. "They were very complimentary and said it was very good."

Vulnerable digital video recorders could provide an easy entry point into the company network and introduce exposure to viruses or trojans. Another aspect that is checked is the possibility of users getting into the background

operating system and downloading material such as films from the Internet.

Hawes points out, McDonald's can put in a standard specification machine and then have it upgraded later with additional hard disc or channel capacity, or extra features such as remote monitoring. "A lot of the products we are sent to test are just a box – if you later want it do something extra, you have to buy a new box," he says. „Technology does move on," agrees Lane, "but we know we can continue to use these products into the future."

The selection of high-quality recorders is matched by attention to the cameras. „If you invest in a decent product to record the images, you need to feed that product with decent images," says Hawes. The cameras include Dallmeier models, particularly 'Cam_inPIX' domes, which are designed for backlit situations such as looking out to a brightly lit exterior. These have been adopted as the standard solution for front doors in McDonald's' Southern Region.

## Primary Focus

Staff safety was a prime reason for having a high-quality CCTV system. „We are open to anyone who walks through the front doors," points out Lane. But McDonald's' investment in high-quality CCTV systems brings further benefits. The restaurants' prime locations mean that local police often turn to McDonald's for images of crime or disorder in town centers. "The incident often has nothing to do with our restaurant but we may have images that can be of use," says Lane. „Suspects may have met in one of our restaurants, or have claimed to have met there as some sort of alibi," adds Hawes. Disorder is also very prevalent on a lot of high streets, says Lane, and McDonald's is a popular meeting place - often the last place that is open at night. „We build up a relationship with the police in the community," he says. The cameras have helped in the enforcement of Anti-Social Behavior Orders, proving that someone had breached an order to stay out of a particular area.

## Obvious Deterrent

Cameras, and sometimes monitors, are positioned overtly so that everyone knows they are being recorded. "There is a deterrent message and we want to encourage that," says Hawes. „We want people to know we've got CCTV; we want people to know we use it and we want them to know it works so that they will behave better as a result."

The high-quality CCTV images can be supplied to the police in the event of an assault or break in at the store. "We've had considerable success recently where the Dallmeier product has been linked to the alarm and monitored remotely and that has enabled the police to make a number of arrests for very serious crimes," he adds.

One of the culprits appeared to think that there was a simple way of getting rid of the evidence. "A machine was attacked and destroyed during one of these incidents," says Lane. The attack on the recorder ended with it being thrown into a sink of water. "I took the unit directly to Dallmeier's Pucklechurch UK headquarters and the engineers spent some time during the day to get the images off the machine and we gave them to the police the next day." The McDonald's team was impressed by the level of service demonstrated by this incident. "We know that wherever possible they will go out of their way to help," says Hawes.

## Keeping It Simple

A guiding principle of McDonald's' security products is that they should be standardized across as many stores as possible. „That cuts down on the training - managers do move areas and between stores," says Lane.

Many people have access to each Dallmeier recorder and so it is essential to ensure that none can erase recordings or change the mode of operation. „One of the good things with the product is that you can set access levels," says Lane. „The stores are on the very minimum level needed to operate the recorders." Managers simply need to know how to review images and how to burn them to disc if necessary. „It is so easy with the software that Dallmeier has developed," says Hawes.

## Forward Planning

Mr. Lane welcomes Dallmeier's willingness to carry out bespoke developments, including cooperating with McDonald's' other technology suppliers. One idea under consideration is to link the CCTV to the till systems. Benefits could include confirming that an order is being given to the correct customer at a drive-through restaurant. Another idea is to use automatic number plate recognition technology to trigger rewards for regular customers.

„As you move to digital CCTV, the recorder is effectively a computer. It prompts you to start thinking differently. Why have a machine that's just recording images when it can do so much more for you?" says Hawes. And when he thinks about security at McDonalds, he can lean back confidently and say „I'm loving it."

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# Aha Included

## A Digital Recorder with On-site Support and Individual Training Concepts

**Everfocus has launched a brand new series of digital recorders: the Ecor 4 Series uses the latest compression technology, provides extended recording capacity as well as fast network transmission. The machines are intended for smaller premises and the home user – with the advantage that the devices are easy to understand, even without an expert at hand. Matthias Erler of GIT SECURITY spoke with Detlef Schreiber and Oliver Nachtigal about the recorders and the training concept behind them.**

**Mr. Schreiber, you have just brought out a new recorder series. What new technology is used here and what can the new machines do?**

**D. Schreiber:** That's right – the Ecor digital recorder is available as a 4 or 8 channel version and, soon, also in a 16 channel version. A particular highlight is the new operation concept that is so simple that you can use it without even looking at the instructions. We have developed the graphic user interface further so that technical terms are not used but instead new symbols that we have created - for example, to program the machine, for the configuration and for the export function. The web interface also uses the same graphics, everything is easy to understand and can be operated with a click of the mouse. Data export is very simple via a USB memory stick, to a DVD or CD.

**There is also a search function?**

**O. Nachtigal:** That is the ‚Smart Search' function. It is used to find lost objects. If you notice an object is missing, you only need to mark the corresponding area and the recorder will look for it automatically.

**Do the Ecor recorders have other highlights and innovations?**

**D. Schreiber:** They have individual rights administration: that means I can assign individual rights to each user. So for example, I can specify that standard users cannot alter the configuration but are allowed to export videos. Or you can restrict password protection to specific usergroups. The dynamic Domain Name Service (DNS) from Everfocus is also new. It works together with a specially created IP address that is always available. As a user, you only need to look for a particular name via a special menu in the recorder and you are automatically registered. That makes the service always available, no matter where you are and without any special training.

Detlef Schreiber (left) and Oliver Nachtigal (right)

**In what situations are the recorders ideal?**

**O. Nachtigal:** The prime areas of application are simple surveillance tasks, for example in a domestic environment, in retail stores, at filling stations or for monitoring car parks and open areas. But the surveillance of smaller objects is also practical. Those are areas where there is currently a noticeable increase in crime and vandalism. Differences in inventory are an important matter in retail situations, and in public areas it's all about preventing attacks on people. The particular advantage of the Ecor series in all these scenarios is, above all, their compact size. This enables them to be simply installed almost anywhere and you don't need to employ an IT specialist to do so.

**You are planning various roadshows and events this year – could you tell us the details?**

**O. Nachtigal:** We will hold a number of events during the year, whereby the dates will be more freely chosen according to the wishes of our customers. The dates will be published in good time on our homepage. But there will also be a new infomail, the ‚InSide EverFocus', that you can subscribe to and in which subscribers will be informed concisely about technology, the specialties of the machines and new product innovations.

**What will be the content of the events?**

**D. Schreiber:** On the one hand we will hold product training on various recorders and network cameras in the form of workshops in which the customer will be able to put the machines into operation themselves. We will hold these individually according to demand together with our dealers and locally in their premises. Apart from that we are planning a series of half-day product presentations that we will organize in a sort of circuit training - there will be steps for cameras, recorders and network technology. We are planning these for the new Ecor series, including very soon the new 16-channel version, but also for the new cameras. The absolute newest products are our infrared day/night external cameras and the new Speed Dome EPTZ 2700 and 3600 series. And to complete the portfolio there will also be pure network training in which the basics of network technology will be simply explained: the PCs of the participants will be networked with one another.

**That is a very open and customer-oriented training program. Do you follow a similar strategy with your customer support?**

**D. Schreiber:** We have indeed found that problems often arise for our customers because IP products are increasingly being used. Therefore we have decided to provide more technical support on site. When planning projects or troubleshooting, the customer can get competent help at any time from someone who knows the products intimately. We also do this in cooperation with our dealers who can thereby respond more professionally to their customers. There will be special certificates for installers that they will receive in conjunction with the technical training. For the customer, this means savings in both time and money during installation: the installer is competent and the whole process goes quicker and more simply.

**Mr. Schreiber, Mr. Nachtigal, thank you for the interview.**

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CONTROL ROOMS

# Presenting at the UN

## Video Walls in the Room of Human Rights in Geneva, Switzerland

The United Nations Office in Geneva (UNOG) is a UN representative office with more than 1,600 staff. This is the biggest United Nations duty station outside the headquarters in New York and provides critical support to the Organization's efforts. UNOG hosts over 8,000 meetings every year, making it one of the busiest intergovernmental conference centers in the world and a focal point for multilateral diplomacy.

The new Room of Human Rights and the Alliance of Civilizations – described as the Sistine Chapel of the 21st century - was inaugurated in November by Spain's King Juan Carlos and Queen Sofia, Prime Minister José Luis Rodriguez Zapatero, UN Secretary-General Ban Ki-moon and the Swiss President Pascal Couchepin.

The massive conceptual artwork, a redesign of the 929 m$^2$ dome which resembles a grotto with multicolored stalactites, took over two years to complete, used 35,000 kg of paint and the services of 20 assistants, among them a cook and a cave expert. The artistic project was launched in 2006 by Zapatero and his Turkish counterpart Recep Tayyip Erdogan to improve dialogue between the West and the Muslim world. The Spanish Foreign Ministry says the government is funding 40% of the costs, with the rest provided by private-sector donors.

### A Wall of Information

Besides this gorgeous artwork the latest large screen technology from eyevis was also installed in this prestigious project. The delegates can now make use of two eyevis video walls to add visual information to their speeches, debates and presentations. The two video walls comprise 2x6 EC-67-SXT+ DLP rear-projection cubes from the company's EC Series. The cubes provide outstanding image brightness and contrast with SXGA+ resolution (1,400x1,050 pixels), and the wide viewing angle ensures visibility from everywhere in the room.

The gaps between the 67 inch diagonal cubes of the video walls are almost invisible, thanks to their ‚seamless' design. They have internal split controllers and were integrated into the new AV media control technology of the room. The total size of each of the video walls is 4.1 x 2.05 m and automatic double-lamp systems, which switch to a spare lamp in case the operating lamp fails, guarantee the highest availability of the system.


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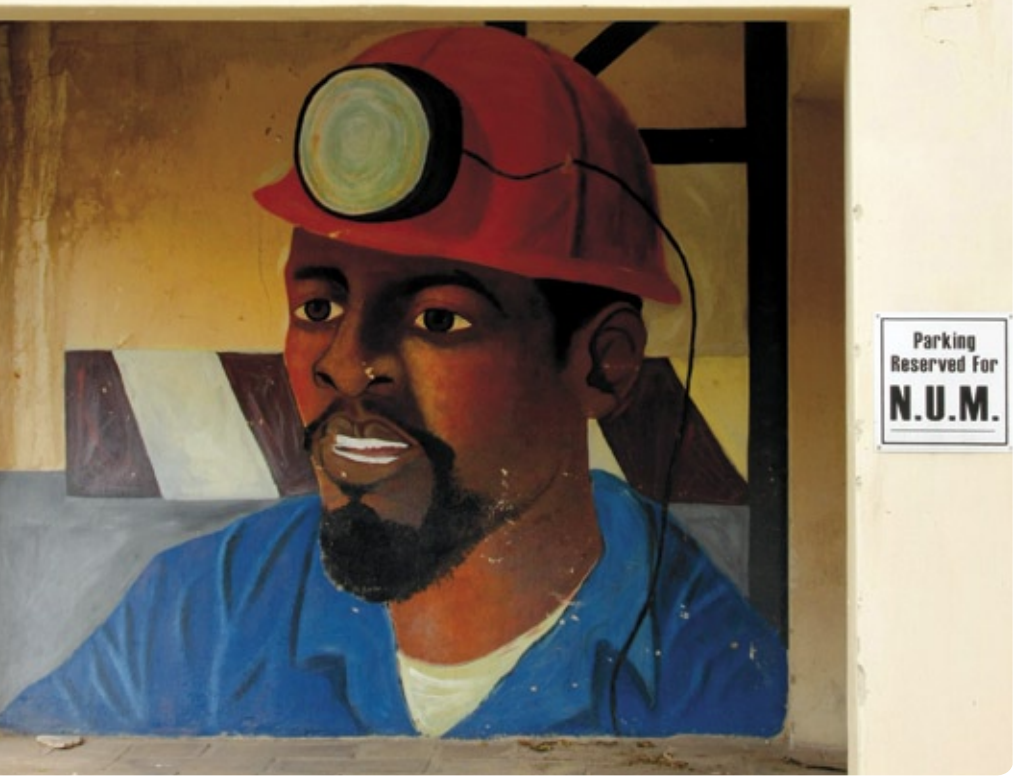
# Stick Your Finger Out

## Integrating Video, Access Control and Fingerprint Readers



Thulani Tshozana, Risk Manager at NUM

**A high-tech security solution for the safety of people and information by integrating Milestone IP video management software with access control, fingerprint readers and network surveillance cameras has been designed and implemented by Camsecure.**

The National Union of Mineworkers is the largest recognized collective bargaining agent representing workers in the Mining, Construction and Electrical Energy Industries in South Africa, and the largest affiliate of COSATU (the Congress of the South African Trade Unions) where non-racialism was a founding principle.

