

Volume 9  
June 2013

**GIT**

EMEA Edition

# SECURITY

MAGAZINE FOR SAFETY AND SECURITY

4

**10 YEARS**  
**SECURITY**

**GIT**

EMEA Edition

MAGAZINE FOR SAFETY AND SECURITY

*- Anniversary Issue -*

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Work and Health

Fire Protection

Thermal Imaging

Access Control Solutions

Video Management

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# GRUNDIG





# We don't like publishing, we love it

One decade ago GIT SECURITY was launched as the EMEA sister publication of our German language magazine for safety and security GIT SICHERHEIT. Ten years are a lot of time but when we were going through all the issues we published in the last decade while preparing this Ten Years Anniversary issue, we couldn't believe how much had happened in this period of time. All the changes in the industry, all the technological progress we summarized could have easily filled two or three decades. You may have the same thoughts when you have a glimpse at our "history timeline" on the pages 12 and 13.

When we asked authors to contribute to this special issue we wanted them not only to reflect what happened in the last decade, but also to look into the future of our industry. The result does not come as a surprise. It was more or less common sense in all statements and articles that the time ahead will be full of opportunities for our industry. The beginning of the last decade was characterized mainly by proprietary systems and stand-alone systems for safety, video surveillance, fire protection and access control. All elements were each serving an isolated sole purpose. Right from the start of our magazine and website we were fighting for integrated systems and educated readers to think out of the box to cope with their daily work. The next ten years will be determined by cooperation, networking and integrating. Nobody will solve problems and overcome challenges on his or her own. Teamwork and intercompany co-operations will design the future of the security industry and we don't like this, we love it.

Enjoy reading our Ten Years anniversary issue!

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it can't do everything,  
but it does excel at  
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**20**  
INTERVIEW  
**Open Doors**  
Bosch and Milestone Intensify their Efforts for High Level Integration

**22**  
INTERVIEW  
**Storm Flood, Terror and Pirates**  
The "Integrated Safety and Security Management" Degree Course at the Bremerhaven College

## EDITOR'S NOTE

We don't like publishing, we love it

Heiko Baumgartner

**3**



## MANAGEMENT

### TREND ARTICLE

#### How Soon Is Now?

New Technology and New Thinking in the Security Industry

**14**

### INTERVIEW

#### Open Doors

Bosch and Milestone Intensify their Efforts for High Level Integration

**20**

#### Storm Flood, Terror and Pirates

The "Integrated Safety and Security Management" Degree Course at the Bremerhaven College

**22**

### VIDEO WALLS

#### Visual Building Blocks

Telefonica Commissions First Omnishapes Installation

**26**

### ACCESS AND SECURITY MANAGEMENT

#### Biggest Port – Secured

Khalifa Port, Abu Dhabi Chooses CEM Security Management System

**28**

## SECURITY

### VIDEO MANAGEMENT

#### Three Phases of IP Video Evolution

From Launching IP Video Technology to Video Enabling

**30**

#### The Istanbul Experience

SeeTec Secures Business Center in the Heart of Istanbul

**32**

#### VMS's Mobile Security Options

Designed to Deliver a Better User Experience

**34**

### VIDEO SURVEILLANCE

#### Clear Benefits for the Next Decade

Megapixel Cameras Will Dominate the Next 10 Years in Video Surveillance

**36**

#### Times They Are A-changin

Jonas Andersson's Thoughts on the Past and Future of Video Surveillance

**38**

#### Multi-faceted, Easy-to-use and Cost-effective

Trends in Video Surveillance

**52**





30

**VIDEO  
MANAGEMENT**  
**Three Phases of  
IP Video Evolution**  
From Launching  
IP Video Technology  
to Video Enabling



34

**VIDEO  
MANAGEMENT**  
**VMS's Mobile  
Security Options**  
Designed to Deliver a  
Better User Experience



38

**VIDEO  
SURVEILLANCE**  
**Times They  
Are A-Changin**  
Jonas Andersson's Thoughts  
on the Past and Future of  
Video Surveillance



48

**INTERVIEW**  
**On the Way to  
Be a One-stop  
Solution Provider**  
Eyevis Continues to  
Focus on Sustainable  
Growth and Innovation

**All Indoor Applications**  
Grundig's IP Flat Dome Offers Full HD video,  
PoE and On-board Storage

**10 YEAR TRENDS**  
**Multifocal Sensor Systems**  
New Dimensions in Video Security

**TECHNOLOGY**  
**Thermal Imaging**  
A Technology Ready to Further  
Conquer the World

**INTERVIEW**  
**On the Way to Be a One-stop  
Solution Provider**  
As a Holding of Brockhaus Private Equity,  
Eyevis Continues to Focus on Sustainable  
Growth and Innovation

**KEY MANAGEMENT**  
**Open – But Secure**  
Electronic Key Administration for the  
Open Juvenile Prison in Goettingen

**62** **EVENT**  
**Secure and Safe Transportation  
for Megacities**  
MetroRail Conference in Madrid  
Discusses Future Trends

**40** **PERIMETER PROTECTION**  
**Turn a Fence into a Detection System**  
Affordable and Easy-to-install Perimeter Defence  
System with a High Rate of Intrusion Detection **56**

**44** **CCTV**  
**Hot Wheels**  
Oman Auto Dealership Gets a Hikvision  
Surveillance Solution **58**

**48** **Mighty Oaks from Little Acorns Grow**  
A Look at a Quarter of a  
Century's Growth at Moxa **64**

**50** **Stand and Deliver!**  
Additions to the Range of  
JVC Analog and IP Cameras **65**

## FIRE PROTECTION

**FIRE AND EXPLOSION DETECTION**  
**Preventing the Big Bang**  
Plant Monitoring with Thermography in  
Explosion Hazard Environments **66**

**VOICE ALARM SYSTEMS**  
**Close the Loop**  
Following the Trend of the Next Few Years –  
Loop Technology for Voice Alarm Systems **68**

## SECTIONS

**News** ..... 6  
**Security Products** ..... 42, 60  
**Fire Protection Products** ..... 67, 70  
**BusinessPartner** ..... 71  
**Company Index / Imprint** . . Inside Back Cover

## Basler Celebrates 25 Years

2013 marks the 25<sup>th</sup> anniversary of Basler's founding. The company's story stretches back to 1988, when Norbert Basler and a partner founded the company with a starting capital of 2,000 Deutsche Marks (approx. 1,500 US-\$). The idea for the business: image processing. The first real success came as the company began developing systems to test optical storage media, and was able to win large clients like Sony, Warner and PolyGram. Over time other product lines were added, including systems for inspecting gaskets and LCD glass. Basler started developing its own cameras in 1996. „We were dissatisfied with the quality and reliability of the cameras supplied by external vendors for our image processing systems, and therefore decided to develop our own,” Norbert Basler explains. „We then launched the cameras onto the market in 1998.” The action initially taken for own use only has evolved over the last 15 years into a successful business model. In light of the more favorable growth



outlook for the camera business, the company has phased out its systems offerings over the past five years, now exclusively producing cameras for use in industry, video surveillance, medical and traffic applications. That small start-up in 1998 has become a profitable and fast-growing company with a portfolio of international clients and over 350 employees. Founder Norbert Basler serves as the chairman of the supervisory board, and as the majority shareholder, still plays a central role in the company that has become a global manufacturer of industrial cameras, with annual revenues of around 56 million €, and an ambitious growth strategy.

[sales.europe@baslerweb.com](mailto:sales.europe@baslerweb.com)

**Congratulations on 10th anniversary on behalf of whole Nedap Security Management!**

Maureen Hallers, Nedap

## Wavestore Software for US Retailer

Wavestore's video management software is playing a key role in a phased program by Burlington Coat Factory to upgrade its video surveillance systems. With more than 500 stores and with sales approaching 4 billion US-\$, Burlington Coat Factory is one of the largest clothing retailers in the United States and Puerto Rico. Founded in 1972 and owned by Bain Capital since 2006, the company is placed on the National Retail Federation 100 top retailers list. The company decided to make a substantial investment to improve and standardize the video



surveillance at its stores by replacing equipment which had been sourced during the last twenty years from a number of different manufacturers. Almost 200 of the company's stores have so far been equipped with a video recording and management solution as part of an overhaul of each of the store's physical security equipment.

## Milestone Partner Open Platform



Milestone Systems held its annual Partner Open Platform (MPOP) event for the Middle East and Africa region in Abu Dhabi April 30 – May 2, with 250 attending. 17 companies were given awards for outstanding achievements over the past year. Best Value Added Distributors of the Year 2012 in Africa was IP Video Solutions (IPVS); Middle East: Network Information Technology. Best Performing New Partners of the Year 2012 were Cairo Communication Systems (CCS) (Africa), and Tablix Technol-

ogy (Middle East). The best projects of the Year 2012 came from V&A Waterfront, ITS Technologies PTY (Africa), and from the Ministry of Interior Bahrain, and Spectra Information Technology (Middle East). Best MSP Partners of the Year 2012 were Delopt analytics and Pivot 3 (Middle East). Fastest growing MAP Partner of the Year was Sony (Middle East). Axis Communications was the awarded as best MAP Partner of the year both in Africa and the Middle East.

[www.milestonesys.com](http://www.milestonesys.com)

## Axis Communications Strengthens Global Partners

Axis Communications evolves its Application Development Partner (ADP) program with local competence, increasing the range of localized end customer solutions. The company plans to strengthen the ADP Program by recruiting more dedicated personnel for closer collaboration with local and regional partners. Exchanging local competence, market knowledge and cultural/legal awareness is to result in earlier integration of Axis products and capabilities in video solutions adapted for a specific region or in-

dustry segment. The manufacturer will introduce three levels of partnership to open engagement, grow business, and reward loyalty with clear benefits and requirements. The program offers focused tools, services and training to meet specific customer needs. All qualified software vendors that are ready to integrate their commercial software with the manufacturer's network video products are eligible to join the program as an Application Development Partner.

[www.axis.com/partner/adp\\_program](http://www.axis.com/partner/adp_program)

## AMG-Panogenics and Synectics in Technology Partnership

AMG Systems has entered a technology partnership with Synectics, and their Panocam360 fisheye camera is now fully integrated into the Synergy security management system. Jonathan Squires, Technology Applications Manager from Synectics, says: "The Panocam360 can be recorded by Synectics' Recording Management System and the image/stream can be viewed in Synectics' security management software, Synergy, in its native, 360

format. The image can also be de-warped, and using Synergy, users can apply a digital zoom on the image." One of the main features of the security management solution is that it simplifies the human interface, furnishing operators with a simple, fast and intuitive route to all common system functions. It further features a range of module additions designed with specific application sectors in mind.

[www.synx.com](http://www.synx.com)



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Arecont Vision introduces MicroDome™ megapixel IP cameras. These small, ultra low profile cameras offer the great features of Arecont Vision megapixel technology like superior image quality, excellent compression and fast frame rates. An innovative spring arm design makes installation a snap: simply slide the camera through the hole and secure the magnetized cover ring with a single screw. Every model comes equipped with a mechanical day/night switcher, and pixel binning on 3- and 5-megapixel models deliver excellent low-light capabilities. Add optional true Wide Dynamic Range and difficult lighting conditions are overcome with MicroDome™. Sometimes smaller is indeed better!



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**10** Years  
2003 - 2013

[www.arecontvision.com](http://www.arecontvision.com)

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Celebrating 10 Years of Leading the Way in Megapixel Video

## Tavcom Support for Hikvision

Hikvision, with help from Tavcom's training division, has introduced a series of online distance learning training modules to assist dealers, installers, system integrators get up to speed on the latest technology built into Hikvision video surveillance products. Three online training modules, which are available free of charge to customers, allow participants in their own time to learn how to achieve maximum advantage from the features built into the company's cameras, DVRs and software. "Tavcom was the automatic choice following the

decision to work with an independent training company that could offer expert and objective advice," said Tony Yang, UK General Manager for Hikvision. "We were well aware of Tavcom's excellent reputation for conducting traditional BTEC certificated classroom training courses, but it was the quality and user-friendliness of Tavcom's own fully interactive distance learning courses which persuaded us that they could also do a great job helping us build our own dedicated branded online training program." [www.hikvision.com](http://www.hikvision.com)

10 years **GIT SECURITY**,  
Happy birthday and  
congratulation! It is  
a pleasure to work  
with you!

Andy Meyer, MSEC



## Edge-based Video Solution

Milestone Systems has signed Innovative Security Designs (ISD) as the first camera partner who will offer the manufacturer's Arcus VMS embedded in their edge devices. By redefining the role of a camera, the system embedded on ISD cameras can be a hosted edge server solution model for all IP cameras supported by Milestone. The ability to record and manage up to a month of 1,080P video on a single ISD

camera meets customer expectations and requirements for distributed video storage. By migrating to edge storage, customers can realize the benefit of being able to save money and simplify installations by eliminating expensive servers. The open platform solution supports multiple camera types and brands, all tied together and managed with the Arcus VMS.

[www.milestonesys.com](http://www.milestonesys.com)

## Hikvision Appoints Al Rams Group as Strategic Partner

Hikvision has announced collaboration with Al Rams Group as a strategic partner for the manufacturer's complete product range. "Al Rams has proven to be an excellent partner for Hikvision. With their vast experience in providing professional pre-sales and support services in the UAE market, I am very confident that our rich partnership will allow both Al Rams

and us to offer the most cutting-edge solutions throughout this market," commented Maxwell Wei, General Manager of Hikvision Middle East and North Africa Market. Abdullah Darwish, Chairman of Al Rams Group stated: "This strategic partnership (...) will provide benefits for us, our valued customers, as well as for Hikvision."

[hanfei@hikvision.com](mailto:hanfei@hikvision.com)

## Salto Installs 1.000<sup>th</sup> RFID Lock

Salto Systems has seen its 1.000<sup>th</sup> RFID lock installed into Jesus College, one of 31 individual colleges at the University of Cambridge. Established between 1496 and 1516 on the site of the twelfth-century Benedictine nunnery of St Mary and St Radegund, whose ruinous buildings were adapted to house it, Jesus College like other colleges at the University is an independent self-governing body, with its own constitution, endowments and income. Jesus College has installed the networked electronic access control solution Salto Geo (Global Electronic Opening) cylinders that are smart, intuitive and designed to be used with almost any type of door. It has been specially designed



and developed for use with doors where normal escutcheons cannot be fitted or are not allowed i.e. antique doors in historic or listed buildings.

[uksales@saltosystems.com](mailto:uksales@saltosystems.com)

## Wavesight's Outdoor Wireless Bridges for Sainsbury's

Euro Car Parks deployed Wavesight's outdoor wireless CCTV transmission at multiple Sainsbury car park locations throughout the UK. Sainsbury, one of Britain's leading food retailers with over 1,000 stores nationwide, offers its customers free parking. However, not all visitors to its car parks actually use the store resulting in lost sales and revenue. This is why the supermarket decided to manage and control its car parks more effectively. The national car park management company, Euro Car Parks (ECP), was appointed to install the latest ANPR technology to combat this growing trend of 'rogue' parking. People leaving their vehicles in the supermarket's car parks for over the permitted time will now automatically receive a Parking Charge Notice through the post. ECP enlisted the help of general building firm Merr Construction to install a Pips ANPR camera solution that would read and store the number plates of any vehicles entering and exiting the Sainsbury car parks managed by ECP. To avoid any potential disruption to shoppers and to keep costs as low as possible, ECP decided to use wireless technology as a transmis-

sion medium for sending the number plate images from the ANPR cameras back to the stores, where they were then stored on their network. This solution meant that costly civil engineering works to install a fiber network to the camera location were not needed, power for the wireless radios and cameras is provided via an existing car park lighting column. Wavesight's Wavesprint point-to-point links, optimized for short distance and low bandwidth transmission, were chosen to transmit the number plate images. Wavesprint eliminates the planning delays and disruption associated with laying fiber or leasing lines. This means lower deployment costs and a faster return on investment, in addition to a rapidly re-deployable asset. James Carey, project manager at Euro Car Parks commented on the installation: "We were confident that Wavesight could come up with a low-cost car park solution that would allow us to deploy our ANPR cameras at a number of Sainsbury car parks across the UK. The link required was fast to install and minimized any disruption to Sainsbury's customers."

[www.wavesight.com](http://www.wavesight.com)



## Diploma in Security Management

The Security Institute, the UK's largest membership body for security professionals, has reported very high levels of interest in its pioneering Diploma in Security Management. A key part of its on-going commitment to raising professional standards, the Security Institute's Diploma in Security Management was launched in 2009 and is aimed at middle and senior managers seeking career advancement via an industry specific qualification. Its popularity has rapidly grown year-on-year and over 100 people successfully completed it in 2012. "The qualification is open to all those who work within the private

and public security sectors and who possess a minimum of five years' security management experience," explained Di Thomas, general manager at the institute. "It offers a logical progression from our Certificate in Security Management and those currently on the course include security managers, health and safety managers, facilities managers, senior police officers, fire service personnel and experienced members of the armed services." The course consists of five mandatory modules and usually takes no more than 12 months to complete.

[di@security-institute.org.uk](mailto:di@security-institute.org.uk)

## Security Solutions Show

The "Security Solutions Show" is an event that will take place at the Fiera di Vicenza from 4<sup>th</sup> to 6<sup>th</sup> October. It will be focused on a number of security solutions, such as anti-theft and anti-intrusion devices, video surveillance, access control, domotics and building automation, that can also be based on IP communications technology. The new event concept will be repeated every two years, in line with the trend of main international events specifically aimed at the security industry. It is a business to business

project, focusing on the integration of exhibition and training aspects, of information and technical popularization, and conveying a business model concept based on solutions and not only products. The show is not only about introducing solutions, but also about evaluating them, showing their added value, as well as their performance and actual application potential. With this aim, areas devoted to occupational training and science awareness will play a major role in the exhibition. [www.vicenzafiera.it](http://www.vicenzafiera.it)

## Patrick Dealtry Chairs BSIA's Lone Worker Section

The British Security Industry Association (BSIA) launched its newest section of membership at IFSEC International, in recognition of the growing market for Lone Worker protection products and services. Officially launched by Rachel Griffin, Chair of personal safety charity, The Suzy Lamplugh Trust, the BSIA's Lone Worker Section represents companies operating in the lone worker protection market, all of which are accredited or working towards accreditation to lone worker standard, BS8484. The launch event brought together professionals from across the security industry, and also featured

the election and announcement of the first official Section Chairman, Patrick Dealtry. Commenting on his election, Patrick Dealtry said: "The Lone Worker market has grown rapidly in recent years thanks to the demand from customers recognizing the value provided by companies offering services in this market. In addition, we recognize the growing effort among customers to satisfy the duty of care to their employees, often in very difficult circumstances. Today represents a milestone and reflects the success of BSIA companies in supplying these services."

[www.bsia.co.uk/lone-worker](http://www.bsia.co.uk/lone-worker)

## Geutebrück France in Bordeaux-Mérignac

Geutebrück France has opened its fourth office. A new base in Bordeaux-Mérignac now provides sales and technical services to the south west of France. In charge is Arnaud Tacchini (40) who has only recently joined the company. Having previously worked in the access control sector of the security industry, Tacchini is already very familiar with this sales region and has excellent technical knowledge. The French team's video security reference list includes such prominent clients as the Bank of France, the French railway operator SNCF and



the French space center in French Guiana.

[www.geutebrueck.com](http://www.geutebrueck.com)

**GIT SECURITY** plays an important role in forming opinion and highlighting trends and innovation in the security sector. Avigilon is a proud partner and supporter of the magazine.

Jane Dotsenko, Avigilon

## Samsung at Radisson Blu Edwardian Hotels

Radisson Blu Edwardian Hotels has agreed a long term single source supply relationship with the professional security division of Samsung Techwin, which will see all of its luxury hotels equipped with a Samsung video surveillance solution. Ranging from bijou boutique to large-scale luxury, the 14 hotels are located in London, Heathrow, Guildford and Manchester. Over the years the investment into video surveillance technology has led to many different types of cameras and recording devices from a number of manufacturers being deployed across the 14 hotels. On paper, Samsung's SRD-1670D DVR, which can simultaneously record real time images across all of its sixteen channels at 4CIF, came out the winner after a number of different DVRs were evaluated and the selection of this model was confirmed after it was trialed over a four-month period. The order to supply 40 SRD-



1670D DVRs however was subject to the manufacturer making some changes to the specifications. Images from the 700 domes are recorded at different frame rates depending on the type and level of activity anticipated at each camera location and all of the images are stored for 30 days. So far 200 units have been replaced with either SCD-2080 internal domes with built-in IR LED illuminators, SCD-3080 internal domes with Wide Dynamic range or with SCV-2080R vandal-resistant external domes. The remaining 500 units will be replaced in the near future as part of a phased upgrade program.

[STSecurity@samsung.com](mailto:STSecurity@samsung.com)

## Standard for Electronic Offline Locks

Assa Abloy, Dorma, Nedap and Zugang have developed the "Standard Offline Access Application" (SOAA). By implementing this standard it will be easy for companies to integrate multiple electronic offline locks from multiple suppliers. Each company is therefore free to choose the best fitting product. This freedom of choice will result in reduced prices, as they are not depending on one supplier anymore. Standardization also increases the security level.



Standards are open and therefore tested and investigated by everyone. Companies can specify the SOAA standard in their tender.

[www.nedap.com](http://www.nedap.com)

I would like to congratulate GIT SECURITY on reaching its 10th Anniversary. Under the stewardship of Heiko Baumgartner it has earned an enviable reputation for the quality of its news coverage. It is a Security trade publication which can claim to be pan-European both in its news coverage and its readership. Thousands of security professionals across Europe regard the magazine as an essential monthly read.



Dominic Jones, Samsung Techwin Europe Ltd

## HSM: 7<sup>th</sup> Partner Conference in Mexico

HSM sales partners from all over the world gathered to meet the HSM sales team and HSM senior management at the 7<sup>th</sup> International Partner Conference in Guadalajara, Mexico in April. About 80 participants from 22 countries attended the event that was supported by Mexican sales partner Ciasa. A conference program focused on the Company's corporate strategy, marketing activities and product development. Tom Szaky, CEO of the recycling company

Terracycle, and Victor Flores Arroyo, CEO from Ciasa, who talked about the collaboration with HSM, complemented these topics with presentations. Document shredders, cutting machines, hard disk shredders, baling presses and PET solutions could be tested in practice. The HSM Sales Awards were presented as every year in five categories for the regions of Europe, North America, Latin America, Asia/Pacific and the Near/Middle East.

[info@hsm.eu](mailto:info@hsm.eu)

## Transport Security Expo

Transport Security Expo has announced a series of new features bringing focus to current and emerging issues and delivering valuable opportunities to engage with potential industry customers worldwide. Chief Executive Peter Jones: "We marked two significant milestones last year. Firstly, we celebrated our tenth anniversary year and secondly recorded the highest ever attendance figures across both the exhibition and its associated conference. These two facts indicate that many challenges in the aviation, maritime, public transport and supply chain environments remain and has spurred our outreach and informed our thinking as we prepare for this year's event." Security incidents across the globe continue to confound the industry. The aviation world has witnessed numerous perimeter security breaches over the past year including a multi million-dollar airside diamond heist, prompting calls for much more robust defenses around the extended perimeter of airports. The maritime sector witnessed a decrease in acts of piracy on the high seas but

nevertheless still recorded a worrying number of ship hijackings and boarding's as well as crew hostage taking and killing. The supply chain continued to be bedeviled by high value cargo theft with the number of incidents rising significantly. Transport Security Expo's world-class exhibition is supported by an extensive conference and workshop program which brings leading experts from government, military, law enforcement and the security services face to face with the aviation, maritime and public transport industries annually. This gathering has a well-deserved reputation for delivering original thought from key leaders within the transportation arena. It also serves as a must attend event amongst those seeking to transform concepts into operationally viable solutions. The co-located and analogous Transport Safety Expo is a new and entirely separate event: It is focusing on the safety related concerns faced by the transportation industries globally and features it's own dedicated exhibition, together with a conference and workshops.

[www.transec.com](http://www.transec.com)

## 100<sup>th</sup> Certificate Published

Certalarm announced the publication of its 100<sup>th</sup> certificate. Ever since the launch of the quality mark in 2010, the number of participating manufacturers has steadily increased, with Tyco Fire Protection Products and Tyco Safety Products Canada as its most recent entries. Today, the European certification scheme has 18 registered manufacturers including Bosch, Siemens and UTC and more companies are to join soon. The 100<sup>th</sup> certificate has been issued for a security product of UTC Fire & Security. "We are pleased that it is one of our products receiving the 100<sup>th</sup> Certalarm certificate," says Luc Joosens, Product Management Leader Intrusion Detection EMEA of UTC Fire & Security. "At the mo-

ment a security product is tested to a European standard for use in one particular country and nearly always requires separate paperwork, and sometimes even separate tests to be marketed in another European country. We therefore strongly believe in the concept of a single, independent testing scheme recognized throughout Europe such as the Certalarm quality mark. This will ultimately improve efficiencies and increase the speed to introduce new products and technologies across Europe," he adds. Certalarm is the only European certification scheme which has been endorsed by the European co-operation for Accreditation (EA) according to system 5.

