

Volume 7  
November 2011

**GIT**

EMEA Edition

# SECURITY

MAGAZINE FOR SAFETY AND SECURITY

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**COVER: Geutebruck –  
Video Systems Around The World**



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# Innovation Drives the Business...

... is a key statement from Memoori's annual report about the physical security business we feature on page 24. The report identifies five emerging technologies that have created new business opportunities: Wireless communications, IP Networking Technology, Video Surveillance as a Service, Managed Video, Analytics Software and Security Management Software.

One would think that the fact that innovation drives the business is nothing that comes as a surprise. Isn't innovation the driver of growth in all industries? Yes and no. Some industries - and I consider the safety and security industry as one of them - are more reluctant to new technologies than others. If you see how long it took before video surveillance took the next step beyond VGA resolution, you can imagine how conservative the industry is. Often this is due to a good reason. Safety and security solutions have to be very reliable. 100 % reliable and not 99 %. But this is also the case in the health care industry, an industry that is considered much more innovative compared to the security industry. In health care, there is a constant demand from the patients to improve treatments and to invent new methods. The question is: What drives the security industry now to innovate their methods and tools?

We see that the strong need of new products is created by the customers need to get more results out of their investment. In discussions with our readers and industry players worldwide we see a strong demand for products that help the customer to do the "security job" and to create extra value. Intelligent access control products that help also HR managers to do a better job. Video surveillance cameras used by retailers to improve their marketing. Building management systems that manage building security and help to save energy. This issue of GIT SECURITY is full of examples how new products help you with your daily work and the Memoori reports states that across almost all verticals security managers have found the budget to invest in systems that are through delivering increased productivity at lower prices moving ever closer to becoming a profit centre.

Enjoy reading this issue!

Heiko Baumgartner

## HD-IR CAMERA

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**HD-IR**

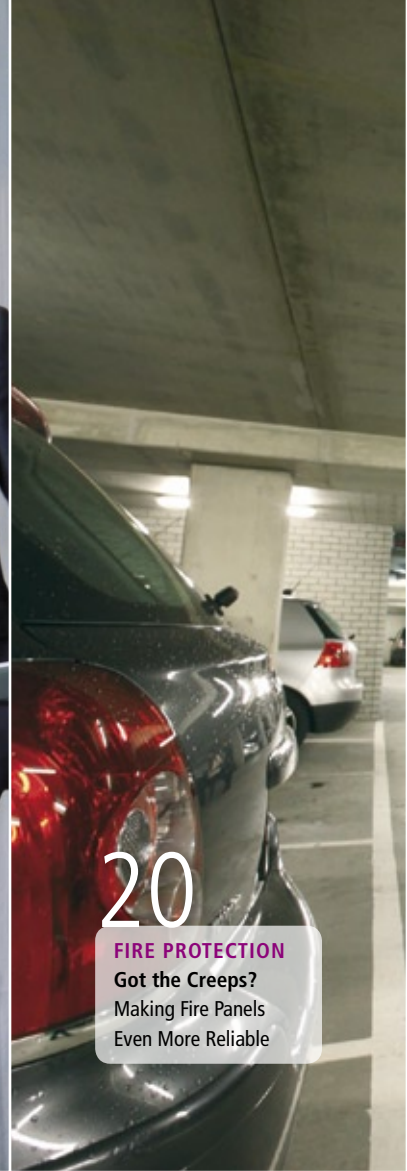
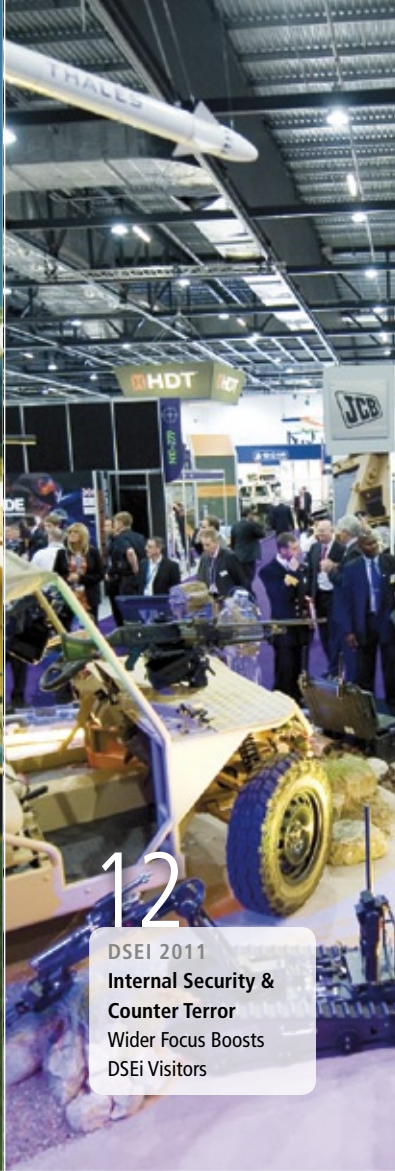
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Green Global Security

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



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**From Unimog to Pickup**  
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- Heiko Baumgartner,
- Michael Leising,
- Nina Esser,
- Sebastian Reinhart,
- Steffen Ebert,
- Heiner Jerofsky,
- Regina Berg-Jauernig,
- Matthias Erler,
- Katrina Leondaris



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technology: [www.legic.com](http://www.legic.com)



### Jürgen Dumont Is New CFO at Primion

With effect from 1<sup>st</sup> September 2011, the Supervisory Board of primion Technology AG has appointed Jürgen Dumont as the new CFO of the company. The 42 year old Business Graduate has many years of management experience, both inside and outside Germany. Jürgen Dumont studied Business Management at the University of Erlangen-Nuremberg. His career to date has included working as an Auditor and Tax Consultant for PricewaterhouseCoopers AG in Dusseldorf und Tokyo, where he lived for five years. His last position before joining primion as CFO was as a Senior Vice President of Nero AG, where he was responsible for the company's financial affairs. Jürgen Dumont: "primion is going through an exciting phase in its development and as CFO I am delighted to be able to play a significant role in defining the course of the company's future path. Here it will be vital to define clear goals and to implement them consistently across the board."



[info@primion.de](mailto:info@primion.de)

### Dedeman Opts for Bosch Solution

Bosch provides security technology for Dedeman, a Romanian home improvement and construction market. Dedeman's many large stores require a comprehensive solution that ensures protection and comfort to both staff and customers as well as security against theft and fraud. With 24 operating stores, each between 6,000 and 18,000 square meters in size and a portfolio more than 45,000 products Dedeman is Romania's most successful DIY retailer. Apart from selling products such as tools, heating and cooling equipment, plumbing, gardening, furniture or electronics, Dedeman offers a full range of services including counseling and consulting, logistics and technical support as well as transport.



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

### Onvif: Simplified Identification of Interoperable Products

The standardization initiative Onvif plans to streamline the user experience of its interoperability specification by developing a Profile concept so users can more easily identify interoperable solutions to deploy within their organizations. The concept will enable end users to easily identify features that are supported by a profile without requiring them to have extensive technical knowledge of the specific version of the Onvif specification. Users will be able to easily select the appropriate profile that offers interoperability at a specific functional level between units and software that fits their needs.

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

### Norbain and Webro Form New Partnership

Norbain has teamed up with Webro. Their specialist network systems and fibre optic divisions offer the latest in cables, equipment, technology and advice. "We wanted to ensure that our customers had the greatest choice and best quality of cables and associated accessories on the market," explains Barry Shakespeare, MD for Norbain. "We also wanted to ensure that our partner could support the move to IP technology that the industry is experiencing. Webro fulfils all of these criteria and we look forward to working with them during these exciting times." Both Companies place a very strong emphasis on customer service, with a flexible approach to meeting customer requirements.

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

# superior resolution



Arecont Vision 8 megapixel 180° and 360° panoramic cameras have been successfully deployed for mission critical security applications around the globe. And now, Arecont Vision's new generation of panoramic megapixel cameras include Day/Night functionality. Available in 8 and 20 megapixels, the new panoramic cameras provide improved forensic details to cover vast areas. In fact, one Arecont Vision 20 megapixel panoramic camera can do the work of up to 16 1.3 megapixel cameras - lowering project costs and improving ROI. Calculate the total savings and you'll clearly see how Arecont Vision panoramic Day/Night megapixel cameras can clearly surround you.

### Siemens With New Structure

Siemens has started its fiscal year 2012 on October 1, 2011 with a further developed structure. The newly founded Infrastructure & Cities Sector has begun to operate on that day. In the future, the operating businesses will be organized in the Industry, Infrastructure & Cities, Energy, and Healthcare Sectors. By forming the new Sector, the Company plans to be a leading participant in the dynamic growth of cities and infrastructure investments. "We are rigorously focusing our business on growth. Our new setup will put us even closer to our customers. The Infrastructure & Cities Sector will open up additional business opportunities in the growth market of cities," said Peter Löscher, President and CEO of Siemens.



Peter Löscher, President and CEO of Siemens  
[www.siemens.com](http://www.siemens.com)

### Schneider Electric and Ulis Team Up

Schneider Electric has entered into an agreement with Ulis to offer infrared technology via Pelco by Schneider Electric's Sarix TI thermal imaging cameras. Ulis, a subsidiary of Sofradir in France, specializes in the design and manufacture of high-quality infrared (IR) imaging sensors for various applications, including security and surveillance. Schneider Electric chose the Company's IR sensors for their performance, resistance to sun exposure, sensitivity and compatibility with Pelco and third-party analytics (security algorithms that detect, locate, and monitor intrusions).

[www.schneider-electric.com](http://www.schneider-electric.com)

### Onvif Releases Enhanced Test Tool

Onvif has released a new set of tools designed to aid member companies in designing and releasing new, Onvif conformant products to the physical security market. With the updated Test Tool (v1.02.4), testing specifications are divided into multiple documents, including: Base test, for IP configuration, device discovery and event handling; Media test, addressing media profiles and configurations as well as real-time viewing and streaming functionality; and PTZ test, defining the test procedures for handling PTZ nodes and configurations. As of November 1, this version of the test tool and test specification will be used by member companies to declare Onvif conformance.

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

### Ziggo Dome Chooses Nedap Aeos

The Ziggo Dome concert venue in Amsterdam, which is currently under construction, has chosen to install access control and intrusion detection systems from Nedap Security Management. Automatic Signal Rijsenhout will carry out the project implementation.



The Ziggo Dome concert venue

has a floor area of 90 by 90 meters and extends to a height of 30 meters. The Dome is planned to accommodate an audience of 15,650 including Member Seats. In total, on a time scale of five years from project completion, more than one million visitors and in excess of 100 events are expected on an annual basis. This ultramodern concert venue requires an advanced and up-to-date security system that will offer both access control for more than 75 doors and integrated intruder detection. Aeos architecture will also be used at the Ziggo Dome in order to implement future extensions easily and efficiently.

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

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

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### Conway Supplies Camera Housings for Nederlandse Spoorwegen

Conway Security Products are supplying their vandal-resistant ceiling and wall-mounted camera housings to the Dutch railway network, Nederlandse Spoorwegen (NS), for use at underground and overland stations across large areas of Holland. Stations already fitted with the equipment include hubs such as Amsterdam, Rotterdam, Eindhoven and Breda. The units were specified and installed by the company's Dutch partner, Hacousto Videotechniek, who have also implemented Bosch IP cameras and a video management system from Genetec. The Conway housings and Bosch cameras are being used for monitoring of passenger flow and volume at station concourses, and use of smartcard electronic ticketing similar to the London 'Oyster' card and Hong Kong 'Octopus' card.



[www.conway-cctv.com](http://www.conway-cctv.com)

### Assa Abloy Sicherheitstechnik Recognized for Excellence

EFQM, formerly known as the European Foundation for Quality Management, has awarded Assa Abloy Sicherheitstechnik's plant in Albstadt, Germany, its "Recognized for Excellence" award. This award represents the second of three award levels assigned by the global non-profit membership foundation based in Brussels, Belgium. An independent team of EFQM assessors spent five days assessing the Albstadt plant and produced a comprehensive report. The team gave the plant a five-star rating, meaning that it qualified for the top category of the "Recognized for Excellence" award. With this award, the plant has demonstrated the levels of productivity and efficiency required to be highly competitive on an international level.

[www.assaabloy.de](http://www.assaabloy.de)

### Salto GEO Now IP66 Rated



Salto has announced that its GEO (Global Electronic Opening) cylinder is now IP66 rated. It is fully compatible with most RFID technologies; it can now be used in external, all weather environments. The intuitive, versatile, and powerful product comes with wire free technology that makes it easy to install in any kind of door. The cylinder can be used to control a standard door, glass door, aluminum door, steel door, a lift or elevator, a car park, entry to a data centre, access to a server rack, etc. It is also available in a padlock version making it suitable for the securing of gates, barriers etc. Thanks' to the Company's Data-On-Card technology and wireless real-time on-line technology, users can manage access credentials and add, restrict or delete access privileges on the fly.

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

### Pivot3 With New CMO

Pivot3 has named Olivier Thierry Chief Marketing Officer. Thierry is responsible for the oversight of all global marketing activities for Pivot3 including product management, marketing, marketing communications and go-to-market initiatives with partners and channels. He assumes the role from Pivot3 Co-Founder Lee Caswell, who has been appointed Chief Strategy Officer. As Founder and Chief Strategy Officer, Caswell will be responsible for keeping the Company at the forefront of industry technology trends by developing key industry and technology alliances.

[sales@pivot3.com](mailto:sales@pivot3.com)

### Pelco Products Integrate with Navtech Radar Systems

Pelco by Schneider Electric and Navtech Radar have announced the integration of Navtech Radar systems with Pelco video security cameras and systems. Operating on the Pelco protocol, Navtech Radar systems are capable of directing cameras to track objects on the radar system, providing a wide-area detection and tracking system. "We are pleased to announce the integration of Pelco video security products with Navtech Radar, a strong technology partner capable of providing our mutual customers with innovative solutions," says Jean-Baptiste Hazard, Schneider Electric Vice President Security Business Development Asia Pacific. "With the ability to combine the Navtech Radar systems with our high-quality Pelco video products, this partnership provides an outstanding surveillance solution for large areas."

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

### Indigovision IP Video Surveillance for London College

City of Westminster College has invested in the latest IP Video technology from Indigovision to provide integrated CCTV surveillance for its new flagship campus. Opened in January 2011, the £102m project involved the re-development of the College's former Paddington Green site in Central London into a new state-of-the-art Campus. Facilities include specialist science labs, a large sports hall and a wide range of construction skills and engineering workshops, as well as community access to facilities such as the Sarah Siddons Theatre and Garden Café. The integrated solution, which was based around Indigovision's security management system, was designed and installed by GES Security Services.



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

### Basler Becomes Onvif Member

Onvif has welcomed Basler as a user member. Under this global interface standard, the Company's partners, distributors, and end users can harness the full potential of network video technology, and benefit from easy integration and reduced total cost. In addition, Basler aims to facilitate the changeover from analog to digital camera technology. The Company has already begun developing Onvif-compatible products. "We have always supported open standards to provide our customers with highly flexible platforms and applications," explains Gerrit Schreiber, Product Manager IP Components. "As a camera supplier, we place great emphasis on compatibility of our products with our technology partners' products – and we regard Onvif as the right basis for this."

[www.basler-ipcam.com](http://www.basler-ipcam.com)

### SimonsVoss Opens Nordic Sales Office

SimonsVoss Technologies further extends its European presence and opens a Nordic region sales office in Stockholm. In view of the very positive business development during the last years the Company has decided to implement its own sales organization to further develop the market. Daniel Rumack has been appointed as Sales Manager Nordic Region to lead those activities. Prior to joining the Company, Daniel Rumack was responsible for the sales and marketing activities for the Kaba AB access control products. Michael Winslow has joined the organization as Business Development Manager with responsibility for the Danish market. He was previously Product Manager for access control products at Ruko A/S.



[marketing@simons-voss.de](mailto:marketing@simons-voss.de)



### Comnet Expands Global Sales Team

Comnet Europe plans to add two sales people to handle demand for its products in the French-language regions of Europe and Asia. Mick Issa has been appointed as Regional Sales Manager for France, Belgium, Luxemburg and the Franco-phone countries of Africa and will be based from Paris. Mike has a background in telecommunication engineering and worked as a senior consultant. He has completed an MBA from Essec Business School in Paris. Tony Lau has been appointed Regional Sales Manager for East and South East Asia. Lau joins the Company at a time where there is immense investment that has resulted in enormous growth throughout Asia and there is a demand for very high-quality fiber optic and Ethernet transmission products. He brings great experience in the transmission and security industry spanning over the past two decades.



