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Dear Readers,

The fourth song from the Dire Straits debut album is the song "Six Blade Knife". In this song, Mark Knopfler sings about a woman's knife as a metaphor for her actions and her love – cold and sharp, like the blade of a knife. She carries with her a six-bladed knife, like a Swiss Army knife to use as a tool for any problem. "One blade for breaking my heart, one blade for tearing me apart."

Modern safety and security equipment should of course not break your heart or tear you apart, but you may use it as a multi-tool to solve your problems. A camera is not only a camera anymore – like it was used by a security guard to screen what is going on at your premises. With a modern camera, you can automatically detect intruders, set an alarm, use it for quality control or even detect fire. On page 18 in this issue, you can learn, for example, how five leading manufacturers explain the best use of thermal cameras for fire and safety applications.

Several variants of these multi tools, or "Six Blade Knives" if you want, are in use in safe city projects that we describe on page 50. As events around the world are a rare treat these days, we examine the latest city surveillance projects, focusing on Tokyo, Expo Dubai and some other interesting examples. Another article on page 30 shines a light on some of the security products and solutions specifically conceived for stadiums, and others that add a lot to overall safety and security.

Stay safe and enjoy reading this issue!

Heiko Baumgartner
For Wiley's Safety and Security team

Vincent Dupart
STid

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François Gitz
STid

42 Jörg Bärenfänger
Südmetall

62 Bettina Runge
Dräger

www.GIT-SECURITY.com

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Dahua Technology Supports European Research and Innovation Program

Dahua Technology has partnered with the Spanish ITCL Technology Centre for the development of the WorkingAge project. The project studies and promotes healthy habits in working environments focusing on people aged over 45. WorkingAge is funded by the European Commission with a € 4 million budget over three years and will run until the beginning of 2022. ITCL and its partners developed a digital solution called The WorkingAge of Wellbeing (WAOW). The tool uses innovative Human Computer Interaction methods and analyzes three types of working environments: Office, Teleworking and Manufacturing. A sensor system provides workers with assistance in their everyday routine in the form of recommendations, risk avoidance and reminders. Dahua cameras are being deployed for recognition of body postures (ergonomic) and facial expression (emotions), as well as for gesture recognition and face authentication.

www.dahuasecurity.com

Securitas acquires Leading Electronic Security Company in Turkey

Securitas has agreed to acquire Tepe Güvenlik A.S., a leading electronic security company in Turkey. Through this acquisition, Securitas becomes number two in the monitoring market in Turkey, and the acquisition is in line with the Group's strategy of doubling its security solutions and electronic security sales by 2023. The purchase price is approximately MEUR 10 (MSEK 100) on a debt-free basis. In 2020, Tepe Güvenlik's annual sales were approximately MEUR 8.5 (MSEK 85), of which more than 70 percent were on a recurring monthly revenue basis. The company has 250 employees and operations mainly in Ankara and Istanbul, including an operation center and a nationwide technical service network. Tepe Güvenlik specializes in electronic security solutions, alarm systems and alarm monitoring for corporate clients, SME's and residentials.

www.securitas.com

Accelerated Rollout of Motorola Body-Worn Cameras

Motorola Solutions (NYSE: MSI) announced that the National Health Service (NHS) England has selected its VB400 body-worn video solution to increase transparency and safety for its frontline workers and citizens across the country. Successful trials with London Ambulance Service and North East Ambulance Service proved the rugged VB400 body-worn cameras offer greater transparency for staff and citizens to assist in de-escalating situations, leading to the accelerated roll out of the cameras across all trusts in England – three years ahead of the NHS Long Term Plan target. The foundation of safety that the cameras provide allows ambulance workers to remain focused on making life-saving decisions and delivering patient care. The cameras are easily activated by the wearer, securely assigned to a frontline worker using their ID badge and offer an extended battery life that lasts beyond the shift with up to 12 hours of recording.

www.motorolasolutions.com

Parking Space Administration with Hikvision Cameras

The Barka Grand Center mall in Oman has improved customer satisfaction and parking security with Hikvision smart video solutions. As well as providing traditional security monitoring capabilities, the solution makes it fast and easy to find available spaces, and helps customers locate their cars in the large parking lot. To find their car, or to calculate the quickest route to their car, customers can enter the first digits of their license plate on kiosk touchscreens. The Hikvision solution then locates their vehicle and calculates the shortest route back to customers' cars, helping them minimize their exposure to Oman's high daytime temperatures. It incorporates high-resolution cameras that detect suspicious activity and potential security breaches across the entire parking lot, minimizing the risk of vehicle theft and protecting customers' cars at all times. All data is backed up locally and stored offline to ensure optimal system reliability.

www.hikvision.com

Prosegur and Security & Safety Things Announce Strategic Collaboration

Security and Safety Things and Prosegur have announced their collaboration on the development of a new Security Operations Center (SOC) environment, leveraging the intelligence of innovative Artificial Intelligence infused video analytics and the expertise of Prosegur human operators to improve security services for customers around the globe. Prosegur will incorporate innovative, AI-infused video analytic applications from the Security & Safety Things (S&ST) platform into the Prosegur "SOC as a service" offering. The edge analytic applications, which run directly on cameras or devices equipped with the S&ST operating system, will intelligently pre-filter incoming events from customer locations and augment human decisions for enhanced alarm monitoring, management and response. These new levels of automation increase serviceability to customers and reduce the number of truck rolls, which in turn allows Prosegur to more efficiently deploy its service and support operations. **www.securityandsafethings.com**

A+A 2021, Trade Fair for Safety, Security and Health at Work

The OSH industry looks forward to A+A as a physical trade fair in autumn 2021. This is confirmed by the exhibitor registrations received until today. From 26 to 29 October 2021, over 1,000 companies will showcase their products, solutions and global innovations to predominantly European visitors at the Dusseldorf Exhibition Center. The exhibitor database, which provides a detailed overview of all participating companies and their products and services, will go online on 2 August. Looking to the forthcoming trade fair with great optimism, Erhard Wienkamp, Managing Director Operative Trade Fair Business of Messe Düsseldorf, says: "Health and safety for people has never been as vital as it is today," underlines Klaus Bornack, Chairman of the Exhibitors' Advisory Board. Digital performance tools pave the way for a smart future of the industry. These include solutions for digital process optimization, automation in procurement, manufacturing and delivery. Sustainable governance means assuming responsibility for people, the planet and the climate at the same time. These themes will be addressed by the experts at A+A under the headings of circular economy (packaging and recyclability of products), due diligence legislation, certification and sustainable products. New impulses will come care of the Start Up Zone putting young and innovative enterprises in the limelight, while smart 'assistants' will demonstrate their abilities in the Robotics Park. New work worlds are emerging constantly today: digital transformation and communication technologies enable location-independent working and learning. Hygiene and pandemic themes will include the question of how do I protect myself and my co-workers and which lessons learnt from the pandemic will shape tomorrow's prevention measures. Approaches to these issues, appropriate products and can be seen and relevant lectures heard at the Trend Forum.

www.aplusa-online.com

Onvif Releases Profile M for Metadata and Events

Onvif has released Profile M which standardizes metadata and events for analytics applications. This new profile addresses the dynamic video analytics market as well as expands the pathways for the use of metadata and event handling into other systems such as access control, cloud services and IoT platforms. Profile M provides a standard way of communicating metadata and events between analytics-capable services and devices like IP cameras, and clients like video management software or server- or cloud-based services. Profile M also supports event handling interfaces for object counting, and face and license plate recognition analytics, as well as JSON-formatted events over MQTT, a protocol for IoT applications. Profile M can be combined with other Onvif video and access control profiles for an integrated system based on Onvif interfaces.

www.onvif.org

HID Global Acquires Omni-ID

HID Global has acquired Omni-ID, a leading manufacturer of RFID tags and industrial IoT hardware devices for passive and active tagging, tracking, monitoring and alerting applications. The acquisition extends HID's market leadership in RFID technology and strengthens its presence in India and China. "I am very pleased to welcome Omni-ID into the Assa Abloy Group and HID," said Björn Lidefelt, EVP and Head of HID Global. "Omni-ID is a strategic technological addition to HID and reinforces our current RFID and IoT offering. Expanding our sales and manufacturing footprint in India and in China with Omni-ID will further enhance HID's ability to serve customers locally, while extending our industrial IoT technology into emerging markets." Omni-ID provides passive, rugged long-range RAIN RFID ultra-high frequency (UHF) tags and labels in several form factors for an array of identification requirements.

