

# GIT SECURITY

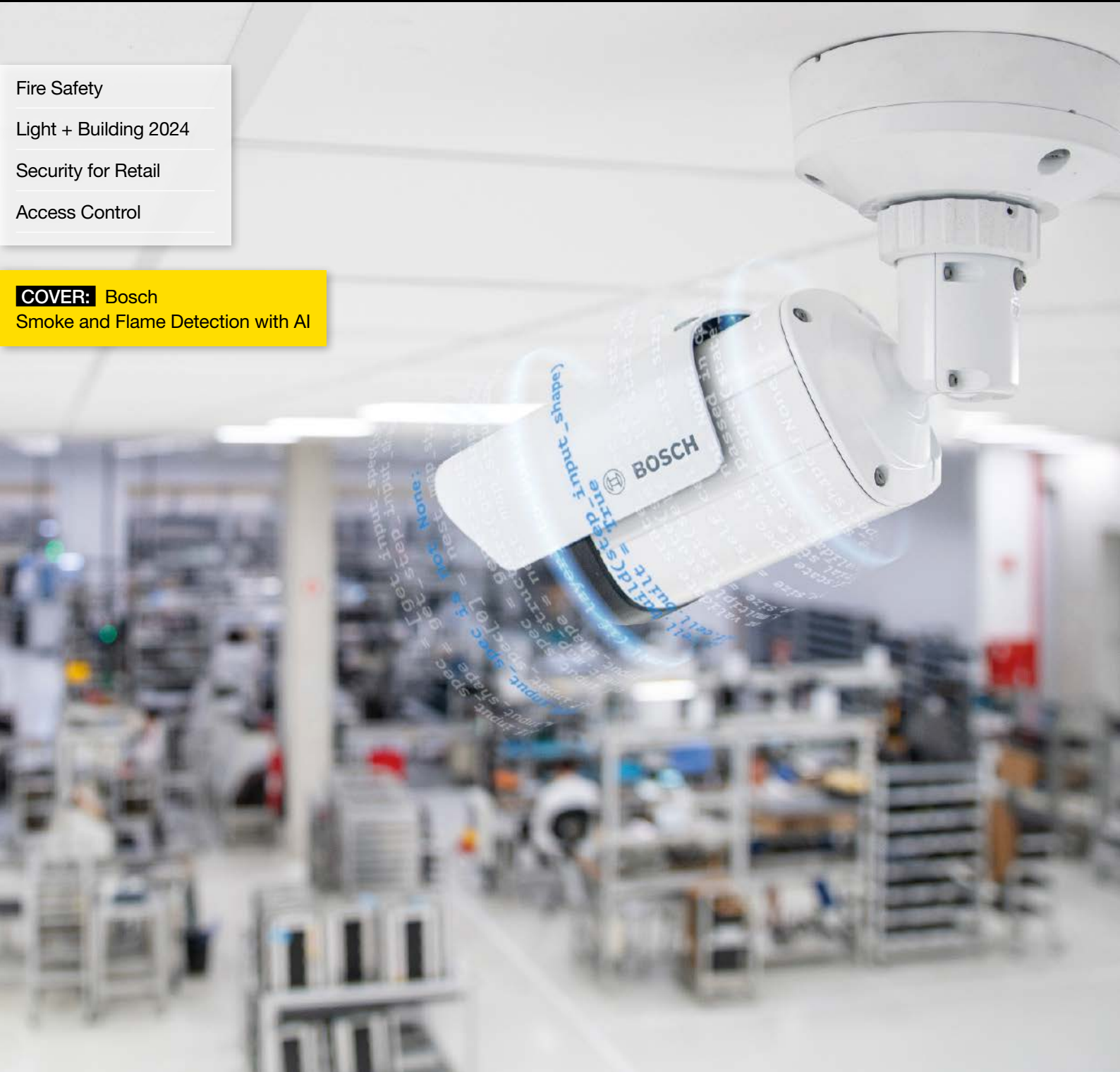
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**COVER:** Bosch  
Smoke and Flame Detection with AI



# Moments to Remember

## Dear Heiko,

From the entire team we wish you only the best for the future. You were GIT SECURITY – it is hardly possible to imagine it without you. Now, we are looking back into beautiful moments with you and the team. Whether at company or wine festivals, at trade fairs, the Christmas market, whether for business or personal – it was always a celebration and an honor for us! We are sure that many more moments will follow.

## We Say Thank You and Goodbye!



## Dear readers,

We are starting the first edition of GIT SECURITY with a turning point: Dr. Heiko Baumgartner left the company at the end of last year. After an unforgettable farewell evening with the whole team at the Weinheim Christmas market, we have already showered him with hymns of praise. But at this prominent point, we would like to say once again a very big thank you to Heiko in front of our readers. Many of you know him as the face of GIT SECURITY and that he was. It certainly does not come over night, but it came through over 20 years of building a magazine from the ground, travelling to Dubai years back when intersec was still only a couple of stands, promoting our magazine, learning about the Middle Eastern market, and building up something big. That is what makes a great head in the industry. Heiko knows the security market very well and built relationships with many of the leaders of the biggest companies. He always had insight and foresight into trends and drifts of Security, which he applied in articles, and it is no wonder why many big names and company bosses trusted him in his interviews. Big shoes to fill! Anyone who knows our team knows how closely connected we are and will remain. Our paths will certainly cross again – in whatever constellation, in whatever way.

An ending always comes with the spark of the new. For us, it means new articles, new topics. Our big focus in this issue is on fire protection. Our cover story from Bosch gives insight on the use of AI in video fire detection. If you have to do with fire hazards in production areas, Orglmeister gives information on their smart fire monitoring system inside a cement production.

Another focus topic lies in the field of security. GIT SECURITY has asked five experts to give their opinion on retail security.

## Enjoy reading this issue!

**Lisa Holland for the team of  
Wiley and GIT SECURITY**





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## Cloud-Based Security Service

The newest addition to Vivotek's cloud-based security service is Vortex Connect, which is integrated into the company's latest generation of network video recorders, allowing users to seamlessly connect to NVRs and simultaneously utilize the cloud services in an intuitive manner. Users can upgrade to the cloud without replacing existing network cameras, meeting security needs anytime, anywhere, and on any device. With features such as high-resolution imaging, advanced AI analysis, and seamless remote management, the solution helps enterprises to swiftly transition to operational cloud solutions, while also expanding rapidly in the North American market. The manufacturer's NVRs can provide power and network transmission without the need to deploy power over Ethernet (PoE) switches. They come with built-in TrendMicro antivirus software, upgrading the confidentiality and security of image transmission and access with AES 265 and TLS 1.2 cybersecurity protection.

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

## TDSi Launches Version 2.6 Update of its Powerful Gardis Software

TDSi announces the release of its latest update to the powerful but highly flexible and secure Gardis access software – Version 2.6. A host of new solutions-driven and oriented features include integration with CCTV VMS platform Hanwha Vision, bringing a host of CCTV and VMS features to Gardis, and integration with the Calms Visitor Management Platform, for seamless Visitor Management, Registration, and Verification. Tina Baker, Software Project Manager at TDSi commented, "As security integration becomes more solutions delivery focused it is vital that Gardis continues to cater for the evolving needs of our customers and installation partners. With this firmly in mind, Version 2.6 of Gardis includes additional reporting features and dedicated integration with the popular Hanwha Vision VMS platform. TDSi is also dedicated to working with software partners such as the Calms Visitor Management Platform to expand its integrations into our Access Control software." The Gardis Hanwha Vision Integration adds the following capabilities: Import Cameras from Server, Live View within Gardis, Event Bookmarking, Live View with Site Plan, Video Verification, and Playback of Recorded Video. Meanwhile, the Calms Visitor Management Integration with Gardis capabilities: End to end visitor management, Streamlined online Check-In process, Automatic host notification of visitor attendance, Real-time monitoring and reporting of visitor traffic, and Enhanced site safety and record keeping.

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

## Onvif Releases First Add-On for Secure Communications

Onvif, the global standardization initiative for IP-based physical security products, has released the final version of the TLS configuration add-on to increase the security of communications between devices and software clients within a physical security system. It supports the configuration for Transport Layer Security encryption, enabling a conformant video management system to initially configure or update TLS settings in a conformant device, such as a camera, to support encrypted communications between the device and client. Add-ons are a new category of Onvif specification that complements an Onvif profile, enabling manufacturers to add on or extend a device's conformance to include certain features. An add-on can more easily address evolving technology/specification requirements, such as the case with cybersecurity.

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

## Milestone Systems Joins CVE Program

Milestone Systems has partnered with the Common Vulnerability and Exposures (CVE) Program as a CVE Numbering Authority (CNA). The aim of the program is to find, describe, and catalog known cybersecurity issues. Organizations worldwide, working with the program, find and share these vulnerabilities. They publish CVE Records with clear details about the issues to help IT and cybersecurity experts talk about the same problem and work together to fix it. Thomas Jensen, CEO of Milestone Systems said: "Milestone Systems is committed to transparency in cybersecurity across our business. As Responsible Technology becomes a license to operate, we believe that people have the right to feel safe knowing that they can trust video technology. As a CVE Program partner, we will now publish mitigated vulnerabilities to the wider community, which will allow Milestone to coordinate and address potential issues even more effectively. This will further enhance our cybersecurity and continue to build trust in our XProtect open platform video management software."

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

## Two New Shows: Workplace Safety and Fire and Climate Safety

ESS+ powered by Sicur will be present at Ifema Madrid through its counterpart, Sicur, from 28 February to 1 March in Pavilions 6 and 8. ESS+ will celebrate its 30th anniversary from 21 to 23 August 2024 at the Corferias exhibition centre for a second year in a row in the Colombian capital, with the expertise of Sicur. The International Security Fair, ESS+ powered by SICUR, will celebrate its 30th anniversary from 21–23 August 2024, at Corferias, Bogotá's exhibition centre. The fair has announced the addition of two new shows: Occupational Safety and Fire Safety, and Climate Change. We reaffirm our unwavering dedication to comprehensive security and our mission to offer proactive solutions to all current and future security and safety challenges in Latin America. These two new areas are complemented by the Electronic Security area, which analyses and presents intelligent, state-of-the-art solutions for protecting goods, environments, people, and infrastructures, and Cybersecurity, where prevention and protection in the digital world are fundamental.

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

## North American Dealer Network Expanded

Altronix, a supplier of power and data transmission products for the professional security industry, is building upon its successful relationship with manufacturer's representative firm FM Valenti by expanding their responsibilities to include the New York Metro and Northern New Jersey region. They were initially appointed to represent the manufacturer throughout New England, including MA, CT, VT, RI, NH, ME, and upstate NY. FM Valenti supports a growing network of security professionals, ensuring that end-users, system integrators, and consultants can best leverage the company's extensive portfolio of leading power and data transmission solutions. Alan Forman, President of Altronix Corporation said, "We are confident that with FM Valenti's adept sales experience, our solutions will continue to flourish, allowing a broader base of customers to specify our cutting-edge products and technologies." [www.altronix.com](http://www.altronix.com)

## Advancis Expands Its Activities in Belgium and Luxembourg

Advancis Software and Services, one of the international market leaders in vendor-neutral PSIM, has announced the strengthening of its team for the Belgian and Luxembourg markets. With the appointment of two outstanding experts – Jan Timmermans and Umut Cetin – Advancis continues its growth strategy in the Belux region, focusing on strong regional partner and customer support. Jan Timmermans is an experienced professional in the physical security market and brings extensive market knowledge to the Advancis team. His excellent business development skills will help to strengthen existing partnerships and to develop new opportunities for the company. At the same time, the software manufacturer is strengthening its team with Umut Cetin, whose expertise in software platforms will significantly contribute to further business development. After a short break, he is returning to his old employer and is therefore very familiar with Advancis software solutions. One of his focal points will be to intensify targeted partner and customer support. "With Jan and Umut, we have been able to gain two highly experienced experts for our team. This also reflects our commitment to lift the regional support of our partners and customers in Belgium and Luxembourg to a new level," explains Jan Meiswinkel, CEO at Advancis. "By expanding our team, we are now better positioned to respond flexibly to the needs of our partners, which not only strengthens our market position in Belux but also demonstrates our commitment to a regional support structure." [www.advancis.net](http://www.advancis.net)



**Umut Cetin and Jan Timmermans join the Belux team of Advancis Software & Services**

## Thibaut Galland new Chief Operating Officer (COO) of Vitaprotech Group UK

The Vitaprotech Group announces the appointment of Mr. Thibaut Galland as Chief Operating Officer (COO) for the United Kingdom, effective September 1, 2023. This appointment reflects the Group's firm commitment to strengthening its international presence, with a particular focus on this strategic region, endowed with a promising market and close cultural and geographical links with France. Thibaut Galland's main mission will be to implement the Group's strategy for the two companies currently present in the UK: TDSi and Harper Chalice. He will supervise and ensure sound financial, human resources, administrative and legal management in the UK region. He will also play a key role in the governance of the companies in the area, and ensure the successful execution of Vitaprotech's international strategy. Thibaut Galland joined the Vitaprotech Group in 2017 as Corporate Controller, bearing witness to the company's remarkable growth trajectory since that date. In 2021, he was appointed Deputy Chief Financial Officer, actively contributing to the Group's development and success. [www.vitaprotech.com](http://www.vitaprotech.com)



**Thibaut Galland**

## Acre Launch Aspire Partner Program

Acre Security announced the launch of the Aspire Partner Program, marking a significant step forward in enhancing and expanding its partner ecosystem. Initially available to strategic partners in the EMEA region, the program aims to empower Acre Security partners by equipping them with the necessary resources and opportunities to explore new markets, create significant revenue streams, and enhance their technical and product knowledge. The Aspire Partner Program is a major development in Acre Security's mission to reshape the business environment for partners in the security sector. Acknowledging the crucial contributions of integrators, dealers, VARs, and distributors to joint achievements, Acre is committed to providing cutting-edge solutions and supporting services that drive opportunities. This program is structured to make partners a fundamental component of Acre's Strategy, providing them with a clear route for sustained growth and progress. "At Acre Security, we believe in building strong, practical partnerships that are both accessible and beneficial," said Serra Luck, Chief Commercial Officer, Acre Security. "The Aspire Partner Program is our way of saying, we're here with you every step of the way. It's about creating a community where every partner feels valued and supported in achieving real, tangible results."

<https://acresecurity.com>



Linda Voigtländer, head of the department for danger prevention at Infracor Höchst

## INTERVIEW

# A Town Within a Town

## Danger Prevention at Infracor Höchst

The industrial site in Höchst, Germany is operated by Infracor Höchst, and has its own railway, its own harbor, and its own fire brigade. Covering an area of 4.6 square kilometers, it is a veritable 'town within a town'. Ninety chemical and pharmaceutical companies are located here that together employ some 22,000 people. Infracor Höchst's business is location development, and they are experts in the provision of chemicals-related services. The Danger Prevention department of the Site Management division is headed up by Linda Voigtländer. GIT SECURITY spoke with her.

**■ GIT SECURITY:** Ms Voigtländer, many thanks for taking the time for this GIT SECURITY interview. As head of Danger Prevention at Infracor Höchst you must have a lot to do. How did you become involved in this department?

**Linda Voigtländer:** Thank you for the invitation to be interviewed – I am very happy to tell you about this very multifaceted job. The 'Industriepark Höchst' in Frankfurt am Main is like a town within a town, with its own energy supply, a medical center and a fire brigade, a harbor and a railway. The 4.6 square kilometer industrial park houses over ninety companies with around 22,000 employees. As the operator of the whole park, Infracor Höchst provides many infrastructure services so that the chemical and pharmaceutical companies can concentrate

on their core business. We supply energy and raw materials, look after waste disposal and environmental protection, provide a logistics infrastructure and a wide spectrum of security services.

My danger prevention department belongs to the site management division that is responsible for danger prevention (GA), public infrastructure, as well as other general services within the Industriepark Höchst.

**How is the whole organization structured?**

**Linda Voigtländer:** The danger prevention organization is divided into prevention and intervention (company fire brigade, emergency management and danger prevention control center). The purpose of Infracor's

integrated danger prevention organization is the protection of people, systems and the environment within the industrial park. My department includes the company security operation, visitor and badge management, investigation and special services, security technology, and project management. We have around 150 staff who cover an extensive range of services. Some of our main tasks are the organization of access passes, carrying out vehicle and pedestrian access checks, handling logistics processes, and helping the integrated alarm and danger prevention organization of the Industriepark Höchst. Then there are security patrols, documenting and processing criminal acts within the area, carrying out anti-espionage measures, as well as legal and data protection-conformant handling of the resultant information exchange with



the local police and customs authorities. We also carry out prevention work through consultancy, training and awareness campaigns for companies and their employees with the goals of preventing crime and the early recognition of weak points, as well as the administration of operation of the security systems.

**How long have you been working in the security department? Could you tell us about your previous jobs? What fascinated you about the subject of security?**

**Linda Voigtländer:** Even as a child I actually wanted to be involved in security, best of all wearing a police uniform. Upon considering the matter closely, after my graduation I decided to follow a path to become a specialist on protection and security. In

and in the security technology departments too.

When I finished my training, I was first working for company security at the main entrance gate. I gathered experience with SAP and a number of other commercial processes. During this time, I studied security management and qualified as a Bachelor of Business Administration with the support of a Chamber of Trade bursary program that covered part of the costs.