[www.certalarm.org](http://www.certalarm.org)



## 2 Megapixel Telephoto Zoom D60x16.7SR4

**NEW** With Optical Image Stabilization



# HD 60X ZOOM

Day  
Night

HD  
2MP

High resolution with Anti-Vibration technology for surveillance during day and night

- ▶ Focal length range 16.7~1000 mm, with a built-in 2x extender for focal length of up to 2000 mm
- ▶ Supporting resolution of up to 2 Megapixel for pictures in High Definition
- ▶ Day+Night technology for sharp images at day and night without focus shift
- ▶ Available with built-in optical image stabilization to minimize image vibration
- ▶ Remote controllable built-in filter system offering ND filters and a visible light cut filter
- ▶ Auto focus function available for accurate focusing
- ▶ Precise lens control by PC via RS232C interface possible

Fujinon. To see more is to know more.

**PRE  
START**

**1991**

GIT starts to cover safety and security topics in a special section in our German-language laboratory and chemistry magazines. Out of this special section GIT SICHERHEIT, the leading magazine for Security and Safety in Germany is born.



GIT SICHERHEIT celebrates its **10 Years Anniversary**.



**10 YEARS  
ANNIVERSARY**

**2001**

US-Publisher John Wiley & Sons acquires GIT Publishing, Steffen Ebert and Heiko Baumgartner become part of the Management team.

**WILEY-  
BLACKWELL**

**START**



**2003**

**GIT SECURITY is born.** The first issue is published right before IFSEC 2003. Dirk Mager is the first Editor-in-Chief.



**2004**



**GIT SECURITY AWARD** is launched. Readers vote for the best security and safety products.







**6**  
ISSUES

**2006**

GIT SECURITY team is preparing  
for the World Cup in Germany  
and 6 issues per year.



**2007**

Heiko Baumgartner completes the  
GIT SECURITY team. GIT SECURITY  
becomes a bi-monthly journal.



Airport is integrated  
in GIT SECURITY.

**2008**



**2010**

January 2010:  
We launch [GIT-SECURITY.com](http://GIT-SECURITY.com)  
and [GIT-SICHERHEIT.de](http://GIT-SICHERHEIT.de),  
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## TREND ARTICLE

# How Soon Is Now?

## New Technology and New Thinking in the Security Industry

During the past ten years the market for safety and security was going through tremendous changes and the change has not stopped yet. Change in this industry is often related to new product features, technological innovations and improvements in product performance but there was also a big change in the mindset of people involved in security.

### Technology Changes

As we have several articles in this issue covering technological aspects and the changes in technology that happened in the past years and as a lot of these articles also look into the future, I do not want to focus too much on the evolution in technology over the years. Nevertheless there have been some major trends we have to take a closer look on.

### IP Technology Is the Enabler

Already some years ago IP technology has surfaced as an irreversible trend for the future. This meant that for example video surveillance is migrating towards computer networks, transmitting video by IP protocol in an Intranet or the Internet. In the early years of IP video surveillance, the use of IP technology was limited as a result of the camera costs, their limited performance in low level light conditions and when objects are moving, the complicated computer and network configurations, as well as the bandwidth and storage problems. Fortunately, dramatic improvements in the performance of products for IP video surveillance, lower costs for data storage and a better IT infrastructure have solved most of these problems.

Offering much higher resolution than standard network cameras, IP cameras can replace multiple standard definition VGA cameras in

many applications. Fewer cameras, equating to reduced installation costs, plays well to the industry's focus on Return on Invest. The use of new image compression tools like H.264 reduces file sizes to minimize storage space requirements and make video streams manageable on the network. IP camera technology now provides industry customers with a clear and flexible path to a more sustainable and efficient video surveillance system solution which opens a variety of opportunities beyond the simple viewing of videos. The new opportunities through network based video surveillance offers vast benefits and value propositions:

- Great integration potential: video surveillance data can be combined with information from access control systems, alarm handling and other information in the IT system, enabling central management and greater cost efficiency through a lower staffing level requirement
- Energy and cost savings and better functionality: this results from the fact that IP camera systems integrate power, video, audio, PTZ control and I/O in a single cable
- Easy access of data: IP-based video improves significantly the distribution of content. It is simple to send video from remote sites to a central operating station. That appeals to large corporations with far-flung operations around the country or even the world. The re-

sults are a better operational excellence and lower costs.

- Enhancement of mobile solutions through IP-based video: Video content can be delivered to PDAs, mobile phones and laptops, enabling mobile workers to receive data in virtual real time. Their higher flexibility is a significant cost advantage.
- Encryption of the video feed and multi-level user access control: your organization can control who has access to a system and the data is safe from third-party manipulation. More security for less money.

### Stand-alone-systems Are the Past, Integrated and Networked Solutions the Future

In the past stand-alone security systems for video surveillance, alarms and access control elements were each serving an isolated sole purpose; to record and playback scenes, to trigger and sound an alarm and to grant or reject access.

In the networked world the first step to improve operations is to converge security functions with video surveillance, access control, alarm notification, visitor management systems, intrusion detection and fire alarms. Apart from security, you can even integrate elements from the building management side e.g. heating, HVAC systems (ventilation and air-conditioning),





energy supply, lighting and other efficiency systems into the system. One central management built on system interoperability is immediately leading to significant efficiency improvements and cost savings.

There is no limit on the use of data when there is an integrated, networked solution. Therefore, once an integrated network is achieved, it is worth taking a look on how one can use the data to improve business processes. Advances in video content analysis, such as the use of algorithms to intelligently analyze videos for specific actions, provide new ways to automate the viewing of videos. This enables software not only to do the watching, but also to react, take measures and optimize the quality of operations and business performance, leading to a greater level of competitiveness.

From a technology perspective it will be interesting to see how cloud services and security services in general will affect our industry. While in the past ten years IP and networking technology was the game changer for the security industry, there are signs that the next ten years will become the decade of security service and business intelligence.

### The Mentality Change

The evolution of technology has not stopped yet and it is still very important to consider the

potential to improve technology, but now is the time to focus upon developments more fundamental than the quarterly product update released by equipment vendors.

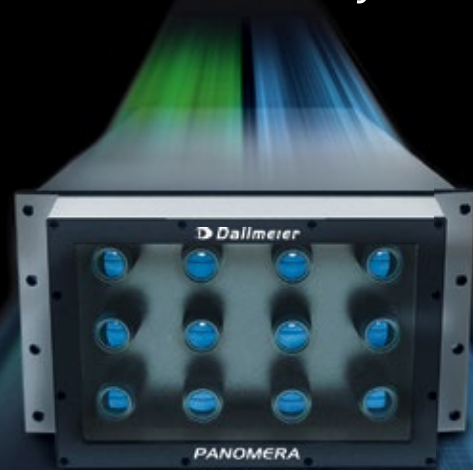
Some years back security could not deny its strong roots in the fight against terror and a police mentality was dominant in the industry. Terrorist activities have forced governments and the public sectors globally to invest in security technologies for safe cities projects and homeland security. This has significantly boosted the traditional parts of the market and has led to certain technical developments. Within a big part of the industry you will find a police culture, in which information and experiences are not shared and information is treated as a secret because there is the fear that terrorists and criminals may take advantage of any information they have access to. This closed-shop mentality and the concentration of institutions and parts of the industry on homeland security, critical infrastructure projects and the institutional sector has also paralyzed other parts of the business and it has focused the public's mind too much on danger protection. My feeling is that this mindset has changed a lot in the past years and a new thinking will bring our industry forward the next decade.

Already today security is not only perceived as a cost utilized for protection against danger anymore. There are more and more examples

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Christiaan Maras, FLIR Commercial Systems



out in the market where security is seen as an investment that can generate value beyond safety. There is a major trend, a different approach, a new vision that is renewing the security sector and will take us beyond its traditional safety ensuring applications. It will change the perception of what security stands for and how it can be applied.

It is vital that a more open and business oriented approach is taken in countries and companies where the perception of the role of security remains traditional. The market for security for industrial buildings, the commercial sector and residential homes is already established and it will grow much faster in the near future if we manage to develop this mind shift towards an open culture. An open culture goes hand in hand with recent industry trends and technological developments. The trend offers a bundle of new opportunities in empowering the industry to use security equipment as a powerful tool to bring their business forward.

### Advances in Retail Business

Retail theft cost store owners globally around 100 billion € in 2011, the equivalent of 1.36 % of global retail sales. Retailers need to cut these losses, but loss prevention professionals face various problems in their daily job. They have to deal with lowered budgets, but also with increased crime, the downside of the economic downturn. They also have to cope with marketing formula managers who want to improve the customer experience. For example by not locking electronic devices by a cable, they enhance the

customer experience at a high risk. They are following the formula: With more sales because of the better experience, than they can afford more theft. So stealing becomes somehow acceptable from a marketing point of view. Security Managers have to work with marketing to find the best possible solution: strengthen the business whilst offering the best security possible despite the increasing challenges resulting from lower budgets and, in many cases, fewer people.

To cope with this dilemma the standard approach is to concentrate on cost saving, leading security performance to a dead end. One can work with very cheap cameras or even with mockup cameras, but there is the very high risk of losing parts of the business. Moving to high resolution cameras is the first step into the right direction and the use of video intelligence is the next one.

High resolution IP cameras connected to the existing IT network bring with them the benefits of digital technology. The most obvious benefit is the fact that with high resolution pictures available, retailers are able to zoom in and freeze the frame at the exact point when the razor blade pack slips into the coat of a criminal and out of sight. Clear pictures which are usable in court make a big difference and might be enough to help with successful litigation or at least an admission of guilt. What loss prevention directors in large retail operations like best is the idea of potentially being able to share video between stores and corporate headquarters. The big advantage is that retail managers have remote access to any video taken in the store, both live and recorded material, from any desired loca-

tion including mobile devices connected to the internet or the 3G network.

### Added Value in Retail

With data integrated in an IP network, the retailer can add value to the system by taking advantage of video analytics built into the camera or included in management software. Simple motion detectors and trip wires can alert store owners when there is unexpected movement in an area or unauthorized entry.

However cameras are capable of more than simply helping to catch thieves; they tell management how well the store is working. Cameras can provide highly valuable customer frequency information and enable behavior monitoring, thus return on investment can be dramatically increased by using security infrastructure for marketing purposes. Store level profits are influenced by a number of factors such as consumer traffic, campaigns and promotions, all of which require a clear insight into consumer behavior patterns. Intelligent video management can give exactly what is needed by providing a good picture of all store activity. Visual Statistics show exact customer traffic flows in the shop; where customers stop and how long each of their stops last. The tills might record sales volumes, for example, but the cameras can now record the number of store visitors. Stock takers can see at a glance the current level of stocks on shelves and those in storage. Intelligent cameras can issue a message to the staff, recommending them to replenish the shelves.

Retailers know that long checkout lines turn away customers. An intelligent system that ana-



lyzes checkout lines can help to plan staffing levels and customer service provision as well as provide a long-queue alert in real time so the store manager can redeploy staff to the registers. Both capabilities reduce the chance of customers being lost to queues.

Additionally retailers have the option to a video management system with additional analytic software. There are all kinds of specialized point-of-sale software that can handle thousands of transactions at a time and analyzes them for a variety of pre-selected indicators. It can help to recognize trends and detect anomalies on the intelligence and marketing side of the business, but also to enhance the awareness of video operators e.g. through simple measurements as for example different colors signify various cashier actions (giving money back, providing discounts, canceling orders etc.).

### Advances in Public Transportation

Public transport has long been identified as a favored target for terrorists. An attack on transport infrastructure could inflict mass casualties, reduce public confidence in mass transit and could produce a significantly negative effect on the economy. As the backbone of urban mobility public transportation is used by a high number

of passengers every day. By their nature, public transport systems are open and fully accessible. The large geographical spread of public transport networks is difficult to monitor, providing potential spots for other forms of criminal activity. Modern security equipment is a valuable tool to fight terrorist threats and to reduce criminal activity, but their use has evolved far beyond fulfilling basic security needs. Advanced features such as traffic monitoring functions and the detection of traffic flows are the most obvious applications. On a basic level, the ability to identify the movement and speed of vehicles cannot only be used to monitor perimeters and to detect suspicious behavior within defined areas. Modern systems can do more than just alert operators about left luggage for security reasons.

### Added Value in Public Transportation

We have already seen how valuable flow analysis can be used to improve the retail business processes; to direct the flow of visitors towards attractive products in retail stores helps to lift the sales figures. In the public transportation business a flow analysis can also help to improve the business process and to secure revenue.

An intelligent system will recognize when the flow pattern of a scene is disrupted. For

instance, it would record and store an event where someone is walking in the opposite direction of the traffic flow. This can lead to a security problem, but can also disturb the normal operation and lead to queues, customer complaints and delays of transportation vehicles.

Flow analysis tools based on video systems can help to optimize the flow patterns in busy railway stations, airport and bus terminals. As in the retail business, efficiency can be increased by improving the planning of checkout line staffing. A long-queue alert in real time helps transportation managers to redeploy staff to the ticketing or information counters.

However this is not the only way in which flow analysis can enhance the business performance, it can also be used for accounting purposes. Passenger flow can mean cash flow. In a lot of cities the public transportation is not managed by one single enterprise. Public companies, sometimes represented by different regional operators, connect their service with the service of privately-owned companies. Within big cities there are several hubs where people can change from one bus to another or from train to bus. For the passenger this often means changing from one service provider to the next, without the need to buy a new ticket and without the

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need to care whose service they use. A monthly pass for a certain region is convenient for the passenger but complicated for accounting for the business partners offering such a service. Why not use cameras that are already in place to guarantee a certain level of security to monitor passenger flows?

Directional counting of incoming and outgoing people with only one camera provides highly accurate and reliable frequency statistics even in complex entry situations due to smart virtual tripwire technology used in a modern video management system. You can detect exactly how many people change from bus line A to B at a hub. Not only does this make the planning of transportation schedules, but also the accounting. Additionally, as in the retail business, you can get more information out of the cameras. Gender analysis and age profiling help you to get a better product differentiation and are valuable tools to redirect marketing money to attract new customers.

### Advances in Logistics

According to the European Union, the theft of high value, high risk products moving in supply chains in Europe costs businesses in excess of € 8.2 billion a year. The threat from organized criminals is increasing and becoming more violent. Organized criminals targeting high value products moving in supply chains remain the

greatest threat, but businesses also need to be more alert to the risk of opportunist thefts from ad hoc and first time criminals. Using video systems to protect the logistics business against crime therefore has a long tradition and the next generation of video systems has emerged beyond the simple watching of videos for security reasons at logistic hubs.

### Added Value in Logistics

Modern security systems allow monitoring the flow of goods by connecting video data with data from the business process like order numbers, delivery note numbers, part numbers, packer numbers etc. By adding information stored in ERP software and data from RFID systems and scanners, a modern system tailor-made for the logistics business allows complete shipment tracking within the warehouse - from goods received to goods dispatched. The exact path a shipment took in the warehouse can be followed and tracked-down even weeks later, making searching for lost or misrouted shipments much easier and more efficient, saving time and cost.

The use of intelligent software can help logistics companies to minimize complaints and to optimize processes. With such a system customers are provided with an online parcel tracking facility with which the customer can check on the current dispatch status at any time by entering the parcel number or reference number. Reg-

istered customers can use other services such as online delivery notification or funds transmission for COD deliveries. But parcel tracking can also be used for the organization and securing of parcel depots. With a modern system for logistics parcels can be followed with the help of a video surveillance throughout the storage and logistics areas of the parcel depot. After carrying out an analysis of the transport routes and interfaces for the parcel logistics and taking stock of existing technology, such a system can be created by using special plug-ins for parcel tracking in addition to standard video management software.

An intelligent system can also follow and document the flow of goods from the intake area right up to handover to the delivery drivers that accept the parcels for their delivery area. The goods can be located at any time via the video management software, even in complex logistics chains. Parcels are identified by manual and automatic scanning of their bar code and the parcel note number and simultaneously linked with a video image. This documentation can already be useful for the operator when it becomes essential to question who is responsible for the damage of a parcel before it has reached the depot. Depending on the destination or the postal code, the parcels then go through a complex system of conveyor belts that ultimately transport them to their point of handover. Along their way through the sorting channels, the parcels are automatically tracked and the images are archived. The parcels are scanned once more at the point of handover before being loaded, when the liability is thereby given to the delivery agent. The handover is documented by the scan procedure and the video images.

In cases that parcels are logged as „missing“ after an analysis by the system, a quick check is possible of exactly where a parcel went missing along the way. This procedure can be important for logistics companies to proactively go through the procedures when there are problems and use the video documentation proactively before there are possible complaints a few days later. Such pro-active information in case of delivery problems is very important for logistics providers and offers them a competitive advantage.

The installation of an advanced security system provides obvious advantages: A logistics company can demonstrate its power of innovation and competence in security and business operation, especially to its more demanding customers. Manufacturers, providers of high-value electronic products and pharmaceutical companies are increasingly carrying out inspections and audits, awarding shipping contracts only to a parcel service they can trust on who satisfy their need for quality control measures in place. Continuous optimization also helps to process complaints from end users about missing or incomplete deliveries and minimizes the effort required for subsequent investigation. This is true business intelligence that builds up the customer's trust in logistic because it's all about speed and reliability.

**Heiko Baumgartner**



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By launching their new Integration Partner Program, Bosch Security Systems early this year aimed at nothing less than to move their business to a new level of interoperability. The program's purpose is to provide partners with powerful development tools and dedicated resources to ensure support of Bosch video products within third-party solutions. For Bosch the introduction of the partner program is a big step since the company in the past was known admittedly as a highly-reputed provider of security solutions but not as an open company whose IP-products interact easily with third-party components. As a first step, at ISC West in April stand visitors could see Bosch demonstrations with partners Genetec, Milestone Systems, OnSSI, Exacq Technologies and Lenel. Right before IFSEC, Bosch and Milestone announced to further intensify their cooperation. In Birmingham, GIT SECURITY had the opportunity to talk to Rudolf Spielberger, Head of the Integration Partner Program at Bosch Security Systems and Christian Bohn, Milestone's Vice President Alliances and Marketing, about the cooperation.



Rudolf Spielberger, Head of the Integration Partner Program at Bosch Security Systems and Christian Bohn, Milestone's VP Alliances and Marketing

## INTERVIEW

# Open Doors

## Bosch and Milestone Intensify their Efforts for High Level Integration

**GIT SECURITY:** Mr. Spielberger, there are many partner programs out in the market. Can you give us an overview about the new Integration Partner Program at Bosch and explain to us what distinguishes this program from others?

**Rudolf Spielberger:** The Bosch Integration Partner Program (IPP) is designed to support partner vendors in the security and other industries. As partners, they can easily integrate our products

and systems to build new solutions or expand their solutions with video applications. But it also is aimed at consultants, integrators and end users. The program helps them identify compatible products and applications with a goal to make it even easier to design best-of-breed solutions. We have built a new web portal featuring a solution advisor that helps integrators identify the compatible software and products that are right for their video projects. The result is greater flexibility for end users to utilize Bosch IP video devices

with the software and storage platforms that best address their security surveillance needs. As part of the program, developers gain a comprehensive library of reusable software components and sample code to facilitate immediate integration of Bosch IP devices into their applications. Bosch engineers also help optimize support of video product features for more complex projects. For end users, stringent testing of all third-party solutions listed in the web portal ensures seamless integration of Bosch IP devices and simple operation.



Terms like open protocols, software development kits to download, best-of-breed solutions and integration with third-party products do not exactly match the picture a big part of the industry has got from Bosch. For me this sounds more like a change in philosophy within your company.

**Rudolf Spielberger:** That's true. It is a big step for Bosch. The change in philosophy was developed over the past years out of the cooperation with other companies for the ONVIF projects. And it is a reaction to the strong demand from the market. Interoperability is the biggest topic in the market at the moment and the ONVIF activities have laid the basis for an easy integration of security systems. Customers all over the world have signaled a strong demand for an even deeper integration of our products with other systems.

**Mr. Bohn, am I right if I assume that for Milestone Systems as a VMS company, topics like interoperability, open systems and the need for integration are not exactly new tasks to handle?**

**Christian Bohn:** 100%. Since Milestone was founded we've been fighting for open systems. Partnership within the industry was always the basis for our growth and success. To work with open systems and to partner is in our DNA, and we are more than happy to see that the mentality in the industry is changing towards integration, partnership and open systems.

**What is your view on ONVIF and its activities?**

**Christian Bohn:** As Rudolf mentioned, ONVIF's activities are great for the industry as a whole. One can't overestimate the achievements ONVIF has brought. Integration on a basic level is now possible for all ONVIF-compliant cameras

and systems. That is just fine, but the market is looking for more comprehensive solutions. Users do not only want basic functions and it is not enough for them if they can simply watch video streams of their cameras with their management software. They want to use the full scale of possibilities cameras and security systems offer these days. The third-party devices we integrate into our video management software are getting better every day, they are becoming more intelligent and they offer a variety of functions you can only use if you enable a deep integration far beyond ONVIF. This is why we work with key partners to enable integration on the highest level possible, and this is why we are so happy with the Bosch cooperation.

**Bosch and Milestone have been working together already for some years, what has been realized from the partnership?**

**Rudolf Spielberger:** At first we have worked together to ensure seamless integration of Bosch IP video devices within the XProtect Video Management Software. Now we are aiming on a higher level and currently Milestone supports tamper and motion detection of our cameras, H.264 compression and multi-streaming from Bosch IP video devices. Intelligent video analytics is our main focus at the moment: a whole bundle of video analytics functionalities our cameras actually offer are now fully integrated in XProtect.

**Christian Bohn:** Also included are functions for steering PTZ cameras or to control wipers for the MIC Series cameras. So end users can now use more functionalities.

**What support is planned for bringing this joint solution to the market?**

**Rudolf Spielberger:** We will feature our integration solution at over 25 events, e.g. in the majority of Milestone partner events and industry trade shows globally. We have already completed MPOPs (Milestone Partner Open Platform events) in France, Czech Republic, Italy and Shenzhen in China and Abu Dhabi, as well as at ISC West in the U.S. Here at IFSEC in the UK we have a dedicated section reserved for Milestone in our booth and featured Milestone in the IPP Tour Promotion.

**What can customers expect from this partnership in the near future?**

**Christian Bohn:** Both companies invest heavily now in manpower to strengthen the integration. With Bosch as a Milestone Alliance Partner we will continue to build on the strength of the excellent technologies provided by both companies, and we will extend the cooperation into the years to come with strong integrations between our companies.

**Rudolf Spielberger:** Moving forward, joint customers will be able to access even more unique features of Bosch devices. A new Milestone device driver, which will be available soon, will support edge storage and Bosch's Intelligent Video Analysis software for advanced notification of potential security risks, as well as other features. This dedicated driver will cover all Bosch IP devices.

## ► CONTACT

Bosch Security Systems, Grasbrunn, Germany  
Tel.: +49 89 6290 1647  
[www.boschsecurity.com](http://www.boschsecurity.com) · [www.ipp.boschsecurity.com](http://www.ipp.boschsecurity.com)

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## INTERVIEW

# Storm Flood, Terror and Pirates

The „Integrated Safety and Security Management“ Degree Course at the University of Applied Sciences Bremerhaven

The Integrated Safety and Security Management (ISSM) degree course at the University of Applied Sciences Bremerhaven that was created as a result of the attacks of 9 September 2001 is concerned, amongst other aspects, with security concepts and crisis scenarios for emergencies in Germany, but also with aspects of safety and protection at work. Matthias Erler of GIT SECURITY spoke with Frank Reininghaus, designated Professor for the course and Commander (senior grade) of the German Navy.



Frank Reininghaus, designated Professor for the course and Commander (senior grade) of the German Navy

**GIT SECURITY:** Mr. Reininghaus, the hurricane named Sandy sounds comparatively harmless but, as the world has seen, was anything but that. Would we be prepared for such a drastic storm here in Europe?

**Frank Reininghaus:** In my opinion, we are more or less prepared in Germany for the sort of natural emergencies that can be expected here. Of

course, no-one is preparing us for major earthquakes, tsunamis or similar events – under the geomorphological conditions of our country and/or our coastal waters, such events would not be expected. However, extreme temperature drops, floods or storm floods can definitely happen. Most of such so-called elementary damage is caused by hydro-meteorological forces of nature. Snow, lightning, hail, flooding, frost,





landslides, drought and forest fires all fall into this category. If we look at the USA, the subject is topical again. In the 'Tornado Alley' of the mid-West in the middle of May in the suburb of Moore (near Oklahoma City, OK), a tornado took two dozen lives. It is clear to see that, under different geographic, hydrological or civilization-related conditions, these extreme weather situations can have much more serious consequences than for us here in Europe, in particular in Germany. On the other hand, other weather extremes occur in other regions of Europe and the world, such as tsunamis, strong earthquakes and sandstorms.

**... and their analysis is a component of your curriculum?**

**Frank Reininghaus:** We are constantly analyzing such events, such as the Elbe flood of 2002 in which I was involved as a member of the Navy, and of course the actual flood situations in South and East Germany in the early summer of 2013. Another example is power failure caused by a temperature drop, such as the one that happened in the Münsterland snow chaos on the first weekend of Advent in 2005. In Europe we are currently concerned with the protection of critical infrastructures, and we have also studied various examples of these outside Europe during our last semester, for example Hurricane Sandy mentioned before and the floodwater situation at Chao Praya in Thailand.

**So you discuss emergencies in other parts of the world, such as the tsunami that caused the core meltdown in the atomic power station in Fukushima.**

**Frank Reininghaus:** Emergencies that influence critical infrastructures of any type, and that could be significant for us are always part of our analyses. As in the example of Fukushima, we take a close look at how the operator Tepco handled the emergency; which plans were in place beforehand; which ones were developed afterwards, etc. For this we try to obtain information directly from the source because we are trying to learn as much as possible from them.