Mick Issa



Tony Lau

www.comnet.net

### AG Neovo's RX-W42 for Copper Mining in Chile

AG Neovo was assigned a role in Chile's copper mining industry. Its RX-W42, a 42" Full HD LCD display, has been charged with monitoring industrial facilities and offices at the El Salvador mine of Codelco, the National Copper Corp. of Chile. Codelco, or Corporacion Nacional del Cobre de Chile in Spanish, not only is the world's largest copper producer but owns the largest known reserves of the mineral on earth. Headquartered in Santiago, it consists of five principal operating divisions: Codelco Norte, Andina, Ventanas and El Teniente as well as Salvador. "They have very high resolution," said R. Adaros, superintendent of electricity supply service management, while speaking of the eight RX-W42s that have been installed in the control room of Codelco's Salvador operation.

www.agneovo.com

### Securitas Expands In Serbia

Securitas has acquired the security services company Sistem FTO in Serbia. Sistem FTO has annual sales of approximately MSEK 126 (MRSD 1,380) and approximately 3,200 employees. The company is mainly operating in guarding and alarm monitoring. With this acquisition Securitas will become the market leader in security services in Serbia, and also the largest employer in the security industry in Serbia with approximately 6,500 employees.

gisela.lindstrand@securitas.com

### Sanyo Premier Partner Conference

Distributors and resellers from across Europe attended Sanyo Europe CCTV division's Premier Partner conference in Munich. The theme for the conference, 'Toast Our Success', reflected the substantial increase in sales during the previous twelve months of the manufacturer's Full HD camera range. In his keynote presentation, Mr. Norihiko Morimoto, Divisional President of Sanyo Sales & Marketing Europe, thanked the delegates for their efforts which combined with the highly acclaimed Full HD camera technology, that had resulted in the Company achieving a share of the HD Megapixel camera market which was in excess of 20%. Delegates to the conference were given an introduction to a number of new products which will be launched during the remainder of 2011, including an 'outdoor ready' Full HD range, automatic license plate software and a VMS Broadcast server which will allow users to multi-stream images captured by full HD cameras to IE, Chrome, Firefox and Safari websites.



www.sanyosecurity.com

### Cassidian: Center of Excellence at Khalifa University

Khalifa University, Cassidian and Emiraje Systems have opened a Cyber Operations Centre of Excellence on the Campus of Khalifa University in Abu Dhabi. The new center will focus on research of the security of industrial control systems which are critical for energy infrastructure, encryption



and digital forensics. The establishment of the Cyber Operations Centre of Excellence follows on from an agreement signed in 2010. As part of the agreement, Cassidian and Emiraje Systems committed to provide resources and equipment to Khalifa University to support the establishment and operation of the Center, which in turn will encourage and support the development of intellectual property in the field of cyber operations at the University. The Center will also enhance research capability in specified cyber technology areas including networking security, mobility security, cryptology, forensics, and embedded devices such as Industrial Control Systems (SCADA).

Communications@cassidian.com

### Securitas Acquires Company in South Africa

Securitas has acquired the security services company Orbis Security Solutions in South Africa. Enterprise value is estimated to MSEK 35 (MZAR 42). Orbis Security Solutions has annual sales of MSEK 76 (MZAR 90) and approximately 1,500 employees. The company offers specialized guarding solutions in the Western Cape Province. With this acquisition, Securitas has approximately 3,000 employees in South Africa, with operations in guarding, mobile, alarm monitoring, technology, forensics and risk management services. The Company also becomes one of the top three security services companies in the Western Cape region.

www.securitas.com

### Puretech Systems Integrates with Ulisse Compact PTZ

Puretech Systems announced the integration of the Ulisse Compact PTZ camera from Videotec and ist Pureactiv wide area surveillance product. The integration, performed at Puretech's lab in Phoenix, AZ enables the camera to automatically follow targets using Puretech's PTZ Auto Follow capability. Additionally, when used with the Pureactiv command and control, the integration provides the ability to direct the camera to an exact latitude and longitude by simply clicking on the map based user interface or by automatic cueing by a sensor such as a Radar, fence sensor, and Pureactiv fixed camera video analytics.

www.puretechsystems.com

### Earnhardt Ganassi Racing Deploys Mobotix Surveillance Solution

Earnhardt Ganassi Racing with Felix Sabates chose to deploy a comprehensive Mobotix megapixel, IP-based surveillance solution as part of a strategic initiative to increase security in its North Carolina facility, which serves as the home base of its NASCAR racing team. "The Mobotix cameras are uniquely designed, and therefore, serve as a deterrent and let fans know the area is protected." Earnhardt Ganassi Racing is a two-car team competing in the NASCAR Sprint Cup Series, the most competitive form of racing in North America. They field the No. 1 Bass Pro Shops/McDonald's Chevrolet for Jamie McMurray, who won the Daytona 500 and the Brickyard 400 in 2010, and the No. 42 Target Chevrolet for Juan Pablo Montoya in the NASCAR Sprint Cup Series. Earnhardt Ganassi Racing replaced its prior analog system with a full-fledged IP-based video solution from Mobotix to capture high-resolution video that provided the high image clarity and details needed to conduct detailed investigations. The organization partnered with systems integrator Comserv to deploy the new system. Facilities manager, Earnhardt Ganassi Racing says: "The combination of high-resolution video with the decentralized approach provides us with the opportunity to realize immediate cost savings, and helps us keep a close eye on our facility and property better than ever before."

info@mobotix.com



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DSEI 2011

# Internal Security & Counter Terror

## Wider Focus Boosts DSEi Visitors

**This year's Defence & Security Equipment International (DSEi) exhibition and conference, which played host to the world's largest display of land, sea and air applications for defence and security products and technologies, has confirmed its attendance figure as 29,112, an increase of 16% on the previous biennial show of 2009.**

Staged again at the ExCeL Centre in London Docklands, the show featured 1,391 exhibiting companies representing 46 countries and included 30 national pavilions, making this the largest DSEi ever. DSEi 2011 attracted official overseas delegations from 55 nations – a 12 % increase on the number of countries who had sent delegations in 2009. Official parties attended from countries as far-flung as Australia, Brazil, Estonia, Romania, South Korea and Turkey. In addition there were record numbers of VIP guests from the UK and around the world – an increase of 30 % overall in terms of senior military and government visitors.



### A Broader Range of Topics

The subtle change in the title of the event from Defence Systems to Defence & Security reflected a broader focus to incorporate internal security for the first time. This embraced transportation, border, coastal and terminal security as well as counter terror and even cyber security.

Indeed, many visitors swapped poignant memories of the opening day of DSEi at ExCeL ten years before, when they heard the announcement at 14:00 hours UK time of the 9/11 terrorist attacks on the World Trade Center and Pentagon. Then the immediate risk assessment exercise conducted at the ExCeL site – situated entirely at ground level – showed negligible risk: the overriding local concern was for the cluster of high-rise office buildings down the road at Canary Wharf.


Accordingly, in the current climate of international terrorism and of proliferating threats to our way of life from home and abroad very different to those experienced in past decades, preparedness against attack has to take many forms and so the scope for security solutions from industry-leading suppliers at DSEi is wider than ever.

For example, iOmniscient's Managing Director Ivy Li gave an absorbing presentation on her stand of state-of-the-art video analytics technology, including the "Face Recognition in a Crowd" system demonstrated previously at IFSEC 2011. This is part of iOmniscient's comprehensive, integrated behaviour analysis system which has already been implemented for the most complex and busiest environments ranging from airports, railway stations and army bases to factories and retailers. The possible applications are numerous – from providing the safety system for the world's fastest train in China to authenticating workers in factories to minimize theft. Ms Li stated: "DSEi was a unique exhibition for us, as it allowed the actual users and customers in the Defence sector to understand the many things we can do for them using artificial intelligence based analysis."

Other diverse, integrated technologies designed to meet the needs of internal security were dotted all around the North and South Halls. The many new or upgraded solutions on display varied from surveillance, screening and scanning through to network video and secure communications, from intelligence gathering to encryption, from CBRN / NBC threat detection to bomb jamming and blast control. Numbered among familiar names exhibiting on crowded stands were Barco, Cellcrypt, Datong, FLIR, G4S, GarrettCom Europe, Green Hills Software, HGH Infrared, L-3 Communications, Link Microtek, Plextek, Qioptiq, Scanna MSC, Smiths Detection, Thermoteknix and Verint.

The event organisers Clarion are already planning for DSEi 2013, which is due to take place from 10<sup>th</sup> to 13<sup>th</sup> September 2013 at the same venue in London. Few doubt that the international defence and security landscape will have changed significantly by then.

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## EVENT

# Where All the Pieces Come Together

Milestone Presents Expanded IP Video Product Portfolio to Partners at MIPS 2

**After two years of holding Milestone regional partner events in every single European country, this year MIPS Europe was back to Copenhagen. About 250 people from 35 countries used the event for networking, getting the latest information about Milestone's product offering and evaluating all the options Milestone's partners offer. In the center of the presentation was the expanded new offerings Milestone has developed for the low to mid-range market.**

## A Strong Position as the Basis for Further Growth

The first day kicked off with a live video stream of Milestone President & CEO Lars Thinggaard speaking from outside the auditorium on the banks of the canal where the Copenhagen Police had stationed one of their riot vans, outfitted with a 360-degree roof camera viewable and manageable inside via Milestone Video Management Software (VMS), also streaming remotely to the Command Center at police HQ downtown. Thinggaard's keynote speech projected the tipping point for IP technology over analog in the security market to be 2014, which has already been achieved in the high-end market in EMEA and the US. Lars Thinggaard made clear that he considers Milestone to be in a very good position to grow the business further: „Through ambitious management strategy and focused organizational operations, we are performing with profitability and a strong cash position. We consistently evolve our tiered and reliable solutions,

while we scale geographically with our business model that builds channel expertise and differentiation through training certifications. We are therefore well positioned for continued growth, and have expanded again in 2011 by opening offices in three new world regions in support of our international scope and response to market demands.“ While the market for video management systems is expected to show compound annual growth rates of 30 % for the period from 2009 to 2015, Lars Thinggaard wants his company to grow 50 % faster than the market.

Ambitious plans for the VMS world leader for the seventh year in a row according to the latest IMS Research report. At MIPS, Simon Harris from IMS Research presented excerpts of the latest report "The World Market for CCTV and Video Surveillance Equipment – 2011 Edition" that shows Milestone Systems' top position for the world market category of 'Open Platform Network Video Management Software'. While the network video surveillance market grew almost



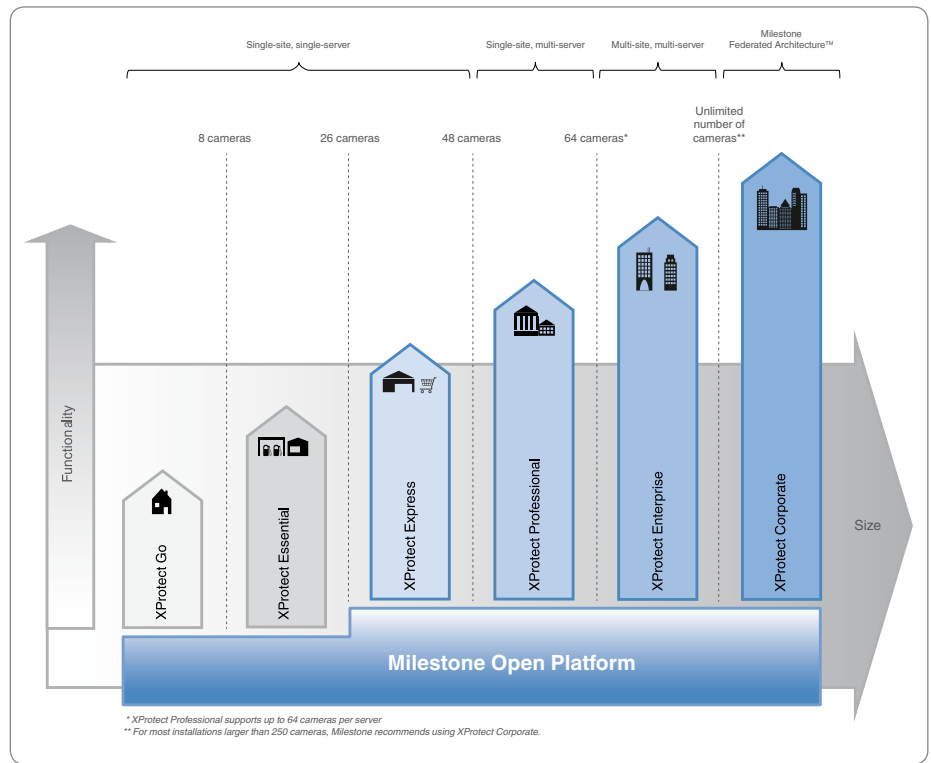
three times as fast as the total market in 2010 – over 30 %, Milestone grew 56 % in revenue and maintained its market standing.

**The Key to Future Success: Expansion in the Regions Plus a Full Portfolio of Products**

Milestone has expanded their global presence this year by opening offices in Brazil, Bulgaria and India, as part of the company’s strategic plans for continued success in the high-growth market for IP video surveillance. In 2011 Milestone Systems established a company in Bulgaria that is developing new functionality for XProtect open platform IP video management software. Milestone has also set up offices in Brazil and India to support long-term goals for organizational expansion. Over recent years, the company has seen positive growth in these areas. In total, in the first six months of 2011, Milestone Systems hired more than 65 new employees, a 20 percent increase in the total staff.

Besides the global expansion, a fast response to market demands shall bolster Milestone’s future success. Milestone recognized that two key factors are impacting the decline of the analog video surveillance market: The large and enterprise tier of the market transitioning to network video solutions and increasing price competition and commoditization in the mid to low end. Milestone is addressing this with newly released versions of XProtect Professional and XProtect Essential, and a brand new product called XProtect Express. The new versions were all presented to Milestone partners at MIPS in Copenhagen. „Milestone now has an even stronger and more competitive family of open platform IP video management software, offering more options from the world’s leading solution provider: deeper functionality, fast and flexible installations, and affordability. We are excited to reveal our new product XProtect Express, and the latest updates to the XProtect product suite,” says Lars Gudbrandsson, Head of Product Management at Milestone Systems.

**XProtect Professional – the Power to Do More**  
XProtect Professional is a VMS for mid-sized installations with multiple servers supporting up



to 64 cameras per server. XProtect Professional is a complete solution for single-site installations with multiple buildings requiring integration with business systems and video analytics. It is ideal for installations with a large number of megapixel and HD cameras.

**XProtect Express – Fastest Way to Video Enable Business**

XProtect Express is a new addition to the Milestone product line. Supporting up to 48 cameras on a single server, it offers speedy VMS integration for small businesses like retail. Due to the open platform environment, businesses can seamlessly integrate solutions such as point-of-sale and video analytics directly into the XProtect Smart Client, for a common interface and unified operating system.

**XProtect Essential Offers Brilliant Simplicity**  
In addition to these releases, Milestone is also now offering XProtect Essential 2 designed for

small, single-server businesses that want to manage up to 26 surveillance cameras. With a wide set of features to view and export video evidence, XProtect Essential is cost effective with a flexible licensing model that makes it easy to expand the system.

**Integration and Partners**

Milestone Systems software provides an open platform with a well-documented Milestone Integration Platform Software Development Kit. This continues to attract new Milestone Solution Partners from all over the world: over 500 companies have integrated the Milestone XProtect IP video platform with such systems as access control, Point-of-Sales, analytics, biometrics, HVAC, building automation, ERP, RFID, production, logistics, and more. 24 partners showed their solutions at the exhibition during MIPS in Copenhagen.

It was impressive to see “live” that Milestone follows a clear strategy not to implement





additional functionalities that go beyond video management into their VMS on their own, but stay with their open platform concept, where partners offer best in class technology that can be easily linked to the Milestone products. For Lars Gudbrandsson "open platform" is not only a concept, but "it is in our DNA", as he explains. Product Management at Milestone and the people who organize the Milestone partner program work very closely together not only to integrate new products into the Milestone VMS but also to ensure that Milestone partners can easily adopt their products to the fast product development of Milestone.

On the final day of the event, Eric Fullerton, Milestone Chief Sales & Marketing Officer, started the agenda with his presentation on 'The Shape of IP Today and Tomorrow', expounding on concepts described in his newest white paper: 'Megatrends in Video Surveillance'. He stated: "The value of the partner channel is the dark horse in the race for IP to win over analog in market share: the tipping point is when IP's influence turns the current of the tide to inevitability – when the floodgates break down and traditional security partners can no longer make their living with analog and they can see its end-of-life. Increased processing power will combine

with new expectations of usability from the next generation of operators: the multi-tasking youth of today will demand it."