### Downtown Crime and Political Threats

The NUM headquarters are located in a multiple-story brick building in downtown Johannesburg, an urban area well known for its crime risks. The political nature of the union's activities and strong relationships with the African National Congress make the need for security even more intense. Kgalema Motlanthe, earlier President of South Africa, was also previously Secretary General of the National Union of Mineworkers (NUM), whose 380,000 members are the core of the nation's economic foundation. Johannesburg was known as 'the city of gold' with an economy built on gold and mining, so the very history of this country's development finds its resources here.

### Open Platform Solution

Camsecure has designed and implemented a total security solution with the open platform of Milestone XProtect Enterprise IP video management software integrated with Paxton Access Net2 access control, Sagem Morpho biometric fingerprint readers, and 50 Axis network cameras. Axis 225FD vandal-resistant dome cameras are used on the street-side of the building, opposed to normal cameras that can be knocked out of place. In the parking lot, Axis 221 day/night cameras have been installed in Videotec Verso polycarbonate housings with cable-managed brackets so there are no exposed cables. The parking lot entrance camera logs all the ve-

Data from the fingerprint reader is integrated into the security management software

hicle number plates to keep track of the time each vehicle enters and exits. There are cameras in all the stairwells of the large building, inside and outside every door throughout the building and up on the roof. The fire escape at the back is also well covered by security cameras.

The NUM owns three buildings in the vicinity but have rented out two of them to the Department of Correctional Services and the Johannesburg Water utility. These buildings will be added to the system at a later stage as the system grows. "There's a security risk because it's so close to neighboring buildings where people could hop over and come down the stairwell. However, each floor is a security unit on its own that has its own cameras and access control so although people who are allowed in the building can move vertically up and down the central stairwell, they cannot enter the offices on each floor without assigned access to the integrated systems that allow lateral movement in the building," explains Francois Malan, Technical Director of Camsecure.

## Integrated Security System

"It's a complex site. For higher security there are cameras installed on both sides of each door, a finger reader on the inside and outside of each door, as well as an emergency button. There are cameras with views of the lifts as people enter each floor and the passageways. The reason for this is that if someone tries to sabotage a fingerprint reader or other equipment, knock out the glass on a door, or break emergency glass, we can see who it is," explains Malan. He continues: "We also have another system in place whereby if a door is left open for more than 1 minute, an alarm sounds with an irritating noise which forces them to close it, but at the same time it logs an alert in the access control system so we can see who left the door open through the Milestone video software link. Any door that is left open is a security risk and we need to know about it to correct it as soon as possible."

## Protecting the Union's Leadership

One of the floors in the headquarters building is the Executive Wing for the union, which is particularly sensitive. "Our first challenge is in terms of access, to protect the union leadership. As part of the federation called COSATU, the NUM is in alliance with the ruling party, the African National Congress (ANC). All the Secretary Generals of the ANC come from this union, so if anyone wants to threaten the ANC, they must first dilute this union. It is a target and that's why it's so important for us to have such strict control over the access to this building and Camsecure has helped us with this." said Thulani Tshozana, Risk Manager at the NUM.

"There have been attacks in the past," relates Thulani. Strict access control brings greater safety and protection. Another security threat is to protect the information in the offices across the country. The role of NUM is very important: they control the heart of the labor that drives the nation's economy – if there is a strike it can bring the country to its knees. The NUM is also responsible for raising the working conditions of their members – protecting their health and occupations. "The significance of adding the biometric fingerprint readers lies in the ability to ensure that the person who goes through the door is who they are – people can lose access control cards or have them stolen. We need to be 100% sure who is passing a door. That's why the video is there as well, to double-check," says Francois Malan. "It can also be an administrative nightmare to deal with hundreds of thousands of cards. So the fingerprint integration is more efficient and effective. It promotes accountability." Thulani remembers problems with more cards being issued than the number of people who should have access.

"Being such a sensitive time in the country's political history with people changing parties, information is of very high value. If anyone on the site is suspected for any reason, we can type in their name to track and analyze their movements in the system, if anything is removed, etc." says Francois. "This is one of the highest security systems implemented. If anything happens, we can have an alarm alert issued – both audible and on the system. In addition to the alarms when a door is left open, if someone sets off a fire alarm, it triggers an event on the system so we get an alert immediately in the Paxton Access software which is integrated with the Milestone so we can see the video evidence of the incidents. Through rules we've set up in the software, we can see the list of events easily. We know who has done anything, when and where," explains Francois Malan. Danie Malan, CEO of Camsecure, comments: "Prevention is better than cure. I believe that people will think twice before doing anything wrong now." "Yet you can still have trust with the employees through making people accountable: the cameras show when that trust has been broken. They also reassure the people who work here that they are safe," adds Francois Malan. "I've heard from staff that there is a new pride in the safe quarters we've achieved with this new system," says Danie Malan.

## Old Security System not Effective

"Previously we only had a CCTV system that was not effective. It was operated from the President's office and he would often be travelling on business, and others did not have access to the system if it was needed" says Thulani. "We are creating a whole new total security plan." Edward Majadibodu is the Head of Production who deals with safety, education and women's development. He is also the Chairman of the Procurement Committee who had to approve the purchase of the new security system. He says: "We have xperienced challenges in the past of theft and other practices so this new security system is a major improvement, especially with the strong access control, only for those who are approved to be here."

"We finished the new implementation end of Dec. 2008. The building underwent extensive renovations and we were installing at the same time," recalls Malan. "I remember one incident when someone lost a cell phone in the bathroom by leaving it behind. When he realized this ten minutes later, he went back but it was gone. We were able to type his name into the system in the access control, see the Milestone video link at the time when he went through that door, then see who went in after him. He was one of the workers doing the building renovations. We followed that guy on the system with the cameras through the building into the basement where we apprehended him and got the phone back."

"This new system is very effective," states Thulani. "The fact that it can be viewed wherever you are with network access and the proper access is good. Recordings are kept up to two months, so we can always find evidence. We are very pleased with the system that Camsecure designed especially for our needs."

## Biometrics, Access Control and Video

Every employee's fingerprint is registered in the biometric enrolment unit that sends a code for them to the access control system. Security operators and managers can go into the access software to look up any employee and see their activities, or look at event lists to analyze or check any alarms or incidences. They can click on the camera icon to link up to the Milestone video and see what occurred, or export evidence, if needed. The Milestone IP video software also manages the Axis cameras, their setups and recording schedules, by groups and locations. "The system allows flexible searching by person, by door or camera locations, and by category like 'access denied' to check a log of exceptions. The reporting capacity in Paxton Access is also very good, by person or event," states Francois. Managers on different floors are given individual access by floor or by specific cameras groups, relevant to their responsibilities.

Security plans for the future include the installation of a metal detector at the main entrance of the headquarters. Camsecure will design this to link cameras with the detector through the video management software to trigger an alarm in the Milestone interface and let security know that someone has gone through who is a potential threat. There was a stabbing in the past, in fact, and such an incident can now be avoided.

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CCTV

# A Special Kind of Dome Camera

## Hemispheric Cameras to Monitor a Scene

**When several cameras are monitoring a single room, it is often difficult to understand the room layout in its single view. This makes it hard to comprehend the overall setting. To work with hemispheric Cameras can be an alternative. A single hemispheric camera can monitor an entire room, replacing the time-consuming and expensive installation of several standard cameras.**

Mobotix pioneered the market for hemispheric cameras with its Q22M model. This model is now replaced by the new Q24M hemispheric camera that includes a more powerful microprocessor and an optimized system platform attaining twice the image frame rate as before. Even 3.1 megapixel camera images can now be transferred at a rate of up to 20 frames per second and megapixel images at a rate of up to 30 frames per second. In addition to a 3.1 megapixel color sensor, the camera also includes an internal DVR (digital video recorder) with a maximum memory capacity of 32 GB. The DVR is based on Flash memory technology for improved reliability and extended service life. The combination of a high-resolution sensor, hemispheric lens and internal DVR allow you to view an entire room with just one Q24M camera and save the images in the camera as a high-resolution video sequence. The Q24M Secure comes with a 4 GB MicroSD card that can record about 50,000 panorama images or four hours of video.

### High-resolution 180°-Panorama

The camera works without a motor, but with like a virtual PTZ and zooms in on details: The image of the Hemispheric camera can be continuously enlarged and any image section can be examined using a joystick, for example. While zooming into a section in the live image, a full image can be stored in the recording for later analysis, an option no PTZ camera that operates with a motor can do. The surround function of the Q24M (ceiling mounted) immediately replaces four conventional cameras and shows four different directions simultaneously in quad view on a monitor. Virtual PTZ is available for each of the four views. Together with the 180° panorama the camera can deliver two more views simultaneously, making it possible to see the overview and to focus on two scenes at the same time.

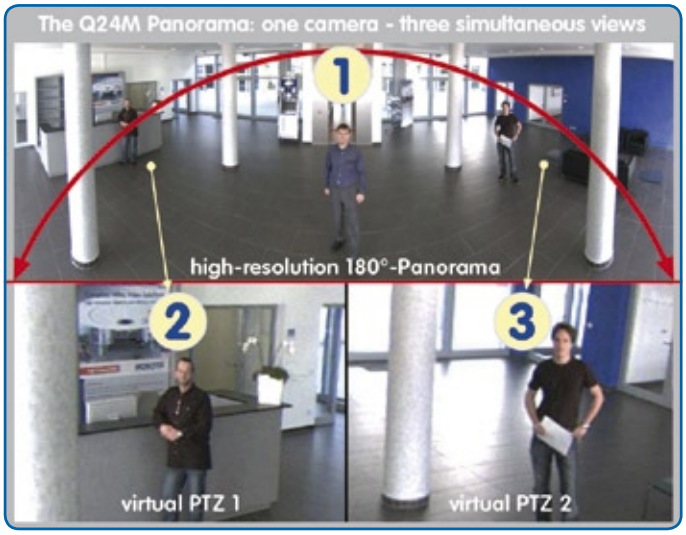
### Distortion Correction Highly Efficient Image Transferring

The full image from a hemispheric lens (Fisheye) is difficult to analyze. Mobotix solves this problem by perfectly straightening the uneven lines in the live image using the camera software. Since the image distortion correction of the hemispheric view and the generating of the panoramic view take place in the camera itself, no additional load is placed on the viewer PC, unlike a standard camera. Thus, displaying a large number of panoramic cameras simultaneously on a single PC is possible. While other camera systems always transfer the full images via the network for further analysis, a Mobotix camera sends only the relevant image sections. Therefore, a Q24M panorama image needs only about 1/6 of the original data volume or bandwidth. This means up to six times more cameras can transfer images over a network compared to 'standard' cameras. One new feature of the Q24M is the 'panorama correction'. In seconds, the user can independently fine-tune the live image in the panorama image generated by the camera.