In 2017, I took over my first management position at Infracerv Höchst as head of company security with 100 staff. I was very lucky to have a very experienced colleague at my side who supported me a great deal. This was certainly an exciting challenge for me. Some people may have thought: "Look, that was our former trainee." But, after a short while, the new constellation was working so well that I could take over

**Linda Voigtländer:** We have a hybrid danger situation right now. The most urgent matters are protecting the critical infrastructure, cybercrime, forging of identity documents, sabotage, illegal access (handing over ID media, perimeter intrusion), the theft of goods in transit and theft of precious metals. We also observe the general security situation and policies, and deduce the appropriate measures from them.

We have noticed a trend in the forging of ID documents. We use modern document-checking devices and can identify falsified identity documents, which we report to the police. This has already led to numerous arrests. We have noticed that the threshold for criminal activity is sinking, and we are therefore continuously increasing our activity to make our employees aware of this (personal protection, tactical methods, etc.)



A bird's eye view of the Industriepark Höchst in Frankfurt am Main

2006, I moved from the Mecklenburg Lake District to Frankfurt am Main, where I took part in an assessment program and afterwards started my three-year training at Infracerv Höchst. I had the opportunity during this time to work in all the security-relevant departments. Amongst others, I worked on the day and nighttime shifts of the company security department, in the investigation service, at visitor reception

responsibility for the entire operation, and have maintained that position since 2020 as head of the whole danger prevention department.

**How do you rate the security situation at Infracerv Höchst at the moment? What dangers are currently the most urgent for you? Do you see any trends in this respect?**

**Infracerv not only secures the site in Höchst, but it also provides facility management and safety and security solutions for other companies. Is that all managed from your department, or how does that work?**

**Linda Voigtländer:** Our Facilities Services at Infracerv Höchst have their own division that is active in various regions of Germany

and provides facility management services for customers, primarily in the chemical and pharmaceutical industries. The same applies to our environmental, certification management, logistics, occupational safety or industrial medicine services, just to name a few. The experience of our security specialists is also valued. We advise many customers, both within and beyond the industrial park, and we are also operational for these companies.

In addition to the services I already mentioned that we deliver as operator of the site, we also support companies with property protection, the online surveil-

to the dearth of qualified personnel. We are an attractive employer that has much to offer, but it is becoming increasingly difficult to fill vacant posts quickly. We will continue to use security kiosks that allow us to process vehicles in both directions. The southern gate will also be rebuilt in a more customer-friendly design, including wheelchair access.

**Let us stay on the subject of access: as in many aspects of security, digitalization is important for visitor access, the registration process, the safety advice, etc. How is that implemented here?**



**The danger prevention department at Infracerv Höchst includes company security, visitor and badge management, investigative and special services, security technology and project management**

lance of HVAC or other systems, consultancy on the subject of fire protection or IT security, for example. This list is also not complete by a long way; the portfolio of services is much more extensive and varied.

**One of the gates is currently being completely rebuilt. Could you describe the project? How will the new gate be different from the old one?**

**Linda Voigtländer:** The building work is necessary to renew parts of the equipment and further improve the security level. The new road surface will be suitable for heavier vehicles, also for heavy goods transport. We are increasing efficiency of the security measures at the gates and will also be able to reduce the staffing levels. Although we will be reducing costs, we are also reacting

**Linda Voigtländer:** That is correct. Various projects have led to the implementation of digital solutions for access control and we are continually developing these further. For example, they include the purchase of self-check-in visitor terminals and logistics processes. The terminals will carry out a biometric check of the person and their ID document, and generate the necessary access documents. And to minimize the waiting time, we will also extend our online pre-registration process. The safety training that is necessary for access to the Industriepark has anyway been available online for a long time.

**Do you also use external service providers? What is your philosophy?**

**Linda Voigtländer:** All our staff are our own employees. That ensures a consist-

ent high quality and minimizes the level of fluctuation. Some of our staff have been with us for many years and gained a lot of experience, which is very valuable in such a complex environment as the Industriepark. Of course, we also suffer from the lack of qualified personnel and the demographic change and invest a lot of effort in new employment. Luckily, our own subsidiary, Proবাদis, the largest training company in Hesse, is well equipped for this. Proবাদis has been successful for more than 25 years, also in recruiting trainees who are trained in more than forty occupations to a very high level. The company had taken on 640 new trainees at the beginning of the business year, among them 87 Infracerv trainees. We also have long-established relations with various service providers and work with external partners as necessary in total confidence.

**Let us talk about a few current projects, for example the matter of drones. How are they used by Infracerv?**

**Linda Voigtländer:** Drones are already used in various areas, for example by the fire brigade, for environmental protection to gather measurement data, by the facilities services to observe installations (the condition of buildings), but also by our security division to discover the best location for permanently installed cameras (field of view checks).

**You are currently investigating partially automated drone flights. How does that work and what is the purpose?**

**Linda Voigtländer:** Yes, we are working on a project called 'Drone-supported perimeter protection'. Partially automated drone flights means that the drone will start and land automatically, and follows pre-defined flight routes to carry out perimeter surveillance. Any deviation from the expected behaviour raises an alarm. The video is transmitted to the security center. The drone pilot is always a trained local employee who can take control, if necessary. Other future uses can include support during emergencies, for example by fitting the drone with a thermal camera. Our safety and security personnel can be assisted when an intruder alarm is activated, for our own protection and for illumination by LED lights. Drones might also be used when there is a traffic accident, to take photos for example. There will also be new functions in automatic detection with the support of AI technology.

**Drones flown by other people are not only a potential threat for companies and locations like yours. How do you rate this problem and what is your strategy here?**

**Linda Voigtländer:** We watch the drone protection market and use the currently available solutions. There is of course a danger here, but we are already well equipped with our perimeter surveillance systems.

**Another one of your current projects: you want to stop using digital two-way radios and introduce push-to-talk technology – that is, using mobile phone networks to deliver voice messages. Why have you taken this decision, how is the project organized and what is the status?**

**Linda Voigtländer:** Analog mobile radio has no future from our point of view. Data is not sufficiently encrypted, the range is limited because of the radio cell constellation, and the standard is out-of-date. With push-to-talk – the combination of three devices into one mobile device: pager, mobile radio, and mobile phone into a smartphone – there is no dependency on limited self-operated radio cells. The range is unlimited (limited only by the reach of the public cellular network), WLAN links can be used, and the device is more compact. We are in a test phase at the moment and are working on optimizing the interface to our security center. GPS tracking will be possible, and the forwarding of status messages like in the old analog emergency services network is currently being implemented.

**What is on the agenda for the forthcoming year?**

**Linda Voigtländer:** As you can see, we have so many projects that next year certainly won't be boring. Of course, we are continuously working on digitalization opportunities and continuing to develop our skills.

**Many thanks for the conversation, Ms Voigtländer. ■**



**Infraserv GmbH & Co. Höchst KG**  
www.infraserv.com  
www.industriepark-hoechst.com



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CRITICAL INFRASTRUCTURE

# A Matter of Trust

**Critical Infrastructure Expert Summit by Schneider Intercom and the Commend Group in Picturesque Salzburg**

What comes into your mind when you think of Salzburg? Mozart? The festival? Or a picturesque old city and one or two Red Bull Salzburg FC football fans? In the midst of this charming environment, Schneider Intercom and the Commend Group held their Critical Infrastructure Expert Summit on 25 and 26 September 2023. At the center of the event was the 'KRITIS Dachgesetz' (blanket critical infrastructure law) that is currently being implemented in Germany.

■ In the view of many experts in the security industry, this and other legal measures – such as the EU Directive NIS2 which came into force at the beginning of 2023 – are important and long overdue steps to improving the resilience and security of critical infrastructure installations in Germany.

The blanket law itself should be viewed as an extension of cybersecurity, and in the first instance applies to physical security. At the same time, it is a source of uncertainty for many companies: who is included in 'critical infrastructure'? What conditions must be fulfilled, and how? What solutions are there?

This is exactly where the Critical Infrastructure Expert Summit picks up the reins under its own slogan "Trusted Communication Always". Together with partners Advancis, Astrum IT, Dormakaba and Fath, Schneider Intercom and the Commend Group offered visitors to the conference the opportunity to find out about the latest developments and trends in physically securing critical infrastructure, to network with new contacts and to discuss issues.

## Theory and Practice

The Critical Infrastructure Expert Summit was opened by Detlef Witte, CEO of Schneider Intercom, and Martin Gross, CEO of the

Schneider Intercom's new logo underlines the company's membership of the Commend Group more than before while also maintaining its own identity ►



Commend Group. There was a brief look back at how Schneider Sprechsysteme started in 1979, followed by the common path taken by Commend and Schneider Intercom in the last few decades. The reason for the history session: Schneider Intercom presented the new company logo for the first time, exclusively to the participants of the summit, which has a strong connection to communications solutions and the manufacturer Commend, but by keeping the color scheme it does not lose its identity, reliability or tradition.

The first keynote speaker, Prof. Dr. Clemens Gause, Professor of Security Technology and Information Management at the Northern Business School and CEO of the Association for Security Technology (VfS), presented the legal framework and the development of the KRITIS Dachgesetz. He stressed in particular the lack of physical security in many areas of critical infrastructure in Germany and Europe. With regard to the registration requirement for operators of critical infrastructure, Prof. Dr. Gause predicted a rapid growth in the number of staff at the Bundesamt für Sicherheit in der Informationstechnik (BSI) and the Bundesamt für Bevölkerungsschutz und Katastrophenhilfe (BBK), who in future will be responsible for ensuring compliance with the technical, security-relevant and organizational measures in affected companies. In total, the new legal conditions will significantly increase the number of companies and organizations that fall under the definition of critical infrastructure. His own estimates are an increase from currently 5,000 to around 50,000.

Keynote Speaker Jimmy Heschl, Global Head of Digital Security of Red Bull, and Thomas Pfeiffer, Chief Information Security Officer of Linz Netz, explained how things are currently beyond the academic world and in practice. They answered questions from the auditorium, and showed what measures and strategies have been successful in practice in meeting the contemporary security needs of a company. Under the heading of "Your route to successful certification", they both spoke about their experience of NIS1 and changes that it brought for companies, which companies will be classified as critical infrastructure in future, and what companies must do for successful certification.

### Physical Security in Critical Infrastructures

After an introduction to theory and practice came presentations from Schneider Intercom and their partners on available products and solutions. Schneider Intercom offers the Symphony intercom platform (On-Prem as Virtuosis or as a pure cloud service) which, apart from the basic intercom functionality, helps to protect privacy, customer and company data, and intellectual property. Security and data protection both start with trust, which is why Commend adopted a 'Privacy and Security by Design' approach when developing its solutions – it is also certified to DIN EN IEC 62443-4-1 (IT security for industrial automation systems) as well as ISO/IEC 27001:2013 (information security management systems (ISMS)).

Various sub-systems, such as video surveillance, sensors, access control or even visitor management, can be simply and intelligently connected via the Symphony platform, which can assist process optimization in a company. IT security becomes more important through the networking of the systems. The platform is also backwards-compatible with products from the late 1980s – investment protection with evergreen-technology.

Alexander Gräf, Head of Sales and Marketing at Schneider Intercom, said during his presentation that the purpose of the company's solutions is to provide added value for users and companies, to streamline processes by using intercoms (i. e. using QR codes at the perimeter visitor terminals), and

turn page ►



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## Powerful innovations

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to improve security in companies but also in smart cities (evacuation points together with access control and an SOS button). All this should observe and comply with the IT security requirements and thereby contribute to business continuity.

Advancis, represented by Dr. Jens Hartmann, presented their manufacturer-agnostic Winguard danger management system that is currently in use at 974 critical infrastructure projects in 43 countries and has over 500 interfaces. Winguard allows, amongst others, video surveillance, access control and fire alarm systems to be linked within one software solution. The AIM product line provides companies the ability to integrate access control, identity and biometric systems into one platform.

A company is faced with significant challenges when they have to manage the activities of third-party people and vehicles. Daniel Tripp, Business Development and Operations Executive at Astrum IT, presented Visit, a visitor management system that makes it possible to collate visitor and supplier traffic at a central location. The web application also enables the integration of a module for self-registration in various languages, as well as the option to provide individual or subject-related security/safety instructions on the registration terminal. This not only raises the physical security level, but also takes the load off the reception personnel.

The solution could be seen in the accompanying exhibition area, and the process will be supported in future by

the Schneider Intercom solutions – the IP Intercom –IM3 and IVY modules, the worldwide first conversational AI-based intercom voice assistant to relieve the security center. But of course, it is not only about securing access to buildings for staff and visitors, but also always having an overview of room occupation and footfall within the building.

Mate Ursic, a Sales Consultant for Digital Solutions at Dormakaba, explained the advantages of Entriworx. The system consists of a web-based software application, an app and central hardware components, and already simplifies early door planning, but also allows direct access to the planning of the door installation and commissioning via a digital twin.

The IT as well as the electric and electronic infrastructure all count as elements of critical infrastructures. It is therefore vital to protect the security-critical hardware, such as server racks and cabinets. Fath offers the mechatronic Tanlock locking system so that unauthorized people do not have direct physical access to these components. André Stöger, Sales Manager Austria, explained during his presentation how the system can increase security against unauthorized access, and what other functions the system can offer (event recording, reporting).

### Lively Closing Discussion

There was a podium discussion to round off the Expert Summit, led by Prof. Dr. Clemens Gause with lively participation from

the whole auditorium. This showed that the establishment of a security awareness is a high priority for many companies, not least because of the forthcoming critical infrastructure law as well as the other changes to the legal framework (NIS2, Cyber Security Act, etc.) There is a lot of catching up to do, in particular in the physical security of critical infrastructure operations. Companies must actively study these matters and take concrete steps towards improving their own security status, also in view of the changing global situation.

The matter should be given a higher priority in companies, also because of the question of liability of the company management as well as the potential fines. The lively discussion at the end of the event showed very clearly how important the interaction between the security industry and other industries must be in future to be able to provide effective protection specifically for critical infrastructure. The Comend Group and Schneider Intercom are therefore planning to continue the “KRITIS Expert Summit” in 2024. ■



Schneider Intercom GmbH  
www.schneider-intercom.de

## New Unified Security Platform Version

Genetec has announced a new version of its flagship unified security platform, Security Center. With a shift toward a continuous delivery approach, this version marks a new era in the way customers can stay up-to-date with the platform's latest features and updates. “By adopting a continuous delivery model, we are able to deliver new features and security updates more consistently with less disruption to customers,” explains Christian Morin, Vice President of Product Engineering and Chief Security Officer at Genetec. The latest release of Security Center also brings many new features, including map enhancements with map widgets, authentication improvements with troubleshooting and testing windows to simplify an otherwise complicated system configuration, and also new platform features that will benefit customers looking to lighten the load of day-to-day activities. To be introduced throughout 2024, these new features will enable advanced workflow activities. [www.genetec.com](http://www.genetec.com)

## SaaS Access Control System

Nedap has launched a SaaS access control system called Access AtWork that meets the needs of companies looking to replace their outdated on-premises systems with modern and easy-to-use software that provides better insights. The product launch signifies a shift in Nedap's history of tackling the most complex security projects, now also opening doors for small to medium-size enterprises. It has a unique authorisation model that enables administrators to manage access based on hierarchical teams and zones. The combination of a smart authorisation engine with a highly intuitive interface makes it really easy for multiple administrators to manage access across different sites without the need for expert training. The solution is GDPR compliant and has many security measures, including redundant and secure hosting of data in certified data centers within the European Union. [www.nedapsecurity.com](http://www.nedapsecurity.com)

RELEASE 2024

# intro

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## Access control module

**intro** door controller module is the new BUS peripheral from Ksenia Security that integrates security and access control features into the **lares 4.0** control panel. The 100 % Made in Italy device is designed to protect any locked door equipped with an electronic lock, preventing unauthorized access to residential and commercial premises, including restricted areas of industrial buildings such as server rooms, laboratories, archive rooms.

**intro** physically connects to Ksenia volo or volo-in proximity readers and/or an ergo-X keypad, allowing to identify the entrance of users in a protected area by means of security keys/ PIN codes. The lares 4.0 control panel verifies the user's credentials to allow or deny access, tracks all the accesses and notifies the user within the lares 4.0 user App.

[www.kseniasecurity.com](http://www.kseniasecurity.com)  
[info@kseniasecurity.com](mailto:info@kseniasecurity.com)





Full halls and a good atmosphere at the MIBA Sicurezza event

## EVENT REVIEW

# Four into One

## MIBA is the New International Hub for the Building Sector

The first edition of the MIBA Milan International Building Alliance event recently closed at Fiera Milano, having welcomed more than 80,000 professional visitors. The event combined four exhibitions dedicated to the sustainable and smart evolution of buildings and cities.

■ The synergy between the related sectors was successful, providing an integrated and innovative vision of solutions to address the energy and digital transition of buildings and cities. More than 80,000 visitors from 111 countries came to find out about the products and services of more than 1,350 exhibiting companies.

MIBA has consolidated its position as a new international reference hub for the four sectors: horizontal and vertical mobility at GEE-Global Elevator Exhibition, construction at MADE expo, technological integration at SBE-Smart Building Expo, and security and fire at Sicurezza.