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## PERIMETER PROTECTION

# The Security Edge

## Nuremberg Hosts 2012 Congress on Perimeter Protection



**The Verband für Sicherheitstechnik (VfS) (Association for Security Technology) is organizing a two-day congress concurrent with the Perimeter Protection trade fair. On 17 and 18 January 2012 in Nuremberg, prominent speakers from industrial enterprises and design agencies will discuss solutions for optimal perimeter protection.**

The attendees at the two-day congress will include operators, planners and government authorities responsible for security solutions at the perimeters of business, industry and public facilities. Professionals responsible for the security of large corporations, such as BASF and Telekom, will give presentations on the interaction of mechanical and electronic security systems from the user's point of view. The congress, which is taking

place concurrently with the first two days of the Perimeter Protection trade fair (17 to 19 January 2012), is being organized by the Verband für Sicherheitstechnik (VfS). Peter Reithmeier, Managing Director of VfS said „Efficient perimeter security requires a combination of various techniques that are individually customized to the property and the protection objectives. Thus it's the users who have the say at this congress, and participants will benefit from their experience.“

„We are in the middle of preparations and are currently holding final discussions with potential speakers, highly respected security technology planners and authorities from government security agencies,“ added Reithmeier. He attributes the remarkable interest in the Perimeter Protection Congress to the great need for knowledge and information on the topic. After all, every company is interested in securing its buildings and grounds from external attacks and unwelcome intrusions. No matter whether it's an airport, a prison, a large pharmaceutical or chemical group – perimeter protection of highly sensitive properties is indispensable. The various different requirements of projects constantly create new challenges and expectations. Meet And Greet Also attending will be the manufacturers of security technology. Reithmeier pointed out „Reports from users provide excellent indicators of which areas of perimeter protection work well and where improvements might be needed. For manufacturers, the presentations offer an ideal opportunity to gather ideas and to adapt their techniques.“ Thorsten Böhm, project manager for the Nuremberg Messe, also sees the congress as an ideal complement to the trade fair and commented „In specialist presentations aimed at a broad audience, Perimeter Protection visitors will learn from users and planners what they should pay attention to in building security. Afterwards they can exchange information in conversations with exhibitors and get tailor-made solutions from the companies. The trade fair and congress represent a perfect combination of knowledge transfer, supply and demand.“

Following its premiere last year, Perimeter Protection from 17<sup>th</sup> to 19<sup>th</sup> January 2012 is being held for the second time in Nuremberg. Around 100 exhibitors and 2,000 trade visitors from Germany and other European countries are expected. Exhibitors will present classic mechanical protection features such as fencing, gates and barriers along with modern electronic systems including video surveillance, burglar protection systems or bio-metric access control

systems. Both the congress and the exhibition draw a broad cross-section of visitors including security managers of police departments, the military, fire departments and rescue organizations, architects and construction planners and security consultants. On the provision side there will be installation companies of fences, gates and special metal construction as well as of the associated electronics – security technology, access control and video surveillance, for example. The current congress program will be available from 1 November 2011 at [www.vfs-hh.de](http://www.vfs-hh.de).

### Trade Association

Of course, such an event cannot take place without the generous support of sponsors. In addition to the “Fachverband mit der Gütegemeinschaft Metallzauntechnik”, the leading German Association for the fencing and door industry, the EPPA will in future also be supporting the organizer duo of H & K Messe and NürnbergMesse in a specialist capacity. The EPPA is a voluntary association of Europe's leading manufacturers of security technology systems for open-air sites, with the focus on metal fencing and gates.

“We are delighted that in the EPPA we have acquired a sponsor who represents the sector throughout Europe”, said Thorsten Böhm, Project Manager NürnbergMesse. “At the first Perimeter Protection event, one out of four exhibitors already came from Europe. Our visitors came to Nuremberg from 12 different countries. In future we would like to make the trade fair even more attractive for international visitors. In addition, alongside our German sponsor – the Fachverband mit Gütegemeinschaft Metallzauntechnik in Ratingen – in the EPPA we have found an outstanding partner to complement the fair”, Böhm added. Patrick van den Bossche of the European Perimeter Protection Association (EPPA) in Brussels explains, “Perimeter Protection is a trade fair exactly tailored to our sector of the fencing and security technology industry. Following the Nuremberg trade fair premiere in 2010, we would like to make a stronger contribution in future in terms of content by presenting and discussing the current trends and developments in private, industrial, commercial and public security at a European level.”

The members of the EPPA include Allfence, Arfman Hekwerk, Berlemann Torbau, CRH Fencing and Security Group, Dirickx, Gunnebo Perimeter Protection, Heras Adronit, NK Fencing, Rivisa ICM, Siddall and Hilton Products, Tango-rail and Tuvan Heras Stängsel.

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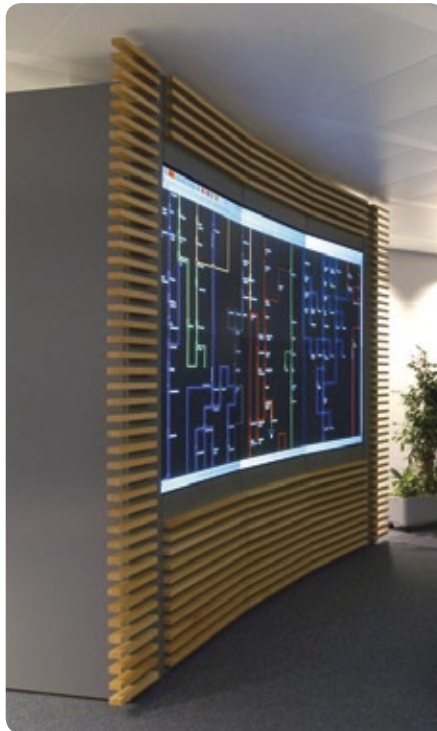
CONTROL ROOMS

# Space Saving or Image Quality?

## Is It Really Good to Sacrifice Image Quality Only to Save Space with Videowall DLP Cubes?

**When a company decides to invest in a new display system, the best and latest technologies are expected for an excellent visual result.**

sembling of the cubes. Traditional rear projection cubes have their projector inside of the body which projects vertically to the top. The pictures of this projector reflect in just one mirror, which is installed in the upper part of the body, in an angle of 45° and is then projected



What is more important space saving or image quality?

The demand for new and possibly narrow display cubes for the building of a video wall is growing. A new cube is not only wanted as narrow as possible, but also is it to be better for the environment and of course cheaper than the traditional cubes. But at what expense can this be made possible? Are these expected advantages really as good and are the cubes as good as larger, traditional ones? Which technology is actually the better one: the traditional devices or the new narrow displays?

### Necessary to Know

In order to understand the difference of the two systems it is necessary to know the as-

sembly from behind on the front pane of the cube. The narrow cubes, opposing to the traditional ones, have two mirrors instead of just one. This means that the picture itself is mirrored twice, which is called a Z-projection. In order to keep the body of the cube as narrow as possible the focal length is reduced, which leads to a decrease of the final image quality. The advantage of the Z-projection and this buildup is primarily a physically narrower body. But it also means that the light scattering is wider, in order to fill out the same frame size with less distance.

By that, a part of the light is lost on the way, which is more than with just one protection, so

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the narrow cubes are not as bright as the traditional ones. This configuration has the light in the middle of the front pane cover a shorter distance and has therefore a much higher intensity than the light of the image in the outer parts of the projection. In the middle of the image, the light enters the front pane from behind in an angle of 90°, but the other parts of the image meet the front pane in other, worse angles.

### Narrow Cubes Not the Better Option

This causes the image to appear much brighter and clearer in the middle than in the outer parts. So when it comes to image quality, the narrow body cubes are definitely not the better option. But as the cubes were designed in order to built a video wall in larger groups of cubes, the unevenness of the projection in every single cube leads to non-uniformity in the whole installa-



tion. It might happen that there is a loss of image quality of the buildup due to the irregular brightness in single cubes.

In conclusion, the image quality of the Z-projection cubes is not as fine as the projection of the traditional cubes with only one mirror inside. The new generation of cubes has been introduced as more environmental friendly, because they are smaller and lighter. Another argument of the producers of the cubes was the lighter weight due to the Z-projection system, which will lead to a reduction of fuel needed for the transport. But the different of weight between the new and the traditional product is not that much to account for this argument.

### What Is More Important

So this leads us to the question whether a minimal decrease of resources is more important than the image quality of the video wall in a control room? There are many ways to act environmental friendly, but risking the reliability in your control center should not be one of them. The third argument that is intended to advocate the new generation of cubes is that their smaller size means that they need less space in a control room, which is very important with today's real estate prices. This actually is an important factor, as space available should always be used reasonable. But it is not an argument for the cubes, as it leads to a misunderstanding and confusion. The product's data sheets say that the new cubes need an installation depth of 450 mm, which is less than the approximately 600 mm of traditional cubes. But in addition to that, there is the vague number for distance between cube and the wall behind it. This space is necessary, as the narrow cubes need an add-on in their back to place the projectors in position, as well as some additional space for ventilation. Traditional cubes do not need both of that.

The additional space needed for the Z-projection cubes adds up to 595 mm of distance needed from the wall of the room to the front pane of the cube. This is not at all a significant difference from the 600 mm of the space a traditional cube installation needs, especially not if you keep in mind that there is a visible cut back in the image quality because of the narrow design.

### What Accounts and What Does Not

The less space that the smaller cubes need does not actually account, because there is more space needed for routine maintenance. Most of the video wall installations are using a system of being accessible from behind, because a technician needs some space to work. The assumed benefits of the new, narrow cubes do not justify their high costs. The reduction of image quality and the difference in size, which does not mean a reduction of space needed, combined with their weaker frames which make them prone to vibration irritations, lead to the final conclusion that the new cubes are not as good as they sound at first. Until there is really a major invention, which leads to an improvement of the image quality and a smaller price, we will stick to the traditional system as the one and only solution.

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## FIRE PROTECTION

## Got the Creeps?

## Making Fire Panels Even More Reliable

**Creeping shorts and creeping opens are a nightmare for every operator of critical transmission lines, in particular in fire alarm systems. They can not only trigger false alarms, much worse they can inhibit alarm transmission and/or notifications that would otherwise warn residents of a fire. Improved supervision methods of transmission paths now considerably increase fire alarm system reliability.**

European standard EN 54 Part 13 requires that transmission paths must be continuously supervised for creeping opens and creeping short circuits, reducing the risk of inhibited alarms and increasing overall safety levels. Bosch has developed a patented technology that continuously monitors all transmission paths for such creeping short or open conditions.

Once installed, every technical system is exposed to both environmental influences and human error. Fire alarm systems are no exception here. In a fire alarm system, sensors such as manual call points or fire detectors and actuators such as sounders and strobes are distributed in a building and connected to a fire alarm control panel via a wired bus. The bus is typically a 2-wire cable to transmit data and energy between the fire alarm control panel and the peripheral elements. For peripheral elements with high power consumption a 4-wire cable is typically used whereof 2 wires just transmit data and the other 2 wires transmit energy.

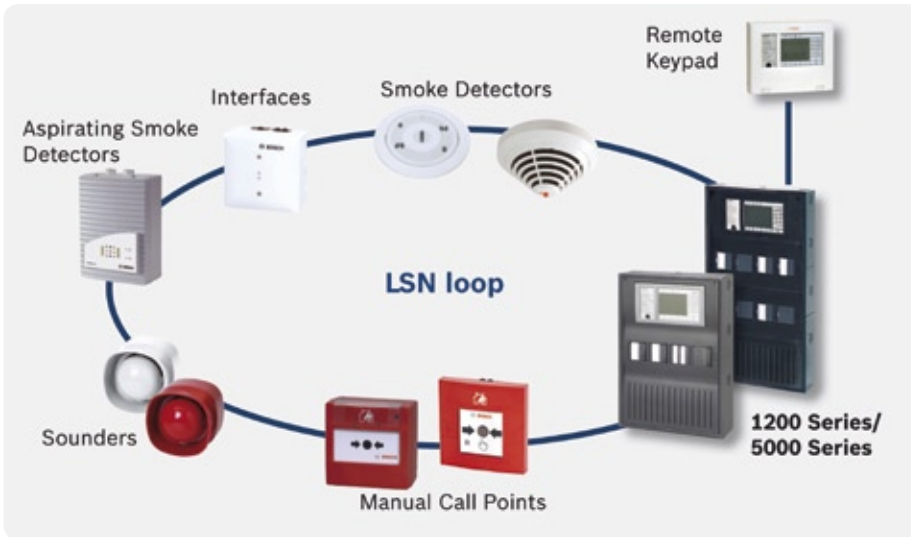
These 'transmission paths' have to be continuously supervised: even in air-conditioned environments, metallic contacts can corrode slowly over time, and gases, humidity and aging may reduce the insulating characteristics of plastic sheaths. Human error includes everyday incidents such as drilling into cables without entirely destroying them or not tightening screw terminals while installing the fire alarm system. Sudden incidents and long-term developments alike can easily lead to creeping shorts and creeping opens that dramatically reduce the reliability and the functionality of fire alarm systems, spe-

cifically the transmission paths. Here a creeping short circuit is understood to be a slowly developing reduction of the resistance between two wires, for example in two-wire lines. A creeping open is thus a slowly developing increase in the line resistance of one, a pair or more wires. Both creeping opens and creeping shorts can inhibit data transmission and thus represent very real threats that may result in the loss of human lives and/or valuable assets if not detected in time.

#### European Standard

In order to detect such conditions before a fault occurs during an emergency situation, EN 54-13 introduced prophylactic measures to detect creeping shorts and creeping opens in transmission lines. As a system standard, EN 54-13 does not stipulate the mandatory features of individual products but rather assesses the compatibility of system components in fire alarm systems.

To begin with, it differentiates between the functions of fire detection and notification, which are however typically combined in today's fire alarm systems. According to EN 54-13, detection refers to identifying a fire at the earliest possible moment and triggering notification and controls so that suitable measures can be initiated. The fire alarm system typically triggers acoustic and/or visible alarms to warn people in a building who might be at risk from the fire. All essential parts of the fire alarm system are designated type 1 components in EN 54-13, while components that are not stipulated to be mandatory, such as a log printer for example, are type 2 components. The standard requires that all system components of



type 1 must be compatible with each other and all type 2 components must be connectable. Here, compatibility means that type 1 components must work together with the alarm control unit within specified limits (i.e. by supplier and EN54 standards) and connectability means that type 2 components must not adversely affect the operation of the fire alarm system in any way.

EN 54-13 imposes very strict requirements on compatibility, specifically with regard to transmission paths. In particular, for a system to comply with the standard it must be ensured that all interconnecting wiring supplies the voltage that is necessary for the operation of all the connected actuators or sensors under proper load conditions. Transmission paths include both signal lines and supply lines. Instead of testing the line status only with standby current, as has been the case before EN 54-13, it must now be ensured that all functions of the transmission path are working under creeping open or short conditions even in alarm state where the peripherals typically have higher current consumption.

### Test Resistance

Aiming to increase reliability through early detection of creeping shorts and opens, EN 54-13 introduced defined procedures and criteria of acceptance for the functional tests of fault warning conditions in transmission paths. The test for a creeping open requires the introduction of serial resistance into the transmission path. Starting with the quiescent condition, the resistance must be increased until a fault warning condition is reached and a fault is signaled to the fire panel. Decreasing the resistance by 10% must then make the entire transmission path fully operational again.

This means that all elements that are connected to the transmission paths remain fully functional, even if elements require higher current values in alarm state compared to the normal state. By the EOL modules it is assured that the line resistances on the transmission paths are within the limits that are required for flawless functionality. The creeping short test is very similar, requiring parallel resistances. Here, the resistance needs to be reduced until a fault is signaled, and a sub-

sequent increase of the resistance by 10% must bring the transmission path back to normal.

### End of The Line

In order to comply with the requirements of EN 54-13, and thus be able to connect detector lines to the fire alarm system in a way that conforms to this standard, Bosch has developed a family of active end-of-line (EOL) modules. They act as line terminators that continuously test 2 and 4-wire transmission paths for creeping opens and shorts according to the procedures and criteria of acceptance as laid out in the norm. These EOL modules are simply installed on the end of a conventional detector line, an LSN stub or an LSN T-tap in parallel to the detectors. Being a closed loop, a 2-wire LSN loop does not require an EOL module. A 4-wire LSN-loop does require an EOL-module to supervise the auxiliary voltage.

Bosch offers EOL modules for both LSN stubs and T-taps as well as for conventional transmission paths. The LSN modules support both LSN 'improved' and the classic variation of this bus. In the LSN improved mode, the address can be assigned automatically or manually. The modules work together with all Bosch fire panels that support LSN. EN 54-13 is a European standard, but compliance is not obligatory unless the respective national standards organizations have adopted it in their national application guidelines. In most European countries they have done so and others may follow at any time. Therefore it is certainly a good idea to comply with EN 54-13, even if it may not be required today – not least for the increased reliability that it brings.