### Storage Options

The Q24M stores high-resolution video with sound directly on the integrated Flash memory without using an external recording device or

**Virtual PTZ: The camera zooms in on detail. The image of the hemispheric camera can be enlarged and any image section examined using a joystick.**




**One camera, three simultaneous views.**

PC, therefore using no additional network load. Flash memory is a sophisticated form of semiconductor memory without mechanical moving parts and represents the storage medium of the future thanks to its reliability, ease of use and low cost. Old recordings can be overwritten automatically or deleted after a predefined period. The storage capacity is sufficient for around 400,000 panorama images or 33 hours of film (32 GB MicroSD). The system includes three important additional options that allow more data to be stored for a longer time:

- Only the relevant image sections are stored instead of the entire image ( e.g. sky or ceiling is removed)
- Video recording only begins when relevant events take place (such as movement in the image)
- Temporarily increased frame rate during continuous recording of events

By connecting external memory over the network (NAS), the system can be expanded without limitations even while it is running.

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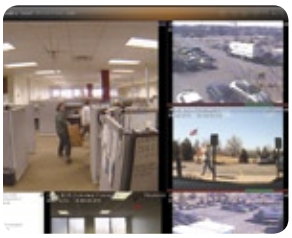
## Sustainable Fire Protection

Siemens has expanded the Sinteso fire protection product line with additional innovative components and useful functions. The new solutions make flexible modernization concepts possible with increased safety and lower operating costs. In addition, the company launches a new, very precise, multisensor detector for carbon monoxide, and the new video fire controller, which automatically records images of a fire event. The product line provides a comprehensive package for the long-term protection of infrastructures and further expands its position as a leading system developer and provider in the global fire safety market. Since its introduction nearly three years ago, the company has integrated over a million Sinteso detectors in fire protection systems.
www.siemens.com

## Intelligent Talking IP Camera

Compro Technology extends its product line to the network video security area. Compro IP Security products line offers full range of the intelligent network cameras with a feature rich professional grade Network Video Recorder (NVR) software. These camera solutions provide maximum customer value through effective monitoring solutions, reduced costs and increase flexibility and performance. The IP 50 and IP 70 series provide the cost-effective & easy-to-install way for the indoor fixed camera solution. Combined with the real-time MPEG-4/MJPEG (IP50) and H.264/MPEG-4/MJPEG (IP70) video compression formats, higher video performance is achieved with much smaller recording file size, which means much lower costs for data storage. The IP 530 and IP 550 series enable users to view Pan of 340 degrees, Tilt of 100 degrees, and both Optical (IP550) and Digital Zoom (IP530) control for remote security monitoring through LAN or Internet.
www.comprousa.com

## Premium Video Solution



Lenel Systems International's recently introduced premium video surveillance solution, Skypoint, has been commercially released and is now available through the company's global network of certified value-added resellers. The company is part of UTC Fire & Security, a unit of United Technologies. The solution offers customers a powerful video monitoring environment with a highly intuitive and easily mastered user interface, using "advanced human engineering" technology. It presents innovative features such as dynamic response, a kinetic scalable timeline, time and motion slicing and optional touch-screen support with extraordinary ease of use. The shorter learning curve and increased productivity make it a cost-effective solution for advanced video surveillance.
www.lenel.com

## Professional Remote Monitoring

Videcon's Concept Pro VXM4B DVR Series is now compatible and able to be fully integrated with the Sureview Immix software platform. The Software is an open platform package that registers site activity through Detection, Access Control and Intruder Alarm installed devices and is provided with visual verification by on-site CCTV. The VXM4B DVR Series can now connect remotely to the Sureview platform, providing CCTV images and alarm triggered visual events. The platform creates daily reports by email, activity logs, floor plan outlays and is contained in a clean, fresh and stylish display, which is able to be viewed by the remote monitoring station and the client. The series now provides a more price-competitive alternative to other DVRs specified for installations that will link back to a remote monitoring station.
www.videcon.co.uk

CCTV

# New Imaging and Color Technology Platform

## Pelco Is Working on Its IP Product Range

**At the trade shows ISC West in the US, Ifsec in Birmingham, and in several webinars, Pelco has presented the new imaging and color technology platform Sarix. The new technology is rooted in the goal of delivering advanced lowlight capabilities in megapixel-class imaging, H.264 compression, innovative features like Auto Back Focus (ABF) and consistent applications of color science. Sarix is built upon a flexible platform to adapt for the requirements of additional processing power for video analytics. In addition to amazing image and color quality, Sarix-based cameras feature a completely new industrial design, where the goals of improved aesthetics and ease of installation were paramount.**

### New Industrial Design and an Open Architecture

"We developed the technology and the features that customers need today, and a platform that will allow us to efficiently provide even more solutions in the future," says Sara Scroggins, Pelco Product Marketing Manager. "The system was designed exclusively by Pelco Engineering for security and IT professionals." The first product featuring Sarix technology is the new Pelco IX Series Mega-Performance Camera. "In our design cycles, we listened when our customers told us that they need solutions with an open-architecture," says Scroggins. "Our intent was to provide full connectivity to the camera and analytics through an open API." Pelco analytics and third-party offerings starting with ObjectVideo analytics are also available.

### Focus on Color and Low-light-Performance

Pelco dedicated their efforts to the development of innovative technology for network cameras that not only addressed, but resolved, many of the issues that industry professionals are presently experiencing. Sarix technology delivers several advantages including innovation in image science. Featuring both High-Definition (HD) resolution and Standard-Definition (SD) resolution, Sarix-based Mega-Performance Network Cameras will deliver greater and more-detailed recognition of objects near or far. By leveraging the latest sensor technologies to multiply and average light per pixel, Sarix technology promises advantages in low-light performance and sensitivity. Furthermore, Pelco deploys color science techniques that allow the company to deliver consistent detailed color across all levels of camera products that deploy the Sarix platform. This consistency provides precise color reproduction in the entire installation regardless of the camera choice and allows for accurate subject tracking throughout the system.

### Processing Power

Sarix technology delivers H.264 compression for optimized image quality, along with the flexibility to also use MJPEG compression to meet system requirements. A use of higher performance processing will result in high frame rate options, multiple profiles including 'high' H.264 compression and real-time images. In addition, Sarix EP (Extended Platform) cameras offer the industry's first H.264 High Profile. H.264 High profile compression results in minimized bandwidth and storage consumption up to 40%.
This additional processing power will also unlock the ability for options that will include onboard use of analytics.

### Industrial Design

Pelco's new camera design incorporates a number of innovative features and will be a large part of future offerings. With Auto Back Focus (ABF) Sarix addresses 'focus shift', one of the biggest issues in megapixel imaging, which causes significant loss of resolution and clarity. Sarix ABF can be accessed via push button on the camera during installation and remotely via browser. Auto Back Focus (ABF), combined with browser based configuration, standards based networking, local service jack for setup ease, and standard Power over Ethernet (PoE) ensures Sarix-based Mega-Performance Network Cameras will be easy to install, easy to integrate and easy to focus. This new camera design also complements contemporary and classic building architecture, and features a modern, aesthetically pleasing design.

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ACCESS CONTROL

# A Lecture on Security

## City College Coventry Installs a Converged Security Solution

**Bringing together a vision and the college's mission of "Responding to Diversity; Raising the Standard; Taking Education Further" was something to be reflected in the development and choice of a suitable logical and physical access control solution.**

Satel Naik, Technical Services Manager at City College in Coventry UK, explained that, except for a few door code locks, no access control had previously been used in the college and there was no information technology (IT) security solution in place. Satel's vision for the future of City College was to bring security technology to the forefront by selecting the best possible solution and creating a truly intelligent building.

The college faced many challenges, including staff and students not wearing ID badges, not to mention limited secure parking and no real physical access control. Some doors were being left open, there was only limited control of IT user accounts and some abuse of photocopying and printing privileges was also happening. Satel Naik explains that it was important for the college that current laborious and manual processes, such as library book inventory and fine payments, could also be automated and simplified in the future and be part of the planned ID solution. For the safety and convenience of students and staff, the college was also keen on reducing cash handling on site by introducing a cashless payment solution for the canteen.

### Making the Vision a Reality

A key requirement for Coventry College was the ability to control real estate, personnel and assets through one medium – a multi-application smart card. City College Coventry asked the security consultancy and integration company to help find the best possible and cost-effective solution for today and the future. Looking at the college's requirements, Jason Hiller, Head of Sales, proposed an integrated and seamless solution that would combine both physical and logical access control. "City College required a sophisticated and reliable solution that would cater to their needs not only today, but also in the future," said Hiller. "We recommended a solution based on HID products, as HID is known not only for reliability, but also for quality and innovation, ensuring that City College will always have a solution up-to-date with the latest standards."

They recommended HID Global's networked access control solution in conjunction with an HID partner company, Dvtel, for physical access control. To meet the logical access requirements, the College selected HID's Crescendo solution, a multi-application smartcard and iclass R10 readers. "Having looked at several logical access solutions that are currently available on the market, Crescendo was the only real option for the college. Crescendo allowed us to use the same card for physical and logical access control. It is compatible with existing MS ILM2007 and Windows Vista and has a straight forward set-up," said Satel Naik. As part of the solution, C700 HID Crescendo cards were deployed, which have integrated middleware. Logical access is run on a virtual college server on a VM slice, running an SQL database and Windows 2003 Server software.

### Cashless Incentives

"Crescendo cards allow us to have card records initialized centrally through Microsoft Active Directory and use Microsoft's Identity Lifecycle Manager (ILM) to control the starters/leavers process in one record/account. The enrolment process is quick and easy, and is managed via HR by the Technical

team of the college," said Satel Naik. "City College opted for Crescendo Java C700 cards with 16k/16 iclass 13.56MHz technology, which provides enough memory for current application requirements and has enough space on the card to add future deployments," said Naik. "Should we require even more memory on our cards one day we can always upgrade to HID's 32k cards."

Coventry College also has plans to implement a cashless catering solution, and currently promotes card carrying by offering their staff and students a 10 percent discount on all card purchases. The chosen system is server-based, which means the cash on the card remains in the cardholders account should the card be lost or stolen. This gives students the confidence to use their cards without fear of losing money, while encouraging students and staff to carry their ID cards at all times.

### Multitasking

Additionally, the solution enables the storage of personal student information on the smart card, about allergies for example, helping canteen staff to only serve the cardholder with food suitable to their condition. Because the smart cards are customized, the college can help to decrease crime within the premises as stolen cards can no longer be used at the tills and fraud can easily be identified by verifying that the person using the card matches the ID photo.

"Finding something that truly works in an environment such as a college is rare, as students do 'test' and 'challenge' equipment quite thoroughly," explained Naik. "We rolled out Crescendo for all 12,000 students by the end of 2008 and are very happy with the results and feedback we have received regarding the new solution. Working with HID Global gave City College the assurance and trust in a solution that would be not only functional and according to current standards, but reliable and flexible enough to move with the college as its needs change and grow.

The college is also looking to add even more capability to their ID cards in the future. Some of the areas they are looking at include secure transactions of pay slips via PDFs on the mail system; the ability to prevent students from using personal laptops in college networks; meeting rooms and lecture room utilization; automation of energy systems – i.e. room automation, PCs, lights and projectors become live when the lecturer logs in; and tracking of library stock.

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ACCESS CONTROL

# A Coat of Many Colors

## Changing the Appearance of Readers to Suit the Decor

**A chameleon is known to change its colors according to the environment in which it finds itself. However, this small animal could not know how relevant its name is to a range of access control products.**

The Chameleon range of snap-on covers from deister electronic, a developer and manufacturer of electronic security and identification systems, can be fitted over the company's wall-mounted ‚proxentry' card readers and numeric keypads to match – or indeed contrast with – the surrounding decor. The modular construction of the non-contact readers and covers enables different combinations of hardware to be used according to need. The European standard electrical back-box has different dimensions to those found in the USA and Japan. The range therefore includes universal readers and suitably sized S-series cover plates to fit the European formats as well as the L-series for the USA and Japanese markets.

The proxentry title covers a range of access control and time and attendance recording products that include 125 kHz readers and transponders, smart cards working at 13.56 MHz as well as those built to the ISO 15693 standard. These latter can be combined with any chosen access control system that accepts either Wiegand or magnetic stripe data (Magstripe). There are also vehicle transponders and long-range readers to enable use in garage/vehicle entry control systems.