### International Arrivals

Visitors arrived from 111 countries, with the largest numbers coming from Europe (mainly Switzerland, Spain, France, Romania, Greece, Germany, Poland and the UK), and Turkey. However, there was no shortage of operators who chose to visit MIBA from very distant countries. Among the most represented were China, Venezuela, Vietnam, Azerbaijan, Singapore, Thailand and Senegal. Although these are impressive facts, perhaps the most striking feature was the level of business meetings, thanks to the high profiling of the 427 hosted



MIBA and an attractive city: Milan is always worth a visit – here the Castello Sforzesco in the center of the city





Also a big player at Sicurezza – and another winner of the GIT SECURITY AWARD: Hikvision, here with marketing manager Jiaqi Leclercq and country manager Italy, Massimiliano Troilo. An exclusive report about Hikvision and the GIT SECURITY AWARD will follow in GIT SECURITY



Happy GIT SECURITY AWARD winners: Ivan Galimberti, Christine Dian and Virgilio Villatora from the Ajax team for Italy. Also about the solutions of Ajax we will report in the upcoming issues of GIT SECURITY

buyers who travelled to Milan thanks to cooperation with the ITA-ICE Agency. The systematic strategy at the heart of MIBA's exhibition also caught the attention of several foreign consulates and officials involved in the development of international trade relations, particularly from Eastern Europe and the Mediterranean

basin, which are interesting target markets for the solutions on display.

The dynamic social channels of the four events were also remarkable: in just four days, they reached more than 350,000 contacts, generated almost 60,000 interactions and increased the fan-base of around 1,500 followers on the various channels.



Prizes at Sicurezza: here the Ksenia team, led by Raffaele di Crosta, who won first place in the GIT SECURITY AWARD. Also pictured is Steffen Ebert from Wiley and GIT SECURITY. An exclusive report about Ksenia and the GIT SECURITY AWARD will follow in GIT SECURITY

### Naturally Digital

Three trends characterized the events across the board: sustainability, customization and digitization of solutions. All sectors are now moving towards optimization of resources and environmental sustainability, while digitalization is progressively linking markets and making the solutions presented increasingly tailor made, whether they are building materials, finishes or technological solutions.

The varied program of conferences was of great interest. With sectors evolving rapidly and synergistically, continuing education becomes an essential tool to remain globally competitive. MIBA offered more than 250 meetings, helping the new synergistic vision that fits perfectly with the integration trends of the various market segments.

The next MIBA event will be held at Fiera Milano in November 2025. Sicurezza, GEE and SBE will be held from the 19th to the 21st, while MADE expo has confirmed a four-day run until the 22nd.

### The four MIBA exhibitions are:

- GEE-Global Elevator Exhibition – the horizontal and vertical mobility event
- MADE expo – Italy's leading event for the construction industry
- SICUREZZA – the leading event in Italy and among the most important in Europe for security and fire
- SMART BUILDING EXPO – Italy's reference event for home and building automation and technological integration ■



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EVENT

# Intersec 2024 Post Show Report

## Insights from Intersec 2024's 25th Anniversary

Intersec 2024, the world's leading trade fair for safety, security, and fire protection, took place 16–18 January, demonstrating the burgeoning appetite for the industry in the region. The event, commemorating its 25th anniversary under the theme 'Innovating security tech for a quarter century', stood as a testament to industry resilience and innovation, uniting global thought leaders, exhibitors, and experts.

Under the patronage of His Highness Sheikh Mansoor bin Mohammed bin Rashid Al Maktoum, Intersec 2024 unfolded across 13 halls, solidifying its status as the largest edition in its quarter-century history. The event hosted an impressive 1,050 exhibitors from over 60 nations, 20% more than the previous year, illustrating its pivotal role as a global networking hub and an unmissable showcase for cutting-edge security technology.

Structured into five strategic pillars – Fire & Rescue, Commercial & Perimeter Security, Homeland Security & Policing, Safety & Health, and Cyber Security – Intersec 2024 offered tailored solutions for diverse industry needs. The event's alignment with government bodies, including Dubai Civil Defence, SIRA, Dubai Municipality, and the Cyber Security Council, underscored the UAE Government's commitment to these pivotal industries.

All three days of Intersec 2024 saw a packed exhibition, featuring live activations such as the Attack Zone, challenging

exhibitors to rigorous testing. Renowned specialists, including Frontier Pitts and NAFFCO, subjected their products to discerning scrutiny by the Loss Prevention Certification Board. In{cyber} provided a dedicated space for cybersecurity solutions, while the Future Defenders Hack Arena engaged diverse groups, from students to CISOs. The Intersec Innovators feature connected SMEs with investors, and the Safety Walk showcased industrial safety gear with flair. Intersec 2024, with its live demonstrations and innovative features, offered an immersive and engaging glimpse into industry trends.

### A Global Showcase of Security Innovations and Solutions

Intersec 2024 featured a globally diverse array of exhibitors, totalling more than 1,050 from 60 countries across the five sectors of the show. In the commercial security sector, South Korea's IDIS, the largest in-country manufacturer, unveiled an extensive range of surveillance and AI

innovations and offering end-to-end video solutions, complemented by advancements in communications and AI.

The perimeter & physical security sector saw INFOSEC Communication, a French company specialising in electrical power and safety, launching two new product fields at Intersec 2024: Energy Storage System and Electric Vehicle Charging Stations. The importance of the cybersecurity sector was illustrated by a 10% increase in cybersecurity exhibitors, with the sector hosting industry leaders like the Cyber Security Council, Fortinet, Alpha Data, Cisco, Morohub, Dell, Malcrove, and Manage Engine.

The diverse representation of global exhibitors underscored Intersec's role as a premier platform for showcasing the latest advancements and solutions across various security sectors.

### Shaping Future Security Strategies: Conferences Across the Industry

The eight conference streams taking place within Intersec continued to drive discus-

sions in global security, safety, and fire protection. The Security Leaders Summit focused on future-proofing security, adapting to evolving threats, and promoting security as a strategic business enabler. The Cyber Security Conference showcased breakthrough technologies and fostered global partnerships to shape the future of cybersecurity. The Fire & Rescue Conference, hosted by Dubai Civil Defense, united global leaders to address challenges and innovations in fire and emergency services, emphasising themes like emergency response planning and high-rise fire safety. The Safety & Health Conference highlighted the dynamic nature of the safety industry, with a focus on the UAE's leadership in advancing occupational health and safety standards. The Thought Leadership Pavilion explored access control trends and innovations, while the Emergency Crisis Management & Communication Workshop provided hands-on experience in crisis management strategies. These conferences collectively embodied Intersec's commitment to redefining industry norms and inspiring strategies for a safer world.

### Intersec Awards 2024

The highly anticipated Intersec Awards 2024 celebrated industry success across 13 important industry categories, offering a prestigious platform to honour outstanding contributions to safety and security. Among the new categories added this year, Reacton secured the Fire Safety Excellence Project Award for safeguarding UAE school buses, while the Security Project of the Year – Middle East and Africa Award went to the Virtual Technology Centre of Dubai Police for their Smart Security awareness project. SYSNAV claimed the Outstanding Safety Solutions Award. Ramtech secured the Fire Safety Excellence Award, and Alyaa Alkaabi from the UAE Ministry of Interior received the Women Trailblazers in Security or Fire Safety Award.

Additional winners included Drydock World for Outstanding Fire Safety Team of the Year, D-Fend Solutions for Premier Homeland Security Solutions, Garrett for Exemplary Perimeter Security Solutions, and Axis Communications for both Outstanding Commercial Security Solutions and Sustainability Champion. OTORIO

received the Outstanding Cybersecurity Product/Service of the Year Award, while Shaima Basaeed from RTA won the Rising Star Award for Emirati Talent, and Red Sea Global was crowned Outstanding Security Team of the Year.

Intersec 2024 has once again demonstrated the demand for innovation, collaboration, and excellence in the global safety, security, and fire protection industry in the Middle East and beyond. The event's successful 25th edition reaffirmed its role as the centre of industry advancement and a crucial platform for shaping the future of security technology. The ripple effects of Intersec 2024 will undoubtedly resonate across the industry, inspiring new heights of innovation and collaboration in the years to come. ■



Messe Frankfurt Middle East GmbH  
www.intersecexpo.com



### Enterprise-Level Security Platform

Suprema took part in Intersec in Dubai, and demonstrated the enterprise-level scalability of its security platform BioStar 2. The newly introduced multi-communication server enables multiple server architecture to support large device installs to extend the target market from small offices to large corporate buildings. Through integration with surveillance systems, the solution can now provide real-time video monitoring. Suprema also emphasised the flexibility of the architecture, highlighting the ease of integrating third-party solutions and the ability to provide services customized to customer needs. The company's deep learning AI-based fingerprint recognition access control solution will soon be joined by a facial authentication solution, part of the third-generation AI product lineup for the second half of this year. The CLUe cloud-based access authentication service will simply integrate Suprema readers to third-party cloud platforms. [www.suprema.co.kr](http://www.suprema.co.kr)

### Reimagined Key Control Solutions at Intersec Dubai

Morse Watchmans displayed a wide array of its award-winning key control products at Intersec Dubai 2024. Members of Morse Middle East demonstrated the company's solutions and the critical need for enhanced asset security and efficiency in the local markets. Featured solutions on display and demonstrated included the KeyWatcher Touch electronic key cabinet to secure, manage and track keys and other assets, the SmartKey electronic locker systems for securing, tracking, and controlling access to larger objects, as well as the KeyBank Touch key access control system, a secure way to manage large quantities of keys with touchscreen convenience. These solutions, coupled with the company's software, service, and support, ensure the safety and security of a variety of physical assets. [www.morsewatchmans.com](http://www.morsewatchmans.com)



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A circular route has been set up between Halls 8, 9, 11, and 12. The Intersec Building area can be reached directly from the Galleria

## EVENT PREVIEW

# Find the Things That Belong Together

**Networked Security: Light + Building 2024 is a Symbiosis of Light, Building and Security Technology**

The Light + Building exhibition from 3 to 8 March in Frankfurt am Main covers everything from intelligent light technology to future-oriented house and building technology. The unique combination provides an international meeting point for manufacturers, planners, architects and investors. GIT SECURITY spoke with Johannes Möller, Head of Light + Building, about the event and the products on offer at the adjacent Intersec Building 2024 in Hall 9.

Johannes Möller,  
Head of Brand Management  
Light + Building

■ **GIT SECURITY: Networked security is an integral part of smart home and smart building solutions. What does Light + Building offer visitors and what subjects does the exhibition cover?**

**Johannes Möller:** The Intersec Building in Hall 9.0 brings the manufacturers together that offer solutions for networked security in buildings. The range of products includes plug-in devices for private homes as well as professional applications for large commercial projects. There are digital access control systems, locking systems, and door intercoms as well as video surveillance and intruder alarms together with location space administration. This includes innovative control equipment. The sensors necessary for measurement, control and regulation of building automation systems are the lifeblood of every system. The technology enables the control of heating, air conditioning, and ventilation as well as light and movement sensing.

**Light + Building was held for the first time under the brand name of Intersec Building in October 2022. What was the feedback from the exhibitors, and are they back again this year?**

**Johannes Möller:** Yes, manufacturers who are specialized in security technology are back at Intersec Building again in 2024. We have learnt in the meantime that networked security technology as part of the building benefits from synergies with house and building automation and electrical technology, so manufacturers of these products are brought together in Hall 9.0. This new con-

figuration was made possible for the coming event by the modern Hall 5, which will be filled by the exhibitors of Light + Building. This all forms a circular tour on the east side of the grounds between Halls 6, 5, the Forum, Halls 3 and 4. The thematic link to building technology exhibitors is provided by Hall 8 where you can find lighting components. On the west of the grounds, visitors can find things that belong together that fall under the category of building technology in a circular tour of Halls 9, 11 and 12.

**In which halls can you find the most information and exhibitors of security and fire protection solutions?**

**Johannes Möller:** The emergency and security lighting items share Hall 4.1 with lighting for industry and special applications. Products, technology and trends in electrical tech as well as house and building automation can be found in Halls 9, 11 and 12. Numerous prominent players in these markets have already confirmed their participation, among others ABB, Bosch, Dehn SE, Beckhoff, Phoenix Contact, Rittal, Siemens, Wago, Gira, Schneider Electric and Siedle. As I mentioned before, security technology is placed in Hall 9.0 under the brand name 'Intersec Building'. Companies such as Abus, BKS, Dom, Gretsch Unitas, Grothe, Lupus-Electronics and Winkhaus are showing their solutions for networked security technology for buildings there. Hall 9.0 is also home to exhibitors showing electrical goods, house and building technology, where exhibitors such as Bacnet, EnOcean, Loytec, Megger, Thermokon and Woertz will welcome you.

**There will be no accompanying Intersec Forum during this year's edition of Light + Building. What were the reasons for this decision, and are there alternative open forums during the event?**

**Johannes Möller:** The Intersec Forum was a bridge to bring the Intersec brand to Frankfurt. The conference helped us to establish the area dedicated to networked security as an integrated part of building technology. We have successfully implemented this now and are concentrating on growing this area. There are of course various accompanying presentations and discussion on the subject of security. We have included them as items in the large meeting point for knowledge transfer because of the synergies. These include the Building Plaza in Hall 9.0 and the ZVEI Technology Forum in Hall 12.1 in the west area. The most important subjects for Light + Building influence the content here. One particular requirement at the moment is the electrification and digitalization of both existing and new buildings. This will be covered under the subject of 'Connectivity'. Both developments are the basis for successful networking of elements of smart homes and smart buildings, and have as their 'output' more convenience and increased security. ■



Messe Frankfurt Exhibition GmbH  
www.light-building.messefrankfurt.com

**First Smart LiDAR for the Security Industry**

Blickfeld QbProtect is the first smart LiDAR (Light Detection and Ranging) that provides directly usable results about unauthorized entry, thanks to analysis software, standard interfaces, and a web GUI on the device. The LiDAR specialist has introduced the 3D sensor designed specifically for security applications. Featuring on-device software for zone, fence, and facade monitoring, the device processes data on unauthorized entry into security zones without the need for additional computers. It ensures reliable object detection under various weather and lighting conditions, resulting in an exceptionally low false alarm rate and heightened security. The sensor can be seamlessly integrated into standardised security systems, and configured through an intuitive graphical user interface. The technology inside scans the surroundings using hundreds of thousands of laser pulses per second, generating precise and detailed 3D point clouds with integrated software. Through a 3D viewer in the browser-based graphical user interface (web GUI), users can display the point cloud and easily define, adjust, and place security zones using drag-and-drop. Additionally, they can set the object size at which an alarm is triggered upon entry into the zone. This functionality significantly reduces false alarms by excluding small animals or vegetation from security warnings. The collected data is anonymous and complies with data protection regulations. Data and power transmission occur over the same cable (Power over Ethernet). The hardware is solid-state without mechanically rotating parts, and the housing is IP67-rated against dust and water ingress.

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

**VMS Enhanced with Web Client**

Qognify has enhanced its VMS solution with version 7.4, which gives organisations greater operational flexibility and video availability, both inside and outside the control room. A standout component of V7.4 is the new web client. Built from the ground up, it leverages the latest streaming technology and places exceptional live viewing, playback and investigation capabilities in the hands of the people who need it – whether on patrol, off-site or in the control room. Its highly secure, modern user interface can be accessed via standard browsers on various platforms, delivering optimal performance and low latency, to enable faster and more efficient and informed decision-making. Incident response and investigations are also accelerated through improvements to the forensic search tool QogniFinder, which now supports metadata streams from Axis and Bosch cameras, as well as through a new suite of AI-based video analytics. [www.qognify.com](http://www.qognify.com)

Bosch Building Technologies' Aviotec 8000i IR solution utilizes AI algorithms for smoke and flame detection

## COVER STORY

# You Can't Fool AI

## A Revolution Is Underway in Fire Protection

The revolution in fire protection is underway as AI-powered video-based fire detection represents one of the most significant advancements in the field. Bosch Building Technologies' Aviotec 8000i IR solution utilizes AI algorithms for smoke and flame detection. These deep learning-based algorithms enable real-time, accurate fire detection while minimizing false alarms. The technology is particularly effective in semi-open and outdoor areas exposed to wind, moisture, and dust, and operates flawlessly in complete darkness thanks to its integrated infrared illuminator.

■ Bosch Building Technologies is heralding nothing short of a fire protection revolution with its Aviotec 8000i IR camera for video-based fire detection. Here, "i" stands for intelligent AI algorithms, and "IR" denotes the integrated infrared illuminator. Being video-based means the camera detects smoke and flames within its monitored field of view – unlike thermal cameras that detect based on temperature differences, and unlike traditional smoke detectors, Aviotec identifies smoke right at its source.

The Aviotec 8000i IR, based on years of research and development by Bosch Building Solutions, is ideal for challenging environments like production areas where hazardous substances with a high fire load are stored outdoors, as well as for

semi-open spaces like solar installations or windy electric vehicle charging stations where smoke detection can be difficult.

### More Powerful than Aspirating Smoke Detectors

Comparing its video-based system to current aspirating smoke detectors in its in-housefire laboratory, Bosch found that Aviotec 8000i IR detects smoke from test fires up to three times faster. Enhanced AI algorithms ensure greater reliability and accuracy in detecting actual fires, reducing false alarms. Alarms, triggered by real fires or by trouble messages caused by i. e. power loss or a blurry image can be forwarded to a local network or to a central fire alarm panel via two relays.

### Fire Protection Around the Clock with IR Spotlights

With its integrated infrared (IR) illuminator, the camera offers round-the-clock fire protection, functioning perfectly in total darkness (0 Lux) without the need for additional lighting. This feature simplifies and reduces the cost of installation for planners and installers.