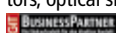
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### Fire Protection in Potentially Explosive Atmospheres

GB Esser has expanded its product portfolio with an Ex Barrier that allows fire detectors in potentially explosive areas to be individually addressed in compliance with the current Atex guideline. Dealing with explosive and highly flammable materials – common in the fields of nuclear power, pharmaceuticals and chemistry – requires a special safety concept. Every ex-zone requires detection technology to be synchronized with the ambient atmosphere. The manufacturer offers ATEX compliant fire protection technology for this kind of area. Various sensors used in the IQ8Quad ex-class detectors provide a wide range of detection methods: rate-of-rise heat detectors, optical smoke detectors and the O<sup>2</sup>T multisensor detectors.



info@esser-systems.de

### Wireless Fire Detection

Apollo has updated and extended its Xpander range of wireless fire detectors. Designed for use in areas where hard-wired fire detection is impossible or impractical, the devices are suited for use in educational buildings such as schools and universities. Educational establishments may typically consist of a number of buildings that are spread across a site, such as sports centers and exterior classrooms. Linking these buildings back to the main fire detection system can be expensive or impractical depending on distance and the large amount of cabling required. The detector range now consists of an optical smoke detector, a multisensor smoke detector, heat detector types A1R and CS, a wireless base, a manual call point, a sounder and a sounder beacon and Single and Dual Input/Output Units. The complete range has been granted the new wireless link fire standard EN54 Part 25, which is the standard for European-compliant radio products.



www.apollo-fire.com



## COVER STORY

# The Big Squeeze

## Large Surveillance System Uses Virtual Servers and Optimized Compression

**In 2009, when the Grand Casino in Baden in Switzerland upgraded and expanded its video system it chose a Geutebruck high-availability IP solution designed by local system integrators Honegger System Technik. At the time, the design broke new ground by incorporating thirty-five 1.3 megapixel cameras into the 250-camera system and introducing virtual Gevisope platforms to handle the large amount of generated data with high redundancy. The complex upgrade was made without any interruption to operation of the system or business and could equally well be made in banks, industrial complexes, transport and logistics operations and hotels, for example.**

Until 2009 the video monitoring system installed in Baden was not able to record all the data it generated. To keep storage costs and access time for external libraries within reason, operators were using high resolution images for live monitoring but only recording and retaining the 25 fps sequences for 28 days which is legally required by Swiss law for such establishments. Clearly this compromise solution was far from ideal, especially as better technologies appeared on the market. For instance, with around three times the resolution of conventional analog cameras, and hence significantly better picture quality, the attractions of megapixel cameras were clear to the building's operators. What they required was a new solution that could handle the very large data streams, but a completely reliable one with instant access storage.

### Two Key Technologies

The chosen Geutebruck IP solution for this particular installation was designed and installed by Honegger System Technik. It supports many more cameras than before, including megapixel ones and exploits two technologies in particular that enable it to handle and store the complete video history from all the cameras at full available resolution on a 320 terabyte instant access database.

The first key technology is Geutebruck's own CCTV-optimized video compression process

called MPEG4CCTV. This is an MPEG-4 compliant process that uses standard MPEG-4 compression tools in unusual ways for the specific purpose of improving both performance and image handling for security users. Consequently, systems using this compression technique are very fast, delivering top quality video images without any perceptible latency, as well as being lean and efficient with low network and storage requirements.

The second is the IT technology of virtualization which offers the ability to produce virtual devices. With the aid of Microsoft's Hyper-V tool, Geutebruck can generate several virtual Gevisope servers on a single piece of hardware. These virtual servers are then linked into clusters with so-called 'failover' functionality to ensure that, if one of them fails, another automatically and instantly takes over without any effect on service.

In the server room at the Grand Casino Baden, what is really impressive is what is not there! Because visualization uses less hardware, there is considerable saving of space, energy and costs – less power is consumed and less emergency capacity is on standby. Fewer hardware devices are throwing out less waste heat, so less air-conditioning is required and again less energy is being used. All of this leads to significant reductions in the total cost of ownership.

## Terminal Growth

### As Ljubljana Airport expands, so does the video solution

Jože Pučnik Ljubljana Airport is gradually realizing its long term expansion plans for development into a regional aviation hub. With Slovenia's entry into the EU and admission to Schengen in 2007 came the prospect of increased air traffic and the need to increase airport capacity.

Since then, in the first of a two-stage project, the existing passenger terminal has been enlarged with 6,000 m<sup>2</sup> of additional space that now facilitate both Schengen and non-Schengen traffic and make boarding easier. Geutebrück Adria supplied the original video security system that has had to be expanded with each new construction project. Airport security manager Bojan Lucovnik said in 2004, "Our system is not finished yet. It is an open system and will never be finished because, like every other airport in the world, we are always expanding and we need to add new cameras, access control and recording capacity."

The airport was well-prepared because all additions since 2006 have been pure IP systems. Around 100 new IQ eye IP cameras and Axis IP Speeddome cameras now work alongside the original 160 analog ones. In 2009/10 relocation of the control room provided the ideal opportunity to upgrade these facilities. The old analog matrix and analog monitor wall was replaced by a virtual digital matrix and an array of wide monitors.

Security staff monitor entrances to the airport, car parking facilities, general aviation areas and passenger terminals as well as VIP areas and air-side cameras covering the apron and runways. Integration of the video

system with the airport's access control system provides strict control of movement through the doors that form the crucial air-side/land-side interface.

The airport authority evaluated three European suppliers for the latest project. The new Geviscope-based system, which uses GSC View software and Mbeg control units, was designed by Kodak and Siemens and installed by PAN electronic and G7. "It is very reliable and easy to use", explains Dušan Sofrič, the current airport security manager. "During basic training, staff learn how to review footage, how to make backup files and use motion detection. The system has performed very well, exactly as it was initially demonstrated to us."



### System Design

It goes without saying that, wherever possible, the system design incorporated the existing infrastructure. For instance, the dozen or so existing analog speed domes and the one hundred analog box cameras were linked to the existing Cat5 Ethernet cabling by adding CAM2IP video encoders. These support MPEG4CCTV compression and its efficient video management features.

35 new 1.3 megapixel cameras were installed where their detailed pictures would enable close observation of specific sensitive areas. One hundred new VPCAMs were introduced to monitor the gaming machine area, the cashier's desks and for other general views. These are high resolution day/night IP-cameras with automatic IR-cut filters, which provide crisp sharp pictures even under widely varying light conditions.

The data streams from all cameras go to two Intel modular servers, each of which incorporates five high performance computers. Together these run a total of 21 virtual Geviscope video system platforms, all operated in cluster formation. These in turn record to the high redundancy RAID Level 6 databases mounted on 21 Promise SAS storage systems, which currently use sixteen 1TB capacity server disks each but can take more if needed. Thanks to this design, if Murphy still strikes despite all preventative measures and cutting-edge technology, the full function-

ality of the system is then re-established automatically without any significant down-time. The same configuration can of course be applied to any business-critical industrial or commercial installation to provide the same high availability.

### Close-up Clarity

The new system more than meets the requirements of the Swiss regulations. The high resolution provided by the megapixel cameras gives the operators increased picture quality along with increased security and operational efficiency. The images offer excellent clarity for recognizing detail with fewer cameras, and the high resolution of the megapixel cameras enables supervisors to zoom in for close-ups. They have eight 30-inch monitors to observe the casino operation and can access all of the 250 cameras from each workstation, where live and recorded footage of identical quality can be pulled up in milliseconds.

In contrast to the technical complexity of the system, the users find it simplicity itself to operate. Supervisors use GSC View, Geutebrück's user-friendly software for display and operating. Its flexibility allows extensive customization to maximize security as well as for operator comfort and convenience. With it, for example, you can display up to 100 cameras at once, you can choose them as a group to be shown permanently in a pre-programmed formation,

or display them at the touch of a button. Pre-determined picture sequences from selected areas are automatically switched to the operator's monitor in alarm situations. And, when required, all cameras can also be controlled using Multi-map, a site-plan-based interface that gives additional information on the status of individual cameras and systems.

### Investing for Longevity

Against a backdrop of continuously changing markets and regulatory frameworks, video security system purchasers are clearly keen to ensure that any investment, especially a large one, provides for their needs for as long as possible. The (virtual) Geviscope devices at the heart of this solution not only meet current needs, but are scalable almost without limit in every direction and offer exceptional flexibility in terms of adaptability and integration with third party systems.

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MARKET REPORT

# Security Business: A Safe Port in a Storm

Memoori's 3<sup>rd</sup> Annual Report "The Physical Security Business in 2011"

**One of the most encouraging findings from Memoori's 3<sup>rd</sup> annual report The Physical Security Business in 2011 (<http://memoori.com/physical-security-2011>) is that this industry has outperformed most peers and despite a troubled economic climate it has increased revenues and profitability whilst merger and acquisition has surged by more than double in the last 2 years to \$9.847 billion. This business looks like a very safe port in a storm.**

The total value of world production at factory gate prices was \$19.17 billion and it has grown by a CAGR of 4.25 % over the last two years. Of this Video Surveillance products at \$9.1 billion taking a share of 47 % has been the fastest growing sector, followed by access control at \$4.41 billion which took a 23 % share, whilst sales of intruder alarms fell to \$5.65 billion and now has a 30 % share. The developed markets of North America and Europe are losing market share to Asia and particularly China which will be the largest single market by the end of this decade.

Fig. 1 shows the relationship between the performance of the market size, value of acquisitions and company EBITDA valuation on acquisition-

tion over the period 2007 to 2011. It shows that the market for physical security products did not decline until 2009, whilst acquisition activity and valuations declined in 2008. In 2009 both acquisition and valuation started a rapid two year rise whilst the market has grown by CAGR 4.25 %.

The anticipated aftershock from the 2008 financial meltdown now looks inevitable irrespective of whether the right corrective actions are taken now. This will dampen future demand but we are optimistic that as it can now deliver more attractive opportunities for clients to im-

prove security and profit from it, demand will edge forward at a CAGR of 3.7 % over the next 5 year period whilst we forecast a much more modest growth in mergers and acquisitions well down in single figures.

### Innovation Drives the Business

Delving into the details in the report, there is one factor that stands out and that is that growth has been driven, not so much by the need for security which is a given, but by the industries

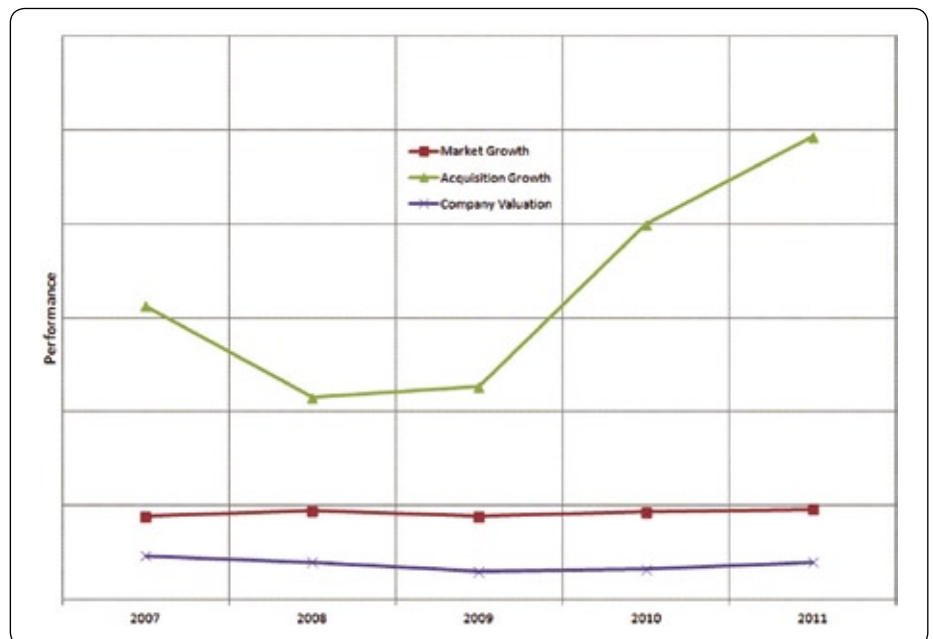


Fig. 1: The relationship between the performance of the market size, value of acquisitions and company EBITDA valuation on acquisition over the period 2007 to 2011.



capability to produce a constant stream of new products that meet the customers need to drive more ROI out of investment. Across almost all verticals security managers have found the budget to invest in systems that are through delivering increased productivity at lower prices moving ever closer to becoming a profit centre.

It is the application of new technologies that has enabled this to happen. The report identifies 5 emerging technologies that have created new business opportunities and they are Wireless communications, IP Networking Technology, Video Surveillance as a Service (VSaaS), Managed Video, Analytics Software and Security Management Software including Physical Security Information Management (PSIM) and Physical Identity and Access Management (PIAM).

Not surprisingly they all have one thing in common and that is they improve productivity and provide safer and more efficient security systems and in some cases for lower cost. However all of these technologies embrace a wide divergence of skills and expertise and clearly it will require large R&D and development budgets to take them forward. It is unlikely that any one company in the security industry will master them all. So far, the leaders in introducing these new products are small to middle sized companies focused on one segment of the market with the majority having been around for less than 10 years. The traditional market leader's shares have stagnated and the average share is less than 10%. Financing these developments will not in the short term improve their competitive positioning but they have the cash to buy this expertise through acquiring companies steeped in it, but seem reluctant to take the initiative at this time.

### The Surge in Acquisition

This is one of the baffling things thrown up by the report; that despite a surge in acquisition activity which has doubled in the last 2 years, most of the traditional market leaders have not participated and watched this going off from the sidelines. It is not easy to fathom out why because like all multinational companies they have

up to 2008 / 9 had an active policy of growth through acquisition and they all have strong cash reserves. By 2010 the security industry had got itself back to profitable growth and the industry had proved itself to be an attractive robust business and as the report shows, although company valuations have gone up they are still below 2008 levels.

Interestingly some \$1.178 billion accounting for 12% of total investment in acquisitions in the last 12 months was made by companies from the Defense and IT related industries. In addition Venture Capital and Private Equity Groups acquired 6 companies investing some \$3.605 billion; including Bain Capital's purchase of Securitas for \$3.26 billion. This follows on from an active campaign in 2010 of companies external to the business seeking to become a part of it. Both Defense and IT Related companies see opportunities in the industry to leverage through their technological expertise and together with their strong finances they will play a very significant role in strengthening and growing this business.

The long standing multinational suppliers such as Bosch, Honeywell, Johnson Controls, Schneider, Siemens and UTC Technologies are both product manufacturers and system suppliers and cover almost all aspects of physical security. When you take account of this and review market share on the basis of product sales, which this report does, then it shows that average market share figures are little more than 3 % with the highest around 12 %. If you then start to look at market share in some of the segments, say the fast growing IP Video networking camera market not inconsequential at \$1.3 billion, then the leading supplier Axis Communications has a share around 35 % with no other supplier in reach.

### Focus on Products or Focus on Solutions

You then have to wonder if some of the major traditional suppliers are spreading themselves thin on the physical security front and need to refocus on either the product or systems business or combine these to focus on particular product areas for specific vertical mar-

kets. They have all performed well financially in the last 3 troubled years and have been successful in growing their systems business. One of the major reasons for this is they have fed off their heritage estate business and at the same time have integrated activities from other parts of their organisation such as fire detection and extinguishing, evacuation control, mass notification and energy management into holistic solutions for their clients. This has been a successful strategy but it appears to have taken their eye of the product business.

Last month Tyco International announced that they will split into 3 separate companies with 2 based on security and safety. This will very likely open up the opportunity for at least one mega merger in 2012 and our betting is that the traditional major players in our industry will not sit it out this time around. However they will have to make sure that if they are going to stay in both the product and systems camps they will commit sufficient

resources to spend on the enabling technologies and or acquire companies that have this expertise.

Memoori's report "The Physical Security Business in 2011" uniquely combines clearly defined market sizing statistics with financial analysis of M&A and funding. It brings together all the factors that influence this industries future; including technology, finance and the capability to deliver products that meet the customers need to drive more ROI out of investment. For more details visit our Website, <http://memoori.com/physical-security-2011> or email [jim@memoori.com](mailto:jim@memoori.com).

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# High-Definition Low-Light

## 1080p/720p 50/60fps CMOS/CCD HD Camera



**HD-IP CAM**

- HD 720p Multiple-streaming
- Codecs: H.264 /MPEG-4 /M-JPEG
- CVBS



**3G-SDI CAM**

- Uncompression video: 720p/1080p
- Video transmission based on coaxial cable
- Bit rate: 2.97Gb/s SMPTE 292M/424M
- One cable (Video/Audio/RS-232C/Power embedded)
- CVBS

**Megapixel Camera Module**


- Image sensors: 1.3-3M CMOS/CCD Sensor
- Built-in ARM926-EJ-S/Memory
- Digital video output: YUV 4:2:2 16 Bit (SMPTE 274M/296M)
- CVBS output: Over 800TVL (NTSC/PAL)
- Image adjustable: De-Hightlight / BLO / DWDR / AGC / 3D DNR / removable IR-Cut / Fog-Reduction / Eclipse / Freeze / Digital P.T.Z
- Communication: RS-232C/OSD
- Low power consumption

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## INTERVIEW

# More and More Trust

## Advanced Video Analytics Makes Video Management Systems More Powerful

**Murat Altuev, President of AxxonSoft, Russia's largest software provider for security and video surveillance systems, discusses trends in the video surveillance market and new developments in the company.**



**GIT SECURITY:** What has changed in the video surveillance market over the past few years?

**Murat Altuev:** If we are talking about the Russian market then that is a quite a unique case in that video management software (VMS) surveillance systems have taken a large share of the market. In fact, the amount of VMS-based video channels sold in Russia by our company alone was practically equal to the total amount of DVR-based channels. That situation stayed the same right up until the crisis. Then, primarily because of lower costs, video recorders began to put pressure on software in the small and sometimes medium-sized systems segments. As a result single-server and small multiserver VMS producers began to leave the market.