### Matching Appearances

A modular Chameleon set consists in each case of a reader, an optional tamper switch plate and the snap-on cover. The design ensures that system specifiers and installers as well can choose freely from the classicprox, mifareprox, Legicprox or advancedprox products and still find a suitable cover to match the surrounding decor. Architects can specify the design of the reader, for example in a look of marble or stainless steel to match the building's internal decor even after the reader has been installed.

Readers and keypads can be flush fitted to standard square or round back-boxes. Surface mounting of the readers is also possible on solid walls using either the AP5 or FM5 frames. These give an aesthetically pleasing appearance to the installation and can also be used to cover larger holes in the wall or to hide previous installations. Status LEDs assist users by either confirming or denying access authorization and are visible through lenses in either the CCS or CCL covers.

The reader cores are square and have a width and height of 80 mm. Behind this the tamper switch plate is either 84 mm square and 7 mm deep for European installations or 84 mm x 111 mm and 8.5 mm deep for the American and Japanese markets. Similarly, the snap-on covers are either 83.15 mm square or 83.15 mm x 110 mm, according to country. With a depth of only 18.5 mm the whole unit does not protrude noticeably from the wall and maintains a sleek appearance.

### Simple and Safe

Installation consists of just three steps. The first is to mount the optional tamper switch plate onto a single back-box. Then the reader is connected and fitted directly to the plate. Finally the cover is snapped onto the reader, completing a simple installation process that takes very little time. The Chameleon series continues deister's development of innovative solutions for access control, time and attendance and vehicle recognition. Importantly an optional detection consisting of a reliable magnet and reed switch combination puts the security manager's mind at ease by alerting to unauthorized alteration of the wiring or other attempts to bypass the system. The snap-on cover can be easily changed by using just a small screwdriver, but any further manipulation attempts will result in an alarm being raised.

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EVENTS

# Infosecurity Europe 2009

## Industry Suppliers Meet Tough New Challenges

**One of the definite growth industries in the current global trade recession is information security, amply demonstrated by the three-day, 14th annual, Infosecurity Europe exhibition and conference, bigger and better than ever at its fresh venue in west London. The move this year from Olympia to Earls Court 1 gave exhibitors and attendees increased educational content, two new theatres and additional visitor facilities.**

Oliver Haines reporting

Serving some 12,500 visitors, more than 300 exhibitors crammed over 6,500 m² stand space with their product and system solutions to meet ever-changing threats and challenges, from viruses, spyware, phishing and artificially intelligent superbots to insiders, fraudsters, identity thieves, hackers and spammers. More sophisticated attacks call for ever more advanced preventive measures and disciplines, ranging from high-level encryption for counteracting data leakage blunders to mobile phone pool security, from foolproof identity and access management to state-of-the-art gateway security solutions that filter out malware before it can enter your network.

So, amongst the largest stands pulling in the crowds with demonstrations were the industry's big-hitters including BT Global Services, Hewlett Packard, Juniper Networks, Kaspersky Lab, McAfee, MessageLabs (now part of Symantec), Sophos and Symantec itself. Leading off a comprehensive programme of thought-provoking talks and seminars involving some 140 experts, former UK Home Secretary the Rt Hon David Blunkett MP described to a packed audience key information security issues hanging over the 2012 London Olympics, including the possibility of total disruption and dislocation via precisely targeted infiltration. "Organised criminals could target a whole range of visitor requirements – from ticketing and transportation to the crucial area of hotel and other bookings, which would severely disrupt, or even wipe out, accommodation reservations."

But Mr Blunkett stated that, globally too, "there still appears to be a woeful level of awareness of the threat of cyber attack, organised crime and the level of fraud, covering government, business and individual consumers and users of the internet". Accordingly, with the policing of the internet being so problematical, the onus is on companies and organisations to defend themselves with the best means available. Yet the recession is likely to be a major factor in IT security purchasing decisions over the next 18 months, with companies looking for less costly solutions that still provide effective protection and a rapid return-on-investment.

Whilst there was the expected emphasis on dealing with external threats, this time many exhibition stands at Infosecurity Europe themed on "managing the human factor" and "who do you really trust in your own company or department"? That opened visitors' eyes to the particular vulnerability and innocence of organisations under threat from, for example, former employees or secretly disloyal or rogue staff. Such supposedly trustworthy individuals are ideally placed to misuse their inside knowledge of the IT system for reasons of financial gain in these difficult economic times, not to mention betrayal, terrorism, devilment or out of sheer ignorance of the implications.

Informing not only all IT security professionals but also facilities managers with wide responsibilities for site or enterprise security at all levels, the Infosecurity Europe event will run from April 27 to 29 at the same venue in 2010. The only certainty is that, by then, the world's IT security landscape will have altered considerably and thrown up many tough new challenges for the industry's suppliers focussed on developing their products and services in response.

**Oliver Haines**

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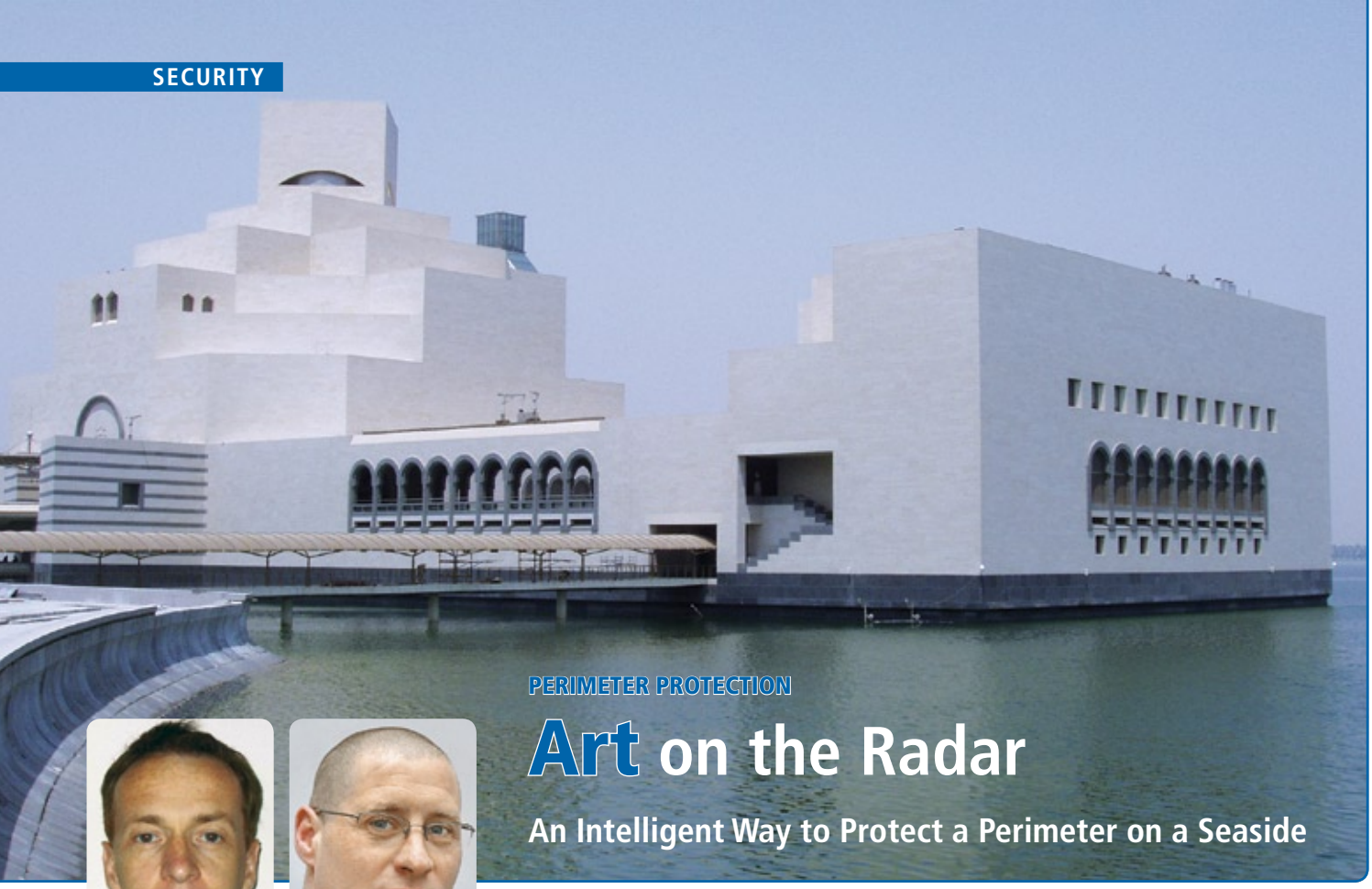

PERIMETER PROTECTION

# Art on the Radar

## An Intelligent Way to Protect a Perimeter on a Seaside

Dr. Stephen Clark of Navtech Radar

Senior Security Consultant Kevin Gausden, Arup Consulting

**Reaching a balance in protecting the valuable artefacts and making the Museum of Islamic Art in Doha, Qatar an open, friendly, and wonderful visual experience, to the visitors and scholars who use it, has been an interesting challenge for the project planners. The result is that they have chosen to implement one of the world's most sophisticated state of the art surveillance and security technology systems. Approaching the new iconic building of the Museum from the seaside, you could therefore easily be forgiven for overlooking the four small radar pods on the wall of the building. Mounted approximately 3 m above low tide water level, the pods blends so well into the architecture and colour scheme of the building, that only the trained eye instantly spots them.**

The architecture has been inspired by Islamic motifs, and not only is the Museum of Islamic Art one of the most important museums in Qatar, it is also one of the most iconic and beautiful buildings in the Middle East. Designed by world-famous architect Leoh Ming Pei, the Chinese-American architect, who also designed the (controversial glass) pyramid in the Louvre in Paris, the museum, which opened last year, is aimed as a major source of information on Islamic antiquities

From the seafront the five floor building seems to raise straight out of the water. Welcoming visitors with a reception hall, shops and restaurants on the first floor, the second, third and fourth floors include permanent exhibition halls with the general administration located on the 5th floor. The 45,000 $m^2$ building complex is situated on the southern part of Doha's seafront (Corniche) on an artificial island about 60 m off the coast of Doha. A crescent cape has been added to the Island to act as a northward tidal barrier and to block the eastward industrial buildings from the view. Exploiting nature's organic patterns, combined with the minute man-made designs of this artificial island, has rendered the location an ideal one and visible from all directions. Overlooking Doha's lagoon from the west it even has its own marina providing mooring for guests. At night the entire complex is lit with flood lights 20 m high which makes it visible from quite a long distance across the lagoon.

### Surveillance for Seaside Approach

But how do you protect the museum and its valuable collections from intruders approaching

Navtech developed a new housing for the Radar in keeping with the architectural requirements

**General Data about the Museum:**

| | |
|---|---|
| Total built-up area | 45 000 m² |
| Max height | 60 m |
| Total Exhibition Area | 3 000 m² |
| Temporary Galleries | 870 m² |
| Study Galleries | 400 m² |
| Library | 820 m² |
| Conservation & Study | 400 m² |
| Collection Stores | 1 800 m² |
| Auditorium (167 seats) | 230 m² |
| Restaurant: | 560 m² |
| Shop | 300 m² |
| Marina | 4 boats |

Radar on the edge of the building of Museum of Islamic Art

from the seaside? Fencing is clearly out of the question and you need to take into account that the lagoon is also used for recreational purposes with lots of swimmers, surfers and jet skiers enjoying the bay. The security design consultant turned to Navtech Radar – a company specializing in development and manufacturing of highly effective millimetre wave (MMW) radar sensor solutions for outdoor applications within security and surveillance. Senior Security Consultant Kevin Gausden from Arup Security Consulting was previously employed by Quadrant Security Group during 2004/5 to work on the specifications for the project and he explains the design of the RADAR (RAdio Detecting And Ranging) System solution in more detail: "During the design phase of the Museum of Islamic Art, many aspects had to be considered. The Museum was constructed on reclaimed land and it was detailed that sea water would surround the entire museum. This prevented any form of physical barrier such as fences etc. Proposals such as floating pontoons and boons were considered but were rejected by the Architects and the Government as they would not be in keeping with the design. The design process considered Laser Detectors mounted at high level on the exterior

walls, but as the sea was tidal the use of this type of technology would be problematic with false alarms".