**Well Tepco has been subjected to hard criticism and continues to be so.**

**Frank Reininghaus:** Bad examples can also provide a learning effect, so really nothing is without use for us. On the contrary: I intentionally confront my students with scenarios that played out like this and let them go find the faults and work out some suggestions for improvement.

**Emergency precautions are only one part of the course?**

**Frank Reininghaus:** In addition there is the subject of safety (protection at work, accident prevention etc.) as well as the subject of security. The latter refers to subjects like small crime and organized crime, spying, sabotage and more recently also terrorism. Events such as 9/11 are discussed here just as much as, for example, the piracy around the Horn of Africa. In the Safety section we are concerned, for example, with the hazard potential of logistical production processes and systems. Scenarios could be that a crane damages a chlorine pipe so that the gas escapes, or chemicals such as caustic soda and nitric acid are inadvertently mixed. Our 'risk assessment of hazardous materials' is concerned with the hazard potential of chemicals – we operate a laboratory for this purpose. The field of study has, all in all, a very wide scope: training on protection at work is included, but also administration law and criminal law. We are also very internationally minded: to prepare our students for international work as well as for international conferences and work on committees, the courses are held partially in English and many original English-language documents are used in the seminars.

**Coming back to the emergency cases: the power failures caused by such events are a big problem. Who would be responsible for which function during such power failures in Germany? Who has command – the local communities, the regional government or perhaps even the state?**

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**René Jungbluth,**  
Head Solution and Service Portfolio,  
Siemens Division Building Technologies

**Frank Reininghaus:** That is relatively simple to answer: the responsibility is fundamentally related to the geographic scale of the power failure. Correspondingly it is either the district administration, the regional administration or possibly even the state that will be responsible. In the latter case, the Federal Office for Civil Protection and Disaster Assistance, the State Networks Agency and also the Ministry of Commerce will become involved.

**Where are the main problems in the management of such crises? Which crisis plans come into effect in such situations and how are they structured?**

**Frank Reininghaus:** That is handled differently in the individual federal states. In North Rhine-Westphalia, for example, there is a law on fire protection and assistance (FSHG). This defines who takes control and coordinates during emergency events. The existing emergency management plans vary in quality and naturally differ according to the geographic location. The most common form of organization is based on the staff model – a crisis team is called in, consisting usually of seven members. The template for this comes from the military; this model is also used in similar form and sometimes with altered titles in civil groups. Directly subordinate to the director are the staff leaders and staff members for personnel (S1), situation (S2), operations (S3), logistics, supply and transport

please turn the page ►

Being a loyal reader of **GIT SECURITY**,  
I appreciate and look forward to the  
high quality of the content the magazine  
consistently offers. Providing thorough  
analysis of security challenges in  
Germany, GIT helps me stay informed and  
gives me a better understanding of the  
challenges decision-makers in the  
security industry face across both  
the private and public sector.

Stefan Bange, Avigilon

(S4), press and public relations (S5) as well as IT and communication (S6). Individual functions are combined in some teams (e.g. S1 and S4, personnel and logistics) or in larger or more complex situations they staffed up with several people. The team areas are similarly structured internationally, whereby the division stretches from 1 to 9, sometimes extended by a 'Med' component for the medical service. I know this structure personally from a mission in Congo in 2006 where I was working during the entire mission in strategic headquarters in the department J3 'Operations' (J for 'Joint', that means Army, Air Force and Navy together).

**And that is how you do it in your own college too ...**

**Frank Reininghaus:** Yes, I myself am one of the designated staff leader S3 (operations) here in Bremerhaven responsible for emergency and crisis management at the University of Applied Sciences Bremerhaven. We established a corresponding emergency and crisis handbook with checklists and procedures in our course. This is nationwide unique in universities in such a comprehensive form.

**How does it look for our small and medium-sized companies and for industry?**

**Are we well enough prepared in Europe for (natural) emergencies? Let's stay with the example of a power failure to start with ...**

**Frank Reininghaus:** Power failure really is one of the most important subjects because it leads to failure of telephones and the Internet. The handover point is essentially the main entrance or the border of the property – responsibility within this area lies with the company itself. It develops emergency plans for this that we also

analyze in case studies, for example with respect to flammable substances on company premises. Should, however, a new cruise ship with a high superstructure be transferred from the shipyard along the river Ems into open waters and the planned power outage lead to a chain reaction of power failures that, according to many estimates, affected up to 10 million households, rail traffic and a lot of other things, as occurred in November 2006, then responsibility is escalated to regional, state or even to EU-wide level. In Europe – i.e. also beyond the boundaries of the European Union – there are very, very different crisis reaction mechanisms in place, ranging from purely rudimentary efforts right up to almost perfect systems (e.g. tunnel safety in Switzerland, which is also a critical infrastructure). In the USA, if we look once again across the Atlantic, there are also widespread crisis plans in place at schools, universities, public buildings and in the transport systems (airports, railway stations, the interstate highway system, etc.).

**You regularly simulate concrete scenarios in which your maritime background comes into use – could you give us an example of this?**

**Frank Reininghaus:** An example from one of our lectures was a team exercise entitled 'ship collision off List on the island of Sylt'; just one month later the Costa Concordia ran aground, which was similar to our exercises in many respects. Another current and challenging example are the offshore wind energy installations. If one of these installations is on fire, it can take a very long time under certain circumstances until a fire extinguishing ship is on site. As a rule, the best option here is a controlled burn-down because, unlike on solid ground, a mast crashing down in open waters does not represent a huge problem. I confront my students, amongst other things, with scenarios such as during a

storm flood out there when maybe a helicopter comes down, there are people injured and the radio contact is lost etc. What can be done when a 'black ship' (a ship with total failure of all electrical systems) is drifting towards a wind energy park because the engines are out of action? What if the ship is loaded with dangerous goods? Or if terrorists intentionally steer a gas tanker into the wind energy park?

**That doesn't sound good ...**

**Frank Reininghaus:** But you have to be prepared. In our course, a criminal psychologist also lectures who explains to the students how you can attempt to deter perpetrators from their intentions.

**Who is actually studying with you?**

**Frank Reininghaus:** It is a Masters course – so you must already have a Bachelor or similar qualification. Our students come from degree courses such as Transport and Logistics (University of Applied Sciences Bremerhaven), Risk and Security Management (University of Applied Sciences Bremen, Public Administration branch), Rescue Engineering Management (Hamburg) or Security and Safety Engineering (Furtwangen). We also have Graduates of the Security Management course of the College for Economics and Law in Berlin as Master students as well as Business Studies, Economics and Psychology graduates. We welcome foreign students. We runs parts of the curriculum in English so that exchange students with good English can certainly be fully integrated and will be able to transfer these credit points to their home university. It is however much more interesting if a student from abroad has, in addition to English, also a good knowledge of German because they can then successfully graduate after the complete two-year Integrated Safety and Security Management course and, for example, do their Masters thesis in English. The tutors can give individual help if there are difficulties in understanding because we are (still) a relatively small group, almost a family, and not a full-on course for fifty, a hundred or even more students.

**Mr. Reininghaus, many thanks for the conversation.**

## ► CONTACT

**Frank Reininghaus**

freininghaus@hs-bremerhaven.de  
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**CEM SYSTEMS**

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## VIDEO WALLS

# Visual Building Blocks

## Telefonica Commissions First Omnishapes Installation

Telefonica Digital, the parent group of O<sub>2</sub> is an important participant on the European telecommunications market. Their strategy to success lies in the bundling of the abilities and experience of all sister companies within the group to provide the right solutions. In the Telefonica Digital headquarters in London the first Omnishapes installation in the UK has now been put into operation.



In any orientation for showrooms or exhibitions

What makes this installation special is the creative check board design that was created by Christian Bozeat of Emergent AV and that was configured to a video wall including 28 Omnishapes. The innovative design of this video wall complements the high-tech theme of the newly acquired Air Street Project near Piccadilly Circus in London. This includes impressive office accommodation, with conference and meeting facilities for the new headquarters of the digital media business of multinational telecommunications. The client chose the revolutionary technol-

ogy following the launch of Omnishapes to the UK market at Screenmedia Expo in May 2012.

Smartcomm offers a consultative service and provides the very latest AV technologies for commercial, residential and communications solutions. Mark Allen, their Commercial Systems Consultant said: "The Omnishapes video wall has created a unique technologically-advanced experience for the project; with its pin sharp images, wide viewing angle and low power consumption, making it the ideal solution. Other features of the project include an amphitheater

fully-equipped for high-tech presentations, an assortment of displays ranging from 40 inch to 103 inch screen diagonal and advanced projection imagery in the reception area, which provides an incredible tunnel effect."

### Aesthetics Freed

PSCo Technical Distribution, a UK AV distributor, has been working closely with a dedicated consultant to supply much of the AV technology for the project including the Omnishapes video wall. The company's expertise lies within large format display and video wall technology, which has enabled them to provide additional advice and assistance within the set-up, calibration, configuration and after-sales care of this new technology.

Nico Kamffer, Client Services Director of PSCo Technical Distribution complimented eyevis: "As the UK's exclusive distributor of this newly-launched eyevis product, we are delighted to be working with Smartcomm on this exciting project to supply some of the most visually innovative display technology available. This is the perfect solution for the brief, which combines the very latest AV applications with a creative aesthetic for a technologically advanced installation."

It is so such a  
joy to work for  
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to be at trade  
shows, visit  
and speak with  
readers and customers  
- let's go for the next 10 years.  
Cheers!



Sebastian Reinhart, GIT SECURITY online team

### ► CONTACT

eyevis Gesellschaft für Projektions- und  
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# MOBOTIX

## ACCESS AND SECURITY MANAGEMENT

# Biggest Port – Secured

Khalifa Port, Abu Dhabi Chooses CEM AC2000 SE Security Management System: CEM Provide Customised Gate Management System, IP Card Readers, PoE+ Technology and S3020 portable readers



CEM Systems, part of Tyco Security Products, have secured the prestigious Khalifa Port & Industrial Zone (KPIZ), Abu Dhabi with the CEM AC2000 SE (Standard Edition) system. The system was installed at Khalifa Port by CEM Approved Reseller Tyco Fire & Security U.A.E.

Khalifa Port, the state of the art gateway to Abu Dhabi was officially opened in December 2012. Khalifa Port is crucial to the ADPC (Abu Dhabi Ports Company) megaproject which includes Khalifa Industrial Zone Abu Dhabi (KIZAD). Featuring the latest technology and designed to accommodate the world's largest ships, Khalifa

Port will become one of the biggest ports in the world when all phases are completed, estimated to be two-thirds the size of Singapore!

"CEM is delighted to be involved in one of the UAE's most prestigious infrastructure projects. With our many years experience in both the port and airport sector, CEM has provided a sophisticated security solution for Khalifa Port" said Philip Verner (see also GIT SECURITY interview in issue no. 3/2013, page 40), Regional Sales Director, EMEA, CEM Systems. He continued "This was an exciting yet challenging project for CEM who delivered not one but two systems for the Port; AC2000 & a highly customised Gate Management System, providing high level integration to multiple port security systems to ensure the monitoring and control of vehicles coming onsite".

## And the Gate Opens

The AC2000 Gate Management Solution integrates with a number of third party systems all interfaced to ensure multiple checks are made before a vehicle can enter site. The driver firstly swipes their card then Passive or Active long

range RFID tags are used on trucks and light vehicles and then finally ANPR License Plate Recognition is used and the gate opens.

"Khalifa Port required a highly secure & flexible access control system, which could be used for more than just access control" said Craig Menzies, Security Division Manager, Tyco Fire & Security UAE. He continued "Having worked with CEM before on projects such as Dubai International Airport, we knew the CEM AC2000 solution would be a perfect fit for the Port and with CEM's dedicated Integrations team, Khalifa Ports high expectations could be met successfully".

CEM's advanced hardware was used throughout the Port including over 700 S610e and S610f fingerprint readers, S3020 portable card readers and over 300 DIU (Door Interface Unit) 230s utilising PoE+ (Power over Ethernet) technology.

## Zero Downtime

The multi-technology CEM S610e IP card readers installed at Khalifa Port are IP 66 rated to protect against dust and water. The S610e reader displays meaningful user messages such





Big project and application in this GIT SECURITY jubilee edition: CEM at Khalifa Port

as 'Wrong Time-Zone & 'Card Expiring' and features a keypad for additional PIN code security. The S610e reader also offers the highest level of reliability as it features an internal database for offline card validation. The reader's database holds up to 200,000 card holder records internally and up to 8,000 records offline. This means that should communication be temporarily lost at the Khalifa Port, staff can still validate cards throughout the Port at all times.

CEM S610f fingerprint readers will also be installed on critical doors/areas throughout Khalifa Port. The S610f reader has all the features of the S610 reader but the added benefit of biometric security. For high security areas users will be prompted for three identity checks (card, PIN and biometric verification) using one device. Mobile security required

Being such a large and expansive site, Khalifa Port required mobile security. The CEM S3020 portable reader is ideal for roaming security. The lightweight, handheld mobile reader can be used at remote Port sites or temporary entrances which have no power during the construction phases.

Khalifa Port also chose CEM's industry leading Power over Ethernet door interface units for seamless installation and to ensure cabling was kept to a minimum. The DIU 230 door interface unit utilises CEM Power over Ethernet Plus technology to power readers and heavy duty maglocks on two doors, using a single Ethernet network cable. This created sizable cost savings on the project as it eliminated the need to fit mains power supplies/ fused spurs above each door.

Khalifa Port also use the AC2000 security management system to its maximum efficiency taking advantage of software applications such as AC2000 AED (Alarm Event Display), VIPPS ID Badging and Visitor Management.

#### ► CONTACT

**Rachel Marley**  
CEM Systems Ltd., Belfast Northern Ireland  
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## VIDEO MANAGEMENT

# Three Phases of IP Video Evolution

From Launching IP Video Technology to Video Enabling



Lars Thinggaard,  
President and CEO,  
Milestone Systems

Milestone Systems' sustained growth during its first 15 years has to be attributed to our introducing the open platform approach to the security industry. By allowing other companies and developers to add functionality to Milestone's software and supporting the widest choices of servers and cameras, our open platform has had a radical effect on the security industry. Milestone's open platform concept has attracted over 6,500 partners from around the world, and within the span of just five years has become the foundation for a thriving business ecosystem.

Milestone's open platform has created the freedom for both partners and their customers to not only select their own video system components, but also to create, define and tweak solutions to suit their security needs. Not only was Milestone one of the visionary companies in the shift from analog to digital; our introduction of the open platform has paved the way for new ways of thinking about using surveillance video. For the surveillance industry, the decision to „go open“ has motivated a series of developments that mark three distinct phases in its growth.

## The First Phase: IP Video Technology

When Milestone started up in 1998, video surveillance was 100% analog. Closed-circuit television (CCTV) was synonymous with video surveillance, and even though the concept has changed a lot since then, most people today still think of analog video when they think of video surveillance. Video surveillance is a tool to view and record video images, and the general public generally sees it as being used in security only.

With the advent of the digital revolution and the drop in price of digital storage, the shift towards digital video surveillance became certain. Digital images were clearer, storage media were getting smaller and video compression improved dramatically. Digital files could be moved much easier, footage could be found much quicker (no more spooling tapes back and forth) and long-term storage had no effect on image quality. It was the way to the future. For many there were clear advantages in purchasing a digital video solution, but in practical terms it was not much different from analog in the way it was used. It was still basically a security tool.

## The Second Phase: Video Integration

The Internet brought with it a new electronic infrastructure that made Internet Protocol (IP) applications like email, instant messaging, peer-to-peer file sharing and Voice over IP (VoIP) widely available. Digital video was soon added to this list, and saw application in video conferencing and, of course, video surveillance.



The main advantage of networked applications was that they were programmable, and this opened up a range of other benefits. These typically included better user experiences, network visibility and control, better access to data and development advantages, notably in the form of tailor-made video integrations.

One can program a simple IP network to give a building administrator an overview of controllable doors or gates in a building, so they can be locked and unlocked remotely. However, by integrating surveillance video with this existing network, access control can be given a higher level of sophistication and efficiency, by combining it with possible security-related evidence or by ultimately automating the access procedure through the use of video content analysis – face recognition in this case.

With Milestone's introduction of the open platform standard, it was soon apparent that innovations in this area were going to be driven by the Milestone partner alliances. Our innovative partner ecosystem was the driving force in identifying customer requirements and creating distinctive and revolutionary video integrations.

### The Third Phase: Video Enabling

It was clear that video integration with other IP-based systems was going to change the face of video surveillance. While new video integrations were a natural result of a growing and diversifying partner ecosystem, Milestone recognized the new definitions that networked video was beginning to offer to the world of video surveillance. Companies were beginning to adapt their existing video solutions for other uses, for purposes that optimized and improved their businesses processes.

Video enabling is to video surveillance what the smartphone is to the telephone: it is an added set of functionalities that surpasses the original concept. We no longer use phones only

to make calls; we use them to take photos, record video and audio, surf the Internet and play games – and third parties are constantly adding new applications to make the user's smartphone experience so much more rewarding.

Video enabling simply means that video surveillance has shifted into a new paradigm of usability and application. This is because of the unique combination of network programmability and the extensive partner ecosystem made possible by the open platform standard.

For Milestone, the recognition of these new possibilities is not a passive one; it is a motivation to mobilize a greater awareness of video integration's scope. It is a call to action to partners and customers alike that video enabling – the optimization of business processes through video – is the way forward. It is not a move away from security, but rather an addition of function to that of traditional asset-protection and loss prevention. The amount of revenue-generating potential inherent in video enabling is a 'win-win-win' for vendors, partners and the customers.

There are a number of possible ways in which companies can video-enable their businesses. Here are just a few:

- Compliance. Workers can be monitored to enforce protective clothing and safety equipment or procedures, preventing loss due to fire, chemicals, accidents and injury.
- Prevent queuing at point-of-sale locations by notifying when extra personnel are needed.
- Alert maintenance crews to impending structural failures in buildings and vehicles.
- Retailers use video to track traffic patterns, measure the effectiveness of displays and other merchandising strategies, and devise ways to increase sales or visits.

One retail chain in Ireland initially had a video solution installed to keep an eye on their parking lot. They realized that they could adapt it with the use of video content analysis, to send

an alert to the store when someone parked in the disabled persons' bay. A mobility chair could then be made immediately available, providing improved customer service.

In the same vein, a vegetable farm in the U.S. used their video installation for more than security (which was integrated with their access control system) to also optimize the timing of harvesting trucks, cutting down queuing time, ensuring the shortest amount of time spent between picking and delivery – and thereby delivering a better quality product.

According to the Loss Prevention Research Council's (LPRC) "CCTV in Retail 2012" report, in the category of Video for Sales, Marketing and Operational Efficiency, "of the retailers who use IP-based video systems for cross-functional benefits outside of security and loss prevention, 93 percent have seen a positive impact on operations, while 40 percent have seen a positive impact on merchandising," and "nearly one quarter named 'integration with business intelligent video, such as analytics and POS integration' as a main driver for adopting a network/IP system". These are significant numbers, and an indication that the retail sector, for one, is making giant strides in adopting video-enabling solutions.

Milestone's vision is "to drive the convergence of video surveillance and IP-based systems". This is not only an open acknowledgement of the new direction that video surveillance is taking; it is an assumption of initiative and a rallying call to lead the security industry toward video enabling and optimized business processes.

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### ► CONTACT

Milestone Systems A/S,  
Broendby Copenhagen, Denmark  
Tel.: +45 88 300330 · [www.milestone.dk](http://www.milestone.dk)

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## VIDEO MANAGEMENT

# The Istanbul Experience

## SeeTec Secures Business Center in the Heart of Istanbul

Istanbul, the metropolis at the Bosphorus combines modern spirit and traditions like no other city in Europe. An indicator of its fast-paced development is the increasing range of services offered in the heart of the city.

Windowist Tower, a complex of buildings in Istanbul's trade center Maslak operated by Akdağ Turizm, is one of them. Here you can find everything: Premises, turnkey services and useful contacts. The operating company tries to meet every demand with a special class "All-in-Service".

An important aspect of this service is the building security. Due to the fact that many visitors enter the offices every day, a video surveillance system has been established in order to support the security staff in keeping track of what is happening as well as to prevent theft, detect suspicious parcels and intentional damages by people or cars.

### Secure Areas, Rooms, Perimeter

The video solution should be applied to secure the publicly accessible areas in the building as well as the technical rooms and the perimeter.

This includes the entrances and exits, the floor entries inside and utility rooms. At the same time the surveillance should cover events taking place at the restaurant and bar. Here video is used to supervise bar staff, waiters and cashiers. Differing environmental conditions posed the greatest challenges to the planning. The management of Windowist Tower relied on the recommendation of Pronet, a leading Turkish company in security and alarm systems. After testing several products in demo installations and evaluating their performance the management board decided in favor of SeeTec.

The German manufacturer was able to convince by providing a video management software that faced all challenges without any difficulty. The end customer's main focus was on an optimized and integrated security concept, on easy handling as well as on scalability to be able to meet growing demands in the future. Additionally the video data should be accessible from several designated places. To keep track of the recordings on the way too, a mobile solution was requested. To monitor and evaluate the image recordings the technical control room and reception area were equipped as control rooms.

### As Discreetly as Possible

The SeeTec multi Solution Platform provides the common technical base that allows an unlimited extension of the video system without re-installing software or changing the product.

As the operating company focused on quality, excellent performance and low energy consumption, 157 Axis cameras of different types were selected to meet the differing requirements. Thus, for instance, cameras which are capable of providing high-quality images despite humidity, dust and vibration were installed in the warehouse and outdoor areas. In contrast cameras which provide more details with a resolution of up to three megapixels are used at the lobby and restaurant. In order not to interfere with customers, cameras were placed as discreetly as possible. Recordings and live images can be viewed at both control points, each of them equipped with four monitors, by previously defined groups of users.

Thanks to three SeeTec WebClients and three MobileClients the recordings can also be accessed remotely. The data is stored on two NAS systems for up to 15 days and can be used by the police as evidence in case of suspicious events.

### Customer Akdağ Turizm Satisfied

After a short testing period in 2010 Akdağ Turizm was completely satisfied by SeeTec's approach. Pronet integrated the system in just one week. First positive results were achieved only a short period after the implementation: Two cases of theft were solved and the stolen goods were returned to their owners. Furthermore, an ingress of water which occurred in one of the technical areas was discovered in time and could be stopped before causing any serious damage. By using the archive images the reason was identified and fixed. Ögur Özer, R&D Manager at Akdağ Turizm, is happy about the results:

"Day-to-day we are convinced by the usability of the software. Multilingual support and a local branch are the greatest benefits for us. Beyond that, we use the recently established search function and overwrite protection a lot. It facilitates the handling of the image recordings and saves time. We definitely received more than what had been promised to us."

The system is planned to be expanded in future. In order to disburden the security staff on-site, the use of intelligent video analysis features is planned, containing for example the detection of suspicious objects as well as people counting. The number of cameras will increase as well.





Windowist Tower, Building Entrance



Middle: Windowist Tower, a complex of buildings in Istanbul's trade center Maslak operated

### Project Facts

Akdağ Turizm

**Object:** Windowist Tower

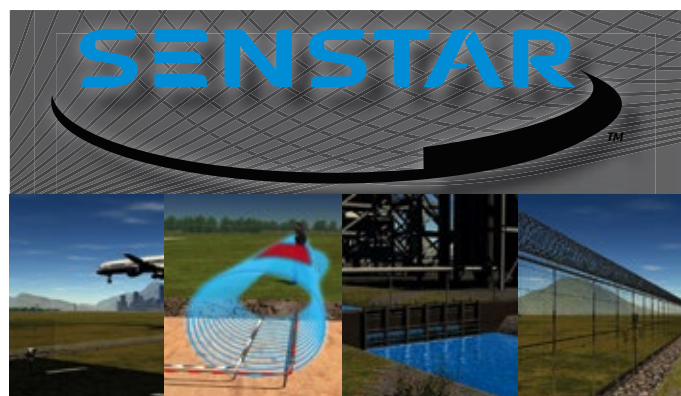
**Installer:** Pronet

**Products:** SeeTec  
Enterprise Edition  
SeeTec Multi  
Solution Platform  
SeeTec Probox 5

**Cameras:** 157 Axis cameras

#### Required features:

- Energy efficient installation
- Scalable and expendable system
- Low memory requirements



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### CONTACT

SeeTec AG, Philippsburg, Germany

Tel.: +49 7256 8086 0

[info@seetec.de](mailto:info@seetec.de) · [www.seetec.de](http://www.seetec.de)

## VIDEO MANAGEMENT

# VMS's **Mobile Security** Options

Designed to Deliver a Better User Experience



Gadi Piran, President, OnSSI

In the evolution of video surveillance systems, each new technology breakthrough has improved functionality, system performance and quality for the user. As IP systems technology develops, security professionals can more quickly detect, prioritize and respond to incidents as they occur. Using video management software and physical security information management (VMS/PSIM) systems for server-based or Software-as-a-Service (SaaS) applications, these activities are easier to manage and make security operations more productive and cost-effective.

IP systems are also transforming and evolving video surveillance by moving security operations beyond the control room. Wireless and broadband networks make video images accessible anywhere, whether on a smartphone or a laptop. These new developments in VMS technology are furthering this trend with greater functionality and an improved user experience that emulates the experience and quality of accessing video in a traditional control room, making mobile security technology a viable option for VMS users.