www.hidglobal.com

Sicurezza returns in Presence next November at Fiera Milano

New synergies for Sicurezza, the international show for security & fire, that will be held at Fiera Milano, from 22 to 24 November 2021. For the first time the show will be part of an unprecedented combo events and will open the same day of MADE expo (leading event in Italy for the construction sector) and Smart Building Expo (home and building automation and technological integration expo). All of three will start simultaneously, but Sicurezza and SBE will take place from the 22 to the 24, MADE Expo will last an extra day, until 25 November. Same inauguration date, one admission ticket valid for all events, but, above all, the same goal: working as a team, exploiting synergies, and meeting the needs of companies and operators, especially international buyers who are more interested than ever in optimising time and resources.

www.sicurezza.it

Securitas Acquires Leading Electronic Security Company in Germany

Securitas has agreed to acquire Protection One, the German market leader specializing in remote technology-driven security solutions and electronic security. The acquisition will enhance Securitas' protective services capabilities in Germany and is in line with the Group's strategy of doubling its security solutions and electronic security sales by 2023. The purchase price is approximately MEUR 72 (MSEK 735) on a debt-free basis. In 2020, Protection One's annual sales were more than MEUR 33 (MSEK 337), of which over 90 percent were on a recurring monthly revenue basis. The company has 230 employees in Germany and is present at 12 locations with the operation center based in Meerbusch, offering remote monitoring services with 24/7 real-time intervention. Combining its high-performance and tailor-made installation offering, the company provides full scope of electronic security services across 10 300 objects for approximately 7 000 clients, mainly small and medium-sized businesses.

www.securitas.com

International Security Expo 2021: Return of the Disaster & Resilience Zone

International Security Expo is returning to Olympia London from 28 - 29 September 2021 with a range of Pavilions and Zones, each dedicated to a particular field of security to help visitors navigate the show with ease. One of which, the Disaster & Resilience Zone, will combine the latest innovations in crisis management with a comprehensive education programme. Attendees will be able to network face-to-face with the Zone's exhibitors and discover their world-leading products to help businesses remain resilient during a crisis, as well as the solutions to recover and the tools to rebuild. This will be complemented by the Disaster and Resilience Conference, sponsored by Everbridge, where a series of sessions hosted by industry leaders will cover the full disaster management process. The Disaster & Resilience Conference will see international experts tackle market-nominated topics across 14 different sessions over two days.   **www.thesecurityevent.co.uk**

Euralarm welcomes FirePro as New Member

Following the decision of its Board, Euralarm has welcomed FirePro as a new member. The company will join the Extinguishing Section of Euralarm which activities cover automatic extinguishing systems using gas, water, foam, powder and aerosols, oxygen reduction systems, portable equipment and other manual means of fire-fighting as well as fire-fighting agents used in either fixed automatic systems or in portable equipment. FirePro will now benefit from Euralarm's services in terms of representation towards European institutions and standardisation organisations. This includes the monitoring of legislative and standardisation issues relevant to the industry. FirePro will have access to the extended network of national associations and major companies in the electronic fire safety and security sectors, which form Euralarm's members. The new membership will create opportunities for both sides, as it also strengthens the association.   **www.euralarm.org**

Genetec recognised as Fastest Growing Access Control Software Provider

According to the latest report from research organisation Omdia, Genetec has once again been recognised as the fastest-growing access control software provider in the world. The report shows Genetec displacing traditional access control vendors, and claiming the number two position globally (up from 4th in 2019). "While the global access control software market was hard hit by the pandemic and declined in 2020, Genetec grew by more than 30% globally, gaining ground in both the Americas region and becoming a top 10 vendor in EMEA," said Bryan Montany, Physical Security Analyst at Omdia. Genetec credits its continued growth to the strength of its unified security platform, Security Center, which features access control solutions that easily tie in with video surveillance, ALPR, analytics, and more. Traditionally a proprietary market, the access control industry has now shifted to a more open one with customers looking to migrate to a cyber-secure open-architecture access control solution that allows them to choose hardware that is best suited to their needs. As a truly open system, Security Center Synergis connects to a large and growing selection of third-party access control devices. This allows organisations to choose the hardware that addresses their security needs and objectives, while avoiding the long-term setbacks of closed solutions.
www.genetec.com

Onvif Profile D Release: Access Control Peripherals

Onvif has released Profile D, a new profile that addresses interfaces for access control peripheral devices, providing the market with an additional tool for building modern and secure IP-based integrated video and access control systems using Onvif. Profile D is designed to provide Onvif interoperability for peripheral devices such as locks, credential/biometric readers, PIN pads, license plate recognition cameras, door phones, sensors and displays. These types of peripherals commonly require specific integrations between products from different vendors to be able to incorporate them into an access control management platform. "Users are increasingly looking to incorporate additional technologies into their access control systems for use in innovative ways, such as bar code reading cameras for visitor management or video door stations for intercom applications," said Patrik Björling, Chair of the Onvif Profile D Working Group. "Profile D provides a standardized way to satisfy this demand for interoperability, which can in turn drive additional opportunities for more use cases for peripheral devices."   **www.onvif.org**

Hikvision announces Technology Partnership with Yeastar

Hikvision announced a new technology partnership with Yeastar for IP-based video intercom integration. The integration provides a convenient solution for customers in small-to-medium size enterprises (SMEs) to control and manage their intercom systems remotely, as well as communicate with visitors. For SME customers, when the employees are out of the office, welcoming visitors is nearly impossible. But integrating Hikvision's video intercom with Yeastar's IP PBX system enables customers to easily and remotely communicate with visitors. Even the receptionist who is not at a work station won't miss company visitors, since the integration provides SMEs with visualized call management, video communications, and anywhere-anytime connectivity – performing across web browsers, mobile devices, and desktop computers.
www.hikvision.com

Morse Watchmans at the 2021 ISC West

Morse Watchmans showcased its full array of key control solutions on display July 19-21 at the 2021 ISC West event at the Sand Expo Center in Las Vegas. Morse Watchmans demonstrated how its key control and security management systems integrate with other access control and physical security systems, or function as standalone options. From the KeyWatcher Touch key management solution that is a touch-enabled flagship system providing unparalleled security, efficiency, and tracking for keys and other assets, to KeyWatcher Fleet which is the industry's only key control system with software designed from the ground up for fleet management applications, users will have plenty of options. "Morse Watchmans has been delivering proven key management systems with extensive audit capabilities for decades to clients around the globe," said Tim Purpura, VP of Global Sales and Marketing, Morse Watchmans. "Our solutions like KeyWatcher Touch and KeyWatcher Fleet are efficient and cost-effective options to mitigate operational risk. As world leaders in security management systems, Morse Watchmans is dedicated to helping business and industry maintain a secure, safe environment."
www.morsewatchmans.com

Ksenia®
security innovation

lares 4.0
NEW INTEGRATION
with Milestone

Ksenia Security has developed a dedicated plugin allowing the integration of a virtually unlimited number of lares 4.0 with the **Milestone XProtect**® platform. This will give the possibility to fully manage the control panels of the lares 4.0 family directly from Milestone and, vice versa, to make the status of all the relevant control panel entities, such as partitions, zones and outputs, visible on the graphic maps. In addition to the graphic maps, the plugin allows the complete compatibility of the lares 4.0 events and alarms with Milestone events, with the opportunity to take full advantage of the video recording features.

The Plugin is able to completely control, from the Platform where it's installed, **a virtually unlimited number of lares 4.0** reachable via the network.

The Plugin is able to **receive** from the controlled units whatever happens on the relevant system, **as well as send** all the commands allowed to the User.

It offers 2 features that interact separately with the User: the Management of the **Graphic Maps** and of **Events & System Elements** (dedicated workspace)

The Plugin is **always active**, so when the user connects, he receives all the information of what happened when the system was unattended.