Quadrant Security Group was approached by Navtech and a demonstration of the Radar was set up in the car park at the Watford HQ. The demonstration was undertaken utilizing one PTZ (Pan Tilt Zoom) camera and one radar unit, and the demonstration was a complete success. However, the project needed four radar units and fourteen external PTZ cameras all to work together as one system so as to provide complete 360 degree detection and CCTV coverage. This was discussed with Dr Stephen Clark and he agreed to review the development of the units to the specific project requirements. This development was carried out over several months and the development was extremely successful. The system can track a Jet-Ski radar to radar and camera to camera around the total perimeter of the museum without loss of contact with the object being tracked.

The original radar housing design was not architecturally pleasing, so although the unit provided the right solution this aspect lead to further discussions with Navtech on the redesigning of the housing for the radar. Dr Stephen Clark and his team produced multiple design drawings until an agreed design was accepted by the project architects which is the housing that is used today by Navtech. So, not only did Navtech develop their product to meet the technical requirements but they redesigned the housing to meet with all the architect's aesthetical requirements and assisted with making this project a success. Although the radar requires its own front-end control computer and could not be operated by the Synergy Pro Computer the alarms from the Navtech system were integrated using High Level integration and were displayed and controlled by the Synergy Pro System. Navtech provided a standard RGB Video Output and this was connected to the Synectics Video Matrix and DVR which allowed the radar tracking images not only to be displayed on the video wall but also recorded on the DVR. Radar Systems are limited by line of sight; however the Radar system was the only solution that was a viable option on this project.

## Tracking Intruders in Zones

Dr. Stephen Clark of Navtech picks up the story. "The 4 radars each cover different detection zones and between them they control 14 CCTV cameras. If a single intruder is detected in a zone the radar will switch the nearest CCTV camera to follow that track. Should a boat or other intruder be detected in the overlapping area between 2 zones, both cameras will be directed to follow. If many intruders are detected in a single zone, the system has been configured to track them all, but direct the camera to follow the closest track to the museum. The rationale is that the closest track is probably posing the greatest threat. Each radar processor will generate 'tracks' for the objects that are moving in its field of view."

Track information is available over the 3rd party interface to the Security Management System and includes track range, speed and heading. Since the radar are on the edge of the building, the track range and bearing can also be used to find the distance to the building itself. This is helpful when the control room operator decides what response to raise. It is further possible to filter the tracks when raising alarms to the operator. This is done in order to minimize false alarms. Effectively the system 'learns' to distinguish between tracks heading towards the museum and tracks which are not.

As for intercepting approaching intruders, we mentioned that the museum complex also includes a marina which is located to the north side of the building, primarily intended for VIP use. However, the docking area is also used for changeover of the personnel in the 2 rescue boats, which are constantly at sea during the Museums opening hours, so they can quickly be directed to the position of an intruder as flagged up in the control room.

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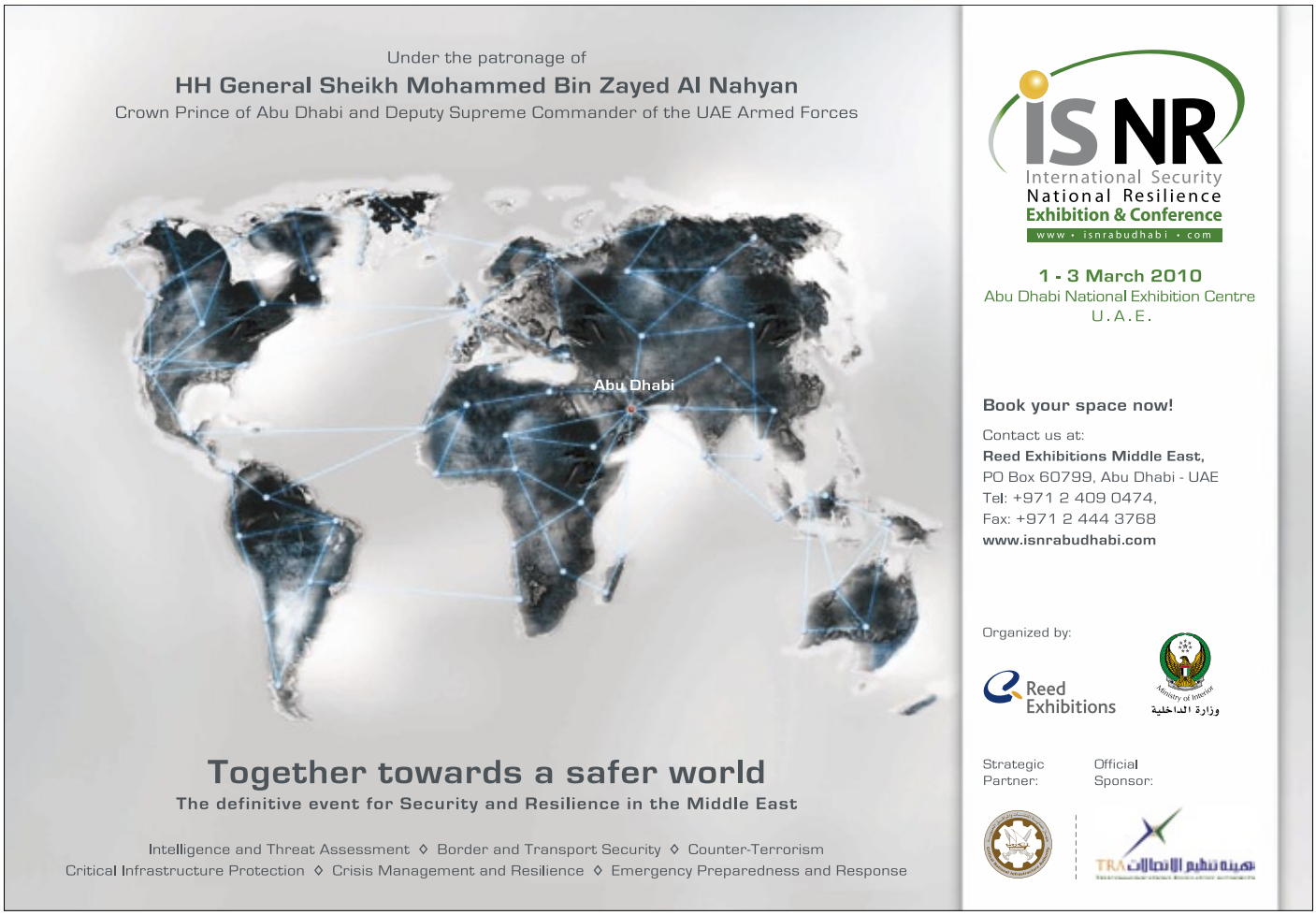

PERIMETER PROTECTION

# Warning of Trouble

## Perimeter Security from Spain

Francisco Fuster

**Perimeter security is a market seemingly without a growth limit and, with continually rising levels of breaking and entering, an increasingly important element of any comprehensive building or area security system. Matthias Erler of GIT SECURITY spoke to Francisco Fuster of Bunker Security about their products that provide an early warning of trouble.**

**GIT SECURITY: Mr. Fuster, could you give our readers an impression of the range of products and solutions that your company is offering?**

**F. Fuster:** Bunker is specialized in the manufacturing of enclosures in the form of towers and garden lamps that are fitted with active photoelectric beam sensors. Our policy is to keep large stock levels that allow us both to meet customer orders immediately and also to be flexible to the demands of customized solutions for specific projects. Our clientele have freedom of choice to either mount their preferred photoelectric beam sensors inside our beam towers or to choose a completely integrated beam tower system equipped with the QBT200m Quad Beam sensors. The company is therefore oriented to the perimeter protection niche by providing solutions that allow our partners to enhance their business opportunities as well as providing installers with practical and effective products.

**What are the main advantages and specialties of your systems?**

**F. Fuster:** Perimeter protection systems can often consist of expensive and laborious installations. Bunker's beam towers on the other hand are designed to be deployed rapidly. They have proven to be an ideal alternative for the protection of areas in which the emphasis is placed on detecting intruders before they get inside the area to protect, as opposed to systems, which set off an alarm only when intruders are already inside. The key here is that there is a longer time available for security guards, police and homeowners to respond whenever an intrusion occurs as we are concentrating right at the primary line of defense. The system can, for instance, even be activated during the day while people are at home or at work, avoiding the nuisance of alarms resulting from people's movement inside a house, a factory or other building while still protecting the perimeter. The beam towers camouflage the number and position of the infrared beams fixed inside, making it impossible for the intruder to locate them. The easy integration in any given environment where these enclosures are installed helps to provide a discreet but elegant solution ideal for protecting perimeters around villas, warehouses, oil compounds, airports and similar places. Bunker's model PT double sided beam tower can also be equipped with a special top (PT-LUX) that provides illumination, making its presence even more discreet in areas where aesthetics are highly important. The ability to fix CCTV cameras on top of the PT beam tower (PT-CCTV) adds even more value as it enables monitoring of the installation as well as being able to record and capture images of any attempted theft that may take place.

**Who are your main customers – in which industry sectors and markets are your major activities?**

**F. Fuster:** Bunker's commercial emphasis lies in creating strong bonds with renowned security distributors and wholesalers that are oriented towards the anti-intrusion sector. Distributors, system integrators and installers who concentrate on outdoor perimeter protection represent the most demanding share of this particular market.

**In which countries are your systems available?**

**F. Fuster:** The situation is constantly changing as projects that call for these solutions come from countries all around the globe. The Middle East has proven to be an emerging market for such security systems, and it is also worth mentioning the increasing demand coming from Asian countries.

**Could you describe some typical applications of your security products?**

**F. Fuster:** Solar panel enclaves that have been so popular over the last 2 years across Mediterranean countries have emerged as demanding sites where good perimeter protection is required. The expensive equipment employed in solar panels arrays, together with the fact that these are mostly unattended, calls for a security system that can detect real intrusions and avoid false alarms originated by other security systems that are not as exact as infrared detection.

**How is the distribution of your products organized? Where will your potential customers find your security products and solutions?**

**F. Fuster:** Major distributors have access to Bunker's range. We are proud to say that our product range can already be found in the websites and catalogues of leading security distributors in several countries around the world.

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## 4-channel Video Encoder with H.264

Axis Communications introduced a high-performance, four-channel standalone video encoder with H.264 video compression. The full-featured Axis Q 7404 Video Encoder integrates four analog CCTV cameras at a time into an IP-based video surveillance system. "Axis Q 7404 provides outstanding performance with multiple, full frame rate video streams in all resolutions from all four video channels," Baraa Al Akkad, Regional Manager Axis Communications, ME. It "further delivers superb video quality and significant savings in bandwidth and storage with H.264. The video encoder provides a cost-effective way for analog CCTV systems to get the benefits of network video without having to replace analog surveillance cameras. Users gain remote monitoring capabilities, powerful event management and improved scalability."
www.axis.com

## Intelligent PTZ Network Cameras

Sony Professional has announced its HD pan-tilt-zoom (PTZ) IP network security cameras. The cameras are part of the new SNC-RH series camera lineup and have the ability to pan 360 degrees, while capturing and streaming HD video at up to 30 frames per second. The series is the most advanced range of the company's IP-based network security cameras. The new models – the SNC-RH124P for indoor use and SNC-RH164P for outdoor use – are the first in their class capable of transmitting HD images using H.264 video compression technology. This allows the transmission and storage of digital video using less bandwidth than previous video compression solutions. As a result images from the cameras can be easily connected to a network server, such as the company's NSR-1000 Series, and displayed in high definition, offering the highest quality image representation.
www.sonybiz.net

## Approved from LPCB, BSI, and VdS

C-Tec is celebrating its new status as the only fire alarm panel manufacturer to obtain third-party product certifications and factory process approvals from three major independent approval bodies, the LPCB, the BSI and the VdS. Approval by the British Standards Institute (BSI) was achieved in 2006 as a part of an assessment of the firm's sounder isolator. This was followed in 2008 by official recognition by the Loss Prevention Certification Board (LPCB) during evaluation of the company's XFP fire alarm panel and EP203 automatic extinguisher panel. Finally, in January 2009, Germany's independent testing and certification institution, the VdS, completed a successful factory audit as part of the assessment of a new range of EN54-4:1997/Amendment 2:2006 compliant power supplies.
www.c-tec.co.uk