**How have other segments developed?**

**Murat Altuev:** There are several areas where DVR's position has been traditionally weak. The most important of these areas is in large and integrated systems. The video recorder solves the local problems of processing, storing and recording storing video. Yet if there are many recorders then a dedicated work station with specialized software is needed in order to ensure a coherent review of the footage. If we really want to make a distributed system with complex network architecture, a centralized control point and the option of setting up remote workstations then there is no alternative to the software.

Specialist software is also needed in order to integrate video with other systems like an access control system as well as security and fire alarm systems, or if it needs to control cash registers or license plate recognition. I'd like to point out that we have made a lot of headway in that area. The

ability to make big and integrated systems was always one of the main competitive advantages of our products. We should all understand that integrating each new system is quite a large undertaking. That is why our accumulated experience and list of ready-made integrations are formidable assets making it very difficult for anyone to catch up to us in that field.

**What is new right now in video analytics and what is your company working on?**

**Murat Altuev:** I'd like to talk about one of the areas that aren't connected with 'traditional' video detection- searching in video archives. The system that we have developed is called 'Forensic Search'. It lets you search for events in the archive according to criteria you give when you search.

**How does it work?**

**Murat Altuev:** From the user's perspective it is similar to a video detection tools configuration through a graphic user interface. Unlike live video analytics, Forensic Search operates with stored metadata. For example, the user draws a virtual line and the system produces a list of video episodes of when that line was crossed. Or you give an area where you want to detect motion that had occurred and the system retrieves a set of relevant clips. Overall, this intelligent search tool works as a kind of 'offline video detection' that lets you locate video footage for line crossing, movement within an area, passing from one area to different one and others. I'd like to point out that you don't need to pre-set video analytics- all lines, zones and other parameters are set when you search.

**But doesn't analyzing recorded video take a lot of time even with the help of offline video detection?**

**Murat Altuev:** That is precisely why our system uses recorded text strings that describe the scene i.e. metadata instead of recorded video. Video is processed in real time when the video is streaming from the camera. Forensic Search captures data on everything that happens within the active zones of each monitored scene. With the help of content analysis, metadata is generated and stored with the video images. The metadata contains details on all objects within, entering or leaving the monitored areas. And you use that metadata for fast and efficient event recognition. The system works quickly as the search across the text strings usually takes a few seconds to complete.

**When will this new development be available in your products?**

**Murat Altuev:** 'Forensic Search' is already in both our enterprise system, the integrated security platform Intellect and in our junior product Axxon Smart PRO- a video surveillance system for small and medium-sized premises.

**Is Axxon Smart PRO the same system that you are offering for free?**

**Murat Altuev:** The free 16-channel single-server version with one terabyte storage without Forensic Search is called Axxon Smart Start. Other than that, the free version has no operational limitations. Whereas Axxon Smart PRO encompasses 4 servers, 256 cameras and, of course, any storage capacity.

**So the free version is a completely functional system but just small?**

**M. Altuev:** Yes, it is a full-featured system that is limited by the scope and storage. So anybody who wants can download it from our website and try out all of the innovative aspects of this product totally free of charge. It was, in fact, originally conceived as the first product of our new generation of video surveillance systems. Visitors can see a demo version of Forensic Search.

**Why did you decide to make a free version of this product?**

**Murat Altuev:** Like I said, Axxon Smart IP is a new generation video surveillance system that offers several unique benefits. Even the free version allows anyone to get to know all of our new features which will bring in new partners. This is especially so in the West where our company is not as well-known as it is in Russia.

**What was the outcome?**

**Murat Altuev:** Thousands of people downloaded and activated Axxon Smart Start all over the world. Now every day we get from 30 to 50 activations. You have to understand that each activation is an installation. So quite a few systems running our product, even a test version, are operational as we speak.

**Have you received any feedback?**

**Murat Altuev:** For example, our Singapore office got a call from company that we didn't know anything about. They said that they had downloaded the free version, tried it out and liked it. Now they want to buy the license for 52 channels. This is, of course, not the only example. It was just one of the first so that is why I remember it so well.

But even that is not the most important result. The bottom line is, in my opinion, the fact that our product is recognized by global IP camera producers. They have included it in their price lists like JVC did in Europe. Or what CNB did - they put our free VMS product inside the packaging for their cam-

eras. So, you see, they had a choice. They could have put a free version of a well-known western producer's product in the packaging, but they chose our product. That shows that they made their choice not because of product price or the big brand name on it but because of the quality of our software. That is a big achievement for us and a big step forward for promoting our products in the international market.

**What achievements have you already made in the international arena?**

**Murat Altuev:** We are focused on global business development. At the moment our company has 28 offices, 10 of which are outside the Commonwealth of Independent States (CIS). I'll name just a few overseas deployments of our solutions: the Wett-Punkt casino chain in Austria, Casablanca and Rabat airports in Morocco, Segmüller furniture factories and stores in Germany, the Madrid Stock Exchange and the city district attorney's office, the Hilton hotel in San Francisco. All of that demonstrates that all over the world people are placing more and more trust in our software.

**What do you expect from the market?**

**Murat Altuev:** The VMS market is still just taking shape and still lacks a reliable and affordable product with a wide array of functions. Therefore, we expect our products to take a significant portion of this market on an international scale.

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## VIDEO ANALYTICS

# Skin Tone Detection Improves Video Quality

## A Low Complexity, Colour-based, Skin Tone Detection Solution

In the video market, the visual appearance of the human face is important in determining overall perceived video quality. Complexity-based rate control video compression algorithms, however, do not differentiate the face from other objects in the frame. To improve users' overall perception of quality, therefore, low complexity implementation of a skin tone detection algorithm with a highly accurate classification is preferable. For real-time applications, the challenge is to develop a reliable algorithm that designates faces as Regions of Interest (ROI).



Chroma-key sequence, H.264 encoded at a low bit-rate in order to stress the VQ difference. (left) No ROI applied. (right) ROI applied.



Fig. 2: Video conference sequence. (left) No ROI RC applied. (right) ROI RC applied.

### Low Complexity Solution

This article proposes a low complexity, colour-based, skin tone detection solution that can be included in an encoder implementation on a single core DSP. Skin tone Macroblocks (MB; 16x16 pixel block) are designated as ROIs, determined by mean colour component empirical thresholds that cover all races. This coupled with a modified rate control (RC), which allocates a lower quantisation pa-

rameter (QP) to ROIs versus non-ROIs, enables the visual quality of faces to be enhanced.

ROI detection can be performed at a video frame pre-processing stage or alternatively merged within a standard video codec, although the latter is less accurate. The main advantage of using a low complexity solution is that fewer cycles (fast decisions) are required to establish MBs in ROIs, which allows real-time ROI detection

on low-power processors in high-channel density situations. This solution enables encoders to optimise video quality across a range of video applications including smart cameras, video broadcasting, video security surveillance and video conferencing.

Visual quality (VQ) comparisons of using and not using ROI detection as part of H.264 encoder are shown in Figures 1 and 2. In the video sequence in Figure 1, the

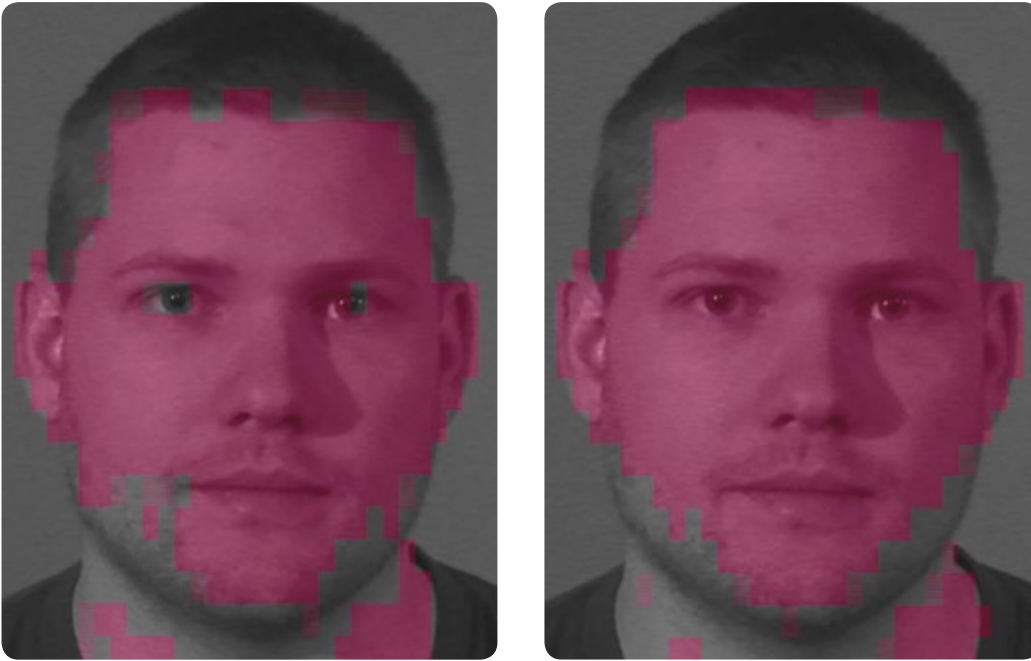


Fig. 3: MBs detected as a ROI (shown in pink). (left) Detected without morphology algorithms. (right) Detected applying morphology algorithms with complete face, including eyes, designated as ROI.



Fig. 4: Detected MBs as ROI (in pink). (left) ROI detection merged within encoder. (right) Pre-processing ROI detection using all MBs neighbours' information to classify ROIs.

moving water drops drain the RC's bit budget. If ROI is not modified, visualisation of the face in front of the water drops is severely degraded. Figure 2 shows the effect of ROI RC on a typical video conference sequence with a static background and where the face is the most important image.

### Reducing False Positives

To maximise video quality using this solution, it is necessary to reduce false positives and missed ROI MBs. This is important because false positive ROI MBs result in an erroneous allocation of valuable bits, while missed ROI MBs create a non-smooth region perception.

This solution uses morphology algorithms; erosion to identify and designate false positives as a non-ROI, and dilation to identify missed ROI MBs in skin regions (i.e. the eyes or mouth; Figure 3).

The effect of implementing erosion and dilation at the pre-processing stage was compared with when it is merged within the video encoder (Figure 4). Implementing at the pre-processing stage is more accurate as all frame MBs ROIs are designated before being encoded. Merging the erosion and dilatation algorithms within the encoder is less accurate as only top, left, top-left and top-right skin MB information can be

interpreted. This approach, however, is ideal for low-latency applications. In addition, to further reduce false positives, particularly in videos containing many small faces such as in a crowd, an MB activity gradient threshold is used.

### Improving Algorithm Precision

Algorithm precision is improved by using 8x8 pixel blocks detection for Luma and 4x4 pixel blocks for Chroma components. If 2 or more of the 4 MB blocks are designated as skin blocks, then the whole MB is selected as Skin MB. Also, in pre-processing, if more than 30 percent of a frame is detected as skin, then all the MBs are re-designated as non-ROI so that frames with too many MB ROIs are disregarded. A decimation process is used to increase DSP channel density and reduce processing cycles. Although decimation reduces ROI designation precision, it is necessary when pre-processing multiple HD channels in a single core. To obtain the mean of the colour component blocks some pixel values are ignored e.g. the decimation step is four for Luma components (i.e. the mean of only four 8-bit pixels per 8x8 blocks).

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## SECURITY FOR CASINOS

# Place the Money on Megapixel

## Megapixel IP Cameras for the Gaming Industry



**Megapixel video is providing superior images, cost savings and delivering excellent return on investment (ROI) for important and well-known casinos throughout the world. For the first time, megapixel cameras can deliver to casino operators the high-quality 25 or 30 frames per second (fps) video mandated by local gaming commissions.**



Scott Schafer,  
Executive Vice President,  
Arecont Vision

Gaming facilities are migrating their core operations to enterprise-level IP networked platforms, and megapixel video cameras are the superior choice for these IP video systems. Megapixel resolution exceeds the limited capabilities of conventional IP and analog cameras and recording devices while delivering unsurpassed imaging performance and economic efficiencies.

Because megapixel IP cameras offer much higher resolution than standard network cameras, they can take the place of multiple standard definition/VGA cameras in many applications. Fewer cameras equate to reduced installation costs and fewer software licenses that play well to the gaming industry's focus on ROI. The use of H.264 image compression reduces file sizes to minimize storage space requirements and makes megapixel video streams manageable on the network. The fact is, megapixel camera technology provides gaming customers with a clear and flexible path to a substantially better video surveillance system solution.

### Megapixel Video in the Casino

While gaming is a global business, local regulatory agencies stipulate specific surveillance requirements that vary by jurisdiction. For example, Native American gaming establishments in the United States have been using megapixel IP cameras to provide detailed images to monitor

gaming activities for several years. The Nevada Gaming Commission, as another U.S.A. example, stipulates regulations that require more specialized surveillance solutions.

Arecont Vision was approached directly by a major property in Las Vegas, USA, that faced a challenge meeting the State of Nevada's video surveillance regulations. One of the key requirements as it pertains to video surveillance is the gaming industry regulation that video be in "real-time," 30 frames per second. The European analog PAL standard would be equivalent to 25 fps. At that time, no company building megapixel cameras had a solution that could guarantee the 30fps requirement. The gaming facility asked us if we could meet this requirement – and we did.

Arecont Vision management and engineering rose to the challenge. In reality, the Nevada Gaming Commission's frame rate specification plays to the strengths of Arecont Vision megapixel cameras' ability to produce better images at faster frame rates, which has been the company's mission since its formation in 2003. We responded to this specific requirement with the introduction of Arecont Vision's Casino Mode on all our high-definition 1080p H.264 cameras. Casino Mode ensures that the frame rate will not dip below 30fps by forcing automatic bit rate and exposure control to maintain specific predetermined settings. This feature provides

compliance with stringent regulatory specifications while providing megapixel images that can dramatically improve video quality and functionality and provide rapid ROI for casino operators.

The ability to capture highly detailed real-time video on table games provides several advantages. The higher resolution images provided by megapixel cameras greatly expand the ability to view and identify critical information such as a stack of chips or the numbers and suits on playing cards. At craps tables, megapixel images can capture the dots on the dice. In the past, analog and standard definition IP cameras have often failed to pick up these important details. Megapixel technology also expands the capabilities of high-tech video surveillance by enabling more sophisticated analytics. Additional image detail also enables fewer cameras to be deployed to monitor large areas such as slot areas, resulting in higher overall efficiencies.

### Useful throughout Gaming Resorts

Gaming resorts have vast security needs beyond the gaming floor. Gaming encompasses multiple business operations under one roof such as dining, hotel and spa facilities, retail and entertainment. The variety of video needs in the gaming environment is exemplified by the practice of casinos to separate surveillance of gaming activities and facility security as different departments. Surveillance handles the gaming floor, while security handles the other parts of the property. Megapixel cameras support all of these specific "vertical" operations very well.

Megapixel video can be used to secure back-of-house operations, while helping ensure the safety of guests and staff. When viewing a cash handling area, megapixel images capture cash denominations. Video surveillance also helps management to supervise staff, increase productivity and litigate workers' compensation claims.

A wide range of megapixel cameras are available to fit the specific functional needs of gaming facilities. Whether indoors or outdoors, from compact box cameras to all-in-one bullet-style cameras to panoramic dome solutions, system designers have the megapixel imaging tools they need for any site application.

Just as important as their performance is the cost effectiveness of megapixel cameras. For example, where 10 standard-resolution cameras might have previously been required to cover a parking lot, the same application can now be served using three or four strategically-positioned 3-megapixel cameras or even a single 8- or 20-megapixel panoramic camera, depending on the customer's requirements.

In these parking areas, the superior resolution of megapixel cameras allows operators to identify people and license plate numbers. Megapixel cameras can consistently provide the highest possible safety level for gaming operators. Better image quality also increases the value and accuracy of License Plate Recognition (LPR) analytics technologies, which can be applied at parking lot entrances and exits on any megapixel camera with great results.

Arecont Vision panoramic cameras can replace mechanical pan-tilt-zoom (PTZ) cameras in the surveillance of a large lobby area with a single camera. PTZ cameras have mechanical liabilities as well as one major practical liability, which is that the camera can only look in one direction at a time. Panoramic 180-degree cameras provide a wider field of view and 360-degree cameras can look in all directions all the time, providing the detail that gaming resorts need to deter, identify and prosecute. Whether viewing a parking lot or a casino floor, a mechanical PTZ camera can only watch one of multiple fields-of-view it surveys at a time. That leaves the majority of fields-of-view without coverage, and covering

those additional fields with additional cameras increases costs. Megapixel panoramic (multi-imager) cameras capture the entire scene, all the time, to provide excellent situational awareness. Users can zoom in on any area of the image, live or on recorded video without losing valuable data from the entire captured scene. This capability is unique to megapixel cameras.

Megapixel IP cameras provide the resolution and clarity required for forensic examination and prosecutable evidence, including cash denominations and license plate numbers, reducing the manpower needed to monitor live video and shortening the time needed to locate crime on the recorded video.