If changes are made to the configurations of a security panel, it **automatically notifies** the event with a dedicated message.

www.kseniasecurity.com

Positive Vote on EN 50710

Euralarm's Services Section reports an important step forward for service providers and end-users of remote services: the very positive vote on the EN 50710, Requirements for the provision of secure remote services for fire safety systems and security systems. The successful vote is the icing on the cake of the section's efforts to guarantee more certainty for a future in which remote services play an increasingly important role. Jon Könz, Chair of Euralarm's Services Section said, "It is an excellent result and an advancement for the fire safety and security industry. We would like to thank those who helped in the CEN/CENELEC JTC4/WG1 and who contributed to the 'yes' of 95% of the countries that could bring out a vote." With the acceptance as a European Norm, it should be ready for publication in early 2022, after which the implementation in the respective countries will begin. With the requirements for the provision of secure remote services via a remote access infrastructure being specified, both end-users and service providers will benefit from it. Both will also be able to take advantage of the technological developments within fire safety systems and/ or security systems (FSSS) and the remote access infrastructure. Euralarm's Mr. Bernd Giegerich, the convenor of WG1 said, "The overall service quality offered by the various types of professional services providers at the time of installation, maintenance or operation increases significantly. On one hand, end-users experience faster response times leading to higher system reliability and availability. On the other hand, service providers can provide new services such as predictive maintenance, which also improves staff utilisation." **www.euralarm.org**

Intelligent Truck Parking solution from Bosch

New parking area near Cologne meets high European security standards with the TAPA Level 2 certificate. From asphalt to apps, Bosch has implemented a connected security solution for the Frechen truck stop near the A1 to protect people and freight from assaults. The modern parking area near Cologne now has around 40 parking spaces that meet the high security standards of the Transported Asset Protection Association's (TAPA) according to the Level 2 certificate and are therefore particularly secured. From now on, forwarding companies can book these via the Bosch Secure Truck Parking app. The fully connected solution ensures maximum security: more than 20 security cameras with intelligent video analytics by Bosch monitor the four-gated entrances and exits as well as the parking area. In addition, a pedestrian interlock ensures that only authorized persons can enter the area. The reason for this solution is a shortage of some 400.000 secured truck parking spaces in Europe. This has serious consequences for the safety of drivers, goods manufacturers, freight forwarders as well as other road users, as trucks often have to park in an unsafe manner contrary to traffic regulations. **www.boschbuildingtechnologies.com**

GIT SICHERHEIT with 30th Anniversary Issue

Our sister magazine GIT SICHERHEIT is celebrating its 30th anniversary. A special issue in October is one of the highlights of the anniversary year. Wiley and GIT SICHERHEIT are celebrating the 30th anniversary of the highest-circulation magazine in the market with a very special October issue (No. 10/2021), which will attract a lot of attention with a lot of special content, among other things, and will be visible in a special way in the digital and printed channels. Among them will be statements by VIPs, as well as assessments by and with major security providers, a journey through 30 years of safety & security and visionary thoughts by experts on what security will look like tomorrow. How has the world changed since the last 30 years? Which developments have been the most drastic? Where is the journey going? With trend reports on the development of the market, the editorial team dares to take an analytical look back together with well-known authors and companies - and ventures a look into the future of security. The October issue celebrating the 30th anniversary of GIT SICHERHEIT will be published on 18 October – the printing and advertising deadline for participating companies is 27 September 2021. **Contact: GIT-GS@Wiley.com**

BSIA Celebrates and Supports 'International Security Officers' Day

The British Security Industry Association (BSIA) has been celebrating the work of security officers as part of the 'International Security Officers' Day with its social media campaign #IAmAKeyWorker. Launched in 2020, by the Australian Security Industry Association Limited (Asial), International Security Officers' Day is to be held each year on 24 July. For 2021, the BSIA have been sharing pictures of its members' officers at their workplaces and encouraging companies to do the same as a way of showcasing the people who work on the frontline every day, working tirelessly in ensuring our safety. The campaign also forms part of the 'Perceptions' campaign that the Association, working as part of the Security Commonwealth's Special Interest Group, will promote and highlight the work of security officers for the critical role they play in society. Mike Reddington, Chief Executive, BSIA, said: "We are proud to be promoting International Security Officers' Day for the second year in a row. Every day our officers are on duty ensuring that people, places and property are kept safe and secure, and in doing so can often be perceived as a hidden workforce. We want to highlight not only the vital work that they carry out but also acknowledge and applaud the pride that our officers feel for their jobs and the industry that they represent." **www.bsia.co.uk**

Boon Edam Entrances Now Available on BSD SpecLink

Boon Edam announced that its most in-demand entrance products are now available on SpecLink, an online specification platform to help architects, engineers, specifiers, building owners and designers simplify and improve their approach to creating and collaborating on building project specifications. SpecLink is a cloud-based tool created by Building Systems Design that streamlines workflow, improves collaboration and increases productivity by bringing stakeholders in the building design process together through a common specification document. The process of creating a building specification is simplified by presenting a comprehensive, generic specification template that allows users to specify by simply "turning on" content to be included in the specification and selecting the manufacturer's products and options. **www.boonedam.com**

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EVENT

Hybrid in Paris

Expoprotection Security 2021

New Name, New Positioning, New Formula: Expoprotection Security 2021 will open their gates again in fall 2021 and it will replace the APS show.

Held from September 28 to 30, 2021 in Paris – Porte de Versailles (Pavilion 5), Expoprotection Security will be the must-attend event of the fall season, with three main sectors: Security, Fire prevention and protection, and Cyber prevention. An innovative and hybrid event, combining physical and online, to give participants, exhibitors, and visitors alike, a unique experience, before, during and after the show.

A Wide Offer for all Security Experts

With only one month to go before its opening, Expoprotection Security is shaping up to be a major event, with 150 exhibitors already registered. Among them, many leaders have already confirmed their presence. For example, in the Fire Prevention and Protection Sector: Anaf Group, Andrieu Extincteurs, Deseautel Sa Protection Incendie, Eurofeu, Mobiak Sa, Neutronic, R-Pons, Rot; In the Security Sector: 2n Telekomunikace, Alcea, Automatic Systems, Castel, Daitem, Egidium, Flir Systems, Daitem, Hanwha Techwin Europe Ltd, Hikvision France, Iloq France, Nedap, Panasonic France, Protect France, Salto System France, Satel Sp Zo O, SimonsVoss Technologies Ag, Smart Sd, Stid, Traka Assa Abloy, Visiotech

Safety Measures

Reed Expositions France, organizer of Expoprotection Security, has made the health and safety of its visitors, exhibitors and partners its top priority. Expoprotection Security will therefore be held in strict compliance with the health measures recommended to limit the spread of the coronavirus as decided by the French government. Among the measures taken: management and regulation of flows; mandatory wearing of masks; hydroalcoholic gel available throughout the exhibition area; regular disinfection of spaces; design of spaces and conference rooms adapted to social distancing standards; regular food hygiene safety checks; and lastly, communication before and during the exhibition to ensure compliance with safety rules.

A Hybrid Event

Expoprotection Security offers an innovative hybrid format that combines the digital experience with a physical visit to meet the expectations of professionals. Indeed, 62% of visitors surveyed plan to use Expoprotection Security Online, and a majority would like to combine a physical visit with the digital platform (source: Vovici survey – 713 respondents).

Expoprotection Security Onsite and Online will offer a truly "enhanced" participation experience to participants, who will be able to alternate and combine as they wish: the physical visit, on-site or online business meetings, participation in face-to-face or remote conferences, direct exchanges through discussion groups, personalized suggestions of suppliers and solutions, real-time alerts, etc.