## Chemical Substance Identification

GE Security announced that its Homeland Protection business has introduced Streetlab Mobile – a device that identifies unknown substances. The Raman Spectroscopy-based device's chemical substance identification capability will soon be complemented by the addition of biological substance identification capability. The biological identification upgrade is expected to make the device the first combined chem-bio detector. It is handheld, portable and user-friendly. It will be able to reliably identify a broad range of chemical and biological substances in liquid, powder and solid forms when later completed with the bio component. Presently, it is capable of identifying more than one thousand potentially dangerous chemicals, including toxic industrial substances such as formaldehyde and liquid and solid explosives, as well as the chemical components of common explosives.
www.gesecurity.com

## Mobile Tool Chest

The combat-ready 0450 Mobile Tool Chest built by Peli Products specifically for the USA military as the GMTK (General Mechanics Tool Kit) is now being introduced for civilian use. The product's structural grade, open-cell core, polymer construction will protect tools from the harshest conditions on Earth. With the ability to hold up to 45 kg, the case has been tested to meet and exceed 96 demanding military standards that include high impact, extreme temperatures and submersion. The tool case combines the flexibility of 7 removable tool drawers (6 shallow and 1 deep) designed for a multitude of configurations with the mobility and benefits of a Peli Protector Case.
www.peli.com

## Fingerprint Access Control

Suprema's Bioentry Plus is an IP based fingerprint access control device. Integrated with both fingerprint and proximity card, it covers a full range of access control applications from a simple standalone door control to complex networked access control systems. It features fast and accurate fingerprint identification with an award winning fingerprint algorithm: 1:2000 fingerprint identification in 1 second; easy installation and connectivity with an Ethernet interface for TCP/IP communication, a Wiegand output configurable up to 64 bits, and an internal relay for direct lock interface. It has a built-in RF card reader for different user authentication modes (fingerprint and/or card).
www.supremainc.com

## Video Recording Capability Added

Brivo Systems has completed a 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. OVR Webservice was launched at ISC West, and entered into the SIA New Product Showcase. The company built the video hosting platform in response to what it sees as a large, under-served market for Video-as-a-Service, particularly among small businesses and geographically distributed enterprises with widely dispersed assets. "OVR WebService is the first and only fully integrated, online access control plus video service," explained Steven Van Till, Brivo President and CEO.
www.brivo.com

## Networked Video Surveillance

Genetec announced the release of a new version of its IP video surveillance solution, Omnicast. With this latest release of version 4.4, customers can experience the advantages of the integration with the Autovu Sharp, the company's license plate recognition (LPR) device, full support of Axis' H.264 product line and Sony's 4th generation of IP cameras. Customers can also benefit from the integration of many other fully supported hardware extensions from numerous technology partners such as Optelecom-NKF, Panasonic, Arecont, Iqinvision, Pelco, GE, amongst others. One of new additions is its recent integration with Genetec's LPR device, the Autovu Sharp.
www.genetec.com

## Polycarbonate Inlays for Security-critical Applications

KSW Microtec has presented its range of HF and UHF polycarbonate inlays for security-critical applications in the government and enterprise ID sectors at CTST 2009 in New Orleans. Government applications and identification in general are fast growing markets for the company, that is seeing even greater future potential in this sector. Its technology and capacity for innovation has brought to market ultra thin HF and UHF pre-laminates, which are specially suited to government and security applications. As a result the polycarbonate inlay for Mifare family cards are increasingly seen in the production of ID cards. Unlike a traditional PET inlay, this new product is easily laminated into a polycarbonate card, ensuring a matching material connection.
www.ksw-microtec.de

PERIMETER PROTECTION

# A Pillar of the Community

## Italian-made Perimeter Security

**The job of the buyer is often not one to envy. They are expected to source the best possible quality for the lowest possible price while ensuring speedy and reliable delivery. Skilled buyers of security equipment of course look outside their own country borders and will certainly already know of Sicurit Alarmitalia.**
**For the rest of us, Matthias Erler of GIT SECURITY interviewed Sebastiano Vento to find out more about the Company and its products.**

Sebastiano Vento

**GIT SECURITY: Mr. Vento, Sicurit Alarmitalia is one of the leaders when it comes to professional outdoor protection. What are the major benefits of your Company and your product range?**

**S. Vento:** I would say there are three keywords to answer that question: quality, versatility and innovation. Sicurit has been a manufacturer of security equipment for over 30 years and, during this time, has grown and become respected as a very reliable and technologically advanced member of this market. Today, we provide state-of-the-art outdoor perimeter solutions for a large number of different applications all over the world. The security market demands the highest levels of manufacturing quality and support. The accumulated knowledge and experience of our engineers helps us to serve our customers very well. We pay detailed attention to our manufacturing processes, starting right at the choice of raw materials and carrying on through to our exhaustive quality testing. Sicurit maintains quality according to ISO 9001/2000 certification at our development and manufacturing base close to Milan in Italy. We strongly believe in after-sales support and are able to provide customized technical advice according to need. For example, we can hold training sessions in our test field, or our engineers can provide supervision during the startup phase of a newly installed system. We know that our customers appreciate this facility, and that makes them happy to work together with us.

**Can you tell our 20,000 readers about some of the applications where Sicurit is installed?**

**S. Vento:** I am tempted just to say „No", for security reasons, but I can say that Sicurit is a trusted supplier of perimeter security products that have been installed in many highly sensitive areas. You will find our equipment in use at airports, around government compounds, securing financial institutions, protecting electrical and nuclear facilities, surrounding military bases and correctional facilities but also in domestic installations. We can provide many references of use at government, military as well as industrial locations. In all these situations, we have ensured the maximum availability of our personnel, both pre and post sale. This has helped us to achieve the trust of major players in the security market, stretching from the U.S.A. to Australia, including all of Europe and also covering parts of Asia.

**What special technology solutions do Sicurit use?**

**S. Vento:** We have recently introduced a new system of synchronized, coded and bi-directional active infrared beams called IMN. This innovation is used in the new Absolute Plus barrier, and because this represents a clear advance in the development of technologies at the forefront of perimeter security, we have patented the technique. The new IMN IR beams use a method of bi-directional optical code transmission with random secure codes. Each optics transmitter sends a continuous modulated beam to the opposite receiver which is tuned to recognize only its own signal. Once confirmed, an adjacent unit (a transmitter) will then send a new secure-code back to its receiver. The bi-directional property of the system enables IMN beams to be totally immune to direct sunlight, which is often the cause of nuisance alarms in traditional infrared beam barriers. The sophisticated analysis circuit can discriminate against false alarms with a far greater accuracy than in traditional systems.

**Is there one product that you would specifically like to mention?**

**S. Vento:** Yes. Sicurit constantly strives improve high-security perimeter protection by combining available technologies, as well as by developing new ones. This approach results in a very high detection capability and simultaneously a drastic reduction of nuisance alarms caused by environmental aspects. We are proud to offer the results of our research in a highly sophisticated barrier called the Absolute Plus. This is a dual-technology modular barrier that combines active microwave and infrared systems within one unit. Different versions are available for ranges of 50 m, 80 m and 200 m as well as to cover different heights and configurations, according to the requirements of the particular site to be protected.

**Thank you for providing us with this insight into Sicurit Alarmitalia.**

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PERIMETER PROTECTION

# The Overlooked Aspect of Airport Security

## Perimeter Protection as an Integral Part of a Security Concept

**There is widespread agreement that the increased focus on security at airports all around the world since the terrorist attacks of 9/11 in the US is justified. A familiar scene in airports across the world is of people removing shoes, keys, laptops, liquids and aerosols in order to pass through security check points. Baggage is scanned and passengers are screened for explosives. Most people agree that these are all necessary security precautions and they contribute greatly to maintaining the travelling public's confidence in the security and safety of air travel.**

### Passenger and Baggage Screening Is not the Total Security Picture

It's fairly obvious that the perimeter security of an airport would be considered both a fundamental and critical aspect of any airport security strategy. Yet the lack of progress in this area of security is completely at odds with the dramatic changes seen in passenger screening. We need to question why it's taking so long for airports to implement perimeter security measures to bring them up to a comparable standard of other protection initiatives. Globally, perimeter protection at airports seems to remain the 'poor cousin' to the passenger security and it's a growing cause for worry, warn security experts.

According to USA Today, Governments and businesses worldwide increased their security spending to thwart terrorists nearly sixfold between 2000 and 2006, and security spending was expected to nearly double from 2006 to 2010. During this time, airports have also found a variety of ways in which to increase profits. Aircraft landing charges now account for just 10–20% of an airport's revenue while 50–60% or more of an airport's income, on average, is derived from car parking, retail outlets and rent. Could this disparity between the various sources of income for airports explain the corresponding difference between spending on the different aspects of security within airports?

Or are security managers being blocked by upper management in the misguided belief that perimeter security is a luxury and really not a necessity? Between October to November last year, 39 incidents of sabotage, attacks, unruly passengers and incidents occurred in airports and airplanes across the world. While the majority of these did not present major threats to the security of the aircraft, some did have the potential to do so. In December last year Stansted, London's third airport was brought to a standstill after protesters belonging to the Plane Stupid environmental campaigning group breached security fences and occupied the runway. They had cut through the perimeter fence and wandered onto the runway unhindered, remaining on the tarmac for five hours. Scores of flights had to be cancelled and thousands of passengers had to make alternative travel arrangements. The airport is now facing huge fines, and in light of the breach the British Civil Aviation Authority has announced plans for a new system of penalties in an effort to improve services and security at Stansted. Another incident – this time in the US – resulted in the arrest of a man who climbed the perimeter fence and wandered onto one of the runways at Salt Lake International Airport.

In an unpublicised example at an international airport, 'decorative' work was carried out completely undetected overnight on parked planes by graffiti artists. The three Airbus sized aircraft were immediately quarantined while aircraft engineers inspected them both internally and externally for other physical damage before they were certified to fly to a maintenance facility for repairs. Repair costs and lost revenue were well in excess of a million dollars. Perimeter security systems were immediately installed. These examples of perimeter security breaches demonstrate how easily a potential danger and security risk can occur.

### Unprotected Perimeters Mean Unprotected Planes, Pilots and Passengers

The ramifications of direct sabotage and breaches such as the above, incur significant financial costs and penalties to the airport, plus an ongoing loss of passenger confidence and trust. Such events will continue to occur in airports across the world, until a more holistic and complete approach to airport perimeter security is implemented. Perimeter security is all about deterrence, detection, assessment and action and, as every airport is unique in its physical layout and surrounding terrain, the way in which the perimeters of airports are protected also needs to be specialised to suit each airport. Runway layouts, staging areas and terminal buildings differ in design and layout – all of which affect sensor and sight lines. The terrorist threat remains the prime concern at all major airports. Almost without exception the threat is perceived to lie inside the terminal, where sophisticated security measures are in place to hopefully thwart any eventuality. This notion ignores the larger, and possibly more terrifying threat outside. While security inside the terminal focuses on apprehending a terrorist in the lead up, the physical security of the larger airport complex requires officials to catch terrorists in the act.

### An Airport Perimeter Is too Great for Any Patrol to Cover Effectively

The flightline, airport complex, maintenance and sub-staging areas present a security concern that cannot be countered with security officials on the ground. Advanced wide area surveillance

systems using ground radar, thermal, fibre optics and CCTV cameras are the only answer. Security begins beyond the fence. Traditional methods of protection include fence systems and fence alarms. The major flaw in these systems is that when a fence alarm sounds the security breach is either in progress or has already occurred. This technology is also prone to false alarms and most systems provide no tracking, assessment or situational awareness capabilities, making it impossible for ground staff to identify point of access or egress until too late!