### Easy to Install One-Product Solution

The camera's installation is further simplified as a one-product solution without the need for accessories. Its robust, waterproof IP67 casing, new 4-megapixel sensor, and motorized lens are integrated into one unit. Aviotec's Power-over-Ethernet (PoE) also eliminates the need for power cables.

### Extended Application Possibilities

Aviotec 8000i IR's new features open up a wide range of applications and enhance fire protection in demanding environments. It can prevent the spread of fires to buildings by detecting them in open areas in real-time, at the source, without smoke needing to reach an indoor detector.

The camera is also valuable in train stations, subways, and bus terminals, where brakes or electricity can be ignition sources that conventional detectors may identify

too slowly. Similarly, at electric vehicle charging stations where batteries might ignite, the stations are often located in semi-open or outdoor areas where wind can disperse smoke, Aviotec's sensitive AI algorithms with deep learning technology aid in smoke detection in windy conditions.

"The new Aviotec 8000i IR represents over a decade of experience in video-based fire detection. Thousands of Aviotec cameras in 72 countries reflect our customers' trust in this proven technology," says Patri-

zia Bogers, Global Business Development Manager, Aviotec. ■

Further information on Bosch Building Technologies' Aviotec 8000i IR can be found here:



Bosch Building Technologies  
www.boschbuildingtechnologies.com

## Deep Learning

In conversation with **Patrizia Bogers, Global Business Development Manager Aviotec,** and **Sören Wittmann, Aviotec Product Manager at Bosch Building Technologies**

**GIT SICHERHEIT:** Ms. Bogers and Mr. Wittmann, you are responsible for the Aviotec video-based smoke and flame detection system. What is the key feature of this system?

**Sören Wittmann:** To put it briefly: anyone looking to secure large areas against fire – take, for example, a large warehouse in an industrial setting – will quickly reach the limits of individual point-type smoke detectors. Smoke rises due to thermal lift. The higher it rises, the more it mixes with the surrounding air. The smoke becomes thinner, cooler, and slower. Eventually, at a certain threshold, the smoke reaches the same temperature as the surroundings – and then it no longer moves with the air.

**Patrizia Bogers:** That's why video-based early fire detection, like our Aviotec solution, takes a different approach: Smoke or flames arising within the field of view of the fire detection camera become practically immediately visible. The camera can thus detect the fire in seconds directly at the source itself. This naturally saves valuable time in the response chain. Early detection can help minimize damage. For the fire safety of storage rooms or expensive and business-critical machines, this is an invaluable advantage.

**There is now a brand-new version of Aviotec, the Aviotec 8000i IR. Let's delve a little deeper into the exact functioning and product features...**

**Sören Wittmann:** The system is now fully AI-driven based on neural networks. With the help of artificial intelligence, Aviotec is trained to recognize smoke and flames. Whether it is an event with smoke or flame

development is decided by a pre-trained neural network in the camera. The video image is compared and analysed with large amounts of data from various scenarios in seconds. Thanks to AI algorithms based on deep learning, Aviotec can even detect fine smoke at an early stage.

**Patrizia Bogers:** It's an all-in-one solution. The camera is characterized by improved image quality and a resolution of 4 megapixels. Moreover, IR illuminator, lens, and IP 67 housing are now integrated into the camera. The improved settings allow for motorized changes in focal length without manual adjustment. The sensor is more sensitive with better image quality. The user no longer needs any accessories, and the camera can be connected to a control center like a standard fire detector. Two output relays for "Alarm" and "Fault" are included in the delivery. With the help of a display, alarms can be quickly and reliably checked by an authorized person via live video. This way, the responsible person can quickly determine whether it is a false alarm or a real incident.

**How has the concept been received in the market?**

**Patrizia Bogers:** We see a strong demand for reliable solutions in various vertical markets, such as in public buildings and for industrial applications where conventional fire detection technology, for example due to the height of the room, reaches its limits. In transportation, solutions are needed for airports, hangars, and rail transport. There is a strong demand for applications in warehouses and for parking garages. With the rapid growth of electromobility, video-based early fire detection will become



Patrizia Bogers, Global Business Development Manager, Aviotec



Sören Wittmann, Aviotec Product Manager at Bosch Building Technologies

increasingly important there as well. In all these areas, the fire detection system must be very flexible and able to respond to changes in the environment.

**So, a system with a future...?**

**Sören Wittmann:** With our AI-driven approach and deep learning capabilities, our solution is excellently positioned for the future. Another aspect is the increase in international regulations for video-based fire detection. These regulations and their interpretation require a solution like our Aviotec 8000i IR.

Substitute fuels are used in cement plants. Reliable early fire detection is vitally important

## INFRARED FIRE DETECTION

# Cement Plants Made Safe by Infrared

## Smart Fire Monitoring in Cement Production

Clinker production requires extremely high temperatures. Fuels therefore need to be kept at the ready to provide the necessary energy. However, whatever burns during a manufacturing process is also a fire hazard. The Heidelberg Materials cement plant in Schelklingen, Baden-Württemberg, Germany therefore uses infrared thermal imaging cameras to enable smart early fire detection.

■ Temperatures in rotary kilns during clinker production reach 1,450 degrees Celsius. Clinker is an industrially manufactured mixed stone made of burnt, deacidified limestone, clay and sand, and as a binding agent is the main component in cement. Primary fuels such as coal are typically used in the firing process. This is partly the reason for the high carbon footprint of the global cement industry, accounting for up to 8% of the world's carbon dioxide emissions. To reduce the amount of primary fuels and thus also carbon dioxide emissions in clinker production, cement manufacturers have been switching to alternative fuels over recent decades. Old car tires were used for a long

time, also for the firing process in the Schelklingen plant of Heidelberg Materials. In recent years, other fuels have begun to be utilized. In Schelklingen, for example, derived fuels and wood recycling (BGS) are used in accordance with commercial and municipal waste processing specifications. Around two-thirds of all fuel used by Heidelberg Materials in Germany is now refuse-derived fuels.

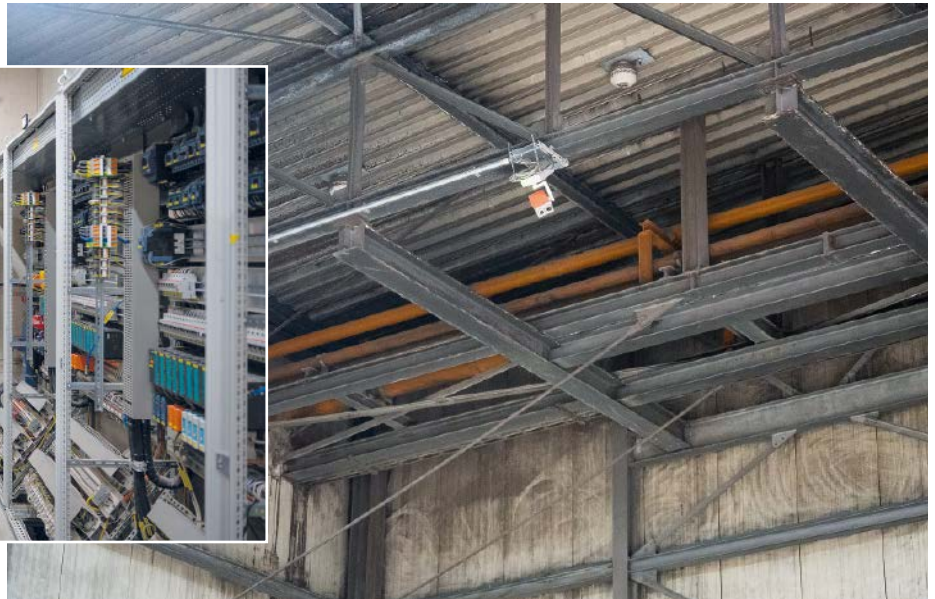
However, this brings the problem of biomass from food scraps in packaging waste creating bacteria when left lying around for long periods of time. Heat is then generated in the decomposition process and, if undetected, spontaneous combustion may eventually occur. This puts personnel

at risk as well as enabling fires to spread rapidly within the combustible materials and destroying entire facilities. For the cement manufacturer, the financial damage would be enormous. It is therefore vital that fires within the manufacturing process are prevented from the outset with targeted and rapid extinguishing in worst-case scenarios. Practical and easy solutions are often not possible in large factory buildings due to the dusty and difficult environments. To optimally meet requirements within their cement plant, Heidelberg Materials therefore uses PYROsmart series infrared-based early fire detection systems from Orglmeister Infrarot-Systeme GmbH & Co. KG based in Walluf near Wiesbaden, Germany.





Orglmeister provides the entire system technology for safe monitoring, which is then housed in a small control cabinet in the building's electrical operations room



The PYROsmart system from Orglmeister reliably monitors fuel buildings

### Panoramic Thermal Imaging Using Infrared and Video

Orglmeister's patented process in its PYROsmart products combines infrared thermal imaging and video technology to enable full monitoring of large factory areas that have adverse environments. In dusty and dirty factory premises, the conventional smoke aspiration systems typically found in industry can quickly fail. High-resolution infrared cameras use in-house abiroVision software to generate a panoramic thermal image that shows heat sources. Such infrared thermography is based on all objects emitting infrared waves depending on its temperature. Modern camera systems record these waves, from which they can calculate temperatures. The system is able to recognize spatial geometries and thereby precisely locate areas at risk. Pan/tilt technology also makes it possible to monitor very large areas. This is especially required in the cement plant's expansive fuel buildings.

Panoramic thermal imaging continuously delivers information to users in the cement plant's control center. Integrated compressed air cleaning keep the system's sensors clear to provide added safety. Heidelberg Materials has two threshold metrics: from 80 degrees Celsius a pre-warning is given, and from 90 degrees Celsius a fire alarm is triggered and fuel supplies to the kiln are cut off. However, not all meas-

ured "hotspots" are a risk to production. For example, exhaust systems on wheel loaders and trucks also produce heat that is non-critical to safety. Heidelberg Materials therefore got the PYROsmart software to teach itself. In an automatic learning phase, the new system ran in parallel with the existing fire alarm system and used smart interference detection to monitor the environment. It was able to learn whether a vehicle with a hot exhaust or engine was stationary or moving. These can now be automatically detected and classified as non-hazardous, and false alarms that would otherwise result in considerable financial and human effort are prevented.

### Long-Term Partnership

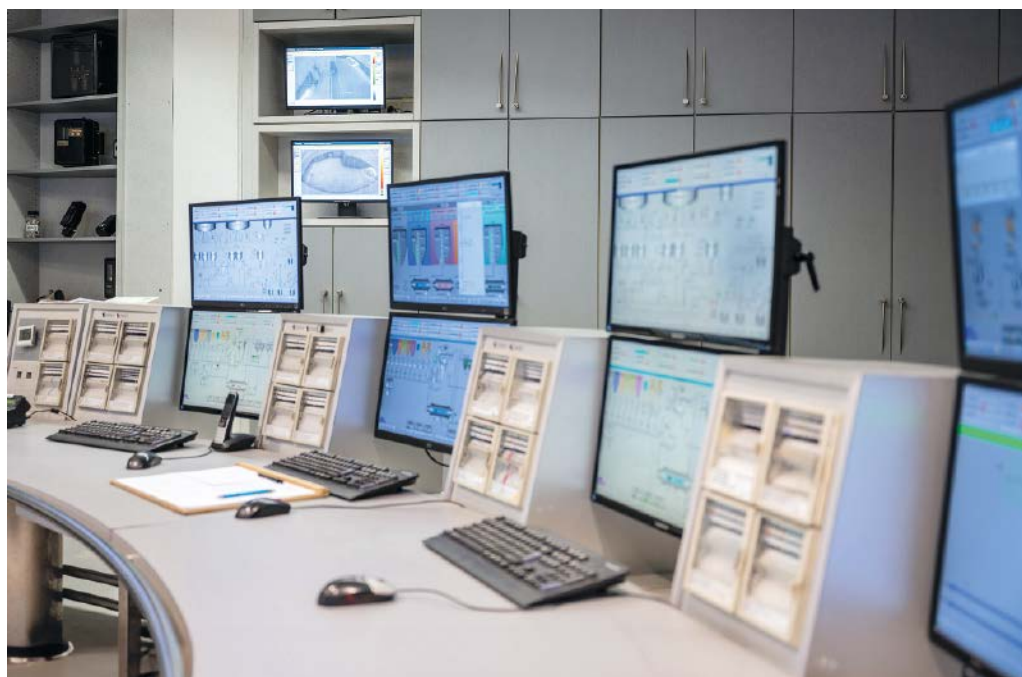
Heidelberg Materials has been working with Orglmeister and the PYROsmart

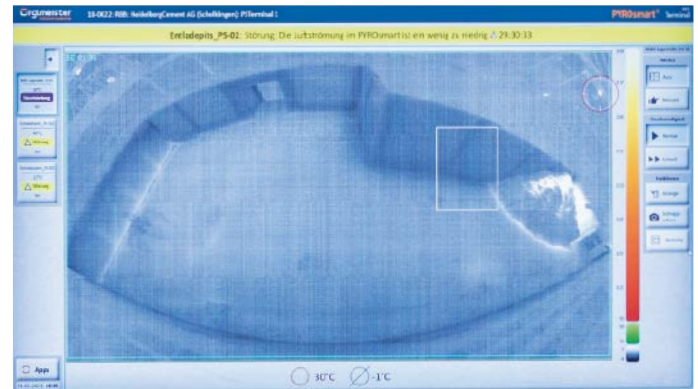
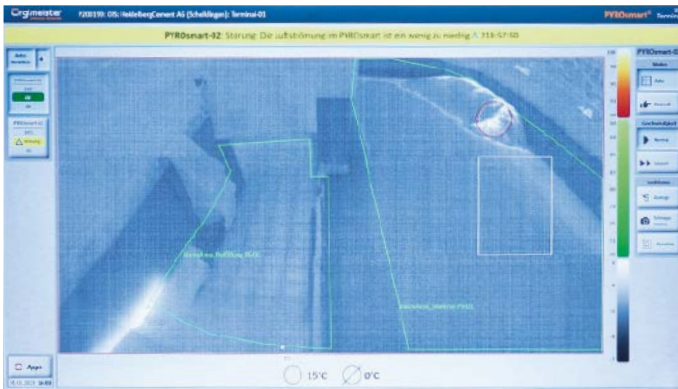
system for many years. The system was already operational in 2010 when the cement plant used car tires as fuel. A switch to other substitute fuels in 2018 required new plant construction and installation of PYROsmart FS. The FS series is aimed at applications monitoring large areas, while its sister system PYROsmart NS is primarily used for smaller spaces and conveyor belt monitoring. The Schelklingen plant opted for the solution because of its excellent experience with PYROsmart. "Orglmeister won us over with the operability and technology of their products. Stability plus pan/tilt technology. You get it all in one system," explains Christian Haupt, head of electrical and automation engineering at the plant.

He also appreciates the fast spare parts service and the good relations he always has with Orglmeister personnel. Reliable mon-

*Please turn page ▶*

All PYROsmart systems are connected to the cement plant's main control center ▶





Panoramic thermal imaging provides the perfect overview

itoring has been provided by PYROsmart since its installation. “We’re delighted with it, and it works,” Haupt says. After switching to substitute fuels, the new fuel building was equipped with the early fire detection system, which uses several cameras to monitor the fuel. Orglmeister has equipped the boxes and push floors for material delivery in another fuel building, as well as the entire premises. The building cannot be entered during operation, and processing with a gantry crane is fully automatic. An automatic extinguishing system is therefore installed there to prevent fires from even starting. Working together with Austrian partner company Rosenbauer, a fire-monitor extinguisher has been installed, which the PYROsmart system operates to perform targeted and automated extinguishing when hotspots are detected.

Fortunately, the system has not yet had to act. “If there’s a fire, it’s almost already too late,” says plant manager Michael Cypra. Between detection and intervention by firefighters, the whole building can be on fire within just a few minutes. The combined PYROsmart and fire monitor system can

detect and automatically extinguish a fire at a very early stage in its development. Costly operational failures and fire damage can

### Europe-Wide Early Fire Detection in Cement Plants

The project at Heidelberg Materials’ Schelklingen plant is just one of many that Orglmeister has completed throughout Europe in its long working relationship with the cement manufacturer. As well as the solution in Baden-Württemberg, four PYROsmart cameras and an extinguishing system have also been installed at the company’s plant in Triefenstein in Lower Franconia, while a PYROsmart system and extinguisher system are monitoring the premises in Burglengenfeld. At the French sites in Couvrot and Bussac-Forêt, two PYROsmart cameras with two extinguishing systems each are providing smart early fire detection. And in Devnya, Bulgaria, Orglmeister and Heidelberg Materials have also implemented four PYROsmart units and an extinguishing system.