A Show Rich in Content

Expoprotection Security will give industry professionals the opportunity to learn about market developments and meet with industry experts through various areas and events:

- The Cyber Prevention Space will encompass the topics of Cyberculture (deploying a cyber prevention culture in organizations) and Cyberprotection "by design" (designing, purchasing and using cyber-protected security equipment). Visitors will be able to meet experts such as Cybermalveillance.gouv, Clusif, CyberTaksForce, Cyber Cercle and CNPP.
- The Expert Village will be dedicated to the theme of crisis management. Exhibitors such as F24, Heropolis, Mws, Everbridge, Cedralis will exhibit their solutions throughout the show.
- The Start-up Village will showcase the sector's new start-ups.
- The Innovation Awards will reward the most innovative solutions presented at the show, revealing the major trends in risk prevention and management in four categories: Safety and Security, Fire Prevention and Protection, Cyber Prevention and Start-up. The winners will be announced a few days before the show opens and visitors will be able to take advantage of a "special Innovation Awards" tour.

CONTACT

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The Sicurezza security and fire industry event runs in parallel with Construction and Smart Building events at the same venue ▶

EVENT

Italian Trio

Made Expo, Sicurezza and Smart Building Expo run together at Fiera Milano

Digitization and sustainability, the two pillars of the Italian Recovery Plan, are at the center of the three events that, in November, will offer a comprehensive preview of the materials, technologies and regulations for the building and urban sectors. The same starting date, one admission ticket valid for all events, but above all, the same goal: working as a team, exploiting potential synergies, and meeting the needs of companies and sector operators, and especially international buyers who these days are more interested than ever in optimizing their time and resources.

This is what Made expo, the leading event in Italy for the construction sector, Sicurezza, the biennial international event in the security and fire industries, and Smart Building Expo, the home and building automation and technological integration expo, will present to the market in an unprecedented combined event. In fact, all three will start simultaneously at Fiera Milano (Rho) on 22 November 2021. However, while Sicurezza and SBE will take place from the 22nd to the 24th, Made Expo will last an extra day, until 25 November, true to its traditional four-day duration. The three events will be held in the eastern section of the Fiera Milano district, logistically closest to the subway and train station, using a total of 7 pavilions: 1,2,3 and 4 for Made Expo; 5,7 and 10 for Sicurezza and Smart Building Expo.

Content and Supply Chain Synergies
It is all about logistics coordination, but also - and above all - coordinated strategy and content. We live in times that are increasingly interconnected between sectors, especially when it comes to the building sector. The new BIM platform design approach imposes coordination in the construction of a building. In the context of this process of this now irreversible change and in constant progression, the three events are presenting themselves as a team supply chain

project: a unique opportunity for designers and installers to discover and review in depth, in a single location, the opportunities and challenges that systems, plants, products and regulations will have to face in the upcoming recovery phase.

Three Events, One Single Goal
In fact, the overall exhibition will present every novelty in the building sector, from materials, windows and doors and casings to plant engineering, home automation and security and fire systems; products that can comprehensively meet the needs of construction companies, plant engineers, and designers.

There will also be a cross-thematic focus representing the heart of both the exhibition and its educational aspects. There are two topics in particular that will be explored by each exhibition – digitization and sustainability – especially in terms of energy. These topics are revolutionizing every sector and at this particular moment are the driving force for recovery, as they are two of the pillars on which the Italian Recovery Plan is based that every company and professional must necessarily keep in sight in the coming months.

Special Focus
From The Place to Build at Made expo, to the Milano Smart City Conference at

SBE, through to the Cyber Security Talk of the Cyber Arena at Sicurezza, just as a few examples, the events will outline the scenarios, trends, challenges, and opportunities from a digital and sustainable perspective, offering an expanded dialog on the development potential that the recovery may represent for each sector and their professionals – supported by an ambitious investment program that is unique in terms of scope and objectives.

Digitization and innovation, in terms of processes, products and services, will be determining factors in the transformation each country is called upon to achieve in the coming years, and the technological solutions on display at Made Expo, Sicurezza and Smart Building Expo may lead to developments in various sectors, primarily in construction, where the transition towards smart building – and consequently the smart city – is starting to become a reality.

The dates at Fiera Milano are from 22 to 24 November 2021 for Sicurezza and Smart Building Expo and from 22 to 25 November for Made expo.

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fierasicurezza@fieramilano.it
www.sicurezza.it

INTERVIEW

King Of The Castle

Security Management for Chemical Companies

From climate protection to electric mobility – the products of major chemical companies can be found everywhere. The specialist for Corporate Security in this interview with Matthias Erler of GIT SECURITY was Wolfgang Ehses, who has worked for many global chemical companies in a leading security position. We spoke with him about his responsibilities – and about the challenges of security management in the chemical industry.

GIT SECURITY: Mr. Ehses, making large chemical production plants secure has its own challenges – there are often especially inflammable fluids, explosives, etc….?

Wolfgang Ehses: Chemical compounds and their reactions are the core of our business, with all the risks that it involves. The operation of a chemical plant can therefore not be compared with that of a normal factory. There is very strict monitoring here, whether within the production area, the filling area or the transport. Our many employees ensure that we can demonstrate our high operational standards – worldwide.

The security management cannot do as it likes in such a location – with reference to the hazardous incident regulations, escape routes, worker protection etc. – where are the conflicts of interest most noticeable?

Wolfgang Ehses: I will give you a graphic example: in some areas, there are legal requirements for the protection of accidents or simply essential life-saving measures to be observed that, for example in the case of an accident, would ensure unhindered escape routes, which conflicts with the desire for security using fences, doorways or walls. In addition, often, chemical companies are not alone on the site, but sometimes part of a chemical industry park or such which makes them bring their own security measures into line with the existing infrastructure. So there are, for example, fundamental protection measures for a chemical park with services that are expected for personnel, for the organization, but also for processes and tool-sided for safe operation.

Could you give us one or two examples of this, and how you solve the problem?

Wolfgang Ehses: Let us assume that a factory falls under the hazardous incident regulations because of the specific products that are produced there. If there is an accident, the danger potential is so high that employees must evacuate the compound when a warning siren sounds and gather at a designated meeting point. This meeting point lies 400 meters away from the building. However, to prevent unauthorized persons entering, the Corporate Security team wants to implement a combination of doors with electronic locks, video surveillance and a corresponding solution of a fence equipped with detectors. This concept can be extended together with an employee protection team by doors with an escape function as well as improved access control with authorization checking. After checking the grounds

and the associated security concept, the fence is then placed at a greater distance to the chemical plant.

How large are these compounds generally? And what strategy do you adopt in the light of the restrictions you have mentioned, in particular for perimeter protection and with access management?

Wolfgang Ehses: This can be very different for each location – it could easily be a few kilometers all the way round. And then there are external borders such as a river, for example, that we use for transport by ship, or a railway that we use for goods transport. Our strategy is to achieve a locally agreed level of security together with our colleagues from the employee protection group at home and abroad according to effective but also economic standards.

Where do you see the greatest security risks?

Wolfgang Ehses: Leaving natural disasters, technical failures or human error aside, I currently see virtual risks as one of the greatest threats. It is much simpler to sit at home and put an operation out of action by using malware than having to travel there, climb over the fence, find the right location and put oneself in danger of being recognized or being injured by one of the products.

You have worked together with a security service provider. Which tasks does this company look after and which ones are done by your own staff?

Wolfgang Ehses: The security provider I have worked with implements the measures defined in the fundamental protection list (size and outskirts of the factory etc.). In other locations I have worked with local service providers who provide security services. Normally, Corporate Security personnel check the efficiency and communication of these providers at irregular intervals. And they look at the whole security situation together with those responsible on site. The employees on the company side are trained – such training must take place where it is required before entering certain premises. A knowledge test is required in some areas– without passing this there is no entry.

Could you give us an impression of the practical organization of an alarm management?

Wolfgang Ehses: I will explain it with a fictive example: there is a security event in Brazil on a Saturday morning at 4am German time. The local team initiate an incident response report containing the basic information. At the same time, a local member of staff calls the 24/7 emergency number. The case is forwarded to an Emergency Officer after recoding the basic details. This office decided what sort of event it is and presses just one button of an alarm app on their mobile phone, for example inform the person responsible for security matters. This procedure works at any time of night or day, and we use an external tool to bring all relevant personnel into a conference call. If someone is not reachable, the system recognizes this and will automatically call the next in line in that department. We have had good success with this method.

The contact and cooperation with the authorities is very important for you – how do you organize it?