### Compliance and Performance

Beyond the ability to comply with regulations, the superior performance of megapixel cameras fits a variety of demanding needs in the gaming environment. Our sales people frequently meet with gaming professionals who are used to seeing the dark, grainy images from analog and VGA IP cameras. When these customers see megapixel IP images at frame rates even lower than 25fps, they think they are looking at real-time video because the clarity and detail is so much better. To be able to guarantee that image quality at 25fps/30fps using our Casino Mode provides the assurance casino operators need to run their businesses. In the gaming environment, it's a clear game-changer.

### ▶ CONTACT

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# Watching the Game

The New Hotel Casino Barrière in Lille Opts for IP-Surveillance



**The new casino hotel in Lille, France opened its doors in spring 2010 in the heart of the city. A veritable leisure center at the cutting edge of innovation, it has benefited from the latest technology available, most notably in terms of video surveillance.**

**The Lucien Barrière Group therefore demanded a full IP system to ensure the protection of people and property and adherence to gaming regulations.**

The Lucien Barrière Group decided to ensure the security of its casino hotel with 598 network cameras, 90% of which are Axis network cameras. A Genetec video management system and access control system make it possible to visualize and manage the cameras from one single interface.

This 100 % IP security system entirely satisfies the security services of the hotel Casino Barrière Lille. The openness of the system, its easy integration and utilization, as well as the qual-

ity of the images supplied correspond to the expectations of a gaming establishment of the Lucien Barrière Group. "The Axis camera models, which we have carefully selected from what is available on the market, correspond perfectly to the specific constraints linked to our profession of gaming casinos" said Mr Cottinet, Head of video surveillance, Lucien Barrière Group.

#### Networked Cameras

The new Hotel Casino Barrière Lille, which covers 44,000 m<sup>2</sup> and includes the hotel, conference facilities, a casino, a theater, 3 restaurants and 4

bars, was conceived to be a showcase of current innovation with regard to gaming, animations as well as the technical infrastructure. Convinced of the advantages of the interoperability offered by network video surveillance, Mr Cottinet made the choice to have a network system of cameras for the Lille site.

Tests carried out by the Enghien Casino and the continuity of the installation of around fifty Axis network cameras on the site of the Blotzheim casino allowed Mr Cottinet to validate his choice of equipment. Today there are more than 500 Axis network cameras which ensure the se-





curity of the establishment. All of the cameras are managed by Genetec's video surveillance system, Omnicast, which also integrates with Genetec's access control system, Synergis.

This unified solution makes it possible to avoid the risks of "stacking" of the system and reduces risk of breakdown. Operators also avoid having to jump from one system to another. They can monitor both video and access control from a single interface which increases efficiency and keeps training to a minimum. Independent and closed, the video surveillance network is also highly secured and requires authentications.

The constraints of video surveillance in a gaming establishment are numerous. Firstly, the weak light requires cameras which are able to manage light and contrast excellently. The height of the ceilings, such as in the table games room in Lille, means that a powerful zoom for the motorized cameras and a good depth of field for the fixed cameras are required. The tests carried out by Mr Cottinet's teams discovered the following camera models among the Axis range: Axis 209FD, Axis M3011, Axis 216FD and Axis 225FD for fixed domes, Axis 221 for fixed cameras and Axis 214 PTZ for motorized models which make it possible to follow a person and to investigate a scene in detail.

### Seal Of Approval

The specific regulations for the gaming industry also requires the ability to certify that gaming takes place according to regulations. General regulations cover the conformity of the installed video surveillance equipment before any new opening. Equipped with an average of one camera per 5 to 6 slot machines and 2.5 cameras per gaming table, the Barrière Casino Lille was verified as being in accordance with regulations. Like all establishments open to the public, casinos are also subject to the declaration of the local prefecture and must adhere to the standards imposed by the Decree of 3 August 2007, as well as the specific clause on gaming of 31 July 2009.

The Genetec unified system provides immense flexibility, allowing the Barrière Casino Lille to add new cameras or doors at their own pace or upgrade to the latest Axis camera models when released. Omnicast's Redundant and Failover Archiving features also help to ensure that the casino will have access to video at all times. Search functions also make it easy for security staff to search through over 100 terabytes of stored video and audio and quickly find what they need. Operators then use Synchronous Playback capabilities to follow and

track targets around the casino with the recorded video.

Mr Cottinet is satisfied with the video surveillance installation which he prescribed and developed over almost two years as the blueprint works progressed. He particularly appreciated the openness of the cameras and the video management system, their ease of integration into auxiliary products, the simplicity of the configuration and updating (notably in view of the scope of the system) and the quality of the image created which complies with the requirements of the application.

Even though he is not a direct client of Axis, Mr Cottinet believes to have benefited from a true partnership with the brand. "We were able to explain our specific needs to the personnel of Axis R&D, test products and were informed of future innovations brought to the range of products. This real accompaniment by the manufacturer played an essential role in our choice of solution."

### ► CONTACT

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### HD Resolution in Real-time

Abus Security Center's TVIP52501 day/night PoE network camera shows even the smallest of details. With 2MPx (1,920 x 1,080) full resolution, the detection and identification range is up to four times greater than VGA resolution and enables real-time face recognition up to 16 meters away. Inserted SD cards can store image data in the event of network downtime, the digital signal processor detects motion and alarms are sent via e-mail. The scan 1/2.7" sensor enables flicker-free image transmission in real-time at 25fps, compressed using H.264 or Motion JPEG. Quad-stream technology outputs four parallel live streams over the Internet or on mobile devices in H.264, MPEG-4, M-JPEG or 3GPP quality.



info.de@abus-sc.com

### Multi-Camera-System at the "Sicherheit" in Zurich

Highlight at the Dallmeier stand at this year's "Sicherheit" in Zurich, Switzerland (November 15<sup>th</sup> to 18<sup>th</sup>), will be the "Panomera": a multi-sensor camera system that provides up to 51 megapixels in real time. With this multi-sensor system a huge area can be efficiently surveyed from a single location. It provides an overall view with simultaneous high detail resolution: even objects that are farther away can be displayed with the same resolution as objects in the foreground of the picture. This makes it possible to still identify people at a distance of 160m and more. The resolution can be defined individually, according to distance and project requirements. Furthermore, the overall scene is recorded at all times, regardless of the part of the surveillance area the operator focuses on at a particular moment. Visit us: Hall 3, Stand148.



info@dallmeier.com

### Redesigned Border Solution

Morpho has launched a new design of Morphoway, its automated border control solution. It automated e-gates have been redesigned in a modern, transparent, low footprint format to meet the space constraints of border environments. With the fastest doors on the market, these e-gates have integrated document readers that carry out quick, reliable authenticity checks. Based on the Company's biometric recognition technologies (fingerprint and face), the solution speeds up passenger screening, reduces queuing time at borders, whilst providing optimum security. "The launch of our new Morphoway design is proof of Morpho's commitment to developing innovative solutions that meet the security and facilitation challenges facing border authorities," said Chairman and Chief Executive Officer Jean-Paul Jainsky. [nathalie.jullien@morpho.com](mailto:nathalie.jullien@morpho.com)



### Mobile Travel Application

Securitas has developed, in cooperation with subsidiary Secredo and the advertising agency Peacock, Safe Trip – a mobile travel assistance application. In the approaching vacation season, many people will be leaving their home countries and journeying abroad. To share its security know-how, the system is designed to contribute advice and tips that make travel safer. The travel guide assists travelers with their preparations to ensure that their voyages will be as safe as possible. It informs them about particular risks that may occur during their journey, so that travelers can feel safer – regardless of whether it is a private vacation or a business trip. [www.securitas.com](http://www.securitas.com)

From left to right: Vincent Bodifee (project leader traffic crime), Gerard Havik (fleet technician) and Peter van der Steen (project leader car theft).

## THERMAL IMAGING

# Thermal Imaging to Spot Criminals

## Dutch Police Uses Thermal Imaging Cameras to Detect Criminals by Night

Throughout history criminals have used the cover of night to commit crimes like burglary undetected. Today most acts of burglary still take place at night. To aid in detection of suspects the Dutch police department of Zaanstreek-Waterland deploys a new tool: thermal imaging cameras from Flir Systems. "It really is a great tool for nighttime crime fighting", explains Vincent Bodifee, project leader traffic crime of the Zaanstreek-Waterland police department. "These thermal imaging cameras help us to see when our own eyesight is insufficient. Criminals will find it hard to hide from the all-seeing eye of the FLIR PathFindIR thermal imaging camera installed on some of our patrol cars."

Thermal imaging cameras record electromagnetic radiation in the infrared spectrum, which is emitted by all objects as a function of their temperature, and translates that into a visible image. The crisp thermal images provide excellent nighttime vision regardless of lighting condi-

tions. A thermal imaging camera from FLIR Systems allows you to see clearly when darkness, smoke or light fog impedes normal vision.

As a test the Zaanstreek-Waterland police department installed FLIR PathFindIR thermal imaging cameras in a searchlight pan and tilt platform

on the roof of two of the new VW Touran patrol cars. Within several months the use of the FLIR thermal imaging cameras led to arrests that would not have been made without the aid of the FLIR PathFindIR thermal imaging cameras, according to Bodifee and his colleague Peter van der Steen.

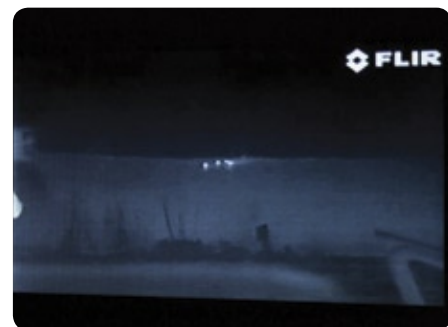
"We originally started the project with the FLIR PathFindIR thermal imaging camera to spot burglars at night", Van der Steen explains. "There was a wave of burglaries in our region, mainly by a gang which usually operates at night." The two initiators of the thermal imaging project hoped that the FLIR PathFindIR thermal imaging camera would help increase their chances of catching the burglars. "When we get a call that a burglary or similar crime is taking place we try to get to the scene of the crime as quickly as possible, but it is difficult to catch the perpetrator red handedly", Bodifee adds. "Quite often the



The FLIR PathFindIR is easy to integrate in the electrical system of the patrol cars due to its compact and lightweight build and economic energy consumption.



This thermal footage shows the arsonist hiding in the reeds at the river bank. The camouflage made him difficult to detect using regular vision, but he very clearly showed up in the thermal footage from the FLIR PathFindIR.



suspect goes into hiding as we approach. That is where this camera comes in handy."

### Seeing through Darkness and Camouflage

"We recently received had a call that someone was stealing hubcaps", Bodifee continues. "The suspect was still in the area when we arrived, hiding in the bushes. The camouflage and darkness hid him from normal eyesight, but his warm body very clearly showed up as a bright white glowing silhouette in the thermal footage from the FLIR PathFindIR thermal imaging camera." Bodifee is very happy with the camera's performance. "Both people and vehicles show up clearly in the thermal footage. And in most cases distance is no problem either, for the FLIR PathFindIR has a range performance of several hundred meters."

### Excellent Range Performance

"One good example of the excellent range performance was a burglary case in Assendelft", Bodifee continues. "We were looking for the suspects and when we crossed a highway overpass we noticed some white spots on the thermal footage from the FLIR PathFindIR. As it turned out the burglars had gone into hiding with their ill gotten gains in a nearby meadow. Using the FLIR PathFindIR thermal imaging camera we were able to point a police search team with dogs in the right direction and give further directions as they approached the location where the culprits were hiding. This clearly illustrates the strength of this system, even at long range."

The platform used to house the FLIR PathFindIR thermal imaging camera is a GoLight searchlight pan and tilt platform. The controls of the platform are installed next to the gearshift. "We already have that platform as an option in our cars with the searchlight inside, so it was an easy adaption to insert a FLIR PathFindIR thermal imaging camera inside the platform instead", Bodifee explains.

### IR Cameras Integrated in BMW Bumpers

The FLIR PathFindIR thermal imaging cameras are obtained from FLIR Systems distributor Honac Nederland and the installation in the searchlight platform is performed by the police department technician Gerard Havik. "It was Gerard Havik that originally came up with the idea", Van der Steen says. "He had heard of FLIR PathFindIR thermal imaging cameras that are available with BMW cars as an optional extra. These are installed in the bumper for driver vision enhancement and added situational awareness. For our application we wanted to be able to turn the camera to survey the patrol car's surroundings, so we decided to mount it in a pan and tilt platform."

The thermal footage from the FLIR PathFindIR is displayed on a dedicated flat screen display on the dashboard. The PathFindIR thermal imaging camera incorporates an uncooled 320 x 240 pixels



The arsonist was apprehended, making it the first arrest made with the help of the FLIR PathFindIR thermal imaging camera.



The high contrast thermal footage is displayed on a TFT screen on the dashboard.

microbolometer. This maintenance free system delivers crisp video images which can be displayed on virtually any display that accepts composite video. Designed for use in harsh environments, the PathFindIR is extremely rugged. The PathFindIR is extremely compact (5.8 x 5.7 x 7.2 cm) and weighs only 360 grams, which makes it very easy to install and integrate any type of vehicle.

### Arsonist in the River

The FLIR PathFindIR thermal imaging cameras soon saw action in a wide variety of cases. "The FLIR PathFindIR saw its first use in an arson case", Bodifee explains. "We were called in to assist with a boat fire. Some of our colleagues were already on the scene and they informed us that the suspect was probably still present in the area, and that six divers were searching the river. When we surveyed the area with our FLIR thermal imaging camera we counted seven people in the water. As it turned out the arsonist was hiding in the reeds of the river bank. The camouflage made him difficult to detect using regular vision, but he very clearly showed up in the thermal footage. This allowed us to quickly locate and arrest the suspect."

"There is quite a long list of cases where the FLIR PathFindIR thermal imaging camera came in handy", Van Der Steen adds. "There was a case where we were asked to find drunken people gone missing near a busy road, a case with drunken people in a park that risked dying of hypothermia had our FLIR PathFindIR thermal imaging camera not spotted them and in another case we used it to catch graffiti sprayers red handedly."

### 'You have to see it to believe it'

"It really is an ideal tool for crime fighting", Van der Steen concludes. "The amount of detail in the high contrast thermal footage from the FLIR PathFindIR is amazing. You have to see it to believe it. And the successes booked here at our department have also been noticed in other districts. Our colleagues from five other departments have also expressed interest in using this system."

### ▶ CONTACT

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## VIDEO SURVEILLANCE

# Most Innovative Stadium Security System

## Olympic Stadium in Berlin Chooses Dallmeier Panomera Multi-sensor System

**The Olympic Stadium in Berlin is relying on state-of-the-art video technology: Dallmeier's world premier "Panomera" is now ensuring top security at the five-star arena.**

The Olympic Stadium in Berlin can seat more than 74,000 spectators for football matches, track and field events or concerts. At the venue, the Panomera multi-sensor camera system not only provides a comprehensive overview, but also shows details at great distances in unprecedented resolution.

### Over 200 Megapixels for Top Detail Resolution

Panomera's most convincing feature for the decision-makers at the stadium, the police and the senate in Berlin was the way it combines the overall view with simultaneous top detail resolution. Currently, the installed multi-sensor camera systems deliver an astounding 200+ megapixels in real time. Plans are already in place to expand the system to over 600 megapixels.

With Panomera, a huge area can be monitored in a highly efficient manner. From just a single location, the same area can be surveyed as with multiple HD cameras installed at several locations. "The difference is not just that multiple HD cameras distributed in different places

would not work as efficiently due to the fact that the image angle of the individual cameras cannot be ideally directed on the overall scene. Since fewer camera installation locations are needed, the requirements for the infrastructure, such as cables, are substantially lower, along with expenditures for servicing and maintenance," explained Dieter Dallmeier, company founder and CEO. "Today, Panomera is the most cost-effective camera system on the market," he added.

Panomera offers yet another major advantage: The overall picture is permanently recorded with top detail resolution. This solves the problem associated with conventional PTZ cameras, which force the operator to decide between the overview view and the detail view. PTZ cameras have a definite disadvantage. If the operator wishes to zoom into or pan a certain area, only this part of the image is recorded. This means that later, no recording of the overall scene exists, so that incidents in other areas may be overlooked and can no longer be reconstructed.

"Here, Panomera works differently. Even if you have zoomed into a certain part of the scene live, in the recording you can always reconstruct what happened in another part of the picture at the same time. In contrast to a normal PTZ camera, you won't miss anything and can reconstruct incidents in detail even after the fact", explains Roland Meier, Project Sales Manager at Dallmeier.

### Unique Operating Design – Even from a Distance

Panomera features multi-user capability. This means that in contrast to PTZ cameras, with which only one operator can pan, tilt or zoom, with Panomera, an unlimited number of operators can navigate across the entire scene independently of each other. Although all operators are connected to the same camera, each of the individual users can select their view individually and zoom or pan as they desire. The Panomera multi-sensor systems in the Berlin Olympic Stadium will be monitored from a total of eight control rooms and nine work stations. Operating the system with the SeMSy management software is very easy and intuitive. Operators see a slider with the overall scene on their respective monitors. Using drag and drop, they can then enlarge the desired area on the monitor, zoom as desired or move around the entire scene. Reviewing of the camera images won't just take place at the stadium itself, however. The Panomera images will also be transmitted to the police and will be evaluated remotely by means of SeMSy.