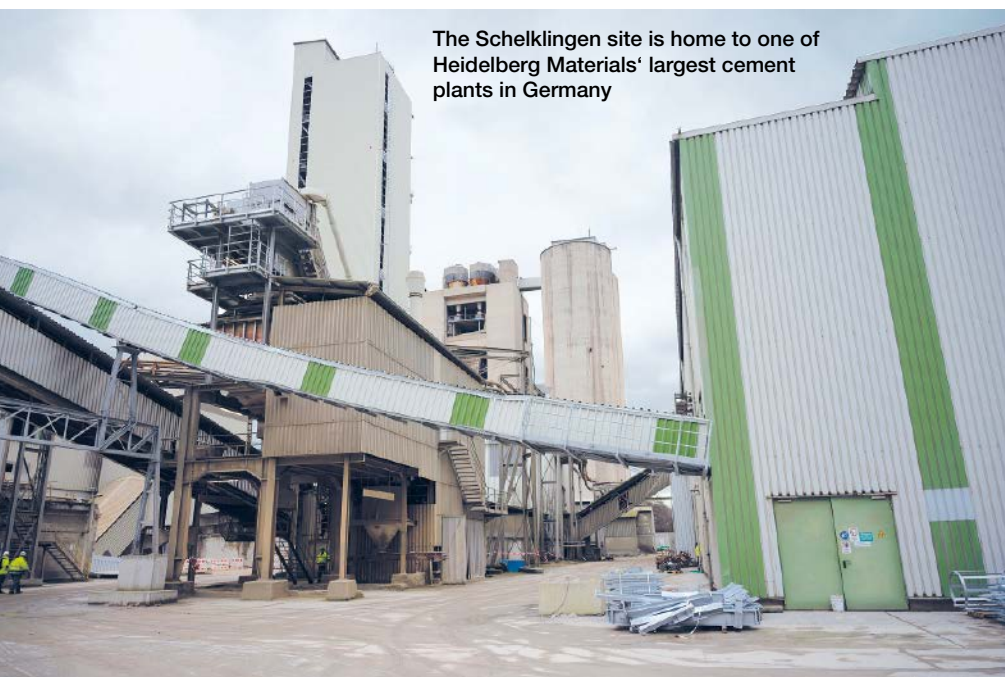
then be prevented. Manual operation of the extinguishing system is also an option. Heidelberg Materials therefore also manages extinguishing activities via the company’s in-house control center, which can access PYROsmart data.

If a fire breaks out, the control center can then decide how to proceed. This is vital because firefighters need to be directed across the large plant complex. For this reason, regular firefighting drills are held. Staff can also permanently monitor situations within buildings from a distance. When an alarm is triggered, the system informs those responsible in the control center to enable action to be taken quickly.

### In Use at Other Plants

A total of five PYROsmart systems and one fire-monitor extinguisher have been installed in the Schelklingen plant to ensure safe cement production and safer working environments for staff. Heidelberg Materials operates eight cement plants and two milling plants throughout Germany, with the Schelklingen site in Baden-Württemberg being one of the largest. “We of course keep in close contact with each other,” says plant manager Michael Cypra. Heidelberg Materials has found a solution in PYROsmart that is now also being used at many European locations. Because of its broad applicability, it can be used flexibly and also tailored to the specific needs of the cement industry. ■

The Schelklingen site is home to one of Heidelberg Materials’ largest cement plants in Germany



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## LITHIUM-ION BATTERIES

# Fires on Yachts

Why Yacht Owners Are Adding Thermal Imaging Cameras to Minimise the Risk of Lithium-Ion Battery Fires



Many Superyachts have a toy garage where jet skis and other gadgets with lithium-ion batteries are stored

The notable increase in yacht fires in recent years cannot be ignored, with many industry commentators highlighting the risks surrounding the storage of lithium-ion battery-powered equipment on board. Of course, this raises awareness of the risks involved with the storage and charging of electric tenders and toys in the marine environment, especially for superyachts, where the number of large batteries is often greater.

In September, the Maltese Marine Safety Investigation (MSIU) reported the onboard fire of the MY Siempre while it was moored in Olbia, Italy. It could not be ruled out that lithium-ion batteries were either the cause of the fire or a factor contributing to its intensity and spread. The yacht boasted over ten different toys on board, with the fire breaking out on the open aft deck where the majority of the toys, such as Jet Skis etc., were stored.

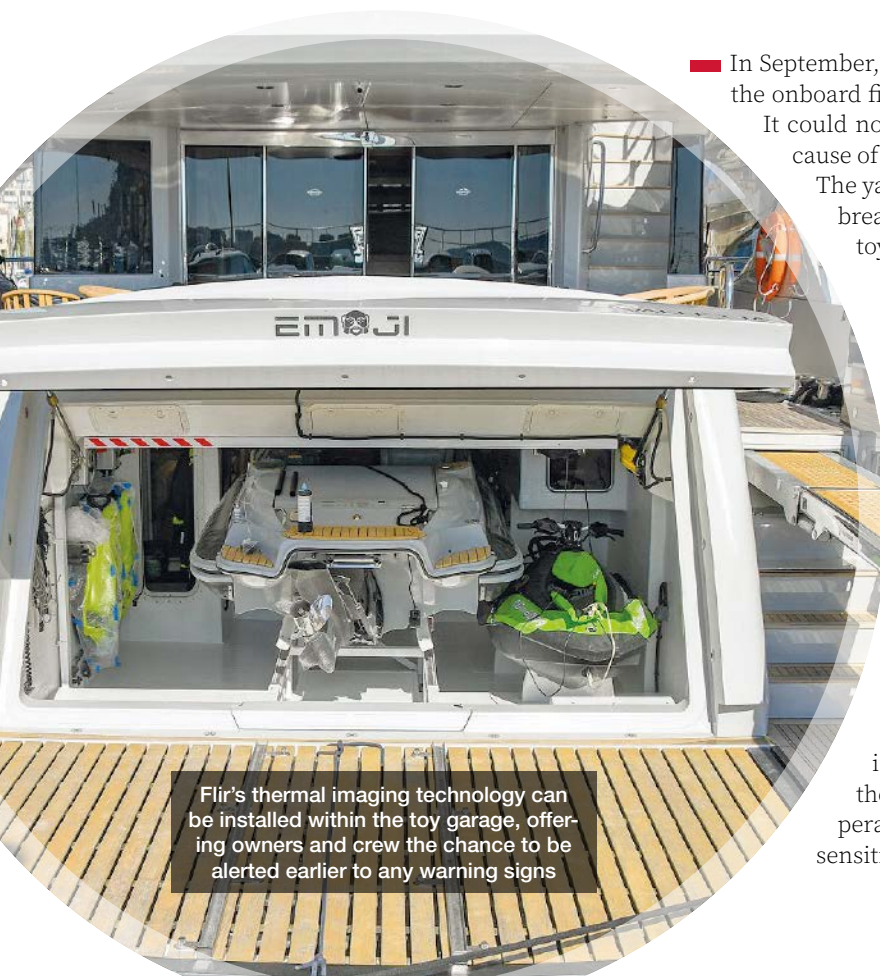
## What Can Yacht Owners Do to Minimise the Risks on Board?

Battery advancements have resulted in lithium-ion technology being more prevalent across many industries, not just marine, but what can yacht owners do to minimise the risks on board?

Due to these recent incidents, along with a number of other factors, we've seen an increase in yacht owners purchasing or showing interest in the Flir AX8 Thermal Monitoring Camera, which allows continuous monitoring of temperature conditions in a variety of facilities.

## Thermal Monitoring for Early Warning of Temperature Changes

One of the key benefits of this technology is that it can be installed within the toy garage, offering owners and crew the chance to be alerted earlier to any warning signs. Its temperature range is -10 to 150 degrees Celsius and has thermal sensitivity of just 100 mK, which means that temperature varia-



Flir's thermal imaging technology can be installed within the toy garage, offering owners and crew the chance to be alerted earlier to any warning signs

tions of as little as 0.1 degree Celsius can be shown on screen. It also boasts a field of 46°x37° which enables a larger area to be monitored at the same time if you have a plethora of toys stored in one place.

The difference a thermal imaging camera makes is time. You're not waiting for smoke to be detected, the change in temperature will sound the alarm long before that stage, giving valuable minutes to ensure the safety of those on board as well as the opportunity to extinguish the problem, and ultimately the potential of saving the yacht (although it should be said that lithium-ion battery fires are notoriously difficult to extinguish). Due to the challenging nature of the fires, any minutes that can be bought to ensure the safety of those on board is crucial.

#### Why Are Lithium-Ion Batteries More and More Popular?

Lithium-ion batteries offer a weight savings of around 70 percent and are proving ever more popular due to the higher storage capacity, longer lifetime and low main-



**Hans Groenenboom,**  
Sales Director EMEA  
Maritime Thermal  
Systems, Teledyne Flir

tenance. There is a definitive increase in demand for slimmer, more compact and powerful electronic gadgets and vehicles with higher ranges, which in turn results in a greater need for batteries with higher storage capacity.

Education is also an important factor. The crew of superyacht My Kanga which caught fire when anchored off Croatia was not aware of how dangerous lithium batteries can be. The safety investigation concluded that in all probability it was caused by the lithium batteries of an electric surfboard. That fire took less than 25 minutes to spread before being followed by several explosions.

Of course, thermal imaging cameras cannot solve the issue, but it goes a long way to mitigate the risk to ensure the safety of those on board. The technology and risk are unlikely to be improved in the very near future so it is important for yacht owners to consider as many preventative measures as possible, if the opportunity is there. ■



**AX8 Thermal Monitoring Camera from Flir**



Teledyne Flir  
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## LEAKAGE

# More Safety Through Fire Protection

## Charging and Storing Lithium-Ion Batteries Correctly – With the GS-Certified Lithium-Ion Safety Storage Cabinet Ion-Line Ultra

Lithium-ion batteries offer many advantages. They are long lasting, have a high energy density and are only slightly self-discharging. The batteries are therefore particularly practical for many devices in the industrial sector as well as in security technology. However, one thing should always be borne in mind: Lithium and many of its compounds are highly flammable and highly reactive. Certified and GS-tested type 90 safety cabinet models enable the highest safety requirements to be met when storing and charging lithium-ion batteries.

■ Lithium-ion batteries are indispensable today and enable a wide variety of applications. When handled properly, they are also safe to use. However, technical defects or improper handling of the battery types harbour an increased risk of fire due to their high energy density. The risk increases as soon as the batteries are charged unsupervised, for example outside working hours. The VdS 3103 leaflet from the German insurers (GDV e. V.) on loss prevention provides information on the safe storage of lithium-ion batteries. It becomes clear: Batteries should always be treated as hazardous substances. It is therefore important to know and comply with the safety rules for the batteries used and to charge and store them in a safety cabinet.

The GS test standard EK5/AK4 22-01 was developed to take account of the potential hazards. This clearly and independently defines a test standard for safety storage cabinets for the active and passive storage of lithium-ion batteries.

### What Does GS mean?

The GS certification stands for "Geprüfte Sicherheit" (tested safety) and is a German seal of approval for the safety and quality of a product. The GS certification for lithium cabinets defines the current state of the art by prescribing specialised tests for lithium cabinets in addition to the German Product Safety Act (ProdSG). The German Product Safety Act, in turn, is the implementation of the European Regulation on

General Product Safety (EU 2023/988). The EU regulation contains clear and detailed requirements that must be implemented by all EU member states. Safety storage cabinets that have undergone a complete test and subsequent certification in accordance with this test principle are suitable for the storage and unattended charging of new and used batteries and are labelled with the GS seal. Just like the new Ion-Line Ultra safety cabinet from Asecos.

### Maximum Fire Protection

The Ion-Line Ultra guarantees double protection in the event of fire, as the GS test requires: 90 minutes of fire resistance from the outside in and from the inside out. While the 90-minute fire protection for the



Enlarged view of the fire suppression system in the new Ion-Line Ultra cabinet



The new Ion-Line Ultra cabinet with doors that open on both sides: the numerous earthed sockets for connecting chargers are clearly visible

storage of hazardous substances (such as flammable liquids or pressurised gas cylinders) has long been a matter of course, the high level of protection has now also become established for lithium-ion batteries. In order to determine the fire resistance of the Ion-Line Ultra cabinet, a fire test was carried out from the outside to the inside in accordance with DIN EN 14470-1:2004-07, albeit under significantly more stringent conditions.

The temperature increase inside the cabinet must not exceed 100 Kelvin after 90 minutes – in comparison: 180 Kelvin when testing safety storage cabinets for the storage of flammable liquids. This stricter test value takes into account both the possible ignition of plastic housings and the melting temperature of separators in the cell. If the heat reaches the inside of the cell, this can immediately trigger a thermal runaway.

Another new feature of the GS-certified cabinet is its smoke-tightness. The entire cabinet design has been realised in such a way that, in the event of a battery fire, the resulting flue gas can be specifically discharged from the cabinet. Even if the supply or exhaust air openings are automatically closed in the event of a fire, the enclosure enables a defined pressure reduction

and safe smoke extraction via a pressure relief flap in the head section. The design of the Ion-Line Ultra cabinet has been optimised for maximum safety and ergonomics. Batteries are easy to store and retrieve thanks to a 10-second door open hold and automatic door closure. Both cabinet doors can be opened simultaneously with a single door handle, and the permanent two-point locking system fulfils GS test requirements.

### The Ion-Line Safety Concept

Charging lithium-ion batteries generates heat, which increases the hazard potential of the batteries. For this reason, the GS test for lithium cabinets requires proof of heating. The proof of heating is an essential part of the GS test of the Ultra cabinet. The verification proves that the temperature inside the cabinet does not rise above 60°C even during the charging process. For this purpose, heat sources are distributed in the cabinet that simulate the heating of chargers and batteries during the charging process and the interior temperature curve is measured over 12 hours. The maximum permissible interior temperature of 60 °C was not exceeded at any time during the test. Sensors continuously monitor the tem-

perature of the exhaust air flow and the fan speed is adjusted as the temperature rises.

In addition to heat, the new Ion-Ultra cabinets also detect smoke and immediately signal the alarm required by GS test principles on the cabinet housing by means of an LED light with a flashing function and colour change. This allows the user to recognise the type of danger at an early stage without having to open the cabinet. Every Ion-Line Ultra is factory-fitted with a potential-free switching contact that sends warning messages to a control centre in the event of damage. The cabinet can be evacuated to the outside thanks to the accessible base. This minimises damage to property and personal injury. ■

**Author:**  
Dipl.-Ing. Sven Sievers  
Head of Product  
Management & Development,  
Asecos GmbH



**Asecos GmbH**  
www.asecos.com



## SPECIAL FOCUS

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# Fire Detection 2024

The Technology That Alerts Us to Impending Danger

Fire is a bad thing, so the earlier a developing fire can be detected, the better. Early warning can prevent severe damage, environmental pollution, and most importantly save lives. There are various ways of detecting a fire, some of which have been around for decades and others that are emerging as faster, more efficient, or more reliable. Although GIT SECURITY already reported on this subject quite recently, the latest developments deserve a mention here so that you are up-to-date on your options.

■ The short version of this article could read something like: “AI revolutionizes fire detection.” It is true but insufficient to know what exactly is changing. In fact, it means each fire detector learning about the environment in which it is working, establishing what is a ‘normal’ condition, and what is ‘abnormal’ and worthy of raising an alert. Once this phase has been completed, the chances of a false alarm are very low, and the likelihood of detecting a fire very early is increased.

Taking the use of AI a step further, algorithms can look back on historical data and find patterns and scenarios from previous fire situations that we humans would miss or not even be looking for. They can then process incoming data, looking for flames through their flickering light emission for example or analyzing the RGB content and changes of hue, and compare it to previous

situations and events. Convolutional neural networks now enable the analysis of conventional incoming video feeds to recognize smoke and flames. Such AI implementation can provide a ‘predictive’ warning when certain conditions and a combination of situations occur that have previously been followed by a fire, or at least smoke. Such an alert so early on is of course invaluable in protecting people and property because preventive measures can be taken to ensure there is no possibility of a big fire developing.

### What to Do?

If it has been established that there really is very likely a fire developing, where should this



© Desu Systems

**Spectrex SharpEye by Desu Systems has the most commonly used and sold technologies, which are triple infrared (IR3) and a combination of an ultraviolet and infrared sensor (UV/IR)**



information be sent? Fire detectors, whatever technology they use, are individual reporting devices that can be viewed simply as Internet of Things elements, so their alert can lead to a number of consequences, and the choice of what happens when an alarm is raised is large. Of course, in all commercial buildings and many private ones too the main fire alarm panel will receive the report and initiate bells, sirens, public announcements, flashing lights etc. Beyond that, integration with HVAC systems and the building's security systems is very beneficial to ensure effective smoke extraction and that all escape routes are unlocked. Safety and security personnel can be immediately alerted on their current device (PC, tablet, mobile phone, etc.) wherever they are, and external resources activated where necessary.

### New Detector Technology

As long ago as 2017, the decomposition of graphene oxide coated optical fiber was found to be a surefire method – sorry for the pun – of detecting a conflagration over long distances. The coating of the fiber is altered when exposed to fire and affects the optical qualities of the fiber within, with the Rayleigh or Raman scattering effect providing the information. The location of a fire along a fiber up to several kilometers long can then be quite accurately determined, which is extremely useful for perimeters close to bushland or routes along pipelines or through tunnels, for example.

An idea has also been published to create fire-detecting wallpaper ... yes, you read that correctly ... that is based on combining ultralong hydroxyapatite nanowires (HNs) and graphene oxide (GO) thermosensitive sensors. The graphene oxide is normally non-conductive, but rapidly becomes conductive when exposed to temperatures over around 125°C. The fabrication into a wall covering results in apparently normal wallpaper that can be processed into various shapes, dyed with different colours, and printed with commercial printers. Research is ongoing to improve the temperature sensitivity of graphene oxide-based fire alarms using graphene oxide precursors with thermally labile oxygenated groups – ask a qualified chemist what that all means. Promising experiments are also underway to produce smoke detectors using reduced graphene oxide (rGO) coated on etched fiber Bragg grating (eFBG)-based sensors. Commercially available products using these techniques can be expected within just a year or two.