Wolfgang Ehses: It is probably not very nice for some companies if the District Attorney comes visiting. However, I myself worked in a federal agency and know and understand the characteristics of public administration. So I usually maintain a very good cooperation with agencies like the cybercrime unit in North Rhine Westphalia or such. This has also led to a growing knowledge of cybercrime and the response to this phenomenon being more closely integrated into the processes. In addition, I am also networked and enjoy good communication with other companies and also the federal and state authorities through membership of various committees.

Mr. Ehses, could you explain your security philosophy a little closer?

Wolfgang Ehses: Let me explain it by the image of a castle. This image is not mine but comes from the Internet Guru Bruce Schneier. But it fits the situation well and is like this: a castle is first of all a solid stronghold and difficult to take because of its location and the fortifications. But it has weak points. It has entrances. And the walls are not as high or as thick all the way round, and you might be able to climb up them or to use a ladder. And occasionally you must make repairs – that is, there is a hole in the wall that must be repaired under observance of the local security measures. Therefore there are the guards who, although well-equipped, may not be available in sufficient numbers all around the castle. Now let's look at a potential attacker: he decides when he is going to attack and using what sort of weapon. Did he identify some weak points in advance and can he attack those directly or does he use some method of distraction to the detriment of the guards so that he can draw them away from the weak points?

Here we are talking about the Trojan horse: attackers have plenty of time – how about an attack in around six months' time? No virus scanner runs so long. You can see that the attacker has all the advantages and it is also pretty clear that most companies cannot maintain their own cyber defense army. Therefore it is all the more important to have a corresponding industry standard, a sort of standardized wall, as well as have suitable guards ready and an educated workforce that doesn't leave the doors wide open.

What does that mean for the use of technology – a lot is possible these days, especially in perimeter protection?

In summary, I see the virtual risks advancing strongly and the security departments must move with them.

Wolfgang Ehses,
Specialist for Corporate
Security in the chemical industry

Wolfgang Ehses: Technology is good, where it helps. It is always a cost/benefit calculation and ultimately a risk analysis of what you acquire and what you don't. And you should not forget the analog world in the rush to digitalize everything – perimeters in an analog environment are just as important as in the virtual world. I would like to stress though that the whole concept doesn't work without people. There must be someone who, for example, reacts to the sensor alert from a fence or the SIEM information about an IT process (event) and takes a decision. The next step is then the local solution – do I send a patrol or do I advise an administrator who puts a system into quarantine? In the best case, there is a good relationship between people and technology.

With regard to video surveillance: it is highly mature nowadays with excellent image quality and video analysis. What do you consider the role of this technology to be with regard to securing chemical plants?

Wolfgang Ehses: There are certainly areas that can be equipped with video surveillance, such as offices and production

buildings, harbors and some warehouses, but to cover every last corner with video technology is usually uneconomic. Apart from the purchase of the cameras alone, there are almost the same costs again for running the cables, and then the images that are generated have to be watched, which correspondingly requires additional personnel. You have to look at each case on its own merits.

A very topical subject for protectors of perimeters is drones – although you can detect them quite early and establish what type they are and where they come from, it is not so easy to defend against them. What is your opinion?

Wolfgang Ehses: Drones in the sky above a chemical plant are a disturbing thing for many reasons. For one thing they can be used for spying because their cameras deliver excellent images and videos. But they can also be used as carriers of substances for sabotage or, even worse, be used for terrorist purposes. Some people would say that it's all science fiction, but drones these days are certainly capable of that. Just because we haven't seen such a case in Germany yet doesn't mean that it's completely unlikely. On the other hand, maintenance flights to see inaccessible places for example are very welcome and cost-effective. But their use after an incident to provide an overview of the situation will certainly be more commonly considered safety and security option in the coming years.

Let us talk a little more about IT security – companies with specific know-how and developments in particular are threatened by industrial espionage, hackers, etc. How do you consider the situation to be at the moment? How does your strategy look?

Wolfgang Ehses: Think back to the image of the castle – here part of the strategy is not to let too many weak points develop, to improve various points a thereby not to be blind to trends. Cyber criminals are developing too, they are improving their strategies, building new tools and making use of the weaknesses and strengths of globalization. In summary, I see the virtual risks advancing strongly and the security departments must move with them. The traditional police office or soldier is no longer sufficient – it is no coincidence that there are courses in Risk and Security Management at Bachelor and Master level.

Wiley Industry Days
WIN > DAYS

Review

The review

Meeting people digitally, exchanging ideas, making contacts, doing business – this was once again the experience at WIN>DAYS 2021 from 7 to 9 June. As a virtual industry event, a broad spectrum of topics was offered around safety and security – this time with special shows on the topics of structural engineering, healthcare and hygiene, automation, photonics and machine vision.

Wiley and GIT organised exciting talk sessions that provided insights into safety projects in the automotive industry, logistics and the consumer goods industry. With the security bosses of the companies and with competent suppliers such as Axis, Dallmeier, Geutebrück, Honeywell or Securiton, Genetec and Milestone. Panel discussions on the topics of fire protection, video, PSIM, access technology or machine and plant safety met with a great response, both live and as recordings.

All broadcasts and programme items were shared, liked and widely disseminated on social networks by Wiley, GIT and the exhibitors and participants.

The Wiley Industry Days exhibition site is set up like a physical trade fair. The lobby with info points and notices served as orientation. Good for exchanges: visitors were able to send chat requests to each other throughout the fairgrounds and get in touch and exchange ideas via video chat. And: every participant had an overview of who was on the grounds and in the various rooms or stands at all times. This created a real "trade fair feeling" for the entire duration of the fair.

The next WIN>DAYS 2022 are already in the starting blocks, they will take place from 15–17 February 2022 – with a clear focus on safety and security.
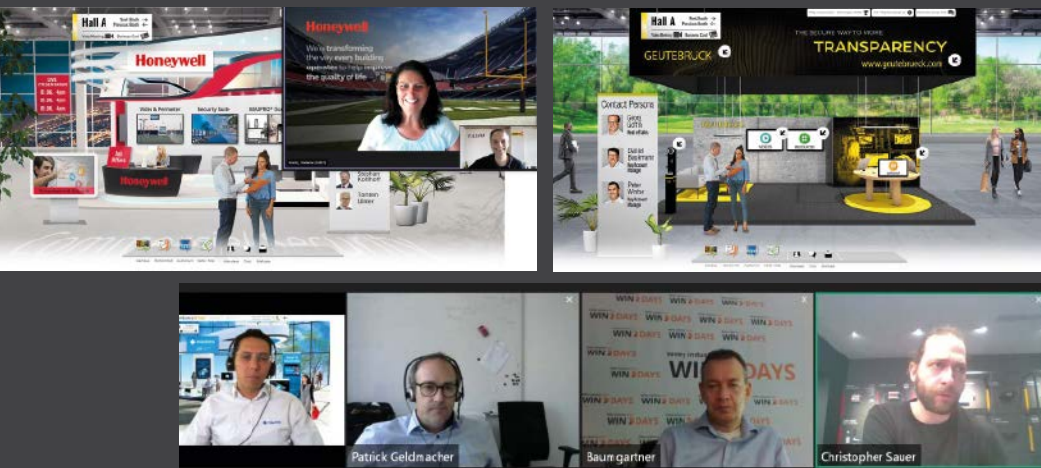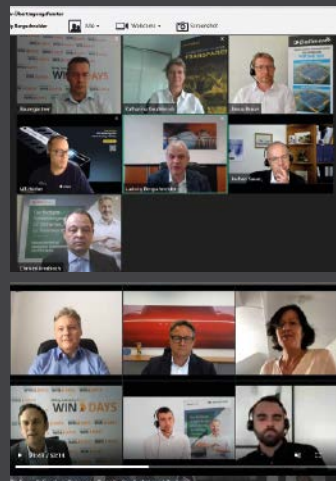
Exhibiting at WIN>DAYS 2022

You are a supplier and would like to present your company at Wiley Industry Days 2022? Then please feel free to contact us with the note "Become a WIN>DAYS exhibitor".