A diverse range of technologies is currently available for perimeter security at airports, varying greatly in the effectiveness, affordability and accuracy. The major requirements are:

- Ability to accurately pinpoint the location of intrusion (ideally to within 25 metres)
- Immediate intrusion notification to allow security personnel to assess the threat, track movement and react
- Minimal nuisance alarms
- Minimal reliance on manpower
- Ability to work with other (perhaps existing) technologies

Regardless of the system in place, the need for adequate warning and a response mechanism for an unwanted intrusion is essential and it is not sufficient to simply know a breach of the perimeter has occurred. There are a number of solutions available to support airport perimeter protection:

- Radar and thermal imaging: Radar and thermal imaging technologies are newly developed detection and tracking solutions. The two technologies work in very different ways, but a key benefit of both is that they allow suspects to be spotted and tracked as soon as they enter pre-defined zones. This means that potential intruders can be monitored while they are still beyond the perimeter, and they can be tracked if they cross it.
- Taut Wire: Taut wire signals movement or tampering.
- Fibre Optics: An ideal perimeter protection solution for airport perimeters is a fence mounted fibre optic detection system, linking back to the main security centre and ideally interfacing to CCTV cameras to provide visual confirmation to staff so they can determine the exact nature of the intrusions or threats they face. Fibre optic cable is often fence-mounted and is designed to detect and pinpoint the location of intrusion anywhere on the airport perimeter fence. Fibre optic solutions can work with a Graphical User Interface (GUI) command and control system that provides real-time reporting of intrusion. The technology can integrate with existing security systems, such as access control and CCTV, to centralise security monitoring for the entire facility. Importantly, fibre optic technology operates in all weather conditions with no change in sensitivity and virtually no nuisance alarms. As well it requires no electronics or power in the field. It is easy and economical to install or expand and no field maintenance required is an added bonus. Future Fibre Technologies (FFT) has two fibre optic security solution products – Secure Fence and the newly launched Secure Zone. The Secure Fence system is installed at many international airports and FFT expects strong interest also for Secure Zone. Both products works with the company's patented Alarm Recognition and Discrimination (ARaD) technology. They are able to detect a fence climb, cut or lift – even when they occur during natural events, such as storms, strong winds, and tropical downpours, thereby virtually eliminating the incidence of nuisance alarms. An ideal perimeter protection solution for airport perimeters is a fence mounted fibre optic detection system, linking back to the main security centre and ideally interfacing to CCTV cameras to provide visual confirmation to staff so they can determine the exact nature of the intrusions or threats they face.
- CCTV: CCTV refers to the video system of a collection of CCTV cameras and surveillance that act as virtual barriers and assess the situation. The use of television cameras for close scrutiny and observation allows for accurate identification of threat.
- Access Control System (ACS): ACS manages various combinations of entry, exit and movement within sterile and non-protected areas. ACS is a subsystem that supports intrusion detection systems.
- Volumetric Sensing: Volumetric Sensing monitors the physical space adjacent to fence lines for system penetration.

## Conclusion

In the Future it is predicted that the increase in efforts and budgets to combat security threats and protect airport perimeters will see more large system integrators entering the security market and forging partnerships with smaller niche companies to offer airport operators greater benefits. Like all security systems, they are only as strong as the weakest link. For this reason, it is pointless to have the Government via Dotars spending millions of dollars per year in passenger screening whilst perimeter security consists of little more than a chain mesh wire fence. Without adequate perimeter protection systems in place, airport operators are leaving themselves open to significant financial risks. Should a more serious event occur resulting in loss of life or property, there could be substantial legal implications – especially if it could be shown that the airport operator and/or Government was negligent in this area.

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AIRPORT SECURITY

# Integrated Total Solutions

## How to Protect Infrastructures in a Changing World

Biometric Passenger Process

Matthias Rebellius, CEO, Fire Safety & Security Products, Building Technologies Division

Peter Loeffler, Head Lifecycle Security, Security Solutions Building Technologies Division

**The world is affected by the four megatrends demographic change, urbanization, climate change and globalization. Building Technologies Division provided answers at the Siemens Airport Center to questions as to how people, the environment and important infrastructure facilities can be protected.**

Personal security as well as the proper functioning of private and public infrastructures are gaining importance in our globalized world. This is especially true at airports, in which high standards of mobility, security and optimum workflows are expected. Airport operators bear tremendous responsibility for proper functioning of the operating processes and ensuring the security of passengers, staff, the infrastructure and transport of goods. The increasing automation of many complex processes and meeting legal requirements thus require flexible management systems for secure and efficient operation at airports.

As a response to these requirements, the Building Technologies Division (BT) provides a broad portfolio for security and building automation. "Our solution competency when it comes to integrated technologies is at the center of our offering," explained Matthias Rebellius, CEO Fire Safety & Security Products, to numerous trade journalists from throughout Europe during their visit to the Siemens Airport Center in Fürth near Nuremberg. "Because the approach of using consistently networked system worlds keeps investment and maintenance costs to a minimum and ensures secure efficient operation," Rebellius continued.

### Protection Without Gaps

Security plays an important role in almost all areas of modern air transport. It is the prerequisite for people feeling safe throughout their entire journey and for the airport operators to be able to protect all operating and value chain processes without gaps. This ranges from efficient and transparent passenger, luggage and cargo check-in procedures to air transport management and general airport operation. BT provides comprehensive solutions and services for all functions within buildings including systems for fire protection, evacuation, access control, video surveillance, alarm management, energy management, automation systems to control HVAC (Heating, Ventilation, Air Conditioning) in rooms as well as electrical installation technology.

Airport Operation Center SAC

These combined solutions (Total Building Solutions) are ideal for airports, in which technology competency from a single provider generates exceptional customer benefits.

Wide distribution of video surveillance devices has caused an increased need for intelligent image analysis and display methods. BT has developed an intelligent security platform within the Siveillance line to record, analyze and combine with command and control features all safety relevant data in an automated manner. The system recognizes specific and predefined events on its own and displays all relevant images and support required to make decisions in a targeted way. As compared to conventional video surveillance systems, security personnel can reliably assess events in real time and trigger suitable measures immediately. "We are thus paving the way for new situational awareness of all security related risks," explains Peter Loeffler, Head Lifecycle Security, "because surveillance is made much more efficient and requires less personnel."

## Recent Projects in Norway and India

This type of solution was implemented last year in the Bodø airport in northern Norway. The airport authorities use this to monitor all critical zones including the check-in and security check areas and to record critical events on video. In addition to this, the solution controls access authorization for transportation vehicles in the protected airport area using license plate recognition.

For the recently opened "Bengaluru International Airport" in Bangalore, India, Siemens provided an integrated solution for building and security management, luggage conveyor systems, air strip lighting, power supply, IT and communication. Building Technologies was significantly involved with an order volume of around three million euro. The installed systems include building automation systems for efficient HVAC control, a fire alarm system (with 1,800 smoke detectors and alarms), an access control system, video surveillance, intrusion alarm system and an intercom and voice alarm system. The systems are integrated in an overall management system, which serves to inform staff of all alarm and error messages for targeted intervention.

An airport is attractive for the operator and investors if passengers and staff members feel comfortable and safe, and systems and operating procedures work without problems. Integrated operating and service activities from Siemens provide maximum availability of all systems during the entire lifecycle of the building. This serves to practically reduce system downtime and idle times to zero. This is important to airports because system failures can cause many inconveniences such as frustration, stress, overtime, loss of image and can cause enormous additional expenses for airport operators and airlines alike.

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### Security Management Software Packages

Maxxess Systems has unveiled two security management software packages designed to create new business opportunities for installers. Eyxxess equips installers and integrators to be able to offer their clients cost-effective and easy to implement integration of access control, badging and CCTV systems. A key benefit of the CCTV integration is the simultaneous connection, control and display of DVRs, NVRs and IP cameras. Eaxxess allows end-users to choose a DVR which has the features and functions they need, regardless of who the manufacturer is, and still enjoy the full benefits of integration. Integration plus, the company's latest security management software package, will benefit security system integrators involved in large or complex projects. It comprises a growing number of security application software modules.
www.maxxess-systems.com

### Flight Management System Updated

GE Aviation announced the Federal Aviation Administration (FAA) certification of the flight management system (FMS) software Update 10.8 for Boeing Next-Generation 737s. The new software is standard fit for all 737 production airplanes starting February 2009. "GE's flight management system is an example of how we're helping operators to reduce costs, while improving performance as it relates to on-time arrivals and less fuel, emissions, noise and less through-life cost," said Lorraine Bolsinger, president and CEO of GE's Aviation Systems. "We continue to work with customers and government bodies around the world in order to implement the technology and procedures necessary to reduce an airplane's impact on the environment."

### Dynamic Workspace

Dvtel announced the release of the intelligent Security Operations Center (iSOC) Version 6.0. The company is now promoting a new concept in the physical security space – The Dynamic Workspace. Its Isoc V6 management platform and plug-in architecture allows for the customization to meet the exact needs of customers. In today's demanding environments, it is necessary to quickly respond to security threats and breaches. Situational awareness and agility can only be obtained through a dynamic workspace solution. The dynamic workspace will allow specific users within the organization to tailor their security operation center to their specific objectives and allow immediate intelligent action while reacting to a threat or situation.
www.dvtel.com

### Fiber Transmission Solutions

American Fibertek is unveiling a host of new products to complement the company's comprehensive line of fiber optic transmission solutions designed specifically for video surveillance and security applications here at ISC West 2009. Highlights include new video transceivers with features like 10-bit digital video transmission, integrated digital fiber optic and UTP transceivers, enhanced Ethernet transceivers, bi-directional communications, multi-channel capacity for video with data, Ethernet and audio with remote monitoring capabilities, as well as unique new contact closure systems that do not require any soldering. "Building on our core foundation of fiber optic technologies, these new additions offer a greater variety of transmission tools that are essential for today's advanced IP, analog and hybrid video surveillance and security installations, " said the company's President and CEO Jack Fernandes.
www.americanfibertek.com

### Dunsfold Park Deploys Radar Vision CCTV

Dunsfold Park, a large 600-acre aerodrome site near Guildford in Surrey that's home to a wide range of tenant businesses and the location for a variety of aircraft operations – as well as filming work including the BBC's popular Top Gear programme – is being protected by Ganz's dual-purpose Radar Vision system. This combines compact, high performance radar detection with any Ganz Allview CCTV camera. The Radar Vision system provides early detection and monitoring of trespassers, along with 360°/second camera tracking.
www.cbcuk.com

### Fixed Thermal Imaging Camera

From fog to foliage to total darkness, there's nowhere to hide with the new Pelco TI 2500 fixed thermal imaging camera. Delivering 24/7 video security and protection, the system is suited for the most critical applications. "Pelco's range of thermal imaging cameras are an ideal choice for any installation that requires the ability to secure an area irrespective of the lighting conditions," says Pelco Product Manager Alex Doorduyn. "Furthermore, it offers the additional benefit of avoiding the need for good lighting to secure an area, saving the user energy bills and prevents 'highlighting' those assets that require protection." With the ability to look at any structure and see the slightest shift in temperature, the system instantly spots leaks, ruptures, hotspots, animals, or intruders.
www.pelco.com

GAS DETECTION

# Choosing the Right Gas Detection System

## Closer Inspection of Specification, Functionality and Features Reveals Major Differences

Gemma Bayless

**There are many gas detection products on the market that might appear to be the same, but a closer inspection of specification, functionality and features reveals major differences in what products can do and the potential benefits they can offer.**

Similarly, individual applications, plants and businesses are also unique in their respective designs, unique in their specific needs and processes undertaken and unique in the type of safety system they choose to implement. Any company employing personnel has the obligation to conduct risk assessments to identify potential hazards associated with its field of activity. These risk assessments may identify potential gas, vapour or Oxygen deficiency hazards and a suggested risk reduction method may be the use of gas detection equipment. As Honeywell Analytics' Strategic Marketing Manager for Industrial Products, Kevin Dean is well-versed in helping prospective end-users find the best gas detection solutions to meet their needs. "Although there might be similarities between applications, a variety of other variables mean that each plant has unique needs. The key to helping a customer select the right equipment comes down to asking the right questions and ensuring that everything has been considered."