### Multicolor

Infrared fire detectors have been around for a long time but have only found lim-

ited application so far due to certain disadvantages, such as their susceptibility to activation by reflections from non-fire sources. Their big advantage is that they are sensitive to alcohol and hydrogen fires that burn with a different spectra to other substances. Desu Systems will be happy to advise you on some suitable candidates for installation. The advent of AI has led to renewed interest in this method of fire detection because it can now reliably learn to distinguish between 'real' and 'false' indicators. So expect some new product announcements in this area in the not-so-distant future.

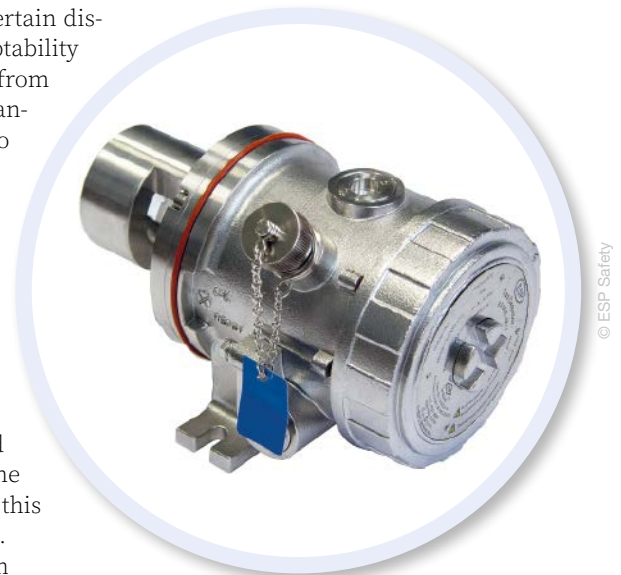
Ultraviolet detectors depend on 'seeing' the UV light emitted by a fire. This is not inconsiderable in certain types of fire that emit a significantly different light spectrum. Hydrocarbon-based fuel and gas fires, invisible hydrogen flames, and fires from hydrides, ammonia, silane and other organics are examples of these. If you have such potential sources of fire on your site, then a call to Ornicom, who offer a complete palette of fire and gas detection products, should bring you peace of mind. In North America, Det-Tronics will have the answer to questions of fire/flame/smoke detection.

Combining UV and IR detection builds a sensor that responds fast to flames but has a low false alarm rate, an example of which can be found in the FL500 ultraviolet/infrared flame detector from MSA. The X5200 from Esser Systems does a similar job and can be installed in 'Ex' explosive environments both inside and outside. Stateside you can find a range of products intended specifically for the detection of hydrogen flames or other hydrocarbon-based fuels available from ESP Safety.

### The Big View

Microwave radiometer fire sensing is a technique that is already in widespread use, but is almost exclusively found on satellites, aircraft and drones to scan swathes of land. Analysis of aerial-generated infrared images can quickly locate hotspots, while the multispectral image can identify areas at risk of fire through their species composition, a forest's density and structure, and the level of fuel such as dead brushwood. While this technique is not applicable to buildings, it can certainly be used to protect large expanses of unpopulated land and Elistar Geometrics can advise you on this.

Flame and smoke detection can nowadays be reliably achieved by using a convolutional neural network that analyses surveillance images. 'You Only Look



**The SGOES Gas Detector by ESP Safety measures the concentration of hydrocarbon gases present in a monitored environment**

Once' might have been the title of an as yet unreleased James Bond movie, but its abbreviation YOLO is increasingly being seen in relation to real-time object detection algorithms, so future video-based fire detection products may well include this term on their customer-convincing specification sheet.

And so we have come the full circle back to AI-supported fire detection, an area of competence that is enthusiastically being developed to market readiness as you read this article. The parallel-thinking inventors of this world are combining new methods of fire detection with software and intelligent analysis that can only improve the response times to an emerging outbreak of fire. But – and here's the catch – it all has to be installed properly, correctly adjusted, and regularly maintained to keep the protection level high. So although a certain Mr Musk said that "There will come a point where no job is needed," AI will in fact spawn a whole new generation of highly trained engineers to actually make it all work. And that's a good thing! ■

### Suppliers

**Desu Systems** | <https://desusystems.com>

**Det-Tronics** | [www.det-tronics.com](http://www.det-tronics.com)

**Elistar Geometrics** | [www.elistargeomatics.com](http://www.elistargeomatics.com)

**ESP Safety** | <https://espsafetyinc.com>

**Esser Systems** | [www.esser-systems.com](http://www.esser-systems.com)

**MSA** | [www.msasafety.com](http://www.msasafety.com)

**Ornicom** | [www.ornicom.com](http://www.ornicom.com)



Assa Abloy Cam-Motion devices ensure that a fire door closes tightly

## FIRE DOORS

# An Airtight Argument

## Choosing Door Closers is a Critical Element of Fire Safety

Every now and then, news reminds us of the devastation that a large building fire can cause. One consequence is that fire doors now receive the attention and regulation that they deserve, both nationally and internationally. Just as important, however, is that a fire door must be properly closed to be effective. Assa Abloy has a complete range of door closing solutions to meet the needs and regulations of almost every type of door in every building.

■ The decision makers' choice of door closer technology will make the difference for both new-builds and retrofit projects. "Historically, door hardware was overlooked in building fire safety," says Andreas Gmelin, Product Management and Business Development Director Door Closers at Assa Abloy Opening Solutions EMEA. "But over the last few years, its vital importance has been recognized. Doors are critical to providing fire protection and compartmentation." However, he warns: "Like any door security technology, fire protection will only work if the door is fully closed, preventing the spread of fire and smoke. Relying on building occupants to do this 100% of the time is, alas, not realistic."

### Door Closers and Fire Safety: The ROI

A certified and properly installed door closer will build a fire barrier to aid escape and slow a blaze's progress. After analysing one recent tragedy in New York, city officials said properly closed doors would have resulted in a lower death toll. Every element on a fire door – not just the leaf – must be tested to industry standards and certified. This includes door and architectural furniture, among which are the highly important door closing devices. "Companies that supply life-critical building equipment must be confident in its reliability and performance in real-world situations," adds Andreas Gmelin. "Most architects and building spec-

ifiers now request product datasheets with primary fire test data from an accredited third-party testing house."

The broad portfolio of Assa Abloy door closing solutions is fully tested and certified to meet the needs and regulations of all kinds of door for every building, whether new or renovated. "There is an effective, efficient Assa Abloy door closer available for almost any opening, of any door size or type," adds Andreas Gmelin. Besides full test coverage, the correct installation is also critical, as Fire Safety Week highlights: "Fire doors are not ordinary doors. They are a carefully engineered fire safety device and must be fitted correctly." All Assa Abloy product labels include QR codes which link

directly to installation walk-through videos to support the installers.

### Cam-Motion vs. Rack-and-Pinion Guiderail Technology

Cam-Motion door closers provide an ergonomic opening experience for everyone who passes through the door. The push force required falls rapidly on opening. The door can be configured to shut reliably each time because Assa Abloy Cam-Motion devices' closing force and latch speeds are independently adjustable. Thermo-resistant valves with metal heads, rather than plastic, ensure that adjustments are dependable: once door speeds are set, they stay set. Even with wind pressure, draughts, stack pressure or air suction, the doors shut tight.

In contrast, rack-and-pinion door closers are more common and cost-effective, but tend not to operate as efficiently for fire doors, according to the UK's Fire Protection Association. All Assa Abloy Cam-Motion devices are tested to the European EN 1154 standard for fire and smoke protection. The door closers' symmetric cam is designed to fit to either the frame or the door, and on the hinge or the non-hinge side, whatever suits the opening best, with no compromises or workarounds needed by the installer.

### Unhindered Access

Of course, these doors must be operable by everyone. The door closers also exceed the recommendations of CEN/TR 15894,

which gives architects, building managers and users confidence that a building design will keep occupants safer, and that the interior is reliable and user-friendly, with special attention paid to children, the elderly and the disabled. "The degree of so-called 'passive fire protection' given by a fire door is greatly enhanced by the intelligent technology inside an Assa Abloy door closer," says Andreas Gmelin. ■



Assa Abloy Opening Solutions EMEIA  
www.assaabloy.com

### Fire Detection by Cable

Patol showed its range of Firesense Linear Heat Detection Cables (LHDC), along with the Infrared Transit Heat and Flame Sensors at Intersec 2024 in Dubai. Available in both analog (resettable) and digital (non-resettable) options, the cables are available in temperature ratings from 70°C to 240°C and cut to length. While the solution can be employed in many varied applications, it is particularly suited to harsh environmental conditions, where there is a physical or hazardous maintenance access constraint to protect the area, or where installation of the detection is required close to the risk. The IR temperature sensors monitor and detect hot spots and embers from materials such as coal, biomass or recycled waste (which have the potential to self-ignite) as they are transported on conveyors. This enables prompt intervention to prevent potentially serious fires and substantial consequential losses.

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

### Fire Alarms and Emergency Lighting

Hochiki attended Intersec in Dubai and demonstrated products such as its intelligent self-contained LED luminaires and exit signage. These are connected via screened, extra-low voltage (40V) cabling. Integral batteries with a 10-year lifespan make installation and maintenance of the FIREscape Nepto system quick, easy and appealing to installation teams. The whole system is networkable, fully self-monitoring and self-testing with a central point of control. The Hochiki regional team, who are based in Dubai, UAE, also demonstrated their range of sophisticated fire detection systems, Latitude. The platform is favoured worldwide due to its powerful networking capabilities, its modular hardware that is configurable for multiple applications, and its impressive cause and effects programming capabilities. The system has been designed to be simple to configure and easy to use by anyone, utilizing touchscreen technology with a graphical user interface to help display vital information. It is UL, FM and EN approved and recently achieved BOSEC approval, adding to its existing EN 54 Part 13 approval and recent acquisition of Denmark's prestigious DBI certification. [www.hochikieurope.com](http://www.hochikieurope.com)

### New Fire Manager App part of Siemens Building X Expansion

Siemens Smart Infrastructure is launching a new version of 'Fire Manager', its dedicated web-based SaaS (Software as a Service) fire app that offers service providers and fire safety managers the capability to have all fire safety sites in one view. The status of buildings can be easily monitored, with more information available by clicking on a site of interest via a fully encrypted connection that ensures the safety of the data.

The move is part of the ongoing development of Siemens Building X, a digital building platform that supports customers in digitalising, managing, and optimising their building operations (Energy, HVAC, Security and Safety). It enables remote monitoring and intervention, real-time notification, and efficient and predictive maintenance.

Fire Manager offers a range of benefits, including a status overview of a site/sites, both live and historical events, customisable notification via SMS and/or email, and data that assists with maintenance and planning. Included in the data that Fire Manager provides from a fire safety system is the potential for disturbance free testing (DFT), which allows detectors to be tested automatically, with the results recorded in the portal.

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



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## SECURITY SYSTEMS

# A Connected Store

Unified Physical Security Can Help Retailers Thrive in a Changing Environment

Retail has changed dramatically in a very short time. Digital transformation is delivering new business models around frictionless, multi-channel shopping and e-commerce and, alongside it, new security challenges. Video surveillance must keep up with these developments, but without software that unifies all the security aspects, it is impossible to get on top of the data.

■ Video surveillance technologies have also advanced with digitisation, creating new opportunities for retailers to use data gathered by video management systems (VMS) in combination with data from access control systems (ACS), automatic licence plate readers (ALPR), identity management systems, and more. Not only can they reduce shrink, but they can also improve operational efficiency and the shopper experience. Yet without a fully unified software solution, it's hard to see how all these puzzle pieces fit together and make sense of the data.

When retailers can bring data from many different sources into one place, they get a complete picture of what's happening in their environment. A unified, physical security platform that enables the integration of devices creates a connected store, which centralises management of the entire environment for better visibility, operations, and data intelligence.

## How Retail Activities Benefit from Unification

### 1. Frictionless Shopping

The arrival of frictionless shopping solutions, such as curbside pickup and self-checkouts, has introduced new challenges for retail security teams. To combat them, unified security platforms offer a range of ways to keep up. Asset protection managers can easily review the video of self-checkout systems if theft is suspected and share it with law enforcement as needed. IT teams can spend less time updating software and focus their time on higher-priority tasks. And, of course, corporate security managers can work more effectively and efficiently with a full view of the connected store.

### 2. E-Commerce and Logistics

E-commerce has introduced new security concerns, as well as the need for inventory management logistics at distribution cen-

tres. Many people are involved in coordinating tasks to deliver each package and different individuals move through distribution centres who aren't regular employees. ALPR technologies can play a key role in tracking who comes in and out of distribution centres and in retail locations, can record who has received products from a curbside pickup station. It can also help identify ORC suspects by checking to see if a vehicle is on record as having been involved in previous thefts.

### 3. Shrink

Shrink encompasses many types of loss, but it is primarily driven by external theft, including organised retail crime (ORC). The National Retail Security Survey shows that total shrink in 2022 reported by retailers is now almost a \$100 billion problem. Beyond the loss of goods, in some cases retailers are having to deal with violent altercations with criminals. Retailers are implementing

◀ **Advanced video management systems enable the secure sharing of video with law enforcement or other stakeholders absent of any personally identifiable information of bystanders captured on camera**

a variety of technologies to combat ORC, from artificial intelligence-based video analytics at point of sale (POS)/self-checkout to self-service locking cases, autonomous security robots and ALPR, and are also establishing dedicated ORC teams.

#### 4. Cybersecurity

Today, retailers face escalating risks from cyber threats including fraud, malware, ransomware, and data breaches. Any device connected to a retailer's network – whether it's a smart IoT thermostat, an access control sensor, or a computer – has the potential to be a gateway for cyber criminals to access private data stored on servers connected to that network. Because today's technology is so interconnected, data must be secured and monitored at every step.

When different solutions that were not designed to work together are put into place, it can quickly become difficult for teams to manage, upkeep, and scale. A unified security platform built with cybersecurity in mind enables retailers to secure their overall IT infrastructure and help mitigate risks of network penetration through one of their security devices.

#### As Video Surveillance Advances, Retailers Lean In

Retail use of video analytics is on the rise. These technologies are defined by the ECR Retail Loss Group as 'systems that use the capacity of computers to automatically

interpret digital images to generate clearly defined and actionable outcomes.'

In this use case, VMS systems can be set up to automatically trigger a request for a floor manager to open a new checkout line when a certain number of people are in the queue. Or, if the system detects a crowd forming at the self-checkout, it can notify specific staff members to see if customers need help.

Adding more cameras addresses some of the challenges of frictionless shopping. But it introduces new ones. When cameras are recording during store hours, retailers can collect hundreds of hours of video per store, every week. Simply storing that footage isn't enough – retailers also need tools to make sense of it. A unified system allows retailers to manage data from all cameras alongside that from access control and ALPR systems, sensors, and maps, within one intuitive dashboard. Cross-referencing video footage with other analytics can reveal powerful insights.

Using these tools can deliver insights into the customer's journey through the store and at checkout and improve their shopping experience, but keeping customers' trust means protecting their privacy. It's important to collect and store only the data required to improve security and customer experience and be transparent about what information and video footage is being collected and why. Advanced video management systems enable the secure sharing of video with law enforcement or other stakeholders absent of any personally identifiable information of bystanders captured on camera. And they authenticate and watermark video footage to ensure an unbroken chain of custody.

#### A Connected Store for the Omnichannel World

When physical security systems are siloed, it's more difficult to get the full value of the data each collects. By leveraging a unified, connected store, retailers can combine and display data from all of their security systems in different formats such as customized dashboards, mobile apps, or a web client. When data is all in one place, new insights reveal themselves. Modern physical security systems enable retailers to customise dashboards that display data most relevant to particular users. Every department, from asset protection to marketing, will have different takes on data and bring a range of solutions to the table. This is where interdepartmental collaboration can be key to developing new strategies. A unified security platform can help retailers tap into the full potential of devices and equipment they already own, using data in new ways to streamline operations and gain insights. They can do more with less, delivering an optimal customer experience without sacrificing security or hitting the bottom line hard.

It all starts with a unification – a connected store for the omnichannel world. ■

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**Genetec Europe**  
www.genetec.com



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# 5x3

Special Focus

## Retail

1. What challenges are specific for retail security projects and what benefits can a user derive from a good system?
2. How do you handle the conflict between privacy protection in public areas and security needs of retail stores using your technology?
3. Please describe a success case where your products and solutions are used for a retail project.



**Johannes Faber**

Regional Sales Manager  
DACH at Optex

[www.optex-europe.com](http://www.optex-europe.com)

1. Each retail store has its own individual requirements and challenges that need to be carefully considered. A multi-layered approach to security is recommended. Perimeter protection is especially important for larger sites or out-of-town shopping malls, with remote monitoring to detect and prevent vandalism and theft. Protecting the building and store façade is critical to detect any potential break-ins through windows, ceilings, and doors. In-store security is equally crucial; integrated detection sensors, cameras, and surveillance systems can help to detect and prevent shoplifting as well as protect staff and customers from physical harm. Whatever the system specified, the principal benefit is the protection of people, assets and ultimately your bottom line.