Contact:
Joerg.Wuellner@Wiley.com

Thermal Cameras for Fire & Safety

Special Focus

(5x3)

1. What is the best use of thermal cameras for fire and safety applications?
2. How do you avoid false alarms with your systems?
3. Please describe a use case where your thermal cameras are successfully installed.

Dr. Bernd Spellenberg
Product Manager Thermal Imaging Cameras, Dräger
www.draeger.com

1. Dräger offers handheld thermal imaging cameras designed predominantly for use by the fire service to assist in various applications our clients must tend to. Thermal imaging cameras for firefighters are extremely robust and very easy to operate. Since most of our models are ATEX approved for use in zone 1 areas, they can be used in any application where detection of hot spots and, more generally, unusual temperatures is of interest. Particularly one of our models, the Dräger UCF 9000, has features which far exceed the feature set of 'typical' firefighting cameras. Those include customizable color palettes, an integrated visual camera and a special mode to show isothermals.

2. Interpreting thermal images generally is not easy and a lot of mistakes can be made. For example, with a thermal imaging camera, you cannot look through windows. In this case, the window acts as a mirror and you can see yourself in the image of the thermal imaging camera. Thorough training in thermography is advised, so the customer understands how a thermal imaging camera works and for which applications it can be used.

3. Many users of our thermal imaging cameras are not involved in firefighting operations, but simply use the camera to identify hot spots in ATEX rated areas. Being able to quickly scan an area without interrupting operation and without the need for a light hot work permit saves valuable time and decreases the risk of unexpected down time.

1. Thermal cameras can provide earlier warning than any other sensors and are specially indicated on situations where a fire can have severe impact due to damage fast propagation or safety aspects, like deposits of flammable materials or electrical groups, spontaneous fire from different waste deposits or paper factories. Also, they can achieve longer ranges and wider areas than any other sensors and can be used outdoor, this minimizes infrastructure costs and in outdoor scenarios a much earlier warning than other sensors like flame detectors. Outdoor applications with thermal cameras include forestry fire, where thermal cameras make a relevant contribution to the environmental protection.

2. We have a wide variety of settings and different measurement tools like spots or areas within the image, multiple can be configured and depending on the application the choice of the tool to use and the avoidance of areas in the image that can generate false alarms like sun reflections are not considered, also important for sun reflections is to consider the best camera location in regards to the sun rotation. FLIR has the background legacy and knowledge to provide best advise for the optimal combination. We also have the possibility to define the temperature threshold or increase in a time range to trigger an alarm, collecting data and understanding the environment can help to define the threshold in the most efficient way to balance early detection and false positives. We have available deep integrations with 3rd party companies that apply intelligent analytics to the information from the camera in different ways, and can filter alarms based on behaviors and other image and radiometric factors.

3. We have one available on the discover page for the most typical type of application. In this case, to prevent the development of spontaneous fires in the waste piles, our client invested in proven hot-spot detection technology and now monitors the plant with thermal imaging cameras: https://www.flir.com/discover/security/industrial/flir-fc-series-r---german-waste-facility-case-study/ . We also have CAE for forest fire that maybe more attractive/differentiated https://www.flir.com/discover/security/flir-helps-prevent-wildfires/

Nikitas Koutsourais-Marcos
Sales and Business Development Manager Security at Flir
www.flir.com

1. Today's thermal cameras do more than just help protect perimeters in low light conditions – they can also help protect property and assets from fire. Those whose operations present a special fire risk – such as factories, warehouses, waste recycling sites, data centers, and even in car parks where EV Charging Stations are present – can benefit enormously from installing thermal cameras. Thermal cameras "see" the heat of an object at any light level and recognize when that heat elevates to the risk of fire. Hikvision thermal cameras support flexible rule settings and alarms of temperature exception, such as high temperature, low temperature, and temperature difference; alarms are triggered immediately and sent to security teams if there is a temperature anomaly.

2. We incorporate AI algorithms in the camera to reduce false alarms. For instance, in waste recycling sites or landdrills, there are forklifts moving through the sites to transmit wastes, and the wastes are usually exposed in the sun. Therefore, the sunlight reflection and hot engines of vehicles can cause heat. Our thermal cameras using smart algorithm can recognise forklifts to reduce false alarms caused by their hot engine. For sunlight reflection, our bi-spectrum thermal cameras with an optical lens provide visual images of the scene, and analyses if the hot spot is caused by sunlight reflection. If so, it will be filtered. With an optical lens inside a thermal camera, that means if an alarm is raised, it can be further verified by visual images, giving more context to the issue.

3. A recent use case about Hikvision thermal cameras minimising fire risks, is at a major French recycling company. The waste industry deals with a number of potentially combustible materials, from aerosols to lithium-ion batteries. And when these are all put together and processed, the chances of a fire are high. The solution was made up from Hikvision technologies by MyLinks, a specialized fire detection solutions integrator. MyLinks installed a variety of Hikvision thermal cameras, and seamlessly integrate them with the fire prevention infrastructure installed in the premises such as water cannons. So for example when an elevated temperature is detected by a thermal camera, the relevant cannon responds immediately by spraying water in that specific area. The enhancement of a thermal camera makes it possible to detect and extinguish very quickly when a fire does start.

Pom Chen
Thermal Product Marketing Manager at Hikvision
www.hikvision.com

Phillip Antoniou
Vice President EMEA & APAC at Mobotix
www.mobotix.com

1 There are various types of best use of Mobotix thermal solutions. They are indispensable in many civil security and surveillance applications far beyond fire protection. An increasing number of industrial companies, public institutions and authorities use Mobotix thermal technology to protect their assets and personnel. You can even use it to improve production and processing efficiency, resulting in a more significant investment return. Finally, it is also possible to detect threats early on with thermal images, even in darkness or unfavorable weather conditions, e.g., dust, fog or smoke. A thermal imaging system detects hidden suspicious persons due to their thermal characteristics.

2. Mobotix thermal cameras can display temperature variations as low as 0.1 °C within a temperature range of -40 °C to +550 °C., which is within the peak range currently available for general use. Also, using Thermal Radiometry (TR), up to 20 different temperature events can be configured simultaneously over the complete sensor image. This creates preventative measures to analyze critical situations in advance. Finally, you can bring out the high-contrast details by superimposing the thermal image and the real image. This creates sharp images with clear details, showing dangerous "hotspots" that are otherwise not visible on thermal images.

3. Kuhn Rikon is a Swiss company world-renowned for its pots and pans. In 2015, the company suffered a devastating accident. During mechanical pot polishing, an abrasive spontaneously combusted. Since then, all zones of the polishing machine have been monitored separately using Mobotix thermal cameras, which are intelligently linked to the fire alarm control panel. They can trigger three escalation steps independently if required: 1. Heat warning – 2. Pause the machine – 3. Switch off the system. The system has been running smoothly since 2018. Other facilities are also now using this solution. Thanks to the simplified control, productivity has even been increased by approx. 5%.

1. Wherever a small point of heat needs to be detected within a certain area a thermal imager aka Infrared camera must be used. Especially in cases where the exact point of hazard is not known the IR-Imager can detect single hotspots and provide alarms accordingly.

There are typically 3 systems for IR camera usage:

- Scanning systems - The camera, mounted on a pan-tilt arm measures the area at cyclical intervals.
- Stationary systems - One or more fixed installed cameras observe an area according to its field of view.
- Mobile systems – A handheld IR camera is used to measure areas of interest manually.

Optris offers products for scanning systems and stationary systems. A thermal imager visualizes its array of single thermal sensitive pixels. Related to the used optics and resolution of the IR Imager a wide area can be monitored. Such as disposal areas, garbage bunkers, biomass areas, scrap metal or others.

2. There are several levels for set up the system for proper measurement as well as to avoid false alarms. At first the system needs to be set up in a way that only the area of interest is observed. For that reason the IR image of our IR camera can be evaluated very detailed and individually in the software PIX Connect. The areas of what exactly should be monitored and what should be excluded or not be considered can defined by adjustment of different areas of interest, each with individual shapes, if wanted. Additionally, for a hot spot detection, that means a continuous finding of that pixel with the highest temperature, excluded areas can be set up. In this way, false alarms caused by vehicle exhaust, e.g. can be avoided. For sure the alarm value itself or the pre-alarm needs to be adjusted in accordance to the application.