### Recording with Highest Availability

The images are recorded on Dallmeier video servers, which ensure highest availability of the data and, in turn, meet the sophisticated demands of Berlin's Olympic Stadium. The video servers allow redundant recording of the image



With Panomera, a huge area can be monitored in a highly efficient manner. Photo: Oliver Koch



The Olympic Stadium in Berlin can seat more than 74,000 spectators for football matches, track and field events or concerts. Photo: Oliver Koch

data on two hard disk drives. In addition, they work with the Linux operating system, which experts consider to be extremely reliable. In order to further increase stability, the operating system was separated from the hard drives and stored on a Flash ROM. The power supply is also assured at all times, since the power supply units are redundant.

### All-in-one Solution from a Single Source

Dallmeier supplied the Berlin Olympic Stadium an all-in-one video security solution from one source. For this, the Panomera surveillance concept is supplemented by full-HD DDZ4020 PTZ cameras with 20x optical zoom, which, for instance, observe throngs of visitors in the outdoor area. In addition, numerous other already exist-

ing cameras in the outdoor areas, such as the existing thermal cameras, were integrated into the Dallmeier system via Smatrix series recording devices. The entire video system can now be operated from a single interface. "This allowed the Berlin Olympic Stadium to continue using its existing technology and at the same time, to expand the system into what is most likely the world's most innovative stadium security system," Roland Meier says.

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www.panomera.com



### 4-Channel Network Video Recorder

Compro Technology has introduced the 4-channel RS-2104 Embedded Network Video Recorder. It aims to provide a cost-effective and reliable recording solution for the Company's network cameras as well as Onvif-compliant network cameras. The recorder is compact in size and can fit anywhere



in a home, shop or office. Supporting a maximum storage capacity of 3TB, the system also offers a USB port on the rear panel to enable fast and easy data backup to external USB storage device. This standalone NVR system consumes less than 20 watts in operation, making it a "green" recording solution and keeping the energy cost in check in round-the-clock surveillance.

[security@comprousa.com](mailto:security@comprousa.com)

### Integrated Time and Attendance System

The Finnish Government Shared Services Centre for Finance and HR (Palkeet) recently introduced a new, integrated time & attendance system across their branch of offices: The Timecon 22 system, supplied by system provider Niscayah, utilizes Idesco's Access Touch touch screen terminal for both time & attendance and access control. The touch screen terminal is the versatile tool which also enables easy adoption of new applications and services in the future. In all, 21 units connect to the system across seven offices. Palkeet have voiced their satisfaction with the innovative terminals. "The touch screen is very simple and user-friendly. A unified time & attendance system also helps establish coherent, common policies," says Harri Pekkarinen, Development Manager in Palkeet. [jari.valtonen@idesco](mailto:jari.valtonen@idesco)

### HD Network Camera



The latest I-Pro Smart HD network dome camera from Panasonic, the WV-SW155, features Mega Super Dynamic technology that delivers 128x broader dynamic range. Face Detection and Mega Super Dynamic range technologies ensure clear and well focussed facial images are always captured for consistently intelligible IDs. A further capability the technology's Face Detection functionality means when a registered suspect face is observed by the camera head, XML data can automatically be sent to trigger an alarm in a compatible network video recorder alerting security personnel. The advantage this functionality brings to a security operation team is by effectively adding another set of eyes in a surveillance monitoring team, efficiencies are increased and costs are significantly reduced.

[www.panasonic.co.uk](http://www.panasonic.co.uk)



## TECHNOLOGY

# One, But Not the Same

## Realizing the Difference between Integration and Interoperability



Jeremy Kimber

**Across the security industry today, two words are seemingly on the tip of every manufacturer's tongue; integration and interoperability. Often used interchangeably, Jeremy Kimber, Commercial Operational Marketing Leader EMEA at Honeywell Security Group explains the difference between the two terms, and why it matters.**

As IP adoption continues to increase in the physical security space, an important misconception has started to sneak into common parlance; the synonymous use of the term interoperability with integration. This misconception is based on the understandable assumption amongst security professionals that, when it comes to IP-based technology in contrast to analog, 'everything talks' and any product can connect with any other. Therefore, in the age of IP, interoperability and integration are essentially thought of as one and the same. The truth, however, is that integration and interoperability are two different terms that describe

two different things, and to use them interchangeably can cause customers serious problems.

Integration is arguably the 'truest' way that a system works together. Often best understood in the context of PC software, an integrated solution is one that not only allows a series of products to talk to each other in their current state, but also provides backwards and forwards compatibility with future versions of each product. In contrast, interoperability reflects a more immediate form of functionality between different products. Whilst a set of interoperable systems will work together in harmony in their existing

state, future upgrades, developments or improvements to any of the products can cause interoperability to cease. Put simply, interoperable systems work together now, integrated systems work together full stop.

### Kit Building

Although manufacturers everywhere are striving to offer integrated solutions, an overly liberal use of the term has bred confusion. For example the practice of manufacturers making interfaces and SDKs (software development kits) available to third parties is described as supporting product integration. However, in reality this is not the case. A common example is when a product is working with a third party product via a SDK. If the product is updated by the manufacturer, they will normally provide the third party with an updated SDK to allow them to adapt their own offering to ensure it continues to work in sync.

However, in spite of the SDK allowing this to take place, the speed with which the third party actually executes the upgrade can sometimes represent a time lapse of several months or more. This is partly due to technical reasons and partly because it may require a new business case to be made to support the cost of doing the

work. For that period the products are incompatible. This is an important difference between an interoperable system and one that is integrated.

### Open for Business

Open standards-based interfaces are also an important component of the interoperability and integration issue. For many in the industry, compliance with PSIA and ONVIF, which have been set up as standards to which manufacturers develop integration, means that a product can make up part of an 'integrated' system. However, while this is true to a point, systems that comply to such interfaces are still restrictive in their functionality, often only providing guaranteed access to a basic, rather than a complete, feature set. Honeywell is a supporter and member of ONVIF and PSIA. However, for full integration that provides compatibility of all functionality across a range of products, PSIA and ONVIF compatible systems do not necessarily provide instant integration, rather they promote interoperability within IP-based security systems.

For large to midsized deployments and government or critical infrastructure sites, the difference between integration and interoperability is particularly important. Larger sites are more likely to own and operate security solutions incorporating a number of different products that need to work together. Whilst solutions that are

fully integrated, such as Honeywell's Maxpro VMS video management system and Pro-Watch access control software, can sit comfortably on one company server, interoperable solutions often sit across multiple servers. This can make managing the system a complex operation for security or IT personnel. In addition, unlike integrated systems, interoperable solutions will often be covered by multiple maintenance and support contracts, making the upkeep of the system a complicated task. It is essential that security professionals working in these kinds of organizations understand exactly what they are buying, and the impact it will have on the employees responsible for its operation and maintenance.

### Constant Innovation

Interoperable solutions are very important for the market, particularly in the mid to lower end. In addition to our membership of PSIA and ONVIF, in February last year we announced our Open Technology Alliance, a group of global security manufacturers that will collaborate to increase interoperability between third-party IP systems and help businesses more easily secure and protect their facilities. For many mid to low-end commercial deployments in particular, the priority is ensuring that premises are as secure as possible at a cost effective price. Through

interoperability, and initiatives like the Open Technology Alliance, devices will now be more compatible, allowing more choices and flexibility for manufacturers and installers when designing and implementing security systems, driving value for end users.

There is an important place for both interoperability and integration within the security industry. As companies of all sizes increasingly seek products that can work in cooperation, manufacturers are driving innovation designed to deliver an effective solution to their security challenges. Equally, industry groups are promoting interoperability and setting out the standards that will govern it in the future. At Honeywell, we are constantly molding our business to bring together products and offer customers future-proof, cost efficient and industry leading integrated solutions, in addition to leading the charge towards better interoperability. As we move forwards, our customers are best served by a clear understanding of the benefits and limitations of both approaches.

### CONTACT

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### Thermal Imaging with 640 x 480 pixels

Flir Systems has drastically expanded its product range of 640 x 480 pixels thermal imaging cameras. Thermal images of 640 x 480 pixels mean a four times better image quality compared to 320 x 240 pixels. More pixels allow the user to see more detail and detect more and smaller objects from a further distance. The cameras also work more efficiently with video analytics. A thermal imaging camera equipped with a detector producing 640 x 480 pixels will not only detect potential targets at a longer distance, it also has a wider field of view compared to a thermal imaging camera producing 320 x 240 pixels thermal images that is equipped with a lens with the same focal length. This means that you will not only detect potential targets earlier but also that you will increase your situational awareness when using a thermal imaging camera with a 640 x 480 pixels detector. [flir@flir.com](mailto:flir@flir.com)



### On the Right Tracks

The Samsung SNV-5010 vandal resistant network dome camera has been approved for use by the European railway industry. Tests carried out by two separate testing houses, which included the ability to withstand extreme vibrations, has resulted in certificates being issued which verify that the vandal resistant network dome camera is robustly able to operate effectively within the demanding conditions of railway trains and stations. TUV SUD of Germany carried out testing of the camera to ensure it was suitable for use at railway stations by complying with the EN-50121 standard, whilst SGS Korea in a separate test was able to issue a certificate of compliance with EN-50155 standard confirming the camera's ability to cope with the rigorous conditions on board trains. [steseurity@samsung.com](mailto:steseurity@samsung.com)



### IP Camera with 6 to 50 Millimeter Lens

Bosch has launched another version of its Flexidome 2X Day/Night IP camera. It comes with a six to 50 millimeter lens – one of few dome cameras to feature such a long telephoto lens. The lens ensures outstanding depth-of-field, keeping more of the scene in focus and making it suited for covering large outdoor public areas such as bus or train stations. The camera also has Bosch IVA (Intelligent Video Analysis) pre-installed and activated. So it takes less time to configure and install, reducing installation costs. IVA flags any events on-screen so that operators never miss suspicious activities, and also captures comprehensive scene details which can be reviewed later using the manufacturer's Forensic Search. [www.boschsecurity.com](http://www.boschsecurity.com)



### HD and SD Video Management

Bosch Security Systems introduces a fast, simple, out-of-the-box solution for HD and SD video recording and management. Easy to set up and maintain, the 700 Series HD recorders can handle the most challenging CCTV applications without excessive demands on installers or operators. Equipped with four front-replaceable hard drives, RAID-4 protection and extensive integration features, these adaptable recorders are the ideal solution for any application requiring very high quality image performance. The supplied Bosch Video Client (BVC) software, which supports 700 Series HD recorders free of charge, makes operation as simple as possible. An intuitive interface with clear, menu-driven options is quick to learn and easy to use. BVC's capabilities include remote display of live and recorded video in both 1,080p and 720p HD resolutions, as well as SD and analog 4CIF/D1 resolutions. [www.boschsecurity.com](http://www.boschsecurity.com)





◀ Project participants worked together in close cooperation to install Winkhaus blueChip at Klinikum Kassel: (from left) Heiko Marker, Michael Winterstein, Thomas Schier, Thomas Bäcker and Winfried Neurath.

With its associated operational units, Klinikum Kassel is one of the largest hospitals in Germany under local government ownership. The owner is Gesundheit Nordhessen Holding AG, a regional healthcare company which supplies almost 68,000 patients with a complete range of out-patient and inpatient care, covering almost all possible medical and nursing services. Gesundheit Nordhessen Holding AG operates six hospitals: Klinikum Kassel with the Park Schönfeld Children's Hospital, the local district hospitals in Hofgeismar, Helmarshausen and Wolfhagen, and Bad Arolsen Hospital. The provision of services is made complete with two rehabilitation centres, the SWA outpatient nursing service and the Lindenberg and Fasanenhof sheltered accommodation centres for the elderly.

With a workforce of around 4,700, the holding is one of the largest employers in the North Hessen region and offers superior quality healthcare services. Significant investment has recently been made in emergency medical services. A new main building has emerged which houses both admissions and diagnosis. A new women's, mothers' and children's hospital is also currently being built in Kassel's Mönchebergstrasse and is scheduled to open in early 2012.

### Card-based System

The new main building and the surgical hospital in Kassel received a Winkhaus electronic locking system in 2010. Other buildings are gradually being fitted with the system, as their existing systems can no longer be upgraded and incur high costs when keys are lost.

"The executive board initiated the investment," states Thomas Bäcker, Project Manager from Gesundheit Nordhessen's Central HR Department. "We have changed our access system over to cards to increase the level of security in the complex," explains Bäcker. "We now work with hybrid cards which contain three chips in addition to a pass photo." Two RFID chips and a contact-based chip cover all the required functions and can also be put to other uses in the future. Employees' cards not only open doors in the hospital, but also unlock changing room lockers and safety deposit boxes. The contact-based chip serves as an identification medium and will also allow PC users to carry out their duties on different computers in the future, enabling them to take their work to any computer.

Employee ID photos are produced in the hospital's own photo studio and then printed onto the card. Different colour bars classify staff according to their field: red signifies medical staff and blue represents employees who provide

## ACCESS CONTROL

# Main Building Secured in Record Time

## Winkhaus blueChip Regulates Access Control at Klinikum Kassel

Once the contract was awarded, it only took three months to put a new electronic locking system into operation at Klinikum Kassel in central Germany. During this short period of time, a main building was equipped with Winkhaus blueChip technology and locking plans were produced for the complex and its approximately 850 employees. Effective cooperation between all project participants ensured that work was completed without any hitches.





Hospital staff use their cards to log on at the twenty-five Winkhaus TimeLine Access Points.

direct care to patients, while service staff wear green bars. This colour coding system enables patients to easily identify the people they need to speak to. As patients rarely have contact with administrative staff, office staff cards are neutral.

### Future-proof Technology

"The executive board had a very clear idea of what the new technology should provide," recalls Bäcker. In addition to future viability and user-friendly operation, system specifications also required a passive operating system. "To ensure greater flexibility and safety, we decided on offline technology with a virtual net-



Almost 700 doors in the main building and the hospital surgery department have already been equipped with intelligent EZK door handle sets, a product jointly developed by FSB and Winkhaus

work," adds Winfried Neurath from Gesundheit Nordhessen's Central Building and Technology Department. "We started to take a good look around the market in early 2009 and came to the firm conclusion that Winkhaus's blueChip was the best to meet all these requirements," recalls Neurath.

### Easy to Use

The hospital's virtual network currently consists of 25 online booking readers, 7 offline readers, 103 double knob cylinders and 690 intelligent design door handle sets (EZK). The EZK sets are a joint product development by renowned

manufacturers FSB and Winkhaus and particularly impress thanks to their minimalist, beautifully shaped design. There are no protruding or affixed parts to spoil the doors' sleek appearance, as their high-performance, electronically-controlled reader units linked to mechatronic coupling elements are concealed in a tiny space in the rosette and are scarcely visible from the outside. The contactless system recognises an identification medium when it is brought near to the reader unit. The same applies to the blueChip double knob cylinder which employees use to open sliding doors. Here too, employees only need to hold their cards in front of the double cylinder for the door to unlock.

Equally convenient access is also provided to special department sections such as Intermediate Care. Entry is gained via online booking readers which combine timeLine AccessPoints with access control functions. Four of them have been installed at the entrances to these areas as electronic doormen. This entry process is both easy and effective. On entering the department, employees hold their blueChip card against the timeLine AccessPoint, which forwards the data to a central computer. If an authorised blueChip card is detected, the automatic door opens.

These four units and the other twenty-one timeLine AccessPoints also carry out other tasks in the background to ensure convenient management of the blueChip locking system. Employee cards assume an important role in this process, because they feature locking authorisations for a great many doors. When an access is booked using an employee card, an expiry period of a few hours is automatically programmed instantly. The



Hospital employees use Winkhaus electronic double knob cylinders to open sliding doors. Employees' cards are identified as identity media by the contactless system when they are held against the cylinder.



Michael Winterstein controls the Winkhaus electronic locking system on a central computer, assisted by the user-friendly software application blueIntras Control.



The security specialist Kipping developed a customised solution for staff toilets.

advantage is that once a locking procedure is recorded on the central computer, these cards are then authorised to lock inside doors within the programmed time period only. This means that even if a card authorised for use on all doors has been lost, there is no longer a need to go and block its usage from individual doors manually.

All changes to locking authorisations on individual cards are instantly and conveniently programmed in the same way when access is booked. Employees thus no longer need to go to a central point at a certain time to receive their access authorisation updates, as updates are automatically transmitted to their cards when they enter the building.

### Central Control

The entire electronic locking system is controlled by a central computer. Tasks which involve considerable time and effort in a mechanical locking system are quickly completed with blueChip by just pressing a few buttons on the computer keyboard. If an employee reports the loss

of a key, it is quickly blocked from the system on the computer by the employee responsible in Gesundheit Nordhessen's Building and Medical Technology Department, Michael Winterstein. He is also able to manage lock authorisations just as easily. "I was sceptical at first," says Winterstein, who already has experience with other electronic locking systems. "However, Winkhaus Software blueIntras Control provides assistance with a very intuitive user interface." It also made it easy for him to produce the locking plans for the roughly 2,500 employee cards currently in use.