2. Our portfolio of highly accurate and reliable sensing solutions is specifically designed to detect motion and does not collect or store any sensitive or personal data. Thanks to intelligent detection algorithms and logic, our sensors can distinguish between genuine intrusions and

nuisance false alarms, with customizable detection zones, to suit the needs of different retail settings. The sensors can be seamlessly integrated with wider retail security systems, such as CCTV or surveillance systems that can be used to help identify intruders.

3. Our sensors have been deployed at thousands of retail sites across Europe. One such example is a leading electronics business, with over 1,000 locations across Europe. At one of their city centre stores they needed to protect a narrow passage between the front window and roller shutters. As the passage was too narrow to be covered by surveillance cameras, and as cameras would not comply with privacy regulations, LiDAR provided the ideal solution. Our RLS-2020I sensor was installed inside the store on the ceiling, creating a virtual wall that accurately detects anyone attempting to access the store. Thanks to the sensor's reliability and flexibility, they have since been rolled out across multiple locations for the business.



**Ross Wilks**

Global Head of Marketing  
Communications at  
Acre Security

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

1. Retailers face evolving challenges including escalating crime, manpower constraints, rising thefts, and staff safety concerns. To combat these issues, access control systems are increasingly crucial. These systems not only deter criminal activities but also enhance the safety of both staff and customers, while improving operational efficiency. The integration of advanced technologies, such as touchless access control, AI, and biometrics, elevates the customer experience but also streamlines store operations. In a rapidly changing retail landscape, robust security solutions are vital in preventing losses and maintaining a secure, efficient shopping environment.

2. In retail, balancing customer privacy with security is vital. Access control systems are key, limiting data access to essential staff and securing sensitive areas like stockrooms and cash zones to prevent theft. Retailers should gather only crucial data, being transparent with customers about its use. Strong cybersecurity and data storage is also critical to protect customer information. Regularly

updating security and privacy policies is also essential to ensure a safe shopping environment while respecting privacy, effectively guarding both physical and digital assets in retail settings.

3. ICA Sweden, a leading grocery retailer, faced the challenge of extending opening hours to cater to its customer base during early mornings and evenings. To avoid the costs of hiring new staff for these shifts, they adopted a staffless operating model. To ensure safety and satisfy insurance requirements, they implemented Acre security's ACT365 cloud-based access control and video management system. This system integrates with Mobile BankID for electronic identification, allowing customers to use phones for entry, and includes a card reader for added convenience. The system's deployment across ICA Sweden's network has enabled extended opening hours at local stores, enhancing customer experience while ensuring security and maximizing profits.

1. Retailers are facing multiple challenges today – the use of self-service checkouts leading to increased loss and shrinkage and increased threat of attacks and violence on colleagues being prevalent in the current economy. To exacerbate these issues, security systems are often a mismatch of disparate legacy packages that limit the ability to react quickly and let colleagues make swift decisions on incidents. This delay in decision-making puts the safety of people in the venue at risk. Adopting a truly 'unified' approach, where the multiple elements of video, access control, intrusion detection and alarm management are presented in a single, connected, software interface, empowers teams to make critical decisions quickly and easily with a response that can also be guided by standard operating procedures that deliver a pre-planned, collaborative, and safest course of action.

2. Customers need to be informed with signage at the venue. Facial recognition, for example, needs to be backed

up by explanations on how metadata is stored, encrypted, and processed. The same goes for CCTV footage that must be stored in case of an investigation. In the case that a person makes a 'subject access request' where the venue is obligated to hand over footage of the person, Genetec Clearance, a digital evidence management system that simplifies sharing footage using the Cloud, is essential for a quick resolution. Clearance will also anonymise faces in shared footage and on public display monitors in the control room to protect bystander's privacy.

3. A great example is Unibail-Rodamco-Westfield, the owner of two of Europe's largest shopping centres. What's really impressive is how they've incorporated Genetec Security Center into a five-year plan that enables them to keep innovating and driving further efficiencies year-on-year. What started out as a plan to enhance security has since grown to incorporate improvements to operations, decision-making and even processes for compliance.



**Steve Green**

Business Development  
Manager at Genetec

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

1. Retail security is being challenged to shift from reactive security to proactive prevention strategies. When combatting shrinkage, for instance, retailers need not only to pinpoint suspects with ease, but also to mitigate future incidents by uncovering insight regarding how and when people are gaining access to restricted or high value areas. Retailers seeking to derive the most value from their video surveillance investments need a comprehensive platform or integrated solutions that support traditional security needs while providing data-driven business intelligence that can flexibly scale with company growth across multiple sites.

2. When integrating any technology, users must ensure their planned implementation complies with relevant local regulations, ethical values, and their company's best practices. A key tenet of responsible use of surveillance technology is transparently communicating to customers when and where they are in use. To support our end users, Briefcam includes tools within its software to

support customers' compliance practice, enabling control of data management settings, empowering customizable data protection, and supporting licensing options that include or exclude face recognition so users can balance on-site security needs with the critical right of personal privacy protection.

3. Malls across the region successfully power their data-driven strategy with Briefcam video analytics and -business intelligence capabilities. For instance, when planning a major retail event, mall management analyzes aggregated footfall and path visualizations to determine which brands were critical to an event's success, helping management prioritize inclusion and placement for future events. A similar strategy is used for lease negotiations. Because the mall can provide specific footfall and demographic data for locations throughout the property, management is not only empowered to direct successful placement but can also give retailers confidence in opening a new location based on concrete data.



**Muhammad Sheikh**

Regional Sales Director,  
Middle East at Briefcam

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

1. Retailers have always relied on video to enforce loss prevention strategies. Now, however, they are increasingly calling on AI-enabled video for uses beyond security, including leveraging the technology to optimise store layouts, support display decisions and manage queues.

2. The need to balance protection for stores and the privacy of consumers is important and can be achieved using technology. De-identifying people captured on video, for example, is easily achieved using masking technology that

redacts faces from video sequences. This also helps retailers comply with GDPR.

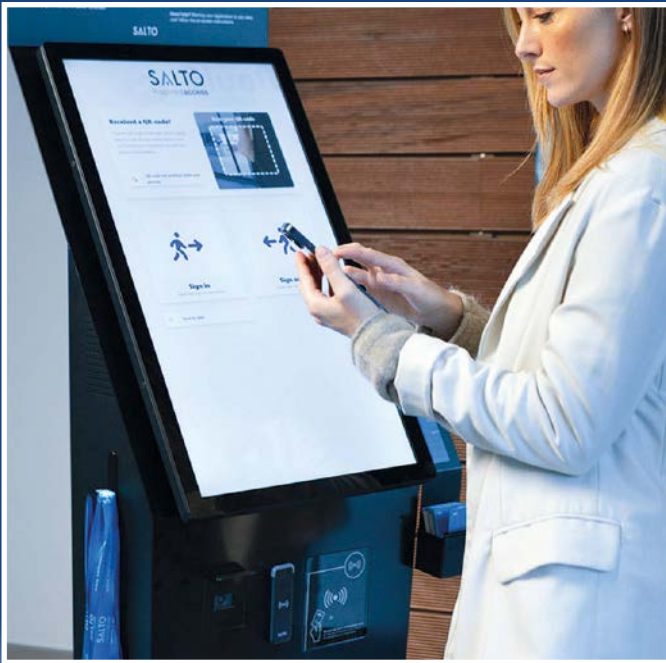
3. Hanwha Vision video cameras are used across a network of global fast-food restaurants to understand how long orders are taking to place and complete. With these valuable insights, managers can improve processes, enhance the customer experience, and boost revenues by serving more customers with greater efficiency.



**Pread Um (Suk Bong)**

Product and Marketing  
Director at Hanwha  
Vision Europe

[www.hanwhavision.eu](http://www.hanwhavision.eu)



Visitors can conveniently check-in at smart, contactless self-service kiosks by simply providing their identifying information

## ACCESS CONTROL

# A Smooth Process

## Salto Systems Introduces All-in-One BlueEntrance Space Solution for Seamless Visitor ID Management

Salto Systems launches its latest innovation, BlueEntrance Space, a seamless, high-tech Visitor ID Management solution designed to automate operations and digitalise the visitor lobby experience.

BlueEntrance Space combines visitor identification and access control in a single platform, providing a host of features that enhance security and streamline the visitor journey. This advanced software solution offers digital pre-registration, contactless check-in and check-out capabilities, real-time reporting, and a secure smart keyless experience – setting new benchmarks for smart building management and security.

### Benefits for Building Operators: Smooth Visitor Identification Process

By adopting BlueEntrance Space, building operators can unlock a multitude of benefits. Salto's robust solution delivers a smooth visitor identification process alongside digital and contactless access control. This ensures that only pre-registered guests receive unique access codes via e-mail. Visitors can conveniently check-in at smart, contactless self-service kiosks by simply

providing their identifying information. For pre-approved and regular guests, BlueEntrance Space offers the flexibility to access buildings using RFID SVN smart credential technology or mobile QR codes. All entry forms supply building managers with the capability to pre-register occupants, track visitors, and manage access permissions on a case-by-case basis. These entry methods, coupled with built-in cameras, key encoders, and SVN wireless stand-alone smart locks, guarantee top-notch security and protection against tampering.

### Application for Commercial and Corporate Applications

BlueEntrance Space's centralised visitor registration and ID management approach enhances security, streamlines operations, and provides valuable data and insights for effective decision-making in any building. Not only is BlueEntrance feasible for com-

mercial or corporate applications, it also has massive potential in a wide range of industries – including healthcare, education, hospitality, and more.

As companies worldwide continue to make the transition to high-tech smart buildings, BlueEntrance Space stands out as an advanced, all-in-one, keyless alternative to traditional visitor registration, ID management, and access control systems.

Salto Systems is looking forward to the implementation of BlueEntrance Space in buildings across various industries, fulfilling our mission to deliver best-in-class software solutions to our clients worldwide continuously. ■







The RSM user interface. RSM minimizes on-site visits for service technicians

## VIDEO SECURITY

# The Best of Both Worlds

## New Remote Service from Bosch Building Technologies Increases Security for Video Systems

It's a given for any smartphone user: When the device manufacturer announces that a software update is ready for installation, it's done primarily to maintain the smartphone's IT security and system stability. For operators of critical technology such as video security systems, regular updating of their systems should be even more of a given but has often been hindered by the lack of external connectivity, which is perceived as insecure. Now there is a solution that makes shielded video management systems more reliable and secure.

■ Bosch Building Technologies' System Integrators often find in their daily interactions with customers that shielded video security systems, which cannot be externally updated, sometimes run outdated software or firmware, have system components nearing the end of their planned lifecycle, or are partially shut down – all often unbeknownst to the users.

To address this and improve the security of video systems, Bosch Building Technologies has added a new service module to its portfolio: Remote System Management (RSM). As the name suggests, the main benefit is that video management software and devices from Bosch's DIVAR IP range can be maintained remotely. In addition to remote diagnostics, RSM proactively notifies users of system updates and performance devi-

ations. For System Integrators who install and maintain video security systems on behalf of Operators, this eliminates many unnecessary trips to the customer's premises – a significant efficiency gain in times of skilled labor shortages. Potential repairs can also be planned more efficiently, as fault diagnosis can be carried out in advance, allowing the service engineer to have the necessary replacement part on hand when they visit the customer. From a sustainability perspective, fewer customer visits are a positive factor, as company car fleets are among the largest CO<sub>2</sub> emitters in many organizations.

### Highly Sensitive Area of Video Data

Users of video security and management systems typically host their data on their

## Benefits of Remote Service Management at a Glance

- Increased security
- Easy to install and maintain
- Around-the-clock monitoring of system status
- Real-time error notification
- Fewer on-site visits
- CO<sub>2</sub> savings from reduced travel

own servers, securely shielded from the outside world. Bosch Building Technologies' use of RSM does not change this. Video data remains securely locked away because RSM uses an IT standard protocol that does not even support the transmission of image data. Only parameters from the internal video management system are transmitted to check the status of the system. In critical situations, RSM automatically generates a notification for the system administrator. In addition, as in the first example, RSM provides information about available software or firmware updates.

For this set of functions RSM requires only two outgoing connections from the gateway (DIVAR IP). One connection is used for monitoring system status, the other for system updates. The easy-to-configure communication links to RSM are installed by the system integrator, who does not need to open any ports.

### System Status Always in View

Just as the operator of a video security system wants to know what is happening in the field of view of their cameras 24/7, RSM keeps a secure eye on their video management system. It evaluates the status data of the cameras and the gateway, such as hardware monitoring of the hard disk, fan, power supply and housing, as well as the software services running on the device. Errors are detected in real time and can be corrected by the system integrator as quickly as possible. This not only provides a significant increase in security by keeping the video system operating at optimal levels, but also allows for cost savings by updating systems early rather than waiting for failures to occur.

This new solution is offered worldwide and opens up opportunities for regular service business models, especially in regions where maintenance contracts have not yet been established. After all, no customer wants to skimp on security. ■



## ACCESS CONTROL

# New Ways to Deploy Access Control

## How Does a Better Power and Access Integration Help Users?

The demand for more efficient and cost-effective ways to deploy access control is being driven by many factors in today's market as organizations look to ensure the security and health safety of personnel, mitigate risks and liabilities, and improve various workforce management applications. Yet at the same time, security professionals are being asked to do more with less.

Fortunately, new power and access integration and deployment solutions are proving effective in lowering overall costs while increasing system capacity and reducing the physical space required for installation.

### Benefits of a Better Power and Access Integration

New power and access integration solutions like Trove from Altronix easily combine controllers from the industry's leading access manufacturers with power and accessories.

#### 1. Alleviating Problems with Board Layout and Wire Management

This alleviates much of the longstanding problems associated with board layout and wire management. The simple yet pragmatic design of these new pre-configured or customizable power and access integration solutions makes an otherwise arduous task faster, easier and extremely cost-efficient – all of which are tangible benefits for both end-users and installers.

#### 2. Simplification of Design and Installation

One major benefit is the simplification of design and installation. Configuring these

integration solutions into a single enclosure is relatively fast and easy. Online configurator tools make the design process even easier, if not all but foolproof. Plus, the ability to test systems prior to deployment greatly reduces installation time and overall costs.

#### 3. Space Savings

An additional benefit provided by new power and access integration solutions is space savings. In the past, multiple enclosures were typically installed to house access control equipment, power supplies and accessories. This scenario requires a significant amount of valuable wall space, versus an all-in-one access and power solution that provides ample room for all the required access and power products and backup batteries.

#### 4. Enhanced Troubleshooting

Enhanced system troubleshooting is another significant benefit. Power solutions that report diagnostics can help determine the cause of a system failure. This information can reduce system downtime, eliminate service calls, and provide faster response times to help keep security systems up and running. Advanced power and transmission solutions with network

communications can also provide early detection of potentially failing devices, permitting service providers to take proactive measures to avoid system interruption.

The combination of faster design, installation and system troubleshooting and servicing translates into greater ROI for integrators, as installation labor costs and off-site service visits can be significantly reduced.

### The Power of 802.3bt PoE

The migration to more IT-centric physical security and access control applications requires that these systems work off the facility's existing IP infrastructure. With Power over Ethernet (PoE) powering most network appliances, many access control panels now have the option to be PoE powered as well. They are using either a mid-span PoE power injector or a PoE switch to provide reliable power. The infrastructure's uninterruptible power supply (UPS) is supplying backup power to the controllers.

Power to ancillary devices, such as card readers, fail-secure electric strikes, electrified lever sets and motion request to exit (REX) devices, can also be supplied by access control panels via PoE. Since these controllers are being powered by PoE, the



Users can easily combine Altronix power and accessories with the leading access brands

amount of amperage is limited. Average PoE controllers provide two voltage limits for lock output power and the total power output. But in many instances, the total power output for all ancillary components, including the lock power, can exceed the controllers total available power output. In that case, all components connected along the network's PoE controller must be pre-screened to determine the amperage draw so the total amperage for all components is less than the total output limits of the controller.

High-voltage installs can be costly and cumbersome for systems integrators. High-voltage wiring must be separate from low voltage inside an enclosure, which takes up space. The install can be further complicated because high-voltage wiring cannot be in the same pathways/wire runs with low-voltage wiring and require a certified electrician since standard power supplies are usually powered by hardwired, high-voltage ports that take an 115 V AC/220 V AC power input that reduces the output to a 12 V DC or 24 V DC.

### More Capacity in Less Space

New availability of newly designed access power controllers and power distribution sub-assemblies further increases access control system capacity when using access and power integration solutions like Trove, and any other wall or rack mount solutions – reducing overall equipment and installation costs. They do so by providing up to twice the outputs and features in a space-saving stackable mounting footprint. More outputs in less space also means more room for controllers inside an enclosure. This allows installers to easily configure and scale new and existing systems.

These new access control devices benefit both integrators and end-users by reducing overall installation costs and expanding access system capacities in smaller footprints... all of which results in better overall security while doing more for less. ■

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**Altronix Corp.**  
www.altronix.com

Images: © Altronix

## INTRUSION DETECTION

### Redscan Mini-Pro

# Highly Accurate and Adaptable Short-Range Detection

■ Optex's next generation of LiDAR detectors, the Redscan mini-Pro series, takes security technology a step further to provide highly accurate intrusion detection and visual verification for a wide range of indoor and outdoor applications.

With time-of-flight 2D LiDAR technology, it enables ultra-fast and accurate detection of an object's location, size and distance to a range of 20 m x 20 m. The integrated FHD IR camera allows real-time verification of what triggered the alarm, as well as recording and storing events for later analysis.