## Crisp, Clear Images in Real Time

VMS software now has the capability to provide clear, detailed and full-motion surveillance video immediately through any web browser. Each camera can be played back and reviewed, on its own, in full screen, or at the same time as the other cameras. Operators can zoom digitally into any camera view with no loss of quality because the software retains each camera's original resolution. The technology enables HD, standard definition and megapixel cameras to stream at their original resolutions even over a low-speed connection or limited bandwidth network. Video streams through the cloud can be monitored at full frame rates (with less than one-second lag); including the ability to digitally control pan/tilt/zoom functions. Streams are encrypted to enable secure connection both inside and outside

of an enterprise network, with all the resulting collaborative and public safety advantages.

## Intuitive User Interface

Using new technology, critical alerts exported from across the organization to authorized mobile devices are automatically distributed for investigation and event handling. For example, if an alarmed door exit at a facility is breached, video of the unauthorized entry/exit would be automatically "pushed" to pre-selected devices, enabling authorities in the area to immediately view the incident and then take the necessary action. Intuitive and time-saving tools like touch-screen technology, map-based interfaces, context-sensitive pop-up controls, pre-defined action lists and time slice forensics provide the advantage needed to make the right decision when an alert is sent.

In addition to an efficient and intuitive user interface, when mobile security is integrated with third-party technologies such as video analytics, access control, environmental detection, etc. the system value and user experience is greatly elevated while maintaining operational simplicity.

## Security and Beyond

Mobile security technology also lays the groundwork for video surveillance systems to take on

expanded roles beyond traditional security and surveillance. In addition to offering superior security detection and loss prevention, mobile video applications can also help businesses boost sales, optimize store layouts, enhance productivity, count people, monitor crowd control and more. Broadly speaking, mobile video provides a valuable new asset to the enterprise with a solid return on investment.

Mobile security as an element of a VMS system can ensure an operational efficiency that would be almost impossible for a non-managed system to achieve. Traditional record/review systems typically have too few operators with too little time, trying to handle too many cameras and too much information. Intelligent and sophisticated software solutions address these problems by filtering the important information and combining multiple alerts to create meaningful events. And now, with mobile capability, users can save even more time and resources.

## ► CONTACT

**Antoine Guy**

OnSSI EMEA, Sophia Antipolis, France

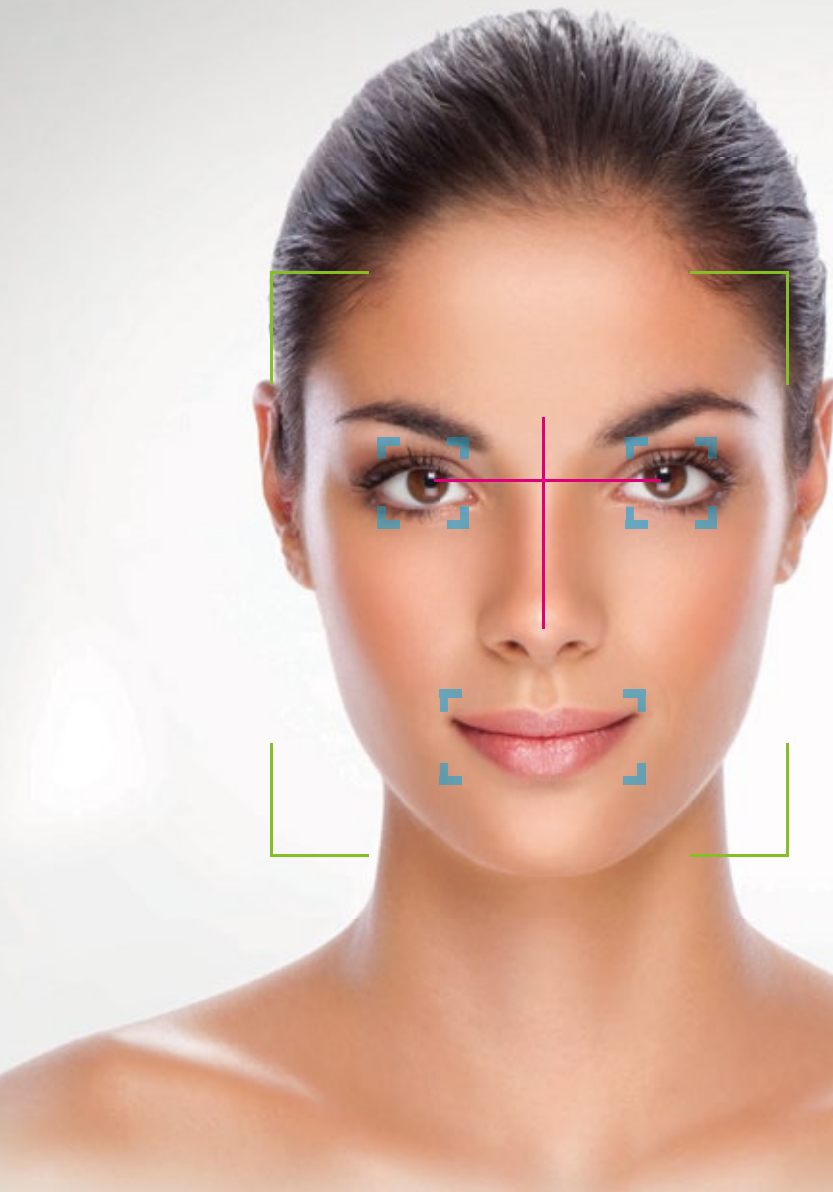
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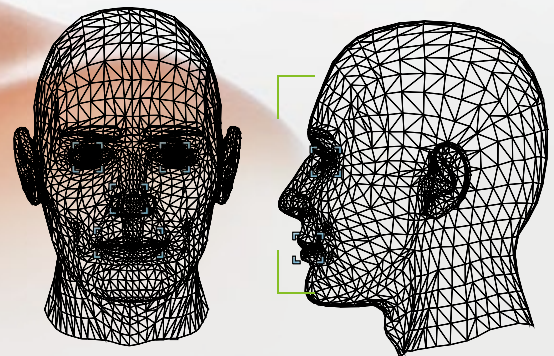
# SMART THINKING

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## VIDEO SURVEILLANCE

# Clear Benefits for the Next Decade

## Megapixel Cameras Will Dominate the Next 10 Years in Video Surveillance

As GIT SECURITY celebrates its first 10 years, better performance and lower cost benefits will continue to make megapixel cameras a major driving force in the industry's transition from analog to IP video surveillance systems over the next decade. The clarity and precise detail of megapixel video has convinced customers to embrace the superiority of an IP system's substantially greater resolution over analog and standard definition IP cameras. Other benefits of IP systems are easier connectivity and wider availability of video for remote monitoring. For end users and systems integrators, megapixel video quality represents terrific added value. It's clear that megapixel video imaging and IP network systems are now being broadly embraced. Greater industry adoption of megapixel cameras is helping to drive the ongoing transition to IP video systems.



The transition to IP is one of several market factors stimulating the deployment of megapixel cameras for mainstream video surveillance applications. Let's examine some other factors that are generating the demand for megapixel cameras.

Megapixel cameras contribute to better system performance. In the real world of video surveillance, higher image quality is the advantage that makes it possible to identify the face of a suspect or to read a license plate number of a passing vehicle. Megapixel video technology provides clearer images that can be enlarged so the security team can see the details they require. Customers accustomed to accepting the limitations of analog and VGA IP video resolutions are enthusiastically embracing the greater capabilities of megapixel cameras. Customers who previously relied on pan-tilt-zoom (PTZ)

devices to cover larger areas know a PTZ can only point in one direction at a time, which creates a significant risk for missing an important or security-threatening event in another part of the coverage area. The wider views delivered by megapixel cameras provide a much stronger solution. Multi-megapixel cameras provide more complete coverage and users can do "virtual" PTZ in live or archived video.

Megapixel solutions for virtually any application. New megapixel imaging technologies are ideal for a broad array of applications. Today there are cameras with resolutions from 1.3- to 40-megapixels. There are day/night cameras, compact cameras, multi-sensor day/night camera systems, all-in-one dome cameras, vandal-resistant dome cameras, wide dynamic range cameras (WDR) and cameras designed to endure difficult environmental challenges. For

example, Arecont Vision's camera line includes all these choices, and also 360° or 180° panoramic cameras, each with four 2-megapixel, four 3-megapixel WDR, four 5-megapixel, or four 10-megapixel sensors. Having the right camera for the application is of major importance as megapixel video extends its reach into more mainstream uses.

### H.264 Compression Is a Game Changer

Managing resources such as network bandwidth and storage is an important consideration when designing IP video surveillance systems. H.264 compression technology is a game changer that enables the use of higher-resolution cameras in networked systems and requires less bandwidth and storage. The H.264 video standard has substantially reduced bandwidth and storage concerns related to megapixel video. Compared to



motion JPEG, H.264 technology up to 5-10 times more efficient when it comes to bandwidth and storage. H.264 makes megapixel cameras more economical to use and paves the way for greater use of high-resolution cameras to provide better functionality and greater image clarity. And H.265 will be coming in the near future which will deliver additional benefits.

Choose a platform, cameras and network components for a best-of-breed system. Megapixel camera manufacturers and video management systems (VMS) suppliers work closely together to facilitate integration of megapixel images and recording systems. Technology and software collaboration among industry suppliers ensures that megapixel video works with leading VMS systems. Specifically, Arecont Vision works with VMS suppliers such as Milestone, Genetec, Salient, Video Insight, Exacq, OnSSI, DVTel, Nice, SeeTech and dozens of others. The thorough testing facilities of the MegaLab at Arecont Vision's headquarters in Los Angeles ensures smooth integration of megapixel cameras with third party systems. Quality assurance engineers oversee the MegaLab integration and load performance testing. VMS suppliers who use the MegaLab work hand-in-hand with development

engineers to tune the application to ensure optimal performance with Arecont Vision cameras.

Customers realize a better return on investment (ROI) with megapixel cameras. The global economy is improving, but a greater focus on cost justification and return on investment (ROI) is here to stay. The mandate to control costs and maximize ROI plays perfectly to the strengths of megapixel cameras, which makes systems with fewer components and greater functionality possible. Megapixel video makes it easier for the security professional to demonstrate to management the value of a better-performing system, whether it's the dollars and cents impact of being able to solve a case or to potentially thwart a personal liability lawsuit. The precise value of the added performance and functionality is dependent upon each application and specific to each end-user organization. High-resolution megapixel images provide an easily observable and tangible benefit for networked video surveillance systems. Cost savings emanate from the ability to view larger areas. From a systems perspective, using megapixel cameras means fewer cameras are needed, and fewer cameras require fewer software licenses, less support, fewer cables and housings, reduced installation costs, etc.



**Scott Schafer,**  
Executive Vice President

All of these factors are combining to ensure a healthy future for megapixel cameras in a wide range of uses around the world. In fact, these factors are creating excellent opportunities now and in the future that will firmly establish megapixel video as the new global benchmark of security system performance.

## ► CONTACT

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## VIDEO SURVEILLANCE

# Times They Are A-changin

## Jonas Andersson's Thoughts on the Past and Future of Video Surveillance

Jonas Andersson was appointed senior Vice President for product planning and strategic marketing for the security solutions division of Samsung Techwin in January 2013. He had previously worked for Axis Communications for 18 years in a number of senior roles including Director of Video Product Management and Video Solutions and for the last five years, Business Development Director. He was also Chairman of the ONVIF (Open Network Video Interface Forum) Steering Committee from November 2008 until December 2012.

It seems hard to believe, but just ten years ago there were still large numbers of CCTV systems in operation around the world which were recording images captured by security cameras onto tape via VCRs. Multiplexers introduced during the 1990s had enhanced the effectiveness of analogue based CCTV systems by allowing images from more than one camera to be recorded at the same time, albeit on a time lapse basis, but it all seems so primitive now. With the arrival of the digital revolution came the introduction of DVRs which became the automatic choice for new installations. There were some initial concerns within the electronic security industry about the acceptability of digitally captured images as evidence in a court of law, but these concerns were quickly overcome and the cost saving and convenience of not having to buy and manage the replacement of tapes was however a major driver in the adoption of digital video recording.

Over the last decade customers have been spoilt for choice with countless manufacturers competing for their business, and a competitive environment has created a situation where we have constantly seen improvements in the features and functions of DVRs. New compression technologies, for example, have been being introduced to allow more effective use of onboard storage capacity and the transmission of video to remote monitoring locations.

Over the last ten years we have also seen dramatic improvements in the quality of the images captured by CCTV cameras and over the last two years in particular, with the price of High

Definition cameras falling, they have become a cost-effective option for most CCTV projects.

### To Go IP or Not Go IP? Is That Still the Question?

Surprisingly there are still people who question the inevitability that Video over IP should become the norm and there has of course been a lower uptake of the technology than was expected ten years ago at a time that it was being presented as the 'next big thing'. I could dedicate the whole of this article as to the reasons why it has taken until now for IP network based solutions to be specified for the majority of projects, but perhaps this is not necessary as the good news is that there are clear signs that the majority of installers and system integrators are now embracing the technology which can deliver considerable advantages over conventional analogue based CCTV systems.

There is no doubt that ONVIF is playing a significant role ensuring that there is increasing interoperability between network video products, regardless of the manufacturer. This, combined with the availability of a wide choice of user-friendly video management software (VMS), will help accelerate the specification of Video over IP for projects of all sizes.

### The Next 10 Years

Without wishing to give Samsung Techwin's competitors an insight as to our future product strategy, I will share with you some of my thoughts as to where the electronic industry may be heading over the next ten years.

One thing can be certain and that is the customer will remain 'king', and in a tough economic climate which is likely to prevail for some time to come, 'return on investment', 'future proofing' and total cost of

**Jonas Andersson, senior Vice President  
for product planning and strategic  
marketing for the security solutions  
division of Samsung Techwin ►**





ownership' will be phrases which will constantly come up in discussions when new systems are being specified.

True integration and full interaction of cameras and recording devices manufactured by different companies as well as with non-security systems, will mean that video surveillance for many projects will just become a component, albeit an important one, of an Eco system or building management system.

Continued advances in DSP chipset design is likely to facilitate dramatic advances in the functionality of edge based video analytics. Face detection, which is at this time only available in a small number of cameras, will undoubtedly be surpassed by facial recognition software which will provide an extremely powerful tool to combat criminal activity and terrorist threats. We should also not lose sight of the fact that video surveillance cameras are increasingly being deployed for non-security applications. It will surely not be too long before the scene in the Minority Report movie, (where a customer is automatically recognised upon entering a shop and is greeted by a computer generated announcement informing him that some new clothes were now in stock which matched his previous purchase), does not seem so farfetched.

We are likely to see software developed that offers accurate behaviour analysis. This will open up so many new opportunities for users to gain maximum benefit from their investment in a video surveillance system. From a security point of view, behaviour analysis has the potential to provide predictive information about, for example, groups of people who may be loitering for longer than may be expected. The potential applications for its use in business environments such as retail, leisure and transportation, seem endless, whilst just imagine from a Health & Safety point of view if a system could be relied upon to create an alert if something happens out of the norm, such as a person falling over.

With the exception of high security, mission critical and/or city surveillance type applications, there may be less demand for the services provided by traditional remote monitoring control rooms during the next ten years. Higher speed and increased bandwidth capacity will make 'Cloud' based monitoring services a viable and cost effective option, and we can perhaps anticipate that new compression technologies will be introduced which further minimises bandwidth requirements. For new projects, it is likely that users will begin to question why they should incur the cost of server based video recording when they can pay on a rental basis a Cloud based service provider to store and provide access as and when required, to recorded video.

The universal availability of Wi-Fi will make the possibility of 'on the move' remote monitoring of live or recorded video a practical proposition for everyone. It may seem a little limiting to do so on the small screens of a smartphone or even via the current generation for tablets. Letting our imagination run loose however, we could perhaps envisage a situation where in the not too distant future, a loss prevention manager responsible for a number of retail stores could after receiving an alert, unfold to say A3 size or even larger, a thin screen which instantly connects to the Cloud allowing them within moments to view video of any incident. Depending on the layout of the store and the number of cameras installed, a pre-configured screen layout would with the help of 3D mapping, allow the loss prevention manager to make a fast and effective decision on what action to take, and it could be done from the comfort of their car or a service station coffee bar. With the exception of the unfolding screen, all the other technology is already potentially available and with glass technology advancing at a rapid rate, the above scenario will certainly be possible within the next 10 years.

## CONTACT

Jonas Andersson

Samsung Techwin Europe Ltd

Tel.: +44 1932 826700 • [www.samsungcctv.com](http://www.samsungcctv.com)

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## 10 YEARS TRENDS

# Multifocal Sensor Systems

## New Dimensions in Video Security

The technological advances that have been made in the field of network-based surveillance in the last few years are astounding. High Definition and megapixel cameras were introduced onto the market and the question arose: Which are more suitable for professional video surveillance, HD cameras or megapixel cameras? But since then, even that discussion is already outdated: A new technology, known as multifocal sensor technology, has taken the market by storm and is paving the way for a whole range of hitherto inconceivable surveillance and analysis capabilities.



When the first HD and megapixel cameras were launched onto the market a few years ago, they were clearly superior to the predecessor SD cameras, with much higher resolutions. HD cameras are impressive because of a technology that is derived from the field of video – that is to say relating to moving images. On the other hand, the roots of megapixel technology are in the field of static photography, even though they can reach higher pixel values than are possible with HD cameras. But before any discussions begin as to whether HD or megapixel cameras are more suitable for modern surveillance tasks, one point must be considered: Resolution on its own is not everything. In order to be able to use the images from surveillance cameras efficiently and analyse them successfully, other dimensions besides resolution are important, such as effective image breakdown, recording of the overall image or analysis in the past. Whereas both HD and megapixel cameras very soon reach the limits of their capabilities in these areas, a new technology, multifocal sensor technology, performs flawlessly.

Unlike HD and megapixel cameras, which are equipped with a single lens, the multifocal sensor systems work with several lenses, each of which has a different focal length. Thanks to this new sensor concept, the camera can be adapted optimally to the area for surveillance, so details are still clearly visible, not only close up but also at very long distances, and individuals can be recognised. However, that is not the only way it stands apart from conventional cameras.

### Efficient Image Breakdown

One of the main arguments advanced by the defenders of High Definition cameras is that HD uses the widescreen format with an aspect ratio of 16:9 compared with the 4:3 format of the megapixel cameras. This corresponds more closely to the human field of vision, and makes it possible to record yet more information laterally as well.

But real scenes seldom correspond to either of these two formats. However, in order to cover all areas of interest, it is often accepted that unimportant expanses, such as the sky, will be captured as well. In this case, pixels and the recording and storage capacity they take up are all wasted needlessly. But there is a more elegant solution: instead of forcing a scene for surveillance into a given format, with multifocal sensor systems there are no rigid, preset aspect ratios. They adapt the pixel ratio to the situation at hand! The image is split efficiently without being locked into specific aspect ratios such as 16:9 or 4:3. Thus for example aspect ratios like 5:1, 10:1 or 3:4 can be used without any difficulty.

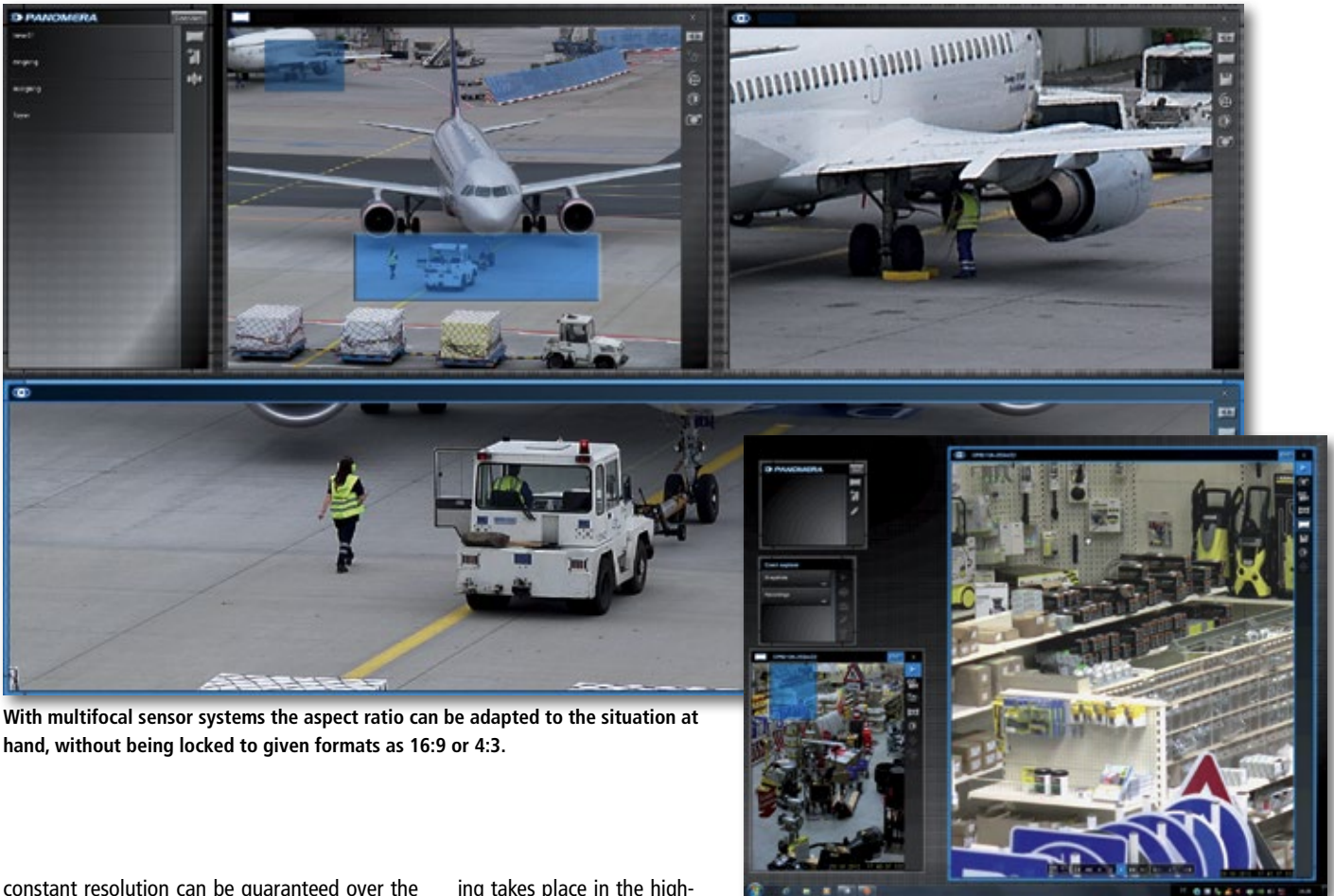
### Constant Resolution Over the Entire Object Space

It is true that HD and megapixel cameras use progressive resolution options, but they quickly reach their limits precisely when it is important to be able to recognise details even at long distances. "Movies or television series like CSI often suggest to viewers that even blurry pictures can

be transformed into high-quality police wanted posters with just a few clicks", explains Roland Meier, Team Leader Panomera Multifocal Sensor Systems at Dallmeier. "But pixels are still just pixels: if there is no additional image information present, for example because an HD or MP camera only represents a person at a distance of 50 m with a collection of coarse blocks, this information also cannot be "conjured out of thin air" after the fact. So you are aware that something is happening here, but it is completely impossible to even recognise, much less identify a person. And that is precisely the objective of a professional video system." So in order to obtain the desired information, in the past multiple cameras had to be installed at different locations. But this in turn involves higher costs: The appropriate cabling for power supply and data transmission is needed at every individual installation site, so the infrastructure costs and subsequent maintenance costs for multiple camera sites are enormous.

This is where the new multifocal sensor technology can help, since the resolution it offers is currently equivalent to about 32 times greater than a conventional HD camera. It can be used from just a single installation point to provide surveillance of a huge area. "With conventional cameras, the resolution drops off as distance increases. Or to put it another way: The farther a person or object is away from the camera location, the poorer the resolution is there, so you are able to make out fewer details. In contrast, a multifocal sensor system uses different lenses, so





With multifocal sensor systems the aspect ratio can be adapted to the situation at hand, without being locked to given formats as 16:9 or 4:3.

constant resolution can be guaranteed over the entire area under surveillance. So the resolution at 100 m is exactly as good as it is at 20 m. This makes it possible to recognise people for example even from 160 m", declares Roland Meier.

### Permanent Recording of the Total Picture in Highest Resolution

Those who have no desire to install multiple conventional cameras over the area in question, as described previously, can use "PTZ" cameras. As their name suggests, these cameras can "Pan, Tilt and Zoom". So in theory it would be possible to use these cameras to watch over a relatively large area and to pan or zoom to a location of interest if the need arises. But PTZ cameras do have one critical disadvantage: They only ever record what the operator is currently seeing live. So if the user zooms in on a certain scene, it is only this scene that will be recorded. Any additional incidents in the viewing range of the PTZ camera are lost and cannot be analysed or proven subsequently. Accordingly, the surveillance system is only as good as the user who is operating it.

In contrast, a multifocal sensor system always delivers total performance, since the whole picture ("permanent and overall") is constantly recorded in highest resolution. "Those are three important points straight away: the whole picture is recorded, so no areas are lost, even if the operator is currently concentrating on a smaller inset. This total picture is recorded all the time, so there are no gaps in time. And finally: the record-

ing takes place in the highest resolution, so no details are lost in the recording," says Roland Meier.