### Reliable Partners

Winkhaus Key Account Manager Heiko Marker and Thomas Schier from Karl Kipping GmbH are ready to provide assistance to Mr Winterstein and his colleagues with any questions that they may have regarding the system controls or the hardware. Alsfeld-based fitting specialist Kipping installed the entire system. In existence for almost 100 years, this firm employs a workforce

of over sixty and is certified in accordance with DIN ISO 9001. In cooperation with Winkhaus, the Alsfeld security experts have installed locking systems in police buildings, hospitals, city council buildings and company premises in the region.

### Customised Solutions

"I am consistently very satisfied with our good partnership with Winkhaus and Kipping," states Winterstein, who is fully aware that this is the very reason why the project was completed so quickly. "These two project partners took our proposals and ideas on board and provided tailor-made solutions."

"We first developed a few features in the system together with the others involved in the project during the implementation stage, as it wasn't possible to envisage everything that was required. He cited toilet doors as an example: "The intelligent door handle set ensures that visitors cannot enter employee toilets; however, it does not allow the doors to be locked manually on the inside. Kipping employees found an effective solution for this problem. In addition to the electronic rosette, they also installed a mechanical lock which shows on the outside whether the toilet is free or not. While working on the project, the team also gave some thought to security in the patient rooms. Selected single rooms will shortly receive an electronic door handle set, which the patient will be able to operate using a blueChip key fob. This prevents unauthorised persons from entering the room when the patient is absent.

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### Recording Software Update

The latest version of Samsung's Net-i Ware recording software features an increased recording throughput of 250Mbps to provide the bandwidth required to record the latest generation of the manufacturer's HD megapixel cameras. Version 1.33 makes it possible to achieve a real-time IP network based recording solution that can simultaneously record and playback superb quality images from VGA resolution up to the latest three megapixel Full HD network cameras. The software can process and record up to 64 of the manufacturer's 1.3 megapixel HD cameras in real-time across all channels when running on appropriate computer hardware. The recording management software is designed to facilitate the administration, full control, monitoring and recording of images captured by the Company's Ipolis megapixel and network camera and dome ranges, and allow images to be recorded and played back via a PC across the network. [steseecurity@samsung.com](mailto:steseecurity@samsung.com)



### Video Security Software

Seetec is introducing its new software version Seetec 5.4. An additional component is available within the Multi Solution Platform which allows a seamless integration of the video system into the processes and workflows of customers. The Company's counting suite provides counting of objects or persons within the camera view. Like the manufacturer's Analytics product range, it is based on powerful technology from Objectvideo. The Objectvideo capabilities are seamlessly integrated into the Seetec software. Both calibration and creation of counting rules and scenarios can be completely done within the user interface. No time-consuming connection and configuration of third party modules is necessary. The addition of this counting capability enables the user to extract valuable business intelligence about the retail and transportation environment, assuring a constant flow of information to aid business decision-making and increase operational effectiveness. [marketing@seetec.de](mailto:marketing@seetec.de)



## RFID

# From Unimog to Pickup

## Electronic Key Administration for the Protec Service Fleet

**You might see the employees of Protec Service on the mass transit system or at large events: almost 100 employees work in the Security Division, a further 137 in Facility Management. Add to that some 660 employees from the sports event security staff, such as at the AWD Arena of the premiere league soccer team Hanover 96. The vehicle fleet is correspondingly large, and all the keys are managed by an electronic key administration system from Deister Electronic.**

Protec Service in Hanover provides comprehensive security, cleaning and facility management services. Its customers are both private and commercial, public authorities as well as event organizers. For example, since 1997 it has been total security service provider for the entire public transport system in Hanover: the company organizes the cleaning of large open areas, platforms and trains at all times of the day and night, without impeding the passengers or affecting the schedule. The Expo 2000 and the AWD Arena Hanover are other large customers – valuable experience was and is gained here that formed the basis for the development and optimization of solutions that benefit a wider customer portfolio.

Protec Service can attribute part of its success to a strict personnel policy: only every 30th applicant fulfills the company's own qualification system. Not only completed training courses and numerous years of experience are required but

also a high level of social competence because the confident and friendly behavior of the security staff forms the general outward impression of the company. It provides 'discreet presence' and impressive performance. Regular employee training in modern security management is given as a matter of course.

### Key Administration for Unimogs and Pickups

Efficient key management is a significant factor for unproblematic organization of the fleet – a significant improvement has been made here. In the past, employees had to register in a 'Key Book' at the beginning of their shift before they took over one of the fleet vehicles. Considering the number of employees and vehicles, this manual entry in the key book and checking the return of the keys afterward was a really cumbersome and time-consuming process. "We therefore intended to centralize key administration", says Stefan Jagodzinski of Protec, "and to relieve the staff from time-consuming giving and taking of keys".

Since the beginning of June 2010, Protec has been using an electronic key administration system for this purpose from Deister Electronic, a provider of electronic solutions in industry and security technology worldwide. Their 'Proxsafe' system allows employees access to key cabinets using their access control card, a PIN, biometric verification or a combination of all three processes. You can find this combination of key management, asset management and fleet management in many companies, but also in airports, universities, hospitals and prisons.

At Protec, the metal Proxsafe Flexx key cabinet – one version of the system that can be customer-specifically configured – in the Protec employees' lounge at the Hannover-Döhren location. The issuing of keys is now centrally managed here, where the Facility Management

division vehicles are parked. Whether a van or a pickup, a Unimog or a road sweeper, it's now always easy to know exactly where the keys are.

### RFID Technology Inside

The employees get the keys by holding their RFID card in front of the safe-like cabinet. The keys that they need for their job are listed on the card, depending on their authorization, their shift and the employee's job. When the employee holds the card in front of the door, the cabinet opens and the key slots that he can use light up. The other keys are securely anchored in the cabinet by a retaining mechanism and can therefore not be taken by unauthorized personnel.

When the shift ends, the system electronically records which keys have been returned. "The administration program informs me by email if a keyring has not been returned at the end of the day. I can then speak directly to the last employee who had the key", explains Stefan Jagodzinski.

### Good Acceptance by the Employees

The system has meanwhile been so well accepted by both employees and the responsible security staff that the cabinet was extended to a capacity of 64 slots even during the three-month trial period. Proxsafe key management systems from Deister Electronic are ideal wherever security concepts have to be sensibly and cost-effectively extended. The operational design of the RFID technology ensures that the key rings in use do not come into contact with the electronics. In this way, contamination and wear of the slots is technically avoided.

### ▶ CONTACT

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# Test the Best!

Together with Seetec, GIT SECURITY has tested both current and new video cameras in the test lab of the Hardware Competence Centers of Seetec under controlled conditions. The Hardware Competence Center was formed because manufacturer's own data and the features of network cameras were often established under different conditions and were not reliable facts when put into practice. These results provide a valid basis for the planning of IP video projectors and help to prevent unpleasant surprises. Video sequences are created for the tests under various defined light situations and then evaluated. Both movement in the picture and night or backlight situations are taken into account.

## Performance

### Performance when used at 1,000 Lux

With good illumination the camera delivers a good image. The colours are clear, although they have a slight red tinge. Due to the good contrast even finely graduated coloured surfaces are sharply depicted. In bright environments the camera shows sharp details (lines in the test chart and the hairs of the test dummy are sharply depicted). With good illumination there is no significant movement blur and image noise is hardly detectable.

### Performance when used under 1,000 Lux

Overall, the camera reacts well to deteriorating lighting conditions. As the illumination reduces the camera image becomes darker overall (especially below 250 Lux). The camera is unable to compensate for poorer illumination. In the test image, not all brightness graduations are correctly visible (above all, dark colours become increasingly blurred). However, the overall contrast does not change significantly. With reducing illumination the colours appear paler and darker. Smearing effects are detectable with moving objects and the sharpness with movement reduces. As the camera is not equipped with a hardware-based day/night switchover, image noise becomes increasingly detectable below 10 Lux and is clearly apparent at 0.5 Lux.

### Performance when used in backlight situations

The camera adjusts to the occurrence of backlight relatively quickly and provides a stable image after about 2 seconds. The backlight source produces flare, especially with poor ambient illumination and there are additional reflections due to the dome. In spite of this, background details are clearly recognisable.

### Performance in use: bandwidth measurement

The camera uses between 4MB/s in darkness and 34 MB/s with strong backlight. The average bandwidth is 17.8 MB/s. 29 images/second are recorded.

## Summary

This very compact vandal-proof camera (IP66 standard) in an unobtrusive housing delivers a good, very sharp image, especially with good illumination. In addition to the video analysis function, the camera enables multi-streaming with up to 10 profiles.

## In Focus: Samsung SNV-5010

With a size of only 100 x 115 x 42 mm, the SNV-5010 was specially designed for applications where space is at a premium, such as in lifts, entrance areas, staircases, small shops or vehicles. The SNV-5010 is an ONVIF-compatible, vandal-proof and weatherproof 1.3 megapixel dome camera with the Samsung WiseNet1-DSP chip set. The SNV-5010 is supplied with license-free intelligent video analysis (IVA) which includes an optical movement sensor (trip-wire) with detection of the direction of movement (coming or going) as well as an "appear/disappear" function to detect the movement of objects. The IVA also has a scene-change function to detect tampering with the camera. This triggers an alarm, for example if paint is sprayed over the camera lens or an unauthorised change is made to the camera surveillance area.



## CAMERA TEST



### Technical data for the camera test

Manufacturer	Samsung
Model	SNV-5010
Firmware version	1.10_110221
Distance to test chart	0,4 m
Lens used	Fixed lense, F1.8
* Focal length set	3 mm
*Compression method	H.264
*Resolution	1,280 x 720
*Compression	50 %
I-Frame-interval	1 second
Max. stream bandwidth	unlimited
Measured frame rate	29 fps
Average bandwidth	17.8 Mbit/s

\*The camera was integrated into the test system with the "default" settings. The settings were modified according to the test criteria listed above. By setting various parameters on the camera interface itself, it is possible to obtain an improved image quality.

### Assesment with differing illumination conditions

Criteria   Lux values	1000 Lux	100 Lux	10 Lux	0,5 Lux	0 Lux + *BL1
Colours	2	2	2,5	3	–
Contrast	2	2	2,5	2,5	3
Focus	1,5	2,5	2,5	2,5	2
Motion sharpness	2	3	3	3,5	2
Image noise	2	2	2,5	3,5	2
Recovery from backlight	–	–	–	–	2,5
Performance against backlight	–	–	–	–	2

Assessment was performed according to the rating system of 1 (very good) to 6 (unsatisfactory). By setting various parameters on the camera interface itself (SSNR, WDR, BLC on/off), it is possible to obtain an improved image quality.

### Distributed and Centralized Video Management

Hanes Parker found the Plustek Linux-OS Slim 240 and Slim 380 NVRs, which are petite, heat-resistant and noiseless, to replace the central PC-based DVR and standalone DVRs in the three convenience stores of his father's business. Their four or eight IP camera inputs make them suited for small retail stores and gas stations. Recordings can be viewed on Android mobile devices and, with built-in storage, they need no remote transmission. The Company's solution also includes centralized management so users can view, playback and see alarm notifications live at multiple locations. Boston security personnel now use the free 'Multi-Manager' backend software to monitor all three sites.



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### Ethernet Switch

Comnet Europe is introducing the first of a number of new models from its Copperline product offering. The CLFE4US1TPC is an Ethernet switch that combines four 10/100TX Ethernet signals and transports them over one coaxial cable or RJ-45 cable. It can extend the transmission distance to 1,500 meters using Coax or 900 meters using RJ-45 cable. This product is designed for applications where existing copper media, such as coaxial cable or twisted pair (UTP) is currently installed and an upgrade to IP-based system is required.



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### Factory Certification

Dallmeier IP cameras have received the Lenel factory certification for their interface to the OnGuard access control system. Tested products include box (DF3000IP), dome (DDF3000IPV) and PTZ cameras (DDZ30xxIP Domera) as well as the Microstreamer. "Dallmeier has completed required factory testing at Lenel to validate the functionality of its integration to OnGuard. We look forward to their continued involvement in the Lenel OpenAccess Alliance Program," said Gidon Lissai, Director of Strategic Alliances for Lenel. The IP cameras provide a very high picture quality. They are equipped with the Caminpix technology – an image processing technology developed by Dallmeier, whereby the picture information of every single pixel is digitally converted at the point of capture and is processed in the most optimal way. Therefore, even situations with difficult lighting conditions can be recorded with picture quality previously unseen. Convenient factory settings combined with extremely, user-friendly menu controls enable easy, quick and economical installation of the cameras in any surveillance situation. The Microstreamer easily integrates analogue cameras into video-network systems.



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### Video Surveillance Solution

Genetec has released its Omnicast 4.8, the latest version of its advanced IP video surveillance solution. It supports more new hardware from some key technology partners of the manufacturer. Additional enhancements have also been made to version 4.8 including enhancement to the PTZ priority function, support for Advanced Audio Coding (AAC), and other maintenance and deployment tools. The line-up of the newly integrated hardware includes the latest camera models from ACTi, Axis Communications, Bosch, Cisco, Iqinvision, and Sony. Additional hardware integrations within Omnicast 4.8 also include support for Axis T8310 video surveillance control board and Bosch's Divar 700 hybrid video recorder.

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### PTZ Dome with 20 Times Optical Zoom

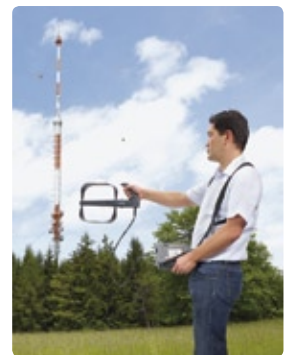
Dallmeier's DDZ4020 Domera is a high-speed PTZ network dome camera that provides full HD video in real time (up to 1,080p/30). It is equipped with the manufacturer's Caminpix technology and features a very high dynamic range (WDR – Wide Dynamic Range). This enables an optimal rendition of color and detail even with scenes that have a high range of contrast and strong backlighting. A special highlight is the camera's 20 times optical zoom, which is complemented by a 12 times digital zoom. The high zoom factor allows for the easy and discreet surveillance even of faraway objects. Relevant applications include large areas such as parking spaces of shopping centers or extensive company premises. Owing to the integrated ICR function the IP camera is suitable for both day and night operation. It is equipped with an auto focus with manual correction. It has a high-performance pan/tilt/zoom mechanism. A total of 248 preset positions and 18 scans can be programmed, as well as an additional 16 tours. Particularly useful in that regard are the adjustable alarm actions with contact closure: If a certain contact is closed i.e. triggered, for example by opening an entrance door, the camera automatically moves to the programmed preset position of the relevant scene.



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### Localizing Interference and Impairment Sources

Detect, analyze and localize interference and signals: The "Interference and Direction Analyzer" (IDA) from Narda Test Solutions solves these tasks in an outdoor-capable device that is also comfortably light in weight at under 3kg. Powerful functions and precision directional antennas make direction finding (DF) with the IDA-3106 with SmartDF faster and more convenient. The system can establish the direction of the source independently and display the relative bearing in a polar diagram on the basis of a horizontal scan. It calculates the position of the interference source from several bearing results automatically and displays it. Convenient and practical: Freely available electronic maps can be recorded optionally so that the source can be precisely pinpointed on a street plan, just like a navigation system. Determination of the position of an interference source is based on a GPS receiver in the measuring instrument and the electronic compass in the antenna handle for determining the direction, elevation, and polarization.



[www.narda-ida.com](http://www.narda-ida.com)

### Digital Video Transmission Set

Abus Security Center's TVAC15100 digital video transmission set makes it possible for analog cameras to transmit video and audio signals via wireless technology. A wireless transmitter and a wireless receiver enable convenient installation of analog cameras without the need for expensive wiring and they are also suitable as an addition to existing video surveillance systems. The set contains a digital wireless transmitter, which transmits video and audio signals over wireless at 2.4GHz to the receiver module. It provides a transmission frame rate of 30 frames per second at D1 resolution i.e. 720 x 576 pixels. Faults and interference can be fully avoided due to the conversion into digital signals. Data encryption guarantees a protected transmission path. With the digital video transmission set, analog cameras transmit data signals in a reliable and secure manner with no need for tiresome wiring. Moreover, existing analog video systems can be extended quickly and easily – simply connect the camera to the transmitter and the receiver to the recorder. This is particularly useful for the security management of modified buildings, such as a new car park, a building extension or for meeting other requirements, without the need to replace the entire surveillance system.

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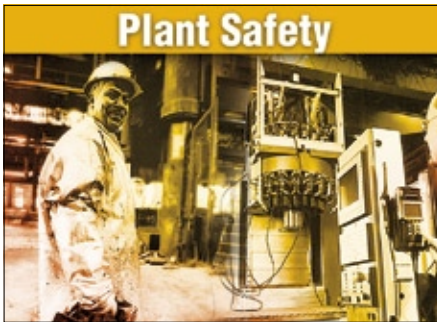


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