The sensors can be mounted horizontally to create laser planes to protect roofs or ceilings or vertically to cre-

ate virtual walls to protect high-value assets or facades. The detection area can be divided into eight independent zones, offering great flexibility to adapt the configuration according to location and threat level. With enhanced environmental resistance, the sensors can operate from -40 °C to +60 °C, unaffected by rain, snow or wind.

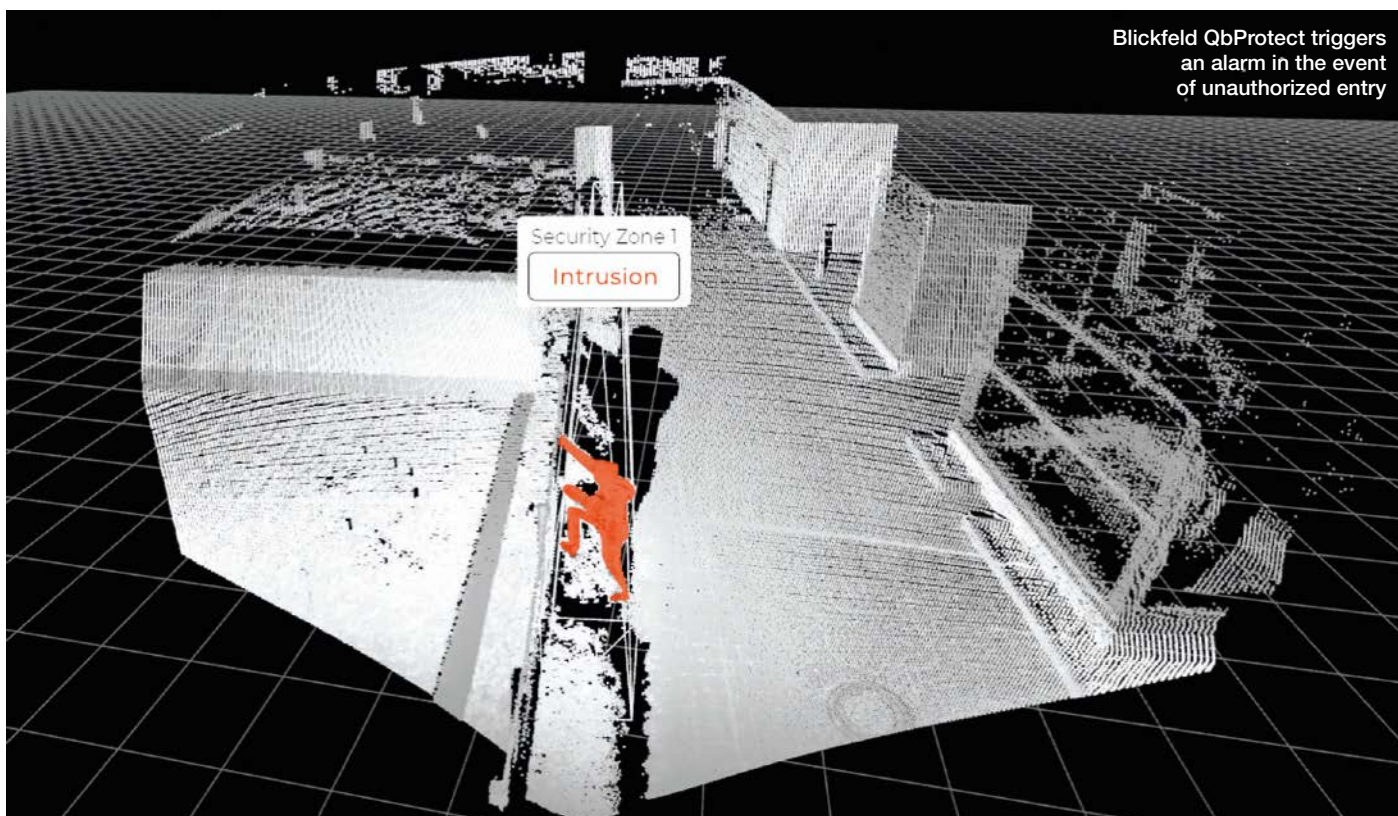
The Onvif Profile S compliant sensors can be seamlessly integrated with any Onvif-compliant VMS or IP network device. ■



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## INTRUSION DETECTION

# Hundreds of Thousands of Laser Pulses per Second

## Detecting Intrusions into Critical Infrastructure with Unrivaled Reliability

While the focus when protecting critical infrastructure in recent years has predominantly been on cybersecurity, current events have underscored the need to shift the attention to physical security again. For instance, substations are often the target of metal theft because valuable copper cables are installed or stored there. Intruders cause significant damage, breaking through gates and fences, resulting in substantial costs, some in the six-figure range.

■ Such incidents can disrupt the power supply and thus threaten public order and safety. Since substations are operated fully automated, without on-site personnel, intruders often have it too easy. Therefore, safeguarding against unauthorized entry, manipulation, or vandalism is crucial to prevent theft, property damage, or widespread power outages with their negative consequences for the community.

### PIDS Often Face Technical Challenges Like False Alarms

The example of substations clearly shows that fences alone often do not provide sufficient protection. Hence, there is an

increasing reliance on Perimeter Intrusion Detection Systems (PIDS), including a mix of monitoring technologies designed to detect and warn about intruders promptly, enabling appropriate measures to be taken. However, current PIDS – typically using technologies like video, infrared, vibration, radar, or acoustic sensors – face technical challenges. Frequent false alarms, theft attempts, and data privacy issues lead to high manual verification efforts, alarm fatigue among personnel, and ultimately, substantial costs. Blickfeld is now introducing a reliable solution to these problems, a 3D LiDAR sensor with specialized on-device software.

### 3D LiDAR with Integrated Security Software

Blickfeld QbProtect is a new 3D LiDAR sensor with integrated perimeter protection software for zone, fence, and facade monitoring. This first smart LiDAR sensor for the security industry processes data on unauthorized entry on-device, without requiring additional computers, directly providing actionable results in common data formats. The sensor utilizes laser technology to reliably detect objects in diverse weather and lighting conditions, resulting in an extremely low false alarm rate and heightened security. Additionally, Blickfeld QbProtect is easy to install, standardized



**Blickfeld QbProtect features on-device perimeter protection software in a robust and durable housing**

for integration into security systems, and can be set up via a graphical user interface using a drag-and-drop approach without programming.

### Object Size-Based Alarm Generation

Blickfeld's 3D LiDAR technology scans the environment using hundreds of thousands of laser pulses per second, generating precise and detailed 3D point clouds. Users can freely define security zones directly in the sensor's software, specifying the size at which an alarm is triggered by an intruding object. This feature significantly reduces false alarms, excluding small animals or vegetation that may cause dozens or more false alarms per day with other sensor types. Setting up pre-alarm zones is also possible, where the system recognizes intruders upon approach but does not trigger an immediate alarm.

### Designed for Demanding Outdoor Applications

The deployment of Blickfeld QbProtect is straightforward. Unlike other LiDAR sen-

sors, no external computer needs to be connected, and data and power transmission takes place over the same line thanks to Power over Ethernet technology, minimizing cable requirements. Security personnel can integrate QbProtect into existing alarm systems without specialized LiDAR knowledge. Constructed according to the solid-state principle without mechanically rotating parts and with an IP67-rated housing against dust and water ingress, Blickfeld QbProtect is robust, durable, and low-maintenance.

### Easy-to-Use Solution to Reduce False Alarms

3D-LiDAR-based security systems are setting new standards for perimeter security systems. Their data precision, independence from weather conditions, and ability to minimize false alarms by capturing object size render them indispensable in safeguarding critical infrastructure. With the new Blickfeld QbProtect, a user-friendly and seamlessly integrable sensor that is customizable without programming is now available as a robust outdoor sensor com-

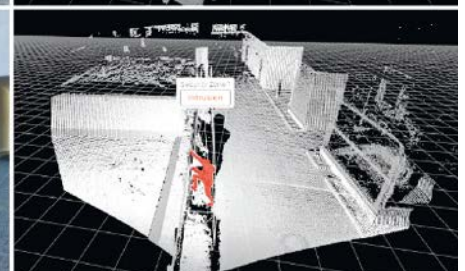
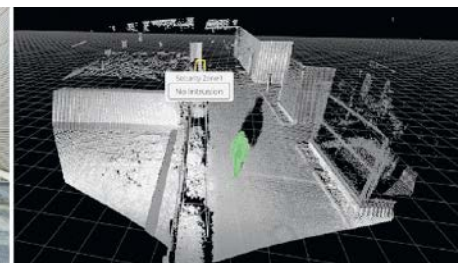
plementing video or thermal camera-based systems. Users immediately benefit from significantly improved detection of unauthorized entry into sensitive areas, such as power plants, airports, or other critical infrastructure. Furthermore, the collected data is anonymous, making it privacy-compliant, unlike many other sensor types. ■

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**Blickfeld GmbH**  
[www.blickfeld.com](http://www.blickfeld.com)

**Camera vs. Blickfeld Pointcloud view: No intrusion vs. alarm triggered in case of intrusion ▶**





VIDEO ANALYTICS

# A Mass Transit

**Video Analytics and the Metamorphosis of  
Life Safety Infrastructure for Mass Transit**

Safety protocols within mass transit systems are evolving significantly as more people are returning to on-site work in our post-pandemic world. While working from home has become more common in recent years, before COVID-19, almost 80 % of employed persons in the EU worked on-premises, according to Eurostat. With the workforce increasingly returning to the office, coupled with increased awareness of environmental impact, a fundamental transformation is underway regarding the convenience of commuting and our expectations of mass transit safety.

■ For decades, the safety framework in mass transit has relied on reactivity – responding to incidents after they occur. And though forensic search and investigation are still critical to transit safety, the model is inherently limited: Travelers are no longer content to rub shoulders with the masses and hope for the best. They expect that in exchange for their patronage, transit agencies are taking proactive measures to ensure their safety and experience.

## Scaling Existing Video Surveillance Infrastructure for Proactive Safety

Implementing new, proactive safety measures is no easy task as such changes often require massive infrastructure overhaul. For this reason, many mass transit agencies are turning towards comprehensive, AI-driven video analytics for their ability to scale up on existing video surveillance infrastructure, across multiple sites. Video analytics technology identifies, classifies,

and indexes objects detected in surveillance video so operators can filter and search, trigger alerts, and generate insights, thus upgrading forensic review, increasing real-time situational awareness, and generating intelligence to more seamlessly meet the demand for proactive, preventative safety.

Let's look at how video analytics solves a few major challenges facing mass transportation agencies worldwide.

## Pedestrian Crowding Trends and Vehicle Dwell Patterns

Managing the flow of people and vehicles is vital for mass transit hubs which are always one hiccup away from disrupting the commute of millions of travelers. For this reason, accurate vehicle and pedestrian traffic data is critical enablement for operations, planning, and services. Video analytics data visualizations and real-time alerts can track the number of people or vehicles in an area on an hourly, daily, or

weekly basis, so transit authority planners can make informed decisions regarding safety, crowding, and bottlenecks.

Video analytics can also differentiate between vehicle types so traffic in various areas can be monitored for safety, operations, and long-term planning. For example, tracking vehicle dwell patterns can direct strategies to prevent congestion. Similarly, video analytics can uncover pedestrian crowding trends so signage can be optimized to keep travelers moving.

## Subway and Railway: Preventing Track Intrusion

Track intrusion, a challenge specific to subway and railway transit hubs, encompasses actions like retrieving a cell phone, crossing to a different platform, or even laying down on the tracks. According to Eurostat, while track-intrusion related deaths have decreased since 2010, there has been a significant resurgence since 2020, signaling a



Operators can create a virtual barrier and set a real-time, rule-based alert for people moving in a specific direction who have crossed the configured line, specifically in rail applications

huge concern for the mass transit industry in the EU. Of additional concern: this rise excludes suicide cases – of which there were 2,394 reported cases in 2022 alone. Because the strategic deployment of video analytics enables the real-time identification of behavioral patterns, abnormal activities, and entry into restricted areas, it is becoming an ideal solution for mitigating track intrusion incidents because there is generally excellent basis of camera coverage on tracks and platforms. By adding video analytics to this existing infrastructure, operators can create a virtual barrier and set a real-time, rule-based alert for people moving in a specific direction who have crossed the configured line.

When the rule is triggered, operators can immediately halt incoming trains, mobilize emergency response, and dispatch personnel to clear the tracks. Additionally, site managers can swiftly review video to understand the person’s behavior, route, and subsequent entrance onto the tracks to inform strategic changes for future events.

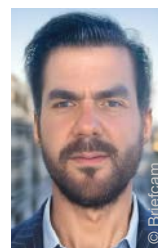
### Business Intelligence: Using Footfall Traffic Analysis for Ad Trends

While real-time alerting and data analysis are critical for life-saving intervention and optimal operations, mass transit hubs can further maximize an investment in video analytics by leveraging the available business intelligence applications for space utilization, workforce management, and long-term leasing optimization as well. For instance, video analytics empowers footfall traffic analysis for understanding how visitors tend to reach different stores or restaurants at a station, uncovering interaction

trends with ad kiosks, and quantifying unique visits that enter or bypass a tenant site. This can guide tenancy sales and pricing by quantifying the value of a particular rental space. Management can also make strategic decisions on amenities, based on rich traffic and demographic data, that will positively impact the traveler experience.

### Solidifying Video Analytics as Critical Infrastructure

The integration of video analytics as indispensable critical infrastructure within mass transit systems is not merely a technological upgrade but a fundamental shift towards preemptive risk management across transit systems. Transit authorities can partner and share insight with other municipal departments to help drive their ability to anticipate, prevent, and swiftly respond to potential safety threats, thus multiplying the return on investment beyond public transit to broader public infrastructure. The metamorphosis has begun, and the proactive model for life safety in mass transit is intrinsically tied to the transformative power of video analytics. ■



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## Modern Public Address and Voice Alarm System Speeds up Boarding

The new passenger information system at Chopin Airport in Warsaw (named after the famous Polish composer Frédéric Chopin) is based on the Praesensa solution from Bosch. It uses LS1-OC100E-1 hemi-directional ceiling loudspeakers and LC1-UM12E8 built-in loudspeakers, which ensure that passengers at every gate are addressed with pinpoint accuracy and excellent intelligibility. By integrating a text-to-speech solution from a third-party provider, the flight number, airline, destination and boarding information is automatically retrieved from the central computer at the airport and reproduced in synthesised voice information. These are spoken in Polish and English as well as other available languages, achieving a previously unattainable sound quality. The result is a significant reduction in the workload of airport staff. The modernisation of the public address and voice alerting system was urgently needed, as the old analog system had reached its limits. Information was often lost in an indistinct fog of sound, and manual announcements of boarding information were both time-consuming and labor-intensive. The automation and increased efficiency provided by the Praesensa system are appreciated by both staff and passengers alike. The scalability of the system ensures its suitability for future developments and requirements. "Chopin Airport now has a state-of-the-art public address system. The fact that we could build on the existing IP infrastructure significantly reduced the amount of time for the installation work," said Józef Bycul, project manager at Bosch Building Technologies.

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



## Easy Electronic Lock Retrofitting

Salto Systems has launched their XS4 Mini Metal model, a cutting-edge solution to upgrade and modernise access control systems. The electronic door lock simplifies the transition from traditional mechanical-key-operated locks to state-of-the-art electronic access control. The smart door lock integrates Salto SVN, BLUEnet Wireless, and JustIN Mobile technologies, including Apple Wallet. One of the standout features of the lock is its effortless installation and retrofitting capabilities. Combining appealing design and sophistication with robustness and smart access technology, this door lock is designed for seamless compatibility with European, Scandinavian, and Australian standard doors, which makes it easy to retrofit an existing installation, allowing for a swift upgrade from traditional knob or handle sets, without the need for door replacement or drilling.

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



## Thermal Validation App

With its latest product launch, Mobotix delivers the full version of its in-house developed thermal validation app. The award-winning app reduces false alarms to a minimum by detecting and filtering out non-critical heat sources like excavators or trucks in a monitored scene. The hot exhaust systems or body parts then no longer trigger false alarms. The company's thermal and fire protection solutions have received the GIT SECURITY Award 2024. The expansion of Mobotix Cloud functions includes three editions, Standard, Professional, and Enterprise, and enables the solution to be adapted to the requirements of companies, regardless of the number of cameras and the subscription period. Even the Standard edition includes all the core features of the company's Cloud VMS, meaning smart video searching and the full range of AI-based video analytics. The Professional edition has been developed for medium-sized companies (10 to 25+ locations) and the Enterprise edition is ideal for large, locally distributed, and multinational corporations.

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



## Security Management Enhanced with Smart Key Integration

A new software integration with the Cliq Web Manager brings even greater control and more streamlined processes to teams who deploy the C Cure security management solution. The seamless integration is enabled through bi-directional communication and synchronisation between the two. Security managers can minimize potential duplicate work and trust that their master interface is accurate. Automated sync saves time, ensures transparency and accountability. Domains, smart keys, keyholder information, schedules and audit trails are always up to date. Cliq domains and C Cure partitions automatically synchronise, so access rights and audits are always current. Both the electromechanical Protec2 Cliq and the fully electronic eCliq devices offer a selection of over sixty cylinder and padlock types that enhance physical security and increase resistance against attacks through a variety of wireless options suitable for almost any access point.

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