"Moreover, unlike PTZ cameras multifocal sensor systems do not have any mechanical parts, so there is no wear, which extends the equipment's operating life significantly. And there is another advantage: Whereas with PTZ cameras only one operator can have control over the camera at a time, with the multifocal sensor system any number of users can connect to the camera and select their entirely individual views," he adds.

### Analysis in the Past

Seeing live images from the surveillance cameras is one thing – but with professional video security systems, most analyses take place in the past. This means: The video system runs, and if an incident should occur at a given time, the recordings are searched later in order to reconstruct the course of events and identify the individuals responsible.

Consequently, it is an essential requirement of modern surveillance systems that they are also able to zoom or pan even in the recordings. With conventional HD or MP equipment, this is not possible. "Even with PTZ cameras, these functions are only possible in live mode, not subsequently, in the recording. And if the operator is concentrating live on another area in the surveillance scene at the precise time, the entire

With multifocal sensor systems all PTZ functions like panning and zooming are even available subsequently in the recording.

incident will not be seen on the video images," states Roland Meier. "So video surveillance becomes a game of chance in the truest sense of the word. For example, if you want to identify a car thief in a car park with a PTZ camera you would have had to zoom onto the car in question before the theft took place, in order to record the crime in adequate resolution. So how likely is it that you would just happen to catch someone in the act like that?"

Here too, the solution is available with multifocal sensor systems, because all PTZ functions are fully available even in the past – even as the system continues recording images live. Roland Meier explains: "Since the overall image was recorded at the highest possible resolution, it is also possible to move within the image and to zoom in on pertinent details. This opens up a wide range of analysis options, which were simply not possible with the prior technology."

### ► CONTACT

Dallmeier electronic GmbH & Co. KG,  
Regensburg, Germany  
Tel.: +49 941 8700 0  
info@dallmeier.com · www.panomera.com



## Key Management

Morse Watchmans' product lineup at this year's Ifsec Show featured the many benefits and options of the Keywatcher Touch system, including touchscreen convenience and a new dark grey finish. Also on display were the Keywatcher Illuminated, Truetouch management software package, Keybank and Smartkey Locker Systems Laptop Lockers. A new mobile app for Keywatcher Touch rounded out the offerings. "Physical key control is a critically important area of security management," said Fernando Pires, VP Sales and Marketing. "We continue to listen to our customers and the market so that we can offer new solutions to address and solve real-life concerns – and enhance safety." The new A new mobile app



enables authorized users to see a wide range of live information and to interact remotely with the Keywatcher Touch key control and asset management system.

[morse@morsewatchman.com](mailto:morse@morsewatchman.com)

## Cameras Cut Installation Costs

Geutebrück's G-Cam/E range of HD cameras are designed for quicker, cheaper, safer installation and adjustment. There are box, bullet, fixed dome and PTZ dome models for all types of professional monitoring applications, for indoors or out, with or without one-click AF. All have 1/2.7" CMOS image sensors, support H.264 and MJPEG, offer HD1080P resolution and day/night operation with removable cut filters for optimum light sensitivity and color reproduction. Not only are these cameras simple to install, but you can set them up without taking your laptop up the ladder. After drilling holes and mounting a G-Cam/E series camera, you just plug a tiny pocket-sized service screen into its analog output and set the viewing angle. Then you

can close the housing and adjourn to the relative comfort of a workstation or control room. There you assign the IP address, take advantage of the remote-controlled motorized lens to adjust the image quality, and run the company's video system's Camcheck feature to create a reference image from each camera. This image not only lets you document the installation for approval purposes, but also in the longer term, facilitates quality control checks and system quality certification. Has the field of view remained constant? Are the lens and housing window clean? Has vegetation grown to obscure the view? Questions like these are easy to answer when you have a definitive reference, the manufacturer says. [www.geutebrueck.com](http://www.geutebrueck.com)

## GIT SECURITY

is important for me and the safety and security community because with its 20,000 copies and even more readers it has simply the best market presence in the EMEA security market.



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## Airport Physical Identity & Access Management

Quantum Secure announced the release of its software suite „Safe for Aviation version 4.5“, an airport physical identity & access management solution that streamlines the complete lifecycle of physical identities and automates related processes. The software comes with pre-defined policies, workflows and procedures for issuing badge credentials, granting/revoking access to airport facilities while simplifying adherence to TSA and FAA regulations, audits and security directives, thus minimizing insider threats and promoting greater operational security. The Software Suite promotes complete process automation and

includes deeper capabilities for STA/CHRC security checks, audit, compliance, personnel management and flexibility to easily manage badge/access privilege assignment rules. It automates processes for conducting background checks for new airport workers, obtaining security clearances for access to secured locations from the governing bodies like the TSA, creating flexible self-service access rights to allow approved parties to enroll their own employees and subcontractors and grant them physical access rights, and complying with and enforcing security directives like SD-1542-04-08G or SD-1542-04-08F. [www.quantumsecure.com](http://www.quantumsecure.com)

## Direct Drive HDTV PTZ Dome Camera

Axis Communications' The Axis P5414-E PTZ Dome Network Camera is the first of a new line of outdoor-ready pan/tilt/zoom cameras with an intelligent direct drive pan/tilt system for very high mechanical endurance. This, together with other hardware innovations, has resulted in an attractively priced, uniquely designed HDTV 720p PTZ dome with 18x optical zoom for outdoor wall-mount surveillance installations, suited for use in city and perimeter surveillance, parking houses and school yards. The camera is directly attached to the drive shaft of two motors – one for panning and another for tilting the camera. With no mechanical parts such as belts or gears, the camera's durable and highly



efficient pan/tilt system provides customers with a reliable, low-maintenance PTZ camera. Other innovations include a built-in wall bracket that eliminates the need to purchase a separate mounting accessory. This not only provides cost-savings to customers, but makes wall-mount installations even easier and quicker.

[www.axis.com](http://www.axis.com)

## Alarm Processing Unit

Optex has previewed a number of new products for launch in Europe, including the Fiber Sensys 8 zone alarm processing unit (APU), a firmware version of its Redscan laser detector and a number of new detectors for its intruder range. The Fiber Sensys FD508 APU is an 8-zone unit with a rack-mounted design for fiber-optic fence detection systems that are designed for high-security and commercial premises. Features include a single-strand sensing design (that does not

require a loop back) and up to 800 meters of sensing cable per zone. The cable is insulated and resistant to EMI, RFI, lightning and corrosion. The company also previewed a new firmware version of the Redscan SH which includes a host of new features including loitering detection, and the ability to customize detection areas (per 30 cm<sup>2</sup>), each with a different output. It also allows users to define flexible detection area settings similar to video motion detection. [www.optex-europe.com](http://www.optex-europe.com)



## Surveillance in the Dark

Hikvision has expanded its low-light camera portfolio with the unveil of a series of state-of-the-art surveillance cameras – the DS-2CD855-EI3 2MP IR Bullet Camera and the DS-2CD855-EI5 2MP IR Bullet Camera – which are specifically designed as the perfect low-light, night-time, and completely dark monitoring solution, featuring IR range of 30m and 50m respectively. This series is engineered to provide smooth, full HD 1,080p video streaming with a 1/2.8 inch progressive scan CMOS. Combined with Super Low-light Technology and an IR cut filter (ICR) with auto switch, this camera series is capable of delivering sharp images even in the absence of lighting – a valuable assurance that no detail is left undetected. The DS-2CD855-EI3 offers an IR range of up-to 30m, while the DS-2CD855-EI5 has a 50m



IR range, with both offering a minimum illumination of 0.05 Lux @F1.2 and 0 Lux with IR. Images are further enhanced by the company's 3D DNR (Digital Noise Reduction) functionality, greatly reducing both noise and motion blur. These two cameras deliver multiple, individually configurable video streams in H.264 compression, greatly optimizing bandwidth and storage. MPEG4 and MJPEG are supported for increased flexibility. ONVIF, CGI, and PSIA protocols are also supported for the integration of other equipment and to meet differing surveillance requirements. [www.hikvision.com](http://www.hikvision.com)

## HD Network Dome

Built to withstand extreme operating temperatures ranging from -50°C to +55°C, Panasonic System Communications Company Europe (PSCEU) has introduced the latest addition in its i-Pro-Smart HD range of surveillance solutions, the WV-SW598. With full ratification from Onvif, the specification that defines a common protocol for network video devices including automatic device discovery, video streaming and intelligence metadata, the company promises installers and end users advanced features and best return on investment. With Ingress Protection Rating certified at IP66, the solution offers extreme resistance against the elements with total dust tightness as well as total protection against any harmful effect on the camera's enclosure caused by even the most powerful jets of water blasted at it from any direction. This means that when located in highly inhospitable positions like high roofing edges



unsheltered by roofing eaves, even in violent storms, the system will provide continuity of service. Up to 1,920x1,080 HD resolution images are delivered across the network through multiple H.264 and JPEG encoded streams for simultaneous real time monitoring and HD recording which is powered by Uniphier, the manufacturer's proprietary system LSI platform.



## We have a different take on image quality: image usability.

Image quality is always important, but the benefits you get from video surveillance depend on how you use your images.

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[www.axis.com/imageusability](http://www.axis.com/imageusability)

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## TECHNOLOGY

# Thermal Imaging

## A Technology Ready to Further Conquer the World

We are living in a day and age where new technologies are brought to market faster than ever before. One technological breakthrough is often quickly leading to another. A new technology is often introduced even before people can familiarize themselves with the previous one. New products, based on these new technologies, are being launched continuously. Sometimes they are quite expensive in the introduction stage, but once the early adapters have had a chance to buy the product and once it can go into mass production, prices rapidly go down and the product sometimes even almost becomes a commodity. Just one example is the mobile phone. Bulky and expensive in the beginning it has rapidly become a product that fits in the palm of the hand and is being used daily by millions of people.



Thanks to thermal imaging, UAV's can see in total darkness and through clouds

A lot of technologies that we are considering to be quite common today have found their origin in military applications. Radar and jet engines were originally developed by and for the military. Global Positioning Systems, commonly known as GPS, were developed in the early 1970's by the United States Department of Defense to guide missiles. When first integrated in cars for civilian applications, GPS was still a very expensive system. Today, a GPS system is installed in practically every new car.

But the mother of all military inventions is what the Pentagon official dubbed the "Inter-galactic Network." That wild idea became the Internet. Undoubtedly, it is the one military invention that changed our world the most.

Today there is another technology that has also found its origin in military applications, finding its way in to many useful civilian applications. It is a technology that will not only change our lives, but it will save lives as well. The technology is called: thermal imaging.

Whereas a normal camera is dependant on light to produce an image, a thermal imaging camera, sometimes also called an infrared camera, is able to pick up minimal temperature differences and convert them to a crisp thermal image on which the smallest of details can be seen. Contrary to other technologies, such as light amplification which need at least a small amount of light to produce an image, thermal imaging can see in total darkness. It needs no light at all.

The first thermal imaging camera for the military was developed in Sweden in 1958 by a company named AGA, today known as FLIR Systems. Since it is able to produce a clear image in total darkness, thermal imaging technology provides the ability to see and target opposing forces through the darkest of nights. Thermal imaging cameras can see through light fog, rain and snow. They also have the ability to see through smoke which made them even more interesting for the military since they can see across a smoke-covered battleground.

The first infrared camera for commercial applications was developed in 1965. It was used for power line inspections. It took until 1973 until the first "portable" battery operated infrared camera was introduced.

Although being called "portable", this systems still was very bulky. The technology used at that point in time required that the camera was filled with liquid nitrogen to cool down the infrared detector integrated in the system. This lasted until 1985 when FLIR Systems introduced the first system not requiring liquid nitrogen to cool the detector. Instead, a so called cryocooler was integrated.

It needed to wait until 1997 until a thermal imaging camera with an uncooled detector, a so called microbolometer, was brought to market. One of the major advantages of the microbolometer is that it has no moving parts and is therefore less susceptible to breakdowns. It is also less expensive to produce which allowed

thermal imaging camera manufacturers to bring the price of their products down.

### From Military to Industrial Applications

Although thermal imaging cameras have always been used by the military, it took until the introduction of the microbolometer before it started making its way into commercial, industrial applications.

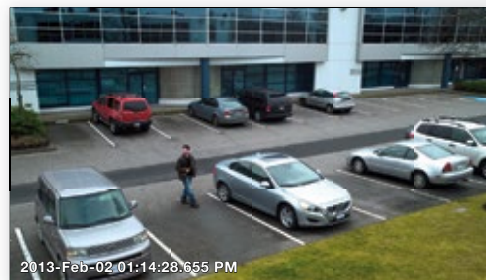
The first industrial customers to discover the benefits of thermal imaging were big production companies. Thermal imaging cameras not only produce an image based on temperature differences, these temperature differences can also clearly be measured. It is possible, thanks to complicated algorithms implemented in a thermal imaging camera, that absolute temperature values can be calculated.

Industry quickly discovered that thermal imaging can give valuable information about electrical equipment. Fuses, connections, cables, but also high voltage equipment like transformers, power lines and many more, it can all easily and contactless be inspected with a thermal imaging camera. The advantage is that thermal imaging can help maintenance managers to see an anomaly before a real problem occurs. This way, costly breakdowns can be avoided and time and money can be saved.

But within the same companies also Research and Development departments became enthusiast about thermal imaging technology. It is most beneficial to make use of infrared ther-



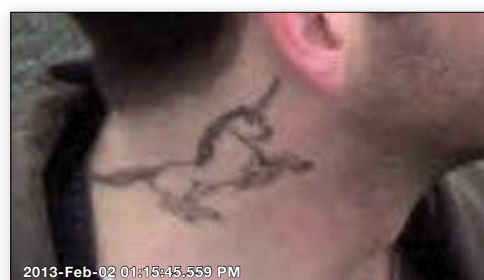
Avigilon spotted a man in this



who was caught



and identified by his



Meanwhile, analog identified



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The top three images were shot with an Avigilon 29 MP HD Pro camera. The fourth image was shot with an analog camera.

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mography early in a product design cycle. In the development phase, before going into mass production, appliances are thoroughly tested. Consumers are expecting a perfect product at an affordable price. Thanks to infrared, companies can shorten the development phase and start getting a rapid return on their development investments.

Thanks to the fact that more and more industrial companies started to use thermal imaging technology, the first careful steps to so-called volume production could be taken. But even then, thermal imaging cameras were still a very expensive tool costing 20,000 Euros or more. Thermal imaging was still a very exotic technology not known to consumers. The only thermal images that consumers got to see were the ones used in Hollywood pictures like Predator I and II.

### High Volume Production

So what has changed? How will thermal imaging technology reach the lives of everyday consumers? What are the benefits that they can have?

A major step to the volume production of thermal imaging cameras was taken a few years ago. At that point in time, BMW one of the major automobile manufacturers in the world, decided that it would implement a thermal imaging camera for driver vision enhancement into their top-of-the-line 7-series. Increasing passenger and driver safety is one of the priorities for BMW. Since a lot of accidents happen during nocturnal driving, BMW was looking for a solution to reduce this number of accidents.

Later on, the same "BMW Night Vision" module became also available as an option on BMW 5- and 6-series models. Today, for driver vision enhancement only, thousands of thermal imaging cameras are being produced by FLIR System. One of the consequences of this increased production volume is a significant reduction in the price of a thermal imaging camera. Today, a thermal imaging camera can be purchased for a price of less than 1000 € (+ VAT). Although this may still seem expensive, it is a huge difference compared to the 50,000 € about only 8 years ago.

But volume production was not driven by consumer goods only. Again, the military had part in it. One of the drivers was Unmanned Aerial Vehicles (UAV). UAV's are becoming more and more common in military and civilian operations, especially miniature aircraft designed to fly at low altitude. These hand launched, radio-controlled planes can be equipped with video cameras that are down-linked to a ground station. They are extremely suited for reconnaissance operations or to follow movements of troops on the battle field.

The military was the first to realize that thermal imaging allows the aircraft to fly in total darkness and detect targets through smoke and clouds. Civilian applications quickly followed and today the same aircrafts are also used to detect e.g. forest fires. Areas which are hotter than the surroundings and can indicate the start of a fire can be clearly seen on a thermal image.



Installed on a ship, thermal imagers produce a clear image in the darkest of nights.



Intruders are easily spotted by thermal imaging cameras. No need to install expensive lighting

◀ Thermal imaging cameras can see through smoke. This makes them an excellent tool for firefighters.

### Driver Vision Enhancement

As mentioned before, driver vision enhancement is the application that probably contributed the most to the volume increase of thermal imaging cameras.

Nighttime driving presents serious risks to drivers of trucks, buses and other heavy vehicles. Many serious accidents occur at night, in fog, light rain, because the driver could not see the accident cause in time to prevent the collision. Each year, thousands of nighttime accidents occur with large vehicles, many due to adverse weather conditions. Drivers lack the ability to quickly reduce speed, fatigue can negatively affect reaction time, and vision gets severely impaired in the dark.

Thermal imaging is a powerful driver vision enhancement system, which significantly reduces the risks of night time driving and allows the driver to see up to 5x further than with headlights. It needs no light whatsoever to operate. Thanks to thermal imaging, drivers can more quickly detect and recognize potential hazards and avoid deadly accidents.

### Maritime

Night vision enhancement is not only important for drivers of a vehicle. Captains of a ship need to navigate during the night as well. The costly vessel, its passengers, cargo and crew need to be protected.

A thermal imaging camera allows captains to see in total darkness. They can clearly see chan-



## What Is a Microbolometer?

A microbolometer is a specific type of bolometer used as a detector in a thermal camera. It is a tiny vanadium oxide or amorphous silicon resistor with a large temperature coefficient. On a silicon element with large surface area, low heat capacity and good thermal isolation. Infrared radiation from a specific range of wavelengths strikes the vanadium oxide and changes its electrical resistance. Changes in scene temperature cause changes in the bolometer temperature which are converted to electrical signals and processed into an image.

nel markers, shipping lane traffic, outcroppings of land, bridge pilings, exposed rocks, other vessels and any other floating object that might damage a ship when undetected. Even small objects, that might not be detected by radar, such as floating debris, become clearly visible on a thermal image.

But installed on a ship, a thermal imager can save lives as well. Finding a person that has fallen overboard within the shortest possible time-frame is of the utmost importance. Not only can the person float away from the vessel but hypothermia is an important factor to take into account. Thanks to thermal imaging the drowning person can quickly be located and helped out of the water.

### Planes

Installed in airplanes, thermal imaging be used as a landing aid. It can help pilots by enhancing the ability to see terrain and other aircraft at long ranges, even in total darkness, light fog, dust and smoke.

Thermal imaging cameras will never replace the existing tools and instruments on which a captain is relying when landing his plane. It can however complement them by giving the captain a clear image of the situation. Also when taxiing at low speeds, a thermal image can help to avoid accidents. Remember that a thermal imaging camera can see through light fog and rain. It can therefore easily detect other airplanes or objects that can not be detected by the naked eye in harsh weather conditions.

### Firefighting

Firefighters have been using thermal imaging cameras for years in order to see in absolute darkness through smoke, as well as to detect hot spots in floors, walls and ceilings. Smoke has a large component of micron-sized carbon soot particles in it, making it very absorbing to visible light. However, when the particle size is significantly smaller than the wavelength of light used by a sensor, the scattering is greatly reduced, making it possible to see through smoke. The ability of thermal imaging cameras to see through smoke helps to save lives. People can easily be located in a smoke-filled room.

The ability to detect temperature differences of objects is vitally important to firefighters, who must often open doors that lead to fires, or who must identify the seat and extension of a fire quickly and reliably. Thermal imaging cameras have proven to be an excellent tool when used by experienced and well trained firefighters.

The life-saving capabilities of a thermal imaging camera are well known to firefighters, and today, more and more firemen can benefit from the power of a thermal imaging camera.

### Making the World a Safer Place

Thermal imaging is also making its way into more and more security and surveillance applications. Whereas it used to be the privilege of border patrols and other government related agencies to use a thermal imaging camera, today more and more industrial facilities are using the power of a thermal imager to protect their valuable assets and personnel.

Nuclear plants, petrochemical installations, warehouses, ports and airports, ... they all are vulnerable to theft, or even worse terrorist attacks, and can be protected by using thermal imaging cameras. Terrorism, vandalism, and random violence threaten the safety of personnel and the integrity of public and private facilities. A comprehensive security program utilizing thermal imaging cameras is the key to asset protection and risk mitigation.

Thermal imaging exposes threats hidden in the darkness, concealed by adverse weather, and veiled by obscurants like dust, fog, and smoke.

Thermal imaging is also used by the police and other law enforcement agencies. It allows them to find and follow suspects in total darkness. Suspects can not hide in bushes or shadows since their heat signature is easily picked up by a thermal imager.

But also in this area, thermal imaging cameras are finding their way to consumers. Big houses and estates are today already being guarded with the help of thermal imaging cameras and it might just be a matter of time before a lot of home security systems are complemented with a small but powerful thermal imager.

### The Future of Thermal Imaging

Undoubtedly, thermal imaging cameras will follow the same path as other products followed before. The equipment will become even compact, image quality will even further improve and more features will be implemented in the thermal cameras.

As thermal imaging cameras are finding their way in more and more consumer oriented applications like driver vision enhancement and home security, the interest for the product will rise, production volumes will go up and prices will come down.

Where this will lead to, nobody knows. But chances are high that within a very short time-frame, every policeman, firefighter, security guard, ... will have its own thermal imaging camera. The majority of cars, truck, trains and other vehicles might be equipped with thermal imaging technology.

After all, for seeing in the dark, and many other useful applications, thermal imaging is a tool that outperforms all others.

### ► CONTACT

FLIR Commercial Systems  
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## INTERVIEW

# On the Way to Be a One-stop Solution Provider

As a Holding of Brockhaus Private Equity, Eyevis Continues  
to Focus on Sustainable Growth and Innovation

There have been big changes at Eyevis in recent times. Brockhaus Private Equity, a Frankfurt Holding Company, is now the majority shareholder. Matthias Erler of GIT SECURITY spoke with Michael W. Nagel who, as new CEO, has taken over the management from Eyevis founder Michael Schuster.





**GIT SECURITY** provides an invaluable resource for individuals and businesses like 908 Devices with a vested interest in safety and security issues. It gives an exclusive insight into the latest trends and innovations helping readers to keep up to date with these fast paced industries.



Dr Chris Petty, 908 Devices

**GIT SECURITY:** Mr. Nagel, let's talk first about the change of ownership. What is the background to this development?

**Michael W. Nagel:** The reasons can be divided broadly into three categories: firstly Eyevis is a medium-sized company that has grown very successfully and quickly. This leads to the need to re-work the organization's structure and processes – from this aspect alone, a change already makes sense. Secondly, no successor has been nominated in the ownership structure and there was no corresponding provision. The takeover by Brockhaus Private Equity is therefore a good solution for the continuity of the company's success and for its employees. The negotiations finally clinched the deal and resulted in an attractive solution for both sides.

**How did the contact come about, and how would you describe the company philosophy and the approach of Brockhaus Private Equity?**

**Michael W. Nagel:** Brockhaus is very strongly oriented towards medium-sized companies and looks especially in this area for attractive technology companies whose products provide unique selling points. Our stated aim is in turn to actively accompany the growth of these companies.

**... Brockhaus PE considers itself as the opposite of a 'locust', so to speak?**

**Michael W. Nagel:** You could put it that way. Brockhaus knows the culture of medium-sized German industry and stands by it. That means for us that we can concentrate on a sustainable, growth-oriented strategy and on continuity. Our first half-year at Eyevis has also demonstrated this – and it was one reason for me personally to join Eyevis as CEO.

**With which strategic considerations are you carrying out this task?**

**Michael W. Nagel:** At Eyevis we are strategically concentrating on our core products and core markets. Here it is very important for us that we continue to work in a very focused way, for example with more consistent handling of our individual vertical markets. Our aim is to become the leader in our markets, bit by bit, through technology leadership and innovation.

**What advantages will the new constellation Eyevis bring?**

**Michael W. Nagel:** We have totally different opportunities, for example, with regard to financing. We can use the resultant opportunities for investment in our innovations. We want to grow not just organically but also inorganically – that is also part of our strategy.

**Within this inorganic growth, are concrete decisions on the horizon, and in which areas do you see the need to grow inorganically?**

**Michael W. Nagel:** There have been no concrete steps to date. However, it is all about becoming a one-stop solution provider in certain areas, in particular where we could be one because of our know-how and expertise.

**Could you give us an insight into your first actions?**

**Michael W. Nagel:** We have already defined a clear product development plan that we will be presenting at key events – including a project plan. In addition, we have been busy developing our partnerships: we now have new distributors on board, in particular in South-East Asia and Eastern Europe. We will continue to grow these further, also in central Europe. A further point of

focus is our market visibility: we plan a complete relaunch of our corporate identity with a very individual profile. We have also employed additional personnel in all core areas such as sales, marketing, production, service and technology, to be able to meet the increased demands of our customers and to more consistently work our markets.

**Where, in your opinion, do you see the particular areas of activity and markets that will shape the future of Eyevis?**

**Michael W. Nagel:** We will further expand our core area of control rooms and the entire market in the area of audio/video (AV). At Eyevis this divides into the business with rental companies and, on the other hand, with system integrators and end-users who use our products in conference centers, showrooms, meeting rooms, etc. There is a need for action here in certain regions. Although we are mostly strong abroad in control room business, there is however significant potential in the area of AV and in other areas. With regard to new products and developments, our innovation plan is complete – we will present these new products at the begin of next year at the Integrated Systems Europe 2014 in Amsterdam, our main exhibition in the field of system integration. There will certainly be one or two surprises here.