The next level is the self-monitoring function. The user must be sure the system works properly. For that reason, an analogue signal can be created in case of communication loss between camera and computer, power failure or broken cables. The user then is informed immediately, and the control system can react as well to avoid any further downtimes or similar. There are two products available which are even able to work autonomously without using a permanent PC connection.

3. Among others Optris provided its infrared cameras for integration in a fire prevention system in sawmills. The application requires a very fast response if a hazard of fire is recognized. Critical areas along the manufacturing line with several planer machines are equipped with IR cameras of Optris PI640. If a critical temperature value is identified a pre-alarm signal is provided to the control center so the operator is informed immediately. Those hotspots may create by friction between machine and wood, improper machine cooling, damaged blades or just improper planing. If the temperature increases further the fire alarm is activated automatically. The operator sees the whole process centralized on one screen as each single camera is visible in one instance on one screen. The cameras communicating via Ethernet to the central PC. The PLC of the customer gets all information straight from the Process Interface, each for one camera, directly.

Ingo Stahlkopf
Head of Sales at Optris
www.optris.com

Fire Detection via Video Cameras

Video-based fire detection from Bosch visually recognizes fire and smoke. It outperforms other fire detection devices in speed and is particularly superior in buildings with high ceilings. Multiple algorithms are involved with the detection, feeding an artificial intelligence system for alarm decisions. The next camera generation will also be equipped with a deep learning model. With all this intelligence, Aviotec is much more than video-based fire detection. In a new episode of the Bosch podcast from KNOW-HOW to WOW the people behind Aviotec talk about the latest technology security cameras and smoke detection.

For more information about Aviotec please visit:
https://bit.ly/3sIFpmV   https://bit.ly/3mtncZh
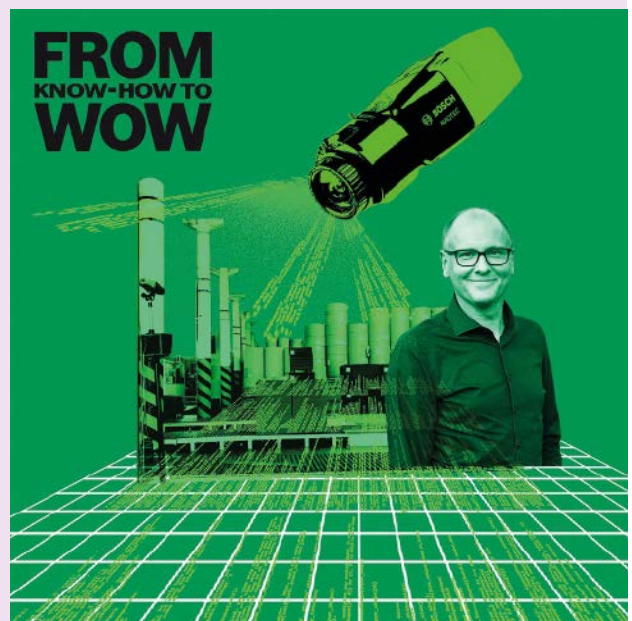
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Intelligent Video Security: Stay Ahead of Copper Thieves

The most recent large-scale copper thefts were a bitter loss for those affected. Some damage could have been averted with intelligent video surveillance. – Copper theft is a profitable business. A ton of copper currently costs 8,000 euros. The metal is so highly valued because it is important in electromobility, among other things. A gang of criminals in the Rhine-Neckar district in Southern Germany took advantage of this tempting prospect and stole 25 tons of copper wire from the premises of a construction machinery company. According to reports, the damage caused by the missing copper alone amounted to 200,000 euros. Not counting the property damage, loss of production and the time and nerves until the incident is settled with the police and insurance. - With an intelligent video surveillance system like the IPS VideoManager it would not have come to this. The system monitors the property around the clock for undesired events automatically and in real time. If a break-in occurs, the security staff, a connected control center or the owner immediately and directly receive an alarm message and can see what is happening on site. With the additional use of intelligent video analysis, the operator can also track the intruder across multiple cameras on the premises – automatically, without manual operation of the individual cameras. This means he is less stressed and can intervene more quickly. Consequently, the police could have been called earlier and some damage could have been prevented. **www.securiton.de | www.ips-analytics.com**
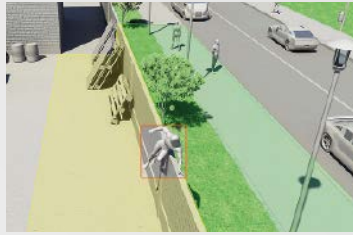
Old Buildings Easy to Equip with Latest Access Control

Smartair door devices are easily fitted without drilling or wires. To install a Smartair cylinder, a professional simply replaces the existing mechanical cylinder with the battery-powered Smartair device. Battery-powered access control devices can add equivalent features wirelessly, at lower and more predictable cost, because no cabling is required around the door. In a wireless system, locks for doors, cabinets and other openings communicate over-the-air with a network of hubs. Wireless access control cylinders offer durable, certified, electronic security paired with a minimal visual impact. At a heritage property, low-profile security solutions are a must. Replacing mechanical locks with wireless electronic door devices reduces the manual workload involved in handling and tracking physical keys — saving time and money for property managers. **www.assaabloyopeningsolutions.com**

Vision and Compliance in Door Design

The Cam-Motion floor springs from Assa Abloy could provide the solution for many otherwise challenging entrance designs, which are about making a great first impression. Yet the journey from architect's vision to the front face of a building can demand compromises, especially where heavy two-way doors need closing assistance for safe, barrier-free operation. Floor springs make any door convenient and also compliant, without clutter or unsightly door furniture. They make a minimal visual impact: everyone's eyes stay fixed on the door design. Installers do not even need to fit hinges as the whole door mounts seamlessly on springs embedded in the floor. They can be of any material, any weight up to 300kg, and double action, push/pull doors. Hidden below floor level by an AISI 304 steel cover plate, Assa Abloy's Cam-Motion technology does the heavy lifting. The pushing force required for these floor springs falls more rapidly than with similar closing technologies. They have independent valves, so latch and closing speeds may be adjusted individually. Little fingers (and their parents) appreciate this extra safeguard. And All valves are thermo-resistant for genuine fit-and-forget performance: when door speeds are set, they stay set, even at extreme temperatures. Every component is durable and suited to even the most heavily trafficked door. To save time in the specification, adjustable power sizes make it possible to equip a building with just two models. All specification details can be delivered as BIM objects and within Openings Studio software for time-saving integration with popular design packages such as Revit. Fully closed doors create better soundproofing as well as a thermal seal. UNEP estimates that buildings consume around 60 percent of the world's electricity – properly closed doors can contribute to minimizing energy waste. **www.assaabloyopeningsolutions.eu**

Visitor Management Solution Update Post-Pandemic

Maxxess has released a major update to its popular eVisitor visitor management solution with new mobile access integrations and touchless reader choices to support more flexible workplace operations post-pandemic. These include options for mobile access control using smartphones, with authorized visitors and site users now able to pass through secure entrances using a choice of more convenient and hygienic contactless and touchless methods, including secure, GDPR-compliant biometrics. Touchless kiosks allow reception staffing levels to be reduced in settings from hospitality to corporate offices, and provide faster, more convenient check-in and entry for guests. eVisitor now grants access when users place their phones in front of a reader like a standard card. Users can 'press and enter' using remote control, they can slide their hand across the reader without needing to take out their phone, they can pat on their phone while it is in their pocket, or they can just approach the reader. **www.maxxess-efusion.com**

All-In-One Indoor Station

Hikvision has introduced its all-in-one Indoor Station product, a tablet device for converging security solutions in homes and offices. With the intelligent indoor station as the management center, users can now enjoy simple control and flexible linkage among various Hikvision devices, including video intercom, access control, intrusion alarm, IP cameras, NVRs, and more. Various devices or sub-systems can be managed and monitored through the built-in Hik-Connect application with a tap on the touchscreen, including unlocking doors, using the video intercom, video monitoring, arming or disarming an alarm system, and more. An alarm system can be linked with a CCTV system to create the video verification function. Users can also easily check the status of their devices, network, battery levels, and environmental temperature to better protect their home and office. **www.hikvision.com**

GIT SECURITY

INNER COVER

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i-PRO

INNER COVER

Full Focus on Excellent Hardware for Security and Medical Vision

60+ Years of Panasonic History Provides the Foundation for the New i-PRO EMEA Business

In July, Panasonic Europe and Panasonic System Communications Company Europe announced the transfer of its European Security and Industrial Medical Vision (IMV) business into a newly founded independent company, i-PRO EMEA. The new company will formally start its operations from 1 October 2021 as part of the Japan-based i-PRO Co. Ltd.* and will be headquartered in Amsterdam. We had the opportunity to talk to Gerard Figols, President of i-PRO EMEA, about the new company, its portfolio and the future ahead.