### Identifying the Prime Objective

Gas detection equipment is used to detect flammable and toxic gas releases and also to protect plant and personnel. This type of equipment can undertake a number of tasks including activating audible and visual alarms for building evacuation or initiating plant / process shutdown. Depending on the processes being undertaken and the gases being detected, remote or offsite alarm notification plus event data logging / reporting may also be required for Health and Safety management records. Another factor impacting on the need for enhanced reporting functions might be regulatory compliance or a condition of insurance. Knowing the prime objective and motivation for having such equipment is the first step in selecting the best solution.

### Ask the Right Questions

Having identified the primary objective, the suitable equipment is selected by asking a number of key questions. These fall into three broad categories:

- The gases to be detected and where they may come from
- The location and environmental conditions where detection is to take place
- The ease of use for operators and routine servicing personnel

The answers to these questions will have a direct impact on the proposed solution and the associated costs to supply and maintain that solution.

### The Gases to Be Detected and Where They May Come From

The gases to be detected should be identified by risk assessment, although experienced gas detection equipment manufacturers are often able to help in this process, based on their experience of similar applications. However, it is important to remember that it is the end user's responsibility to identify all potential hazards.

There are three main types of gas risk:

- An explosion from a flammable gas
- Poisoning of personnel from a toxic gas
- Asphyxiation from an inert gas

Kevin Dean explains the process used to identify the risks associated with certain gases. "The gas

detection vendor uses published data to identify whether a gas is flammable, toxic or an asphyxiate and the relative levels at which it could cause a hazard. An ideally suited gas detection solution aims to detect and alarm prior to dangerous levels being reached. The same published data gives information as to whether the gas or vapour is lighter or heavier than air, as this will affect the selection of sensor positioning at the points of detection." It is also essential to identify the potential source of a gas release as this helps determine the number and location of detectors required for a fixed gas detection system. In instances where the source of gas release is not known, portable gas detection equipment worn by site personnel may offer a better solution.

Some typical gas sources include:

- Natural occurrence, e.g. Methane and Hydrogen Sulphide from the decomposition of waste
- Leakage from a supply pipe or storage tank, e.g. piped natural gas supplies
- Emissions from a combustion process, e.g. Carbon Monoxide from a car exhaust or a boiler flue
- Emissions from a production process, e.g. solvents in the printing and coating industry Emissions from manufacturing plant, e.g. Ammonia from refrigeration plant or Nitrogen from Nitrogen supply plant

## The Location and Environmental Conditions Where Detection Is to Take Place

The performance, accuracy and reliability of any gas detection equipment will be affected by the environmental conditions it is subjected to. Temperature, humidity and pressure levels at the location all have a direct bearing on the type of equipment that should be selected. Additional factors such as potential variations resulting from a production process itself, diurnal / nocturnal fluctuations and seasonal changes may also affect the type of device which is suitable.

It is important to consider whether the equipment will be used inside or externally as this can greatly affect the design of the device. For example, an external location that is exposed to elements such as wind, rain and salt spray, will require equipment which is resistant to the corrosive affects of that environment. Although indoor locations typically require less robust housing, consideration should be made for internal areas which are hosed down on a frequent basis.

## IP Rating

In locations where water / moisture, dust and dirt are prevalent, it is important to get a device that is protected by water / dirt ingress. There is a categorisation for this type of protection known as an IP Rating (Ingress Protection) followed by three digits denoting the actual protection it features. Aside from natural environmental conditions such as weather, there may be other materials in the environment that can have a potential effect on the type of equipment that is chosen. For example, there may be other compounds such as Hydrogen Sulphide which have corrosive properties or other airborne elements which could have an adverse effect on the reliable operation of some sensing technologies, e.g. Silicones poisoning catalytic bead sensing technologies.

## Hazardous Locations

Another important consideration is a device's suitability for use in certain hazardous locations. Hazard areas are classified according to their perceived likelihood of hazard, graded from Zone 0 (an area featuring a continuous hazard) to Zone 2 (an area featuring a possible hazard). In a Zone 1 location (where there is an intermittent hazard), it is essential to use equipment that will not cause the "spark to the bang." What this means is that the device must pose no threat in terms of its potential to ignite a gas cloud. With this in mind, equipment that is Intrinsically Safe (Ex i) or Explosion Proof (Ex d) has been created to provide enhanced safety. The information gathered in this initial evaluation will help determine which sensing technology is most likely to provide a reliable solution, as Kevin Dean comments. "A competent gas detection equipment supplier will have a range of different sensing technologies available that can be applied to a given application. In addition, the environmental conditions start to determine the best mechanical configuration of the final solution".

## Product Functionality

The next area of consideration relates to additional product functionality. As a rule, high-spec devices tend to cost more money, but some of the additional features themselves often provide long-term benefits regarding the ongoing cost of ownership. There are many variations when it comes to functionality. Aspects like wiring configuration are important, especially when retrofitting into an existing system. If the apparatus is being integrated into a separate safety system, certain communication protocols may also be required such as HART, Lonworks or Modbus. Consideration will also need to be given regarding the requirement for local displays on transmitter units and local configuration of the unit and gas displays. Kevin Dean comments that a holistic approach needs to be adopted when looking at the functionality of a device. "There are a large number of variations in products in terms of the spec they offer and their individual functionalities. As you would expect, there is a cost implication with increased functionality. Again, this is where working with a gas detection specialist can help by enabling your business to identify the additional spec that will complement your needs. Things like local displays, local user interfaces, software compatibility, the number of relays and outputs required, remote sensor mounting capabilities, on-board diagnostics, cartridge hot swapping and event logging abilities provide additional benefits to the user and make one product more applicable than another."

## The Ease of Use for Operators and Routine Servicing Personnel

Routine maintenance is an important consideration. Some gases and vapours can be detected with a number of different sensing technologies, e.g. flammable gases with catalytic beads or non-dispersive infrared (NDIR). Catalytic beads do not provide fail-to-safety operation and therefore require a high frequency of routine maintenance, however NDIR based solutions tend to have a higher initial purchase price, but require less routine maintenance. In-house resource to undertake such routine maintenance needs to be identified and in the absence of such a resource, budgeting for third-party maintenance is an important factor in selecting the right equipment. Detection equipment downtime during routine sensor replacement can lead to the loss of production. If this is a concern, some solutions can provide a fast, simple and safe method of sensor exchange without needing to down-power the system or the plant. A good gas detection equipment supplier should be able to offer a range of service packages to help maintain equipment. It is worth checking the number of personnel they have and their ability to respond to an incident or emergency call out.

## Work with the Experts in Gas Detection

Gas detection equipment can play an important role in reducing the risks to personnel and plant. Careful understanding of the plant and its process is essential to selecting the most appropriate solution. As the definitive Experts in Gas Detection, Honeywell Analytics offers products suited to all types of applications from small boiler rooms to large plants and offshore platforms. Their range has been specifically designed to meet the varying demands of businesses in a wide array of industries and they have options to suit every budget.

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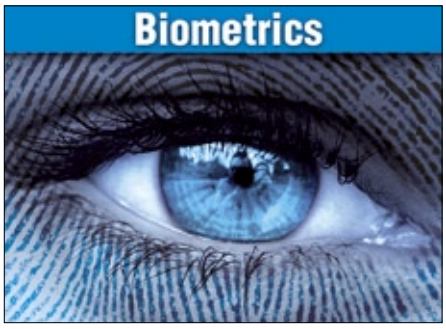


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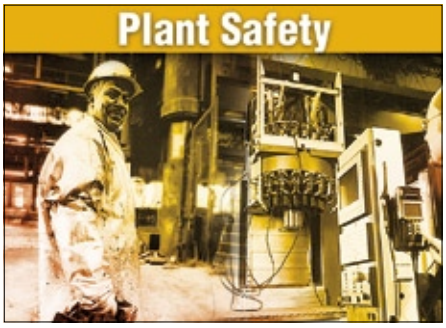


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| COMPANY | PAGE |
|---|---|
| Apollo Fire Detectors | 45, 46 |
| Axis Communications | 32, Inside Front Cover |
| Axxon EMEA | 24 |
| Barco | 51 |
| Bosch Sicherheitssysteme | 23, 34, 40, 42, 44 |
| BSIA British Security Industry Association | 6, 9, 44 |
| Bunker Seguridad Electr. | 5, 40 |
| C-Tec | 6, 44 |
| ComNet | 42 |
| Conway Security Prod. | 42 |
| CoVi Technologies | 6 |
| Dallmeier electronic | 30, 39 |
| deister electronic | 3, 9, 22 |
| detectomat | 25 |
| Drägerwerk | 48 |
| EADS Sodern | 52 |
| Evac Chair International | 8, 44 |
| EverFocus Electronics | 9, 37, 40, 42 |
| eyevis | 37, 40 |
| FLIR Systems | 38 |
| Fraport | 51 |
| Fujinon Europe | 40, Outside Back Cover |
| G4S Security Services | 9 |
| Geoquip | 8 |
| GfG Ges.f. Gerätebau | 47 |
| Giesecke & Devrient | 6 |
| GIT VERLAG | 10 |
| Global Inventures | 8 |
| Groteck Business Media | 23 |

| COMPANY | PAGE |
|---|---|
| Hangzhou Hikvision Digital Technology | 9 |
| HDcctv Alliance | 6 |
| HID Global | 9 |
| IndigoVision | 51 |
| KCA | 41 |
| Kingwave Technology | 53 |
| Legic Identsystems | 36 |
| Marmara Fair Organisation | 8 |
| Milestone Systems | 40 |
| Mintron Enterprise | 47 |
| Mobotix | 6 |
| Napco Security Systems | 42 |
| Navtech Radar | 9 |
| Optelecom-NKF | 40 |
| Panasonic UK | 11 |
| Pelco | 8, 51 |
| Reed Exhibitions | 51 |
| RoboWatch Technologies | 6, 44 |
| RSI Video Technologies | 29 |
| Samsung Techwin Europe | 7, 42 |
| SeeTec Communications | Title Corner |
| Sick | 26, Front Cover |
| Sicurit Alarmitalia | 33, 41 |
| Telefunken Radio Communication Systems | 35 |
| TSSI Systems | 6 |
| Verint Systems UK | 42 |
| Videor E. Hartig | 6 |
| Wanzl Metallwarenfabrik | 50 |



# IMPRINT

**Published by**
G.I.T. VERLAG Publishing Ltd.
Roesslerstrasse 90
64293 Darmstadt · GERMANY
Tel: +49 (0) 6151 8090 0
Fax: +49 (0) 6151 8090 144
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(Routing No. 508 800 50)

GIT SECURITY + MANAGEMENT is published 6 times per year.

**Subscription**
6 double-issues 70.00 €, single copy 14.00 € plus postage. Pupils and Students receive a discount of 50 % at sight of a valid certificate. Subscription orders valid until cancelled, notices 6 weeks before end of the year. Subscription orders can be revoked within 1 week in writing. Dispatch complaints are possible only within 4 weeks after publishing date.



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**Printrun:** 20,000 (1st quarter 2008)

**Cover Page Layout**
Elli Palzer · elke.palzer@wiley.com

**Printed by**
pva Druck und Mediendienstleistungen GmbH
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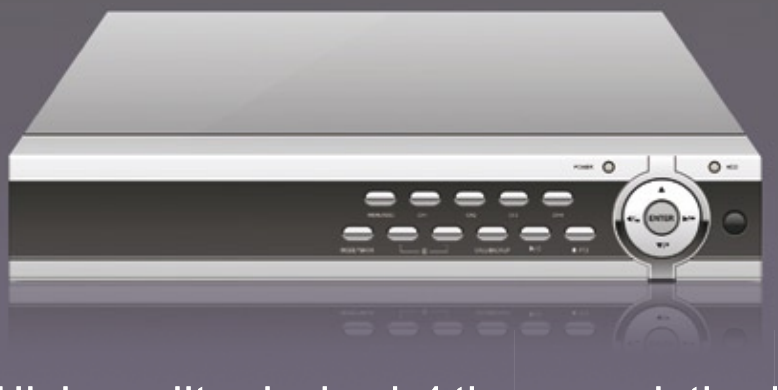

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