**We look forward to them. Many thanks for the conversation.**

## ► CONTACT

eyevis  
Reutlingen, Germany  
Tel.: +49 7121 43303 0 · [www.eyevis.de](http://www.eyevis.de)

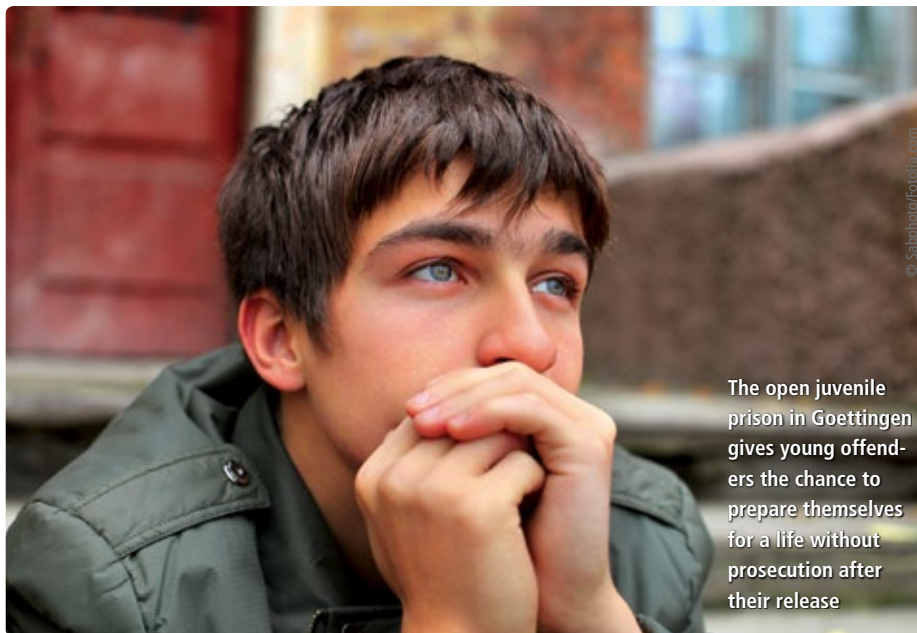


## KEY MANAGEMENT

# Open – But Secure

## Electronic Key Administration for the Open Juvenile Prison in Goettingen

The group of buildings for 97 prisoners doesn't give the impression of being a closely monitored prison: barred-up windows or high walls are not the dominant features of the open juvenile prison in Göttingen. Here you will find young and adolescent men who must first serve a youth sentence – that is three and a half years at the most. Security is nevertheless guaranteed, both from the building construction and technically. This now includes an electronic key administration system from Deister Electronic.



The open juvenile prison in Goettingen gives young offenders the chance to prepare themselves for a life without prosecution after their release

There are two open detention departments at the juvenile detention center in Hameln. On the same premises – also linked to the Hameln juvenile detention center – the juvenile detention centre Göttingen has space for 20 prisoners. The various detention departments, a school building, a factory building with training facilities, a large sport area and other associated buildings are distributed over the large campus.

Living together in groups, but also the broad training opportunities that are available as well as sport and leisure time activities are all designed to prepare the young offenders for a life without further sentences after their release. The open prison and the youth detention centre therefore provide the youths with many opportunities – at the same time, it is a secure site that must fulfill appropriate building and technical requirements.

### Highly Secure Keys

Deister Electronic were charged with the task of replacing the mechanical system with an electronic key administration system. The high security keys must be protected from unauthorized access at all times so that authorised access to the various sectors of the site can be traced at any time.

The customer wanted to use the existing staff ID of the time recording system. Control

and supervision as well as continuous event recording should be guaranteed around the clock, with monitoring software in the gatehouse. The system should be modular and thereby extendable at any future time.

### Extendable Administration System

Deister Electronic met all these requirements using a Proxsafe Flexx System. The key administration system is currently equipped with 48 slots and can be extended later as required up to 192 slots. To meet the high security requirements in the prison department, the wardens use the existing time control system transponders to identify themselves at the operating terminal. Other means of identification are not required and unauthorized access is thereby prevented.

The secure keys are attached to an electronic key tag using a non-reusable seal. Every movement and usage of the tag is automatically and securely recorded and archived. All events are saved in detail with the date, time and the staff number of the respective warden. Monitoring is carried out with the Commander 3 software on a PC in the gatehouse.

### Effective and Quick

Fast and automatic issuing of keys is now effective around the clock and without delay. All events such as the issuing and return of keys are

recorded in the Commander database and in the terminal and can be recalled at any time (the ring memory holds up to 7,000 events). Not only are the keys of the wardens securely managed here but also 'guest keys' for users of the sports hall, for example, who identify themselves at the operating terminal using a PIN.

Employees of other detention centres can use their transponder to obtain a guest key. Only the key or keys that have been assigned to them can be removed from the rack; all other slots remain locked. The gatehouse staff always have an overview of the critical keys and a transaction record can be called up in just a few seconds. The large memory of the terminal makes the system particularly reliable; it will continue to work even if the power fails. While security is increased, the staff workload and operating costs are reduced and the administration effort and time consumed minimized.

### ► CONTACT

deister electronic, Barsinghausen, Germany  
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# FUTURE >



The past decade has brought a great deal of change to the surveillance industry. After experiencing challenging financial times globally along with several tragic events that threatened the security of citizens worldwide, what we have been left with is an important lesson in choosing solutions that provide exceptional protection along with the highest possible return on investment. For manufacturers this means creating products that are multi-faceted, easy-to-use, and cost-effective. For security executives this means choosing solutions that will provide a high return on investment.

## VIDEO SURVEILLANCE

# Multi-faceted, Easy-to-use and Cost-effective

## Trends in Video Surveillance

One of the most significant changes in the video surveillance industry over the last decade has been the shift in technology from analog to high-definition. While the first digital surveillance cameras were developed in the 1990's, it wasn't until the early 2000's that high-definition cameras became more common and technology began to improve. Over the past several years, technology has continued to improve drastically and the trend toward high-definition is one that has become wide spread. Today, when we look at purchasing products such as a new TV, camera or video game, high-definition technology is now certainly considered the norm and video surveillance is no exception. But the increase in technology also comes with the requirement for cost-effective solutions that help organizations add to the bottom line. When it comes

to increasing safety and providing a cost-effective solution, high-definition cameras have taken center stage in the surveillance space.

### Business Intelligence: HD Cameras Work for the Whole Organization

With the improvement in technology over the past ten years, image quality is enabling the trend of business intelligence and end-users are now starting to demand more from their security systems. As a result, we are seeing high-definition surveillance being used by several departments for the purpose of business intelligence to add to the organization's bottom line. With improved camera technology that provides better quality images and footage, video surveillance has moved from simply a reactive security product of the past to a proactive business intelligence

tool. This trend toward improved video means that high-definition video is now being used for more applications than ever before.

For example, departments like marketing and human resources are using surveillance to improve practices, policies, customer satisfaction and employee health and safety. In retail applications, high-definition video systems are used to help control the flow of traffic in-store, monitor the effectiveness of marketing displays, and staff locations as necessary. With the lessons of the past behind us, we move into the future with a better understanding of the overall benefits of high-definition surveillance for organizations as a whole. As we move forward, we expect this trend to continue with even more innovative applications for megapixel cameras opening up in the future.

### Smaller Cameras with Big Detail

Over the past ten years, surveillance has become a necessity for organizations worldwide that cannot be compromised. The advantages of a high-definition system have been realized by businesses of all sizes however in the past the idea of upgrading has been unrealistic for many due to high costs and the lack of discretion in system design. Until recently, the possibility for many small and medium-sized businesses to transition to high-definition security systems has been unattainable both financially and logistically. What has been lacking in the industry is a product that makes the benefits of a high-definition system accessible to organizations of all sizes.

To answer this challenge, organizations have started to create smaller cameras that provide the



high-definition image typical of larger cameras and more complex systems. For example, Avigilon recently launched its HD Micro Dome camera, the world's smallest HD dome camera that offers powerful protection in a compact form factor. The introduction of small, discreet high-definition cameras, like the HD Micro Dome, will help organizations of all sizes easily transition from analog to high-definition surveillance.

### Open Platforms Allow for Hybrid Surveillance Systems

The surveillance industry includes many products that can work together to meet the unique security needs of organizations worldwide. Systems that were built from the ground up on an open platform have the ability to integrate easily with complementary systems to create complete, end-to-end solutions. For example, access control often goes hand in hand with video surveillance and when these systems are built on open platforms, a hybrid security solution can easily be created.

The recent acquisition of RedCloud Security Inc., a leading access control provider, by Avigilon is a prime example of a natural connection between solutions. Avigilon and RedCloud both offer innovative products that were built from the ground up, enabling a smooth integration between the two systems. RedCloud's products were created to ensure that physical and IT security could converge, a unique offering from an access control company. Avigilon's image quality and user-friendly software combined with RedCloud's game-changing product will result in a seamless, end-to-end surveillance system users are sure to benefit from.

Solutions that are built on an open platform offer organizations the opportunity to add to existing elements and create a full security system with added benefits. Although this was somewhat of a rarity in the past, forward-thinking companies that worked to develop open products from the outset are driving this trend into the future. The potential for organizations to benefit from integrations of products that are built on an open platform is endless.

### Looking Forward

The surveillance industry has developed significantly over the past ten years and we have much to look forward to in the future. As high-definition products become even more predominant, we will continue to see an increase in end users making the switch from analog to HD. We'll also continue to see high-definition systems used for new and innovative purposes to benefit organizations as a whole, adding value and in-

creasing the bottom line. Smaller, more discreet cameras that offer the benefits high-definition footage will open the industry up to new markets worldwide and systems integration will become more predominant, particularly among products that are built on open platforms. These trends will enable surveillance companies to compile their strengths and create the most effective security systems possible. With ten years of innovation behind us along with the trends we

are seeing today, the future is sure bring more development, innovation and security to the industry worldwide.

### CONTACT

**Stefan Bange**  
Avigilon, Germany  
stefan.bange@avigilon.com  
www.avigilon.com

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The global megatrend of urbanization challenges the future in transportation with expanding need of capacity, growing travel demand, upgrades of existing infrastructures and security and safety issues. Secure environments are increasingly important to all transport operators but become more and more complex at the same time.



## EVENT

# Secure and Safe Transportation for Megacities

MetroRail Conference in Madrid Discusses Future Trends

Visiting the MetroRail Conference 9<sup>th</sup> till 11<sup>th</sup> of April in Madrid it became obvious how high the impact of rapidly growing cities is on mass transportation and how demanding this evolution is for adapted security solutions. Aside from the devastating consequences that can arise from security breaches; delay, disruption and the perception of unsafe networks cause defection from rail and public transport networks and consequently have a negative impact on the bottom line. And yet the effect of advanced and targeted security threats have not only impact on physical environments, but cloud and viral environments as well. As Trustwave announced in their annual Global Security report 2013, cyber security threats are increasing as quickly as businesses

can implement measures against them. During 2012, nearly every industry, country and type of data was involved in a breach of some kind. At the same time transport operators must embrace integrated, real-time information systems, interoperability and dependable, tailored open system solutions that can be viewed by multiple agencies.

## Different Countries, Different Approaches

Not to forget, that there are big dissimilarities in the railway environment if continents are compared to each other. The European railways are primarily passenger railways on which freight is more or less an afterthought, in contrast with

North and South America and Southern Africa, where for the most part these are freight railways in which passenger service is secondary. So the answer to the question of what needs to be protected can be very differing from one to another.

Talking about dissimilarities, it is important to comprehend who is stakeholder of a transport operation system as different stakeholder models are arising worldwide. In the context of megacities the security and safety issue is discussed as a system with a combination of civic partners, a long-term initiative to integrate security solutions across noticed groups. One of the main trends to be notice is the privatization of transportation through concessions by opening to the franchising business. All of these move-



ments bring new challenges to the security solution.

At present one of the greatest challenges is to protect train stations, where the rail industry faces a crucial need to guard passengers, employees, goods, infrastructure and asset against possible threats. These facilities in particular have become at least as vulnerable as airports. The security and safety risks at a train station can include vandalism and graffiti, theft, drug dealing, fire, and acts of terror.

In the past 10 years most security system operators in transportation have turned to video surveillance, but got stuck with the operational workflow. Managing them is a challenging task, since many different areas need to be monitored: tracks, underground passageways, bicycle and car parking areas, buildings, luggage storage facilities, and parked railway cars and engines.

Future security management systems and security monitoring should ideally avoid any kind of breach, disruption and delay within the transit systems without constricting the transportation. Intelligent Video Analysis can guard e.g. against accidents like animal or children passes alongside track by establishing a virtual perimeter fence that, if crossed, alerts a security operator. Cameras can then be used to check the situation and enable appropriate action, for instance notifying train drivers in time to prevent accidents.



Klaus Lienland, Business Developer at Bosch Security Systems in discussion at MetroRail Conference in Madrid

### Analytical Systems Detect Threats

Bosch Security Systems is building even further steps in their analytical systems, based on certain algorithms from Bosch Automotive, which can detect the seriousness of danger ahead as Klaus Lienland, Business Developer at Bosch Security Systems explained at the MetroRail Conference. This case might show how important IT infrastructures have become and how many innovations with regard to security software lie ahead.

In this regard it is important to consider that most of the current video surveillance systems have been installed as analog CCTV systems and are replaced today by IP. The replacement in transportation is often questioned by the operators as the investment into the old systems were significant and the additional features of IP most of the time don't justify the replacement in first place. But it is not only about technology purposes, but for keeping the systems cost efficient on the long term.

Rieke Höpfner

## SICURIT Perimeter Protection Systems

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## PERIMETER PROTECTION

# Turn a Fence into a **Detection System**

Affordable and Easy-to-install Perimeter Defence System with a High Rate of Intrusion Detection

Criminals are becoming ever more resourceful in the ways that they gain access to facilities, knowing how to scale perimeter fences, negotiate barb wire and steal valuable goods without being detected. Good and reliable perimeter security measures, especially at older sites, can be quite costly, perhaps requiring extensive work being affected with fence, alarm or surveillance technologies – this is not the case with Senstar's perimeter defence system. Senstar offers quality solutions that are affordable, quick to deploy and that integrate seamlessly with your existing security systems.



FlexPS from Senstar is a highly versatile microphonic cable that is mounted on the perimeter fence. The sensor cable detects vibrations, movement and any attempt to scale or lift the fence. FlexPS is one of the most flexible perimeter security solutions available and is suitable for a wide range of applications, including airports, military bases, correctional facilities and industrial sites. The intelligently designed solution offers several benefits, including but not limited to:

- Cost effectiveness
- Fast and easy installation
- Straightforward maintenance with PC-based monitoring tools
- Seamless migration with your existing systems
- Integration with virtually any alarm monitoring system
- Flexible detection parameters

## Perimeter Defence System

The cost effective nature of Senstar's perimeter defence system makes it highly viable for cus-

tomers who require an intelligent alarm system, but do not have the resources to deploy a new perimeter barrier. FlexPS makes your existing fence a smart fence – offering a high probability of detection as well as a low nuisance alarm rate. In addition, Senstar's system is fast and easy to install, allowing an effective security measure to be set up quickly in some of the most challenging environments.

FlexPS perimeter defence system seamlessly integrates with your other security peripherals, including surveillance technologies and intruder alarm systems. Not only can FlexPS accurately detect intruders, it can direct CCTV camera to the exact point of an attempted perimeter breach, helping to identify and neutralise the threat.

For the best possible rate of detection, the cable sensor can be adapted according to the type of perimeter fence. For instance, to secure a section of the perimeter that contains a gate or door the sensor cable is easily disconnected using a special „quick-disconnect“ connector. Alternatively,

Senstar's Telegate can automatically retract the sensor cable when the gate is opened. For additional protection, FlexPS can be reinforced by Armour-Flex – a flexible steel jacket that protects against cable cuts or tampering. Any alarms triggered by FlexPS can be handled locally or via Senstar's security network. FlexPS is responsive, affordable, highly reliable and is the perfect solution for perimeters large or small. Stop clearing up the damage of a perimeter breach and start preventing it.

**SicherheitsExpo in Munich**  
3–4 July 2013, Stand D24

## ► CONTACT

Senstar GmbH, Markdorf, Germany  
Tel.: +49 7544 9591 0  
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## Aviation Security

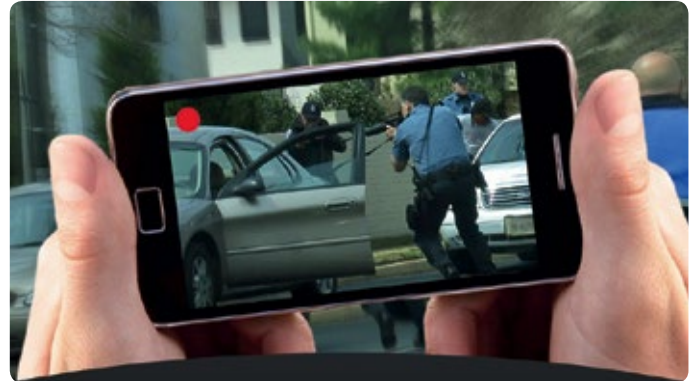


Senstar Corporation is offering cost effective solutions to address what might be defined as "the weak links in the aviation security chain". Terry Atwood, the manufacturer's General Manager says: "On the one hand airports are investing every day fortunes in screening passengers, yet neglecting to invest a fraction of these expenses on perimeter protection leave many airports with an open backdoor." The company offers a range of PIDS solutions for airports that

can be customized to fit any site: Flex PS is a cost effective fence-mounted sensor providing assured detection of any attempt to cut, climb or otherwise break through the fence. Omnitrax is a covert outdoor perimeter security intrusion detection sensor that generates an invisible radar detection field around buried sensor cables. If an intruder disturbs the field, an alarm is declared and the location of the intrusion is determined. Fiber LR is a fiber optic cable based perimeter intrusion detection system that supports mixed applications of buried or fence mounted sensing fiber in a single system ultra Wave – microwave perimeter intrusion detection system consisting of an all digital transmitter and receiver that create an invisible detection zone that alerts when unwanted intrusions occur.

[www.senstar.com](http://www.senstar.com)

## Smart Phone as Real-time Camera



Truwatch from DVtel is a mobile video application that turns an Android phone into a full-featured IP network video surveillance camera that streams video into the manufacturer's Latitude VMS 6.2. This application transforms smart phones into real-time video cameras. Users are able to tap into the power of their Android-based smart devices to stream, record, analyze,

review and export video from any location. The system operates over WiFi, 3G/4G and LTE networks, and provides security teams with mobility. It extends the coverage of surveillance networks to reach blind spots and other areas that traditional cameras cannot reach. Staff and response teams anywhere can become part of the surveillance network. [www.dvtel.com](http://www.dvtel.com)

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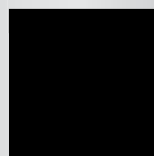
**FLIR**



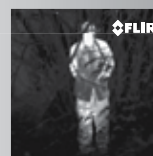
## FLIR FC-Series S

Extremely affordable, network-ready fixed mount cameras

FC-Series S thermal security cameras let you see intruders and other threats to your facility clearly in total darkness and in bad weather. Fully enabled for control and operation over digital and analog networks, FC-Series S thermal imaging cameras are available in 320 × 240, and high-resolution 640 × 480 formats.



Normal vision



Thermal image

If you want to have more information about the FLIR FC-Series S or any other FLIR thermal imaging camera please contact:

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Luxemburgstraat 2  
2321 Meer

Tel.: +32 (0) 3665 5100  
Fax: +32 (0) 3303 5624  
e-mail: [flir@flir.com](mailto:flir@flir.com)

[www.flir.com](http://www.flir.com)

ONVIF

Images for illustrative purposes only.



CCTV

## Hot Wheels

### Oman Auto Dealership Gets a Hikvision Surveillance Solution

Located in the heart of Muscat, the capital of oil-rich Oman, reside the showrooms of Suhail Bahwan Automobiles. Offering cars from manufacturers such as BMW, Infinity and Nissan, the agency is the largest automobile dealer in Oman with correspondingly large showrooms. With such impressive and lucrative facilities, it is no surprise that the company placed a great deal of emphasis on securing the safety not only of its cars but also the many employees and customers that surround them.



Anoop Nair, sales manager at Technosolutions, the integrator on this car showroom project, designed a robust solution consisting of 8 separate Hikvision products and employing no less than 100 individual cameras. When asked why he had chosen so many products from the same manufacturer, Mr. Nair responded, "With the quality and versatility that these products offer, and the competitive price they are set at, I consider them the best choice for a solution of this nature."

The client's goal with this system was to monitor all showroom locations deemed critical. Locations, such as entrances, exits, financial

transaction counters, customer service counters, and a variety of other employee work areas were also to be observed with a high-resolution CCTV system. Mr. Nair satisfied this goal by employing 6 separate Hikvision camera models, as well as applying the manufacturer's video management software to manage the overall solution. This software provided an optimal platform based on both practical and performance-based aspects. "With this many products, we really wanted a Hikvision platform to tie it all into. Their software has grown by leaps and bounds and was a big plus for this project." The manufacturer's range includes hybrid DVRs,

NVRs, standalone DVRs, digital video servers, compression cards, high-definition IP cameras and speed domes.

#### In Control

To further simplify and gain added efficiency, the DS-1000KI Network Keyboard was chosen to operate this CCTV solution. The keyboard's joystick makes PTZ control of camera functions and management of up to 99 networked DVR units a simple matter. While Hikvision software and keyboards provide the means to control this system, a great deal of effort was placed into selecting the cameras. Since a location such as an



automobile dealership presents a wide variety of optical challenges, Mr. Nair utilized an equally wide variety of model types to meet this challenge.

For internal areas like reception and financial transaction counters, the DS-2CD753F-EI 2.0 Megapixel vandal-proof network dome camera was chosen. Oman's automobile showrooms have experienced instances of camera vandalism in these areas so obviously, in sensitive locations where money is involved, the client preferred vandal proofing and Mr. Nair was happy to oblige.

### Light at Night

Many of these showrooms had existing hardware and logistical infrastructure, such as PoE-enabled network switches. Mr. Nair utilized the DS-2CD753F-EI's PoE, thereby limiting cables to a maximum of 50 meters from all units. Obviously, this benefited the aesthetic element, but more importantly, it eliminated expensive fiber-optic cabling to a central location, thus greatly saving on installation costs. Monitoring the employee hallways is the DS-2CD793PF-EI 4CIF network dome camera. Since these showrooms are closed at night, lighting in the rear of the premises – including the hallways – is turned off. The DS-2CD793PF-EI's super low light capability and a day/night auto switch served to overcome this obstacle.

At the main entrance, the DS-2CD7253F-EI 2 MP IP66 day/night waterproof vandal-proof network dome camera provides coverage. Owing to the nature of the location, a less-obtrusive dome was chosen over a more visible box-type camera. An IP66 rating protects this camera from the highly-fluctuating Oman weather conditions, while a 30 meter IR range provides the ability to not only view the entrance but also the parking area as well. In this case, a customer can literally be seen from the point of entering the parking lot – and well before they arrive at the front door.

### A Shot in the Dark

Hikvision's DS-2CD8253F-EI 2 MP IP66 network IR bullet camera provides coverage for a variety of areas, such as internal access con-

trol locations, outdoor parking lots, and vehicle entry/exit areas that do not possess access control. Utilizing its 30 meter IR range, the DS-2CD8253F-EI is positioned in such a way as to actually see license plate numbers. Additionally, preset motion searches provide security staff with the ability to zoom onto objects in total darkness.

Rounding out this solution is an internal and external aspect. The DS-2DF1-534 indoor network PTZ high-speed dome camera, placed on the interior of the 4-meter high

showroom ceilings, exploits a 23x optical zoom „... to provide coverage of each and every nook of the showroom and see people and objects that normal bullet/dome cameras cannot," explained Mr. Nair. Outside, mounted on top of the buildings, is the DS-2DF1-718 outdoor network IR PTZ speed dome camera. Similarly, a 36x optical zoom provides the ability to zoom onto any object or person at a large distance; and an IR range of 80 meters allows it to do so in total darkness.

Integrator ingenuity and Hikvision technical prowess has resulted in a successful solution towards meeting Suhail Bahwan Automobiles' goal of providing surveillance over all critical aspects of their showroom environment.

### ► CONTACT

Hikvision, Hangzhou, China  
Tel.: +86 571 88006060  
[www.hikvision.com](http://www.hikvision.com)



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on the 10th anniversary  
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## Vandal Resistant Dome Camera

Bosch has launched the Flexi-dome HD VR. The VR suffix stands for vandal resistant, as this new camera is characterized by robust, compact dome-housing allowing for different imaging platforms in one unified design. The camera offers a choice of imaging modules: 720p60 for superior, lowlight performance, 1,080p for full HD resolution, and 1,080p HDR for even the most challenging wide dynamic range scenes. All three modules make use of the same design, providing a unique freedom of choice and a unified esthetic for the latest in video security installations. In addition, the camera features Content Based Imaging Technology (CBIT), providing intelligent dynamic image optimization. The CBIT-enabled cameras include two special modes: Intelligent Auto Exposure (IAE), which results



in optimal details for objects of interest, plus intelligent dynamic noise reduction (iDNR) that lowers bandwidth requirements by up to 30 percent compared to other cameras. For ease of use, the system is equipped with an automatic varifocal (AVF) lens. This simplifies and halves the installation time since several cameras can be focused and zoomed remotely from the comfort of the control room.

[www.boschsecurity.com](http://www.boschsecurity.com)

## Outdoor Network Thermal Camera

Axis Communications has extended its line of fixed thermal cameras for outdoor perimeter and area protection. The Q1931-E Thermal Network Camera is an affordable and solid bullet-style camera especially designed for outdoor surveillance in complete darkness and challenging conditions. The out-of-the-box outdoor-ready camera is ideal for monitoring of facilities where early detection of an intrusion attempt is critical. In addition, the company's Corridor Format allows the camera to deliver a vertical field of view, perfect for situations such as the monitoring of long fences and other perimeters. "Traditionally thermal cameras have only been an option for high-budget security installations," says Erik Frännlid, Director



of Product Management. With the new camera "thermal technology will be available to complete any security installation," he added. The four available lens alternatives, the 384x288 resolution and the advanced image processor further improve effective area and perimeter surveillance. [www.axis.com](http://www.axis.com)

## Certified Serial Protection

Moxa has released two data line surge protectors. The ISD-1100-T, which provides up to 4kV of surge protection, is an entry-level model suitable for general applications, such as office and IT server room environments. The ISD-1200-T, which provides up to 20kV of surge

protection, is an advanced model suitable for harsh, cabinet-type environments. The ISD-1100-T/1200-T series has products suitable for a variety of industrial applications, including IT server rooms, as well as harsher cabinet-type environments.

[www.moxa.com](http://www.moxa.com)

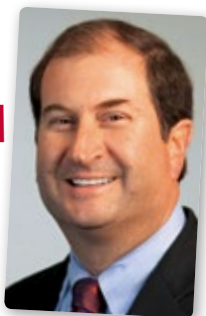
## Multi-Sensor Thermal Security Cameras

Flir has launched its D-Series of multi-sensor thermal security cameras. The D-Series outdoor dome enclosure provides precision pan/tilt control while providing fully programmable scan patterns, radar slew-to-cue, and slew-to-alarm functionality. Fully enabled for control and operation over IP and serial networks. The series combine a thermal imaging camera with a color CCD camera. This makes them the perfect replacement for day/night dome cameras, providing clear 24/7 imaging capability in an attractive, discrete dome-style enclosure. The new cameras are a lot more compact. TCP/IP compatible electronics are integrated in the camera and no longer in a separate box. This also means that the cameras can now be mounted in ball up and ball down position, giving the user more flexibility.



The systems deploy a 640x480 or 320x240 pixel thermal imaging camera. To make sure that there is a D-Series for every security application the manufacturer offers a wide variety of lenses. Longer lenses have a narrower field of view and allow you to spot intruders from further away. [www.flir.com](http://www.flir.com)

**Congratulations to the entire GIT SECURITY staff for reaching the milestone of 10 years serving the Security Industry with your fine publication. We at Arecont have grown with you and also celebrated our first decade on April 4, 2013.**



Scott Schafer, Arecont

## Dallmeier Certified As AEO

In March 2013, Dallmeier received Authorized Economic Operator (AEO) certification. As such the Company is recognized as a company with certificated "AEO-F, customs simplifications/security and safety" status. The objective of the AEO program is to secure the international supply chain from the manufacturer of an article to the end user. Issuance of this certification is therefore associated with extensive investigations regarding reliability, solvency, prior compliance with statutory and customs regu-

lations, and fulfillment of certain safety and security standards. Certification as an Authorized Economic Operator identifies the company as a reliable, trustworthy organization in international commerce. As an AEO, the company may avail itself of advantages in the customs clearance procedure, such as simplified, faster customs clearance or fewer customs checks. The status of AEO represents an internationally recognized seal of approval and a quality feature for customers and business partners. [www.dallmeier.com](http://www.dallmeier.com)



## Hot Swap HDD

Geutebrück's Reporter-IP/XRdB is designed as an attractive solution for situations where it is necessary or desirable to review image data outside the network. Its two 2TB hard disks are configured for RAID level 1 so they store identical data. One disk is built in, but the other sits in a sturdy hot swap mount which can be removed with the system still running. This hot swap facility enables the user to evaluate the whole database at another station, completely separately, away from the CCTV system and the network. The GSC Speedview-XRdB evaluation and playback station has been specially conceived for this purpose. With one hard disk removed, the system continues to operate storing all video data on its fixed disk until a new HDD is inserted and it can automatically mirror the data onto the new HDD. This system was developed to meet the particular needs of a video surveillance operator with remote sites where there is no network or where the video is to be reviewed by police or other third



parties who have no access rights to the operator's network. If an incident is reported at a remote location monitored by the system, the video surveillance operator informs the police or other security service provider. An officer goes to the site, taking along an empty hard disk unit. To swap the hard disks over, he presses the button on the front, waits a second or two until the flashing light goes out, then uses a special key to release the disk unit, which can then be pulled out and replaced with the empty one. When the key is turned again and the button depressed, the system automatically mirrors the recorded video onto the new disk. The officer takes the recorded disk to the reviewing station where he just inserts the disk, turns the activation key and the recorded video material can be displayed.

[www.geutebrueck.com](http://www.geutebrueck.com)

## 1.3 Megapixel IP Network PTZ Dome

Samsung's SNP-5300H 1.3 Megapixel IP network PTZ dome offers a 30x optical zoom capability that provides operators with the opportunity to observe close up detail of far away people or objects without pixilation occurring. Another key feature is PoE (Power over Ethernet) which offers the potential for savings on cable and installation costs, as it means that power can be drawn from the network. It is able to provide sufficient power for all of the dome's features as well as for a built-in heater to work effectively when the outdoor temperature may be as low as -30 °C. With an IP666 rated external housing, it is smaller and lighter than its predecessor and is equipped with a fan as well as a heater. With a true day/night capability, Wide Dynamic Range (WDR) technology which makes it ideal for locations where there may be strong contrasting



lighting conditions, the product provides a highly effective PTZ dome camera option for video surveillance projects such as airports, ports and other transport facilities, as well as retail and industrial parks. Utilizing H.264 and MJPEG compression, it provides the option to simultaneously transmit images to multiple locations at various frame rates and at different resolutions. [STESecurity@samsung.com](mailto:STESecurity@samsung.com)



## Continuing our image of excellence

The Alliance-pro is a full featured, WDR, H.264 Main Profile vandal dome camera with support for up to 5 MP resolutions. Designed with the installer in mind, installation is quick-and-easy thanks to the remote motorized zoom and focus (with A2 or A3 lenses), a hinged pivoting shroud, and 3-axis gimbal. This and other IQeye cameras allow for seamless integration with current and future technologies such as exacqVision® Edge which utilizes the on-camera SDHC storage to create a low-cost, low-power system solution.



### Remote Zoom/Focus

The remote, motorized zoom and focus features eliminate the need for manual focus adjustments at the camera, allowing for quick and easy installation.



### On-Board Storage

Combine on-board storage with IQrecorder or Direct-to-Storage recording to create a flexible, stand-alone platform ideal for motion based recording or remote monitoring.



### All-Inclusive Warranty

IQinVision's 5-year warranty covers all moving parts, sensors, cut filters and fans. (3-years on auto-focus models).

**IQ inVision** 

[www.iqeye.com](http://www.iqeye.com)

## VIDEO SURVEILLANCE

# All Indoor Applications

Grundig's Competitive New IP Flat Dome Offers Full HD video, PoE and On-board Storage

The new GCI-H0812W flat dome is the latest addition to Grundig's comprehensive IP camera range. It offers installers a cost-effective, high quality IP camera solution in a discrete, low-profile indoor housing measuring just 117 mm in diameter and 50 mm tall. The flat dome has power over Ethernet (PoE IEEE 802.3af), so no separate power supply is required, keeping installation simple.

It is designed to suit many different indoor applications, including retail, commercial, industrial units, offices, banks, education, hotels, leisure and residential.

The GCI-H0812W uses a 2 Megapixel CMOS sensor and Progressive Scan technology to produce high quality, quad video streams in H.264 and MJPEG compression modes. Installers can select 720p resolution at 25 frames per second (FPS) or 1080p at 13 FPS. Andreas Franusic, product manager at Grundig, explains, "Quad video stream technology enables efficient video transmission and storage, whilst saving network bandwidth. The 2MP stream is ideal for NVR recording and the lower resolution D1 or CIF video streams are optimized for monitor displays, PCs, tablets and smartphone viewing."

The GCI-H0812W comes with a 4mm lens, giving a 78° viewing angle, but has the option of a 2.8 mm lens with a 100° viewing angle. It also has a micro SD/SDHC memory card slot for alarm and scheduled image recording.



The flat dome video format is 16:9, which can be rotated through 90° to provide portrait (corridor view) or landscape views. It has 8x digital zoom with motion detection built-in. Five privacy zones are included and image quality has been further enhanced with ATW, WDR and DNR functionality.

## ► CONTACT

ASP AG (Grundig Security), Remscheid, Germany  
Tel.: +49 2191 374 9883  
info@grundig-security.com · www.grundig-security.com

In dialog with the customer, sustainable solutions emerge from products. In turn, they give rise to multipliable systems. **GIT SECURITY** supports us with this dialog since many years in the EMEA region. We wish all the best for the future and an ongoing prospective cooperation.



Matthias Mezger, Building Automation SICK AG



## Gas Detector Technology

Industrial Scientific has released its White Paper "Dual Sense Technology". It reveals statistics on the low frequency of gas detector bump tests being performed, and the risks workers take by using an instrument that has not been proven fully functional and reliable via a bump test. This data, derived from a study of more than 25,000 gas monitors used in the field and more than 2 million bump tests, prompted the development of the redundant sensor technology. The Dualsense Technology includes two of the same type sensor for the detection of a single gas. The

two sensor readings are processed through a proprietary algorithm and displayed as a single reading to the user. With Tango's Dualsense Technology, workers are safer regardless of bump test frequency. On average, workers using an instrument with this technology are 85 times safer than those using a typical single gas monitor, said Raghu Arunachalam, global director at the company and author of the white paper.

[www.indsci.com/tangonomics](http://www.indsci.com/tangonomics)

Download available on  
[www.GIT-SECURITY.com](http://www.GIT-SECURITY.com)

## Full HD IP Cameras and Encoders

Riva presented the latest generation of its Full HD IP camera and encoder series with intelligent onboard video analytics – powered by VCA Technology. The company's product range comprises powerful and universally deployable surveillance cameras and servers for both – indoor and outdoor use. Included are e.g. box cameras, cube cameras, dome and PTZ dome cameras, IR and bullet cameras with resolutions from VGA/D1 to 2 megapixel/1,080P HD. The manufacturer's Full HD IP-Dome camera RC 3302 HD for indoor and RC 3702 HD for outdoor

applications were shortlisted for the Ifsec Award in the category "CCTV Camera Equipment Product of the Year". These remote repositioning Full HD IP-Domes with H.264/MJPEG and the size of a standard 5" Mini Dome, offer the benefit of a PTZ camera. Due to the easy installation labor costs are saved, as any onsite positioning and focusing of the camera are not required. The installation time can be reduced to a minimum and can even be performed by people with limited technical background.

[www.vidicore.com](http://www.vidicore.com)

## Packet Loss Reduction

Moxa introduces a proprietary Concurrent Dual-Radio Technology for zero wireless packet loss in industrial WLAN applications. Designed with two independent RF modules to simultaneously transmit duplicate packets via two distinct channels can eliminate packet loss when wireless interference occurs. The company's AWK-5222 and AWK-6222 series industrial wireless AP/bridge/client devices feature Concurrent Dual-Radio Technology to achieve zero packet loss transmissions to provide safe and reliable communication for latency-sensitive applications. Wireless interference can interrupt data transmission and cause packet loss when transmitting with single-

RF devices. To reduce packet loss, many advanced wireless technologies provide dual-RF devices with mechanisms to effectively detect interference and automatically switch bands to restore communication. However, this type of redundancy has limitations and can still experience packet loss when switching between channels. The company's Concurrent Dual-Radio Technology is designed to transmit duplicate packets simultaneously on two different bands (2.4 G and 5 G). When interference interrupts packet transmission on one band, concurrent transmission via the other band eliminates packet loss to ensure maximum data throughput.

[www.moxa.com](http://www.moxa.com)



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**With four professional camera ranges, JVC surveillance simply works, whatever your application.**

From shopping centres to town centres, JVC cameras and monitors provide the security you need. With four ranges to choose from and a variety of body shapes and vandal resistance, they offer superior colour reproduction, even at low light.

Super LoLux HD cameras feature high performance DSP with CMOS sensors that output full HD resolution and offer multi-codec support, including H.264 High Profile. The new full 1080p cameras also include new Clear Logic Video Intelligence image processing, which automatically adapts to provide sharp, clear pictures in bad conditions.

Meanwhile, JVC's Super LoLux 2 analogue technology produces high-resolution 600 TV line images, powered by second generation 14-bit DSP, keeping pictures clear.

**For further information on any of our CCTV cameras or monitors, please visit [www.jvcpro.eu](http://www.jvcpro.eu).**

**JVC**

Over the time it takes for a little acorn to mature into a solid tree standing proud, Moxa has developed from a small technology integrator into a million dollar company that services 60 countries worldwide. With a portfolio of meanwhile more than 400 different products that focus on industrial networking & control, Moxa has become a major player in the industrial communication industry.



Industrial video products joined the product range in 2010

## CCTV

# Mighty Oaks from Little Acorns Grow

## A Look at a Quarter of a Century's Growth at Moxa

The company's developments mirror the market requirements and incorporate innovation. Since 2002, Moxa has grown by 30% year-on-year. In the course of this growth, its European headquarter in Unterschleißheim near Munich was established, and managed industrial Ethernet switches, embedded computers and solutions for wireless industrial data transmission were added to the product portfolio. In the meantime, in addition to the facilities in Unterschleißheim, Moxa has a subsidiary in France as well as sales offices in the UK and in Spain with more than 50 employees, and counting.

Moxa's proprietary ring protocol Turboring, a self-healing redundancy technology with under 20ms recovery at full load of 250 Ethernet switches, has become a main component of reliable, redundant industrial networks since 2003. It was followed by Turbochain in 2011, an advanced redundancy technology that overcomes the inflexibility of mesh, the slow recovery times of STP/RSTP, the limited interoperability, and the limited number of rings of ring redundancy.

A milestone of Moxa's history of the last 10 years was the introduction of their embedded computing product line in 2004. Today, the company offers a broad range of embedded computers for different industrial applications, with different processors, operating systems, storage capacities, form factors, and device interfaces.

As a result of Moxa's specialization in the energy and transportation industries, the Powertrans IEC 61850-3 Ethernet switch for substation automation was launched in 2008, and a matching IEC61850-compliant SCADA server platform in 2010. Today, they offer complete solutions for the specific requirements of Smart Grids, in the

renewable energies industry, in energy transmission and distribution, and in automated meter reading. Moxa's products for the energy market are IEC 61850 and IEEE61850-3 certified, and they comply with IEEE 1588 for precise time synchronization.

### Camera Extreme

Since 2010, the comprehensive portfolio has been complemented by industrial video networking technology. The growing need for flexible, failsafe video surveillance solutions was one of the reasons for Moxa to enter the security market. IP video surveillance customers require a broad portfolio of cameras, including wall-mount, dome and gun-type cameras. In addition to several other camera models, Moxa launched Vport 36-MP in 2012, the world's first rugged IP camera that withstands environmental temperatures ranging from -40 to 75°C without a heater or cooling fan. The industrial-grade, H.264 box-type IP camera combines HD resolution (1280 x 720), advanced intelligent video analysis technology and de-mist technology to enhance surveillance system efficiency while delivering state-of-the-art video quality. In 2013, Moxa has launched the Vport 26, an IP 66 day and night outdoor dome camera with -40 to 75°C operating temperature.

Video surveillance networks require hierarchic structures that are covered by different types of high-performance industrial Ethernet switches. Moxa offers the complete range of switches, including core, distribution and edge switches. Video converters, video network recorders and embedded computers with wireless modules round off the video networking portfolio.

### Transport Data Transport

The company's products for the railway industry include video surveillance, communication, passenger infotainment and signaling and control applications as well as wireless train-to-ground communication. They comply with EN 50155 and 50121-4, and they are characterized by rugged design with ultimate vibration and shock resistance for safe operation in extreme conditions. This also applies to Moxa's products for transportation. They comply with NEMA TS2 and Emark and they ensure real-time availability, continued IP surveillance, weatherproof operation and reliability in traffic and intelligent transportation applications. These include tasks such as tunnel monitoring, toll collection and speed control systems on highways, in buses and public transportation, or monitoring of public spaces in cities and communities. Moxa's products are also used in marine applications, for example in Ethernet networks aboard ships and vessels that utilize their IEC 60945, DNV, IACS-E10, and ECDIS compliant marine panel PCs, displays and ECDIS computers. In addition to the broad range of applications in factory and process automation, Moxa provides a range of ATEX and marine certified products for the oil and gas industry.

### The Trend – Industry 4.0

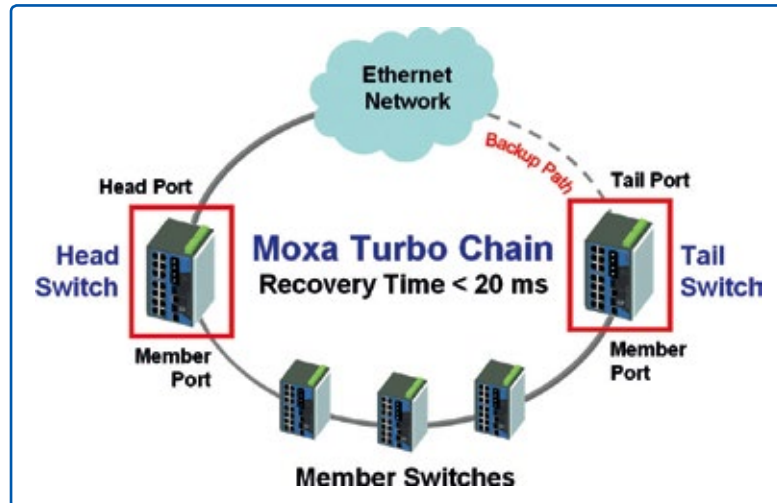
Industry 4.0 implies that billions of devices are expected to be networked with each other: machines, facilities, work pieces and components will trade data and information in real time. In the future, the fourth industrial revolution will usher in an age of „decentralized“ production. In the light of this, operators are always on the lookout for economical ways of connecting lega-



cy devices to a network, and they are particularly interested in solutions that leverage existing IT management technologies. A common strategy in today's industrial environment is to link existing automation networks to an Ethernet backbone. „Profinet“ is the open industrial Ethernet standard for automation and the popular Ethernet-based industrial protocol of devices. It is expected to grow faster than other Ethernet-based industrial protocols.

In addition, the professional organization that created Profinet also developed a fieldbus protocol called Profibus, which has gained popularity due to its emphasis on real-time operation and reliability for field devices in industrial automation. Consequently, solutions that support a combination of Profinet and Profibus are the most suitable ones for integrating automation and IT systems to achieve an information-driven plant that can respond quickly to production errors, and thus minimize adverse impact on the business.

Moxa's Mgate proxy works as an agent that transfers data between the Profibus and Profinet networks and allows engineers to monitor proxy status via their computer's web browser. With data import/export and log recording capabilities, this monitoring tool streamlines device con-



Topology of Moxa's fast-recovery network technology

figuration, maintenance, and troubleshooting, and also supports encryption functions. Moreover, Moxa offers industrial plug-and-play Profinet switches and Profinet to fiber converters for the convergence of industrial automation networks. Moxa is ready to outperform on the requirements of Industry 4.0, and on its customers' need for high-performance products and service.

#### ► CONTACT

Moxa Europe GmbH, Unterschleißheim, Germany  
Tel.: +49 89 3700399 0  
europe@moxa.com · www.moxa.com

## CCTV

# Stand and Deliver!

## Additions to the Range of JVC Analog and IP Car

This year's IFSEC took place from May 13 to 16 in Birmingham. The trade fair is considered the most important international event in the sector of security technology and draws major established and upcoming manufacturers to its doors. JVC Professional were of course again present at the show.



The company provided visitors with the opportunity to view their camera system products on their stand, which was divided into three areas: innovative IP-products, proven and new analog technology. To really demonstrate how well their cameras can perform under sub-optimum conditions they even built a 'dark room' on the stand.

Highlights to be seen were the four CCTV camera series, which still provide excellent picture quality whatever the light and surrounding conditions. This and the extensive range of functions provide the basis for efficiency, reliability and the potential for an ideal monitoring solution. Innovative 1080P HD IP-cameras featuring a Direct Drive PTZ mechanism and the brand

new 9-channel Super LoLux network video recorder were also on show.

### Positive Feedback

As a result of positive feedback received both at the show and elsewhere, JVC have decided to further expand and enhance the LoLux 2 camera series. This cost-effective series consists of high-performance analog cameras with IR LED beamers and high light sensitivity. These cameras are especially suitable for users with a smaller budget.

The latest advancement is the introduction of the IP66-rated TK-T8100WPRE outdoor model featuring 24 IR LEDs and an impressive resolution of 600 TV lines. Even with a light level of

only 0.025 lux, the LoLux technology still makes it possible to capture stunning color images. In IR mode, the camera delivers striking black-and-white images even at 0 Lux. Moreover, the TK-T8100WPRE model comes with digital image noise reduction, which makes it ideal for use under extremely difficult lighting situations. The TK-T2101RE and TK-T8101WPRE cameras are now available in an advanced version with a resolution of 650 TV-lines.

#### ► CONTACT

JVC Professional Europe Ltd., Bad Vilbel, Germany  
Tel.: +49 6101 498 8330  
presse@jvcpro.de · www.jvcpro.de

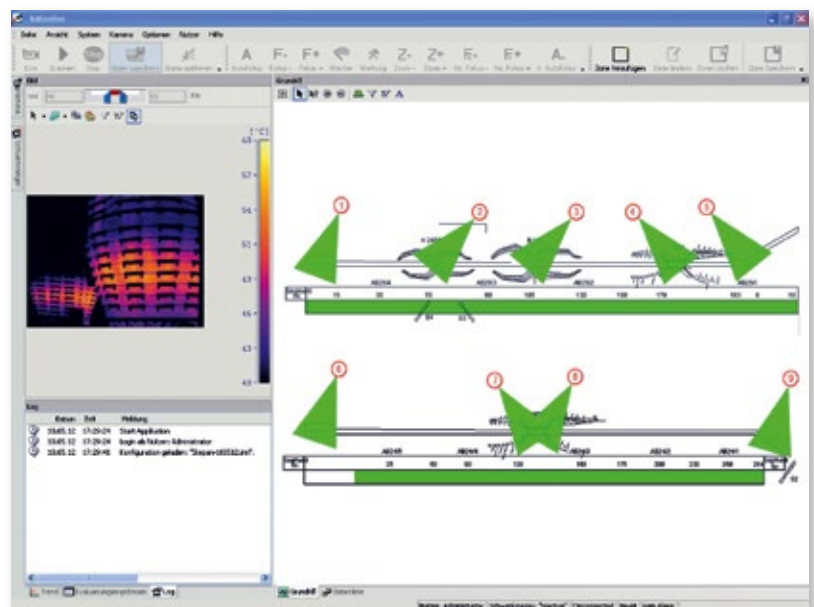


## FIRE AND EXPLOSION DETECTION

# Preventing the **Big Bang**

## Plant Monitoring with Thermography in Explosion Hazard Environments

Infrared cameras can perform wide-area monitoring of temperature trends. This is why they are very effective for early fire detection and continuous condition monitoring. Through the introduction of explosion-proof enclosures with pressure-proof encapsulation it is now possible to install temperature measuring infrared cameras in explosion hazard environments complying with the latest explosion protection standards.



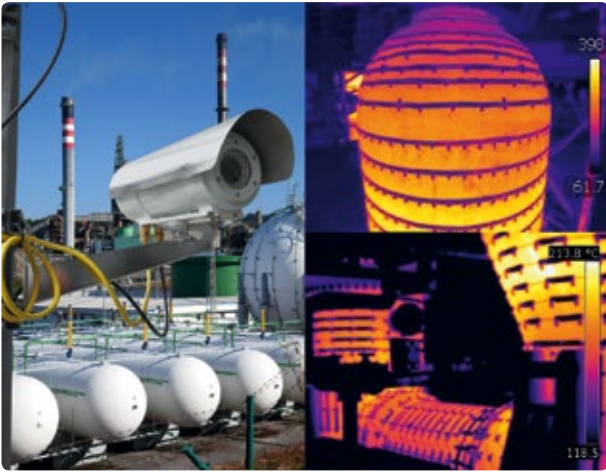
Distribution of the monitored zones in the overview plan (Map View)

Especially in ex-proof areas, safety is very important and relies on continuous condition monitoring. In chemical plants and refineries, temperature is an important factor for identifying critical conditions. But how can safety in big plants be reliably controlled through temperature? Conventional cameras cannot detect excessive heating in pumps, motors or valves; nor can they see fluid leaks. Temperature sensors do not provide enough significant information, because they provide only punctual measurement data with which large installations cannot be properly monitored. In contrast, temperature measuring infrared cameras can fulfill such tasks easily. However, it was not until recently that housings complying with the current Ex-proof standards, enabled the use of infrared cameras in these environments. This task could be accomplished only with the help of the ATEX-certified IRCamSafe Ex-AXC enclosures, which allows the operation of infrared cameras in explosion protection zones 1, 2, 21 and 22.

### Monitoring Large Ex-proof Areas

The infrared systems already installed confirm that even large and irregularly shaped locations can be monitored successfully. For this, complete system-solutions are used that contain hardware and software including any number of infrared cameras. These cameras are located in such a way that all the areas to be monitored are fully covered. To enable the centralized management of such a complete system, each protective enclosure is equipped with an integrated electronic board. This board allows the camera to be connected directly to a network, either through Ethernet cable or a fiber optic cable. Of course, the electronic board, as all the other components of the enclosure, is also included in the ATEX certification so that no further re-certifications are required for the installation.





Infrared camera with protective enclosure inside an Ex-zone

### Continuous Analysis

During operation, the infrared cameras send their thermal images via the network to the IRMonitor central analysis software. To detect potentially hazardous situations, the software assigns every camera a specific plant area to be monitored (zones). Because each monitored zone can have different alarming requirements, a zone-specific analysis is configured. This can provide, for example, the verification that critical temperature thresholds are not exceeded or the monitoring of critical temperature trends in the field of view of the camera. The IRMonitor software also has special functions such as "template matching" to enable the correct positioning of the measurement areas, considerably minimizing the risk of false alarms.

If an alarm condition is detected, the system automatically activates an output signal that can be used to initialize counter measurements. Furthermore, a maximized live image of the affected area is shown in the software and it is also highlighted in the plan overview (Map View). This helps to determine the cause of the alarm and enables personnel in the control station to take decisions on the coordination of further action.

### All Inclusive

The many advantages of thermography-based systems for wide-area monitoring make this kind of solution very interesting for many industries. With the launch of the ATEX certified IRCamSafe Ex-AXC enclosure, such systems can even be used in explosion hazardous areas. The certification of this enclosure includes all of its components so that no further re-certification is required for its installation, thereby saving time and money. This ex-proof enclosure contains all the components required for its installation and reliable operation and the installation effort is reduced to a minimum. This enables customers to carry out monitoring operations with a high degree of efficiency and reliability.

On the whole, GIT SECURITY thinks that it is really worth taking a closer look to this system – it is innovative and effective.

### ► CONTACT

**Tobias Kröger**  
Automation Technology  
Bad Oldesloe, Germany  
Tel.: +49 4531 88011 11  
tobias.kroeger@automationtechnology.de  
www.automationtechnology.de

## Electro-optical Detectors

Honeywell has announced the integration of a range of electro-optical fire/flame detectors. It strongly reduces nuisance alarms, and delivers versatile application monitoring addressing petrochemical, semiconductor and paint booth/finishing industries. Leading-edge performance and stability is achieved through a combination of advanced state-of-the-art aerospace-grade sensing technologies, sophisticated dual microprocessors, software algorithms and the combination of multiple detection technologies into single products. The range includes a variety of options,



combining Ultraviolet (UV), Visual (VIS) and Infrared (IR) detection technologies that compensate for cross-interference stimulating phenomena like corona discharge, arc welding, lightening (including Quartz lightning) and other common non-fire events.

[www.honeywellanalytics.com](http://www.honeywellanalytics.com)

## Electronic Security and Fire Products

At Ifsec 2013 Elmdene International presented its Power Supply Units (PSUs) – built around switch mode technology, a solution to help meet the fire industry standard (EN54-23) for Visual Alarm Devices (VAD), an in-line UPS (Uninterruptible Power Supply), a modular external siren, Power over Ethernet (PoE) standby solutions, plus sounders, and IR exit buttons for access control. Also on display were additions to

the company's PSU range, specifically the modular GEN2 and GEN3 models which supersede older less capable linear variants. These combine the benefits of switch mode technology whilst, at the same time, addressing the specific demands of graded intruder alarm installations to Grade 2 and Grade 3 – depending on the model selected – under PD6662:2010 and EN50131-6:2008. [www.elmdene.co.uk](http://www.elmdene.co.uk)

## Intelligent Systems for Fire Detection

Panasonic System Communication Company Europe (PSCEU) has added the EBL512 G3 and EBL128 systems for fire protection to their Professional Camera Solutions business unit. Designed to accommodate both large and stand alone system requirements, the EBL512 G3 is able to connect 30,600 devices through 30 control panels with 4 detector loops each, whereas the EBL128 is a smaller stand alone loop system which can connect up to 255 devices. Extra components may be incorporated within the system including Fire Brigade Panels and other display units, which may be connected to each control. The fire alarm systems have also been integrated with the WV ASC970 virtual matrix so that fire detectors and cameras can interact. The two systems are



connected via TCP/IP using the WEB-server module. The devices may be any combination of analogue smoke & heat detectors; water proof heat detectors; addressable manual call points; addressable short circuit isolators; addressable I/O units (inputs/supervised voltage outputs as well as relay outputs); addressable sirens/sounder bases; addressable beacons; addressable Intrinsically Safe (IS) detectors, and conventional detectors (via I/O units or via expansion boards in the control panel). [www.panasonic.net](http://www.panasonic.net)



Loop Isolator Module (LIM)

## VOICE ALARM SYSTEMS

# Close the Loop

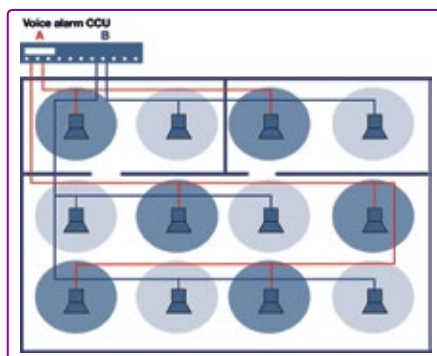
## Following the Trend of the Next Few Years – Loop Technology for Voice Alarm Systems

Some manufacturers of professional voice alarm systems and electro-acoustic emergency warning systems are currently working on loop technology for the connection of 100V loudspeaker lines. The loudspeakers of a voice alarm system are still connected as a rule in spur technology, which brings with it a high risk of failure if the wire breaks or there is a short circuit. To minimize this risk, A/B cabling is used in systems built to DIN VDE 0833-4. In contrast to fire alarm systems, loop technology has not yet become established as standard in voice alarm systems because different requirements apply due to the higher power involved. A large step forward has now been taken by the new Variodyn D1 Loop Technology from Esser.

As a rule, loudspeakers are still connected to the voice alarm system via spur lines. However, if this line is broken, all the loudspeakers beyond the break fall silent. If there is a short circuit, the whole spur fails. To minimize this risk if a break or short circuit occurs, systems that are built to conform with DIN VDE 0833-4 (security levels 2 and 3) employ so-called A/B cabling whereby half of the loudspeakers in a room are driven by a different speaker line. This ensures that if a line fails (for example through a broken wire, a short circuit or earthing) half of the loudspeakers in that area remain in operation. If the alarm is sounded with only half the power, the sound level sinks by 3dB, provided the loudspeakers have been properly located. This drop in level is acceptable according to DIN VDE 0833-4.

### Innovation in Voice Alarms

In contrast to fire alarm systems, loop technology has not yet become established as standard in voice alarm systems as a significantly higher power level has to be transmitted. This results in higher demands for these systems. It should be noted here that the Variodyn D1 Loop Technology is a ring wire technology and not a ring bus technology, as used in fire alarm systems. Further, complete protection against failure has not been required in the usual standards until



Example of A/B cabling

now. If a system is built complying with DIN VDE 0833-4 or EN 60849, it is sufficient – depending on the specific application – to use either A/B or single cabling.

Loop technology does require separation modules that initially add to the cost. A second look, however, shows that the whole system can be significantly more economic as savings can be made in other places. So, depending on the circumstances, it may be possible to avoid using costly E30 cabling.

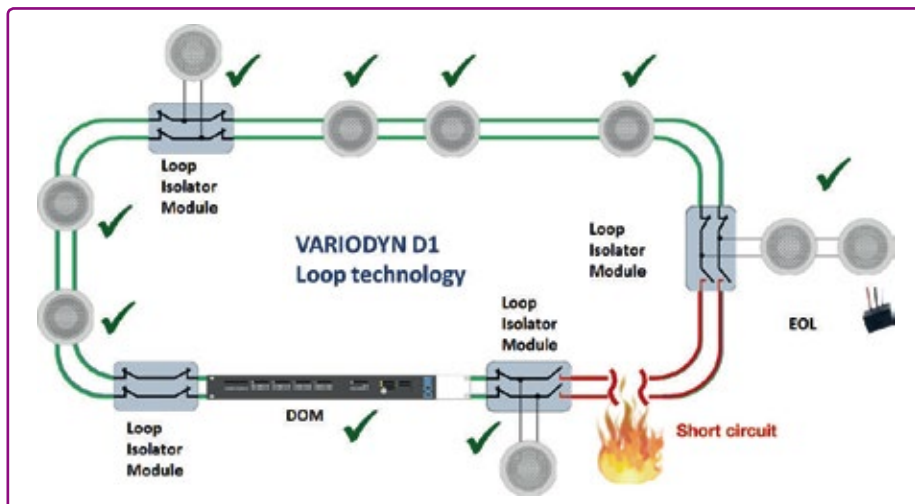
In Chapter 7.10.3 of DIN VDE0833-4 with regard to the construction of non-essential voice alarm systems it is stated that the otherwise necessary functional performance of a ring line

system is not compulsory if it is ensured that the feed and return lines are in separate cables and that these cables are routed separately in buildings following fire protection principles. Further, it must be ensured with these ring line systems that the specified performance of the voice alarm system is not compromised by a single failure. That would be the case with the technology described here.

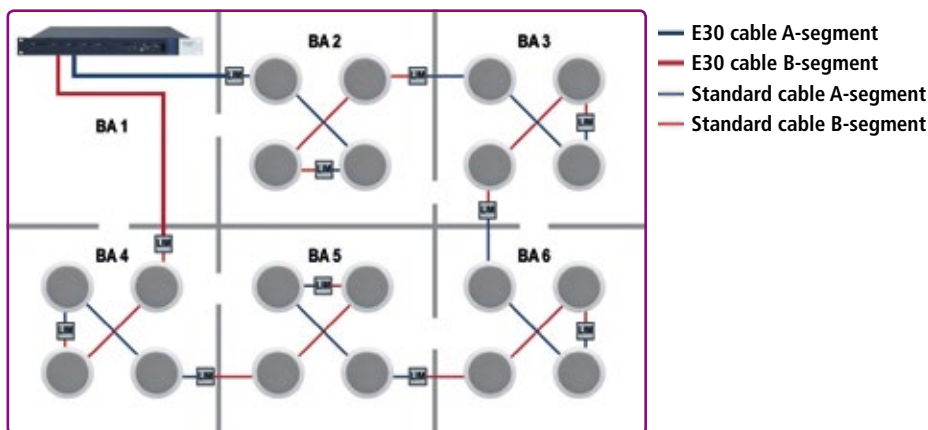
### How Is Variodyn D1 Loop Technology Implemented?

It must always be ensured that the ring is monitored for broken wires or short circuits according to the standards. This is successfully achieved by the Variodyn D1 technology using the tried and trusted impedance monitoring method. A short circuit would represent that most critical case here. To provide the required protection against failure, so-called Loop Isolator Modules (LIM) are installed on the loop. These are supplied with power via the two-wire 100V loudspeaker ring and are constructed according to EN54-17 and approved by the VdS. They constantly measure the current in the ring. If a current above upper limits is detected the short-circuited segment is separated between two isolators. The rest of the ring line continues in full operation. If every loudspeaker is fitted with a short circuit





Loop technology for 100V loudspeaker connection



Economic construction of a ring line as a replacement for A/B cabling

isolator this means that, if a single wire fails, a failure protection of 100% has been achieved.

The Variodyn D1 loop technology provides an alternative to E30 cabling as here a ring line is fed with power from both sides and the Loop Isolator Modules approved to EN54-17 ensure that the functionality of the ring is maintained even when there is a short circuit. However, when choosing loop technology against E30 cabling it is advisable to discuss this with the appropriate authority before changing as there are different interpretations of the regulations on conduit installations (MLAR) both regionally and personally.

If you want to construct a system that doesn't have 100 percent protection against failure but where A/B cabling is required, it can be built as shown in the following diagram. Here a Loop Isolator Module (LIM) is always inserted between the A and B segments of a ring line. Then if there is a short circuit only the affected A or B segment will be cut out. This example provides the same level of failure protection as with A/B cabling in spur topology.

## Summary

In the coming years, the continuous development of new technology in voice alarm systems will open up many opportunities to provide easy, powerful and safe operation. The new standards

support the aspect of safety. Some manufacturers have meanwhile introduced systems that are freely programmable with modern software tools as standard. The use of digital transmission technology between the individual system components permits decentralized growth of the system. This allows the optimization of larger systems with regard to the routing of cables, which can lead to significant cost savings. Because of the many advantages, it is safe to assume that 100V loop technology will emerge as a standard in the medium to long term.

## The advantages include:

- 100% failure protection (with an isolation module in every loudspeaker)
- replacement of the A/B cabling with simple means
- E30 cabling partially unnecessary
- no need for a second loudspeaker in small rooms

## ► CONTACT

Joachim Meisehen

Novar GmbH a Honeywell Company, Neuss, Germany

Tel.: +49 2137 17 226

joachim.meisehen@honeywell.com

www.esser-systems.de

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**GIT SECURITY** is an important partner in the safety and security sector. It has been a pleasure for us to cooperate with the competent and adorable

**GIT SECURITY** team in the past 10 years, we are looking forward to the coming years and wish the magazine all the best for this 10 years anniversary.

Eric Henique, eyevis GmbH

**GIT SECURITY** was the first pan-European magazine in English for our industry, which was a major breakthrough for Milestone Systems as an international provider of IP video management software. The wider geographic reach helped us educate new partners and customers. Congratulations on its decade of publishing success and thanks for helping us with ours.

Courtney Dillon Pedersen, Milestone Systems

## Fire Planning Software



Bosch has introduced version 4.1 of its fire alarm planning software. Planning fire alarm projects is a challenging business, since it needs to include different parties at different planning stages along the value chain but also has to provide quick answers when it comes to initial budgeting and calculation. With the latest version, the company has updated its planning software for fire alarm systems as a central comprehensive solution for all the parties involved: architects, planners, consultants and system integrators. Version 4.1 now includes the functionality of the Fire

System Designer (FSD) – a tool to layout and design fire detection systems in detail – and thus also reduces the software requirements for integrators to just one unified platform. This easy-to-use program supports the user to create a complete tender and to estimate prices. It also enables to precisely design the fire alarm system, including the allocation of peripherals on different loops in accordance with the actual topology, while a complete plausibility check ensures that every project detail is considered.

[www.boschsecurity.com](http://www.boschsecurity.com)

## Fire Protection

Tyco Fire Protection has presented its recently launched Fireclass 501 addressable panel, i-Flow inert gas system, 42 bar Sapphire system and the re-engineered Aquamist range at Firex in Birmingham. The FC501 is an addressable fire detection solution for small systems. Designed to be easy to install and use, it combines the simplicity of a conventional system with the benefits of addressable digital technology at a price point for less complex applications such as small factories and warehouses, schools and hotels. The addressable technology saves installers valuable time and is cost effective, with no need for a handheld device to test or program the system. It enables end users to pinpoint an incident fast and control the system remotely for ultimate ease of use. The i-Flow tech-

nology system uses inert gases to extinguish fires in commercial and industrial applications. Its cylinder racking design concept offers architects flexibility and adaptability when systems have to be installed in tight spaces and it also provides cost benefits due to lower venting requirements. The 42 bar Sapphire system is the latest addition to the company's range of gaseous fire suppression systems. The latest system is designed to work at pressures of 42 bar, offering greater flexibility than the conventional 25 bar system and the ability to reduce pipe sizes. Installers have the opportunity to protect multiple areas from a single point offering a space-saving solution, as well as the possibility of more remote storage container locations.

[www.tfpemea.com](http://www.tfpemea.com)

## Handheld Thermal Imaging Cameras for Fire Fighters

Flir Systems has launched its K-Series of handheld thermal imaging cameras for fire fighting applications. Fire fighters benefit enormously from thermal imaging cameras, the company says. Thermal imaging cameras do not only produce a crisp image in total darkness. They also have the ability to see through smoke. This helps fire fighters to find victims in smoke filled rooms. The K-Series thermal imaging camera can be on-board of every fire fighting truck. It is designed to meet tough operating conditions. It withstands a drop from two meters on a concrete floor, is water resistant to IP67 and fully operating up to +85°C. All versions of the series contain a maintenance-free uncooled microbolometer detector. The K50 produces crisp thermal images of to 320x240 pixels. Us-



ers that do not need this high image quality can choose for the K40 which produces thermal images of 240x180 pixels. Both versions have a large bright 4" display.

[www.flir.com](http://www.flir.com)

## EN-54-23 Compliant Visual Alarm Devices

Hochiki Europe has introduced its EN 54-23 compliant visual alarm devices (VADs). Set to become mandatory at the end of December 2013, the introduction of EN 54-23 has already been delayed due to the fact that very few manufacturers were able to offer compliant products to the market. Designed to protect the deaf or hard of hearing and those working in areas of high ambient noise, such as factories, the British Standards Institute (BSI) introduced EN 54-23 in June 2010 in order to set stricter guidelines on the installation and performance requirements of VADs. Up until then there was no standard that determined the light output performance criteria and installation requirements for these products – a situation that often resulted in confusion, inconsistency and unnecessary danger. Compliant products are only permitted to emit a red or white light and are classified into three distinct categories



ries based on their intended application – ceiling mounted devices, wall mounted devices and an open class category. The specified light output is 0.4 lumens per m<sup>2</sup> or 0.4 Lux and manufacturers will have to ensure their VADs are tested and assessed by an EU notified body to determine coverage volume, based on the distance at which the required illumination is met. 'EN 54-23 marks a seismic shift in the way fire detection products and systems are designed, manufactured, specified and used,' commented Graham Lowe, sales director at the company. 'Its impact will be significant and anything that enhances the protection of people should be welcomed.' [www.hochikieurope.com](http://www.hochikieurope.com)



### Security Management

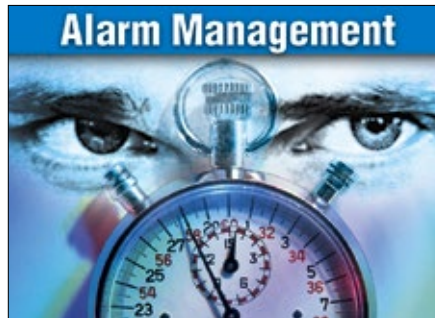


### Security Management



NSC Sicherheitstechnik GmbH  
Lange Wand 3 · D-33719 Bielefeld  
Tel. +49(0)521/13629-0 · Fax +49(0)521/13629-29  
info@nsc-sicherheit.de · www.nsc-sicherheit.de  
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### Security Management




Advancis Software & Services GmbH  
Monzastraße 2 · D-63225 Langen  
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Langmaar 25  
D-41238 Mönchengladbach  
Tel. +49 (0) 2166 858 0 · Fax: +49 (0) 2166 858 150  
info@tas.de · www.tas.de  
Manufacture and development of: alarm and conference units, VoIP- or ISDN emergency technology, alarm transmission systems

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Funkwerk video systeme GmbH  
Thomas-Mann-Str. 50 · D-90471 Nürnberg  
Tel. +49(0)911/75884-558  
Fax +49(0)911/75884-220  
info@funkwerk-vs.de · www.cctv-systeme.com  
CCTV, system solution, system integration, video monitoring security, building management

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GEZE GmbH  
Reinhold-Vöster-Str. 21-29 · D-71229 Leonberg  
Tel. +49(0)7152/203-0 · Fax +49(0)7152/203-310  
vertrieb.services.de@geze.com · www.geze.com  
Automatic door systems, security systems, security locks

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tetronik GmbH  
Silberbachstr. 10 · D-65232 Taunusstein  
Tel. +49-6128-963-1 · Fax +49-6128-963-499  
info@tetronik.com · www.tetronik.com  
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Schille Informationssysteme GmbH  
Goseriede 4 · D-30159 Hannover  
Tel. +49(0)511/542244-0 · Fax +49(0)511/542244-22  
info@schille.com · www.schille.com  
Facility and building management and security technology, fault and hazard management systems, OPC development, video surveillance systems

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SimonsVoss Technologies AG  
Feringastr. 4 · D-85774 Unterföhring  
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ABUS Security-Center GmbH & Co. KG  
Linker Kreuthweg 5, D-86444 Affing  
Tel. +49 (0) 8207 / 9 59 90 - 333  
Fax +49 (0) 8207 / 9 59 90 - 100  
info.de@abus-sc.com · www.abus-sc.com  
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### SICHERHEIT 2013

Date: November 12–15, 2013

Place: Zurich, Switzerland

Website: [www.sicherheit-messe.ch](http://www.sicherheit-messe.ch)

### MEFSEC 2013

Date: Dec. 01–04, 2013

Place: Cairo, Egypt,  
International Convention Center

Website: <http://egytec-forum.com>

► The mission of MEFSEC is to facilitate knowledge transfer and business opportunity in key sectors of the firefighting, safety and security market. The aim of this event is to build networks by bringing together experts, industry leaders and distributors.

### Perimeter Protection 2014

Date: Jan. 14–16, 2014

Place: Nuremberg, Germany

Website: [www.perimeter-protection.de](http://www.perimeter-protection.de)

► Trade Fair for active and passive security elements and systems for site protection and building security.

### SICUR 2014 Madrid

Date: Feb. 25–28, 2014

Place: Madrid (Feria di Madrid), Spain

Website: [www.ifema.es](http://www.ifema.es)

### Security Solutions Show

Date: Oct. 4–6, 2013

Place: Vicenza/Italy

Website: [www.vicenzafiera.it](http://www.vicenzafiera.it)

Arecont Vision	7, 36	JVC Professional Europe	63, 65
ASP (Grundig)	62, Inside Front Cover	Milestone Systems	6, 8, 20, 30, Outside Back Cover
Automation Technology	66	Mobotix	27
Avigilon Corporation	45, 52	Morse Watchmans	42
Axis Communications	6, 42, 43, 60	Moxa	47, 60, 63, 64
Basler	6	Myutron	37
Bosch Security Systems	17, 20, 54, 60, 70	NEDAP Security Management	10, 59
BSIA British Security Industry Association	9	Novar a Honeywell Company	68
CEM Systems	25, 28	OnSSI	34
Certalarm	10	Optex Europe	42
CPS Media Group	51	Panasonic	43, 67
Dallmeier electronic	15, 40, 60	Quantum Secure	19, 42
Deister electronic	50	Salto Systems	8, 39
DVTEL	57	Samsung Techwin	9, 35, 38, 61
Elmdene International	67	SeeTec	32, 53
European Security Partners	31	Senstar	33, 56, 57
Eyevis	21, 26, 48	Sicurit Alarmitalia	55
Flir Commercial Systems	44, 57, 60, 70	SimonsVoss Technologies	29
Fujifilm	11	Synectics Security Networks	6
Geutebrueck	9, 42, 61	Transec Exhibitions	10
Hikvision	8, 43, 58	Tyco Fire Protection	70
Hochiki	70	ViDiCore	63
Hochschule Bremerhaven	22	Wavesight	8
Honeywell Analytics	67	Wavestore	6
HSM	10	Wiley	9, 14
Industrial Scientific	63	Winkhaus	3
IQinVision	61		

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Tel.: +49 (0) 6201 606-0  
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### Managing Directors

- Jon Walmsley
- Bijan Ghawami

### Publishing Directors

- Dr. Heiko Baumgartner  
Tel.: +49 (0) 6201/606-703  
[heiko.baumgartner@wiley.com](mailto:heiko.baumgartner@wiley.com)

- Steffen Ebert

Tel.: +49 (0) 6201/606-709  
[steffen.ebert@wiley.com](mailto:steffen.ebert@wiley.com)

### Sales Managers

- Regina Berg-Jauernig  
Tel.: +49 (0) 6201/606-704  
[regina.berg-jauernig@wiley.com](mailto:regina.berg-jauernig@wiley.com)
- Dr. Katina Leondaris  
Tel.: +49 (0) 6201/606-734  
[katina.leondaris@wiley.com](mailto:katina.leondaris@wiley.com)
- Dr. Michael Leising  
Tel.: +49 (0) 36 03/89 31 12
- Manfred Höring  
Tel.: +49 (0) 61 59/50 55

### Editorial

- Matthias Erler  
Tel.: +49 (0) 6723/9 94 99 82  
[matthias.erler@wiley.com](mailto:matthias.erler@wiley.com)

### Editorial Assistant

- Nina Esser  
Tel.: +49 (0) 6201/606-761  
[nina.esser@wiley.com](mailto:nina.esser@wiley.com)

### Production

- Christiane Potthast
- Andi Kettenbach (Layout)
- Elli Palzer (Lithography)
- Claudia Vogel (Sales Administrator)

### European Representatives

- Dave Harvett, Direct Media  
Tel.: +44 (0) 121 705 2120  
[daveharvett@btconnect.com](mailto:daveharvett@btconnect.com)
- Oliver Haines, Impressive Marketing  
Tel.: +44 (0) 1743 369611  
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### Bank Account

Commerzbank AG Darmstadt, Germany  
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