GIT SECURITY: i-PRO EMEA will be built on solid ground. Can you give us some background on the heritage of the new company?

Gerard Figols: Panasonic has built up the security and IMV business over more than 60 years giving i-PRO EMEA a great basis to build upon. This legacy of great reputation for outstanding image quality, as well as product reliability will be our foundation. However separating the business from Panasonic will equally allow us to create a company that is specialised and tailored to the business fields of security and IMV and meet today's market needs. We are very thankful for and proud of the achievements to date, and looking forward even more to taking developments to the next level.

What has led to the decision of forming the new company i-PRO EMEA?

Gerard Figols: The establishment of i-PRO EMEA continues the approach of separating the global security and industrial medical vision businesses from Panasonic in order to be able to adapt to the current market needs of our industry at the pace required by the market, and by adding more flexibility. This direction started in 2019, when i-PRO Co. Ltd.* was founded in Japan. Since then it has been manufacturing the products, whilst maintaining the same quality management criteria as before.

In order to get the full impact and benefit of a global i-PRO strategy and network, we've decided the time is now right for a specialised company in Security and IMV in the European market. This will allow us to make the necessary investments to align more closely with

Gerard Figols,
President of i-PRO EMEA

our partners and their requirements to grow the business together.

How do you see the transition from Panasonic to i-PRO EMEA going; it's a big step and for sure will bring challenges alongside the opportunities?

Gerard Figols: We are very pleased with the progress of the new i-PRO site in the center of Europe. Establishing i-PRO EMEA is a major step towards further growth. We will make sure that the business continues to operate smoothly throughout the transition period, without disruptions or significant changes to the supply of products or to the levels of pre – and post-sales support that customers can expect from their trusted partner. If there are changes, they will only be positive! Also, all business contacts will remain as they are. However, on top of transferring the business, people and know-how, we have also started to expand our organisation, bringing additional talent which will support us in lifting i-PRO EMEA to the next level and readying us for the future.

What benefit will your partners see working with the new i-PRO EMEA Company?

Gerard Figols: Now more than ever, we understand that time is precious and really matters. And that's what we want to address. Based on i-PRO EMEA's target to be a leading manufacturer, we will deliver the right products, at the right time and at the right price. In order to have the right products, we will implement a

shorter development time to bring the latest technology available to the market. To have the products at the right time, we are going to reduce the production and delivery times. And last but not least, the right price: Our aim is to have our products recognised by the market as good value for money. All these three aspects form the key pillars of the i-PRO EMEA value proposition.

However, more important than what we are going to do, is how we are going to achieve our ambitions: 1. We will implement a quick delivery service with on-demand manufacturing 2. We are already proceeding with additional investments into an agile organisation to revitalize the channel business and 3. we are enhancing our overall competitiveness as a company.

So in summary, our partners will benefit from more products in less time at good value for money, with quick product availability in the EMEA region, as well as a solid and mutual partnership to grow the business together in the future.

What is first on your agenda, and the direction behind for i-PRO EMEA?

Gerard Figols: At the moment? A lot (laughs). But in general my main priority it to change mindset and market perception. Panasonic has a legacy and reputation in the market as a reliable and quality brand, however, we want to be much more than that. We want to become flexible in our thinking, bold in our endeavors and sincere in our initiatives, aiming for good value for money products in line with the i-PRO values. In order to achieve this, we can never forget our most important asset, our partners and customers. We need to get much closer to them, listen to them more deeply, under their

needs, and quickly bring new solutions that fit these requirements and challenges to become their trusted partner. Together we will help create a safer and more peaceful world.

To do so, we want to implement a start-up mentality inside of an i-PRO global company. We are going to bring, and are already bringing, new people on board who will support the mindset transition, as well as making sure we can become the specialist company that our partners and the market are looking for.

Back to the existing product offering. Can you give us an overview about the actual i-PRO product portfolio and any further expansion plans?

Gerard Figols: Our aim is to lead the AI-ification of the security camera market by making AI the new Standard. This is why we have started adding our AI Engine as default into the newly launched S(tandard)-Series, our middle-range line-up that the market has already been familiar with for many years. Starting at 2MP resolution, we currently have 8 new models on sale with AI capabilities and are planning to triple the number of cameras in that range over the next 6-12 months in order to give all businesses access to the advantages of AI.

The bigger brother of our Standard line-up is the X-Series at the top end of our portfolio. It adds cameras for more specialised and niche applications operating in the most extreme environments with the largest processing capacity. The little brother is the U-Series, which still maintains all the original i-PRO quality and reliability promises, but with slightly less features and without AI capabilities to address price-sensitive installations.

So depending on each partner's requirements, they can make their choices to fit their project needs and address the market with the appropriate solution for each specific application for any challenging surrounding. Our hardware in general is designed and built to operate and last in the most harsh and exposed conditions. It uses our unique technology such as dehumidification devices, anti-salt air corrosion protection and ClearSight coating to ensure the best crystal clear image quality and product reliability.

Overall, we position ourselves as a manufacturer with more than 60 years of industry know-how at the highest product standards combined with innovative open technology like AI, whilst respecting data security and GDPR, at good value for money. To underline our new direction and the evolution of the company, we will also begin to use i-PRO as the standalone product identity from April 1st, 2022. It will be the same quality products, only under a different name to embrace this new era and our pride in the i-PRO brand and values.

AI has become the buzzword in the security industry, and you mentioned that you have implemented an AI engine in your latest cameras. What can it truly deliver and how can users benefit in the future?

Gerard Figols: We started advancing AI technology through FacePRO, our in-house facial recognition application, which uses AI deep learning capabilities on the server side. Since July 2020, building on that knowledge, we began offering i-PRO network cameras with AI capabilities embedded directly into the camera, and then Spring this year even went one step further by including AI into our new standard middle-range line-up by default – giving every business customer access to AI and its benefits.

Edge-based analytics offer multiple benefits over server-based systems. On one hand, there are monetary benefits – a cost reduction resulting from the decreased amount of more powerful hardware required on the server side to process the data, on top of reduction in the infrastructure costs, as not all the full video stream needs to be sent for analysis, we can work solely with the metadata. On the other hand, there are also advantages of flexibility, as well as reliability. Each camera can have its own individual analytic setup and in case of any issue on the communication or server side, the camera can keep running the analysis at the edge, thereby making sure

the CCTV system is still fully operational. Most importantly, both systems offer the same high level of accuracy, assuming that analytics can rely on excellent hardware providing crystal-clear image quality – a similar concept to smartphone applications, which also need strong, reliable hardware to make the solution work as a whole.

In order to bridge the gap between the vast capabilities of AI-capable cameras

The i-PRO X5550LT camera with its AI engine allows applications to be customised to meet specific needs

and the multitude of alarms they generate, we have also newly launched the Multi-AI plug-in software allowing users to easily manage the AI analytics from multiple i-PRO cameras, inside of their Video Management System, as the core of a whole AI-eco-system and part of i-PRO's AI-ification strategy.

The overall potential of AI is huge and yet to be discovered fully, which is why our i-PRO AI-driven cameras are open systems, meaning that our software developers kit enables any developers to work on their own apps to run on the cameras. So we will focus on what our industry experience, as the hardware specialists, allows us to do best: building long-lasting, open network cameras capable of capturing the highest quality images required for the latest AI applications, and leave the innovative application specific programming to the software specialists – it's also the same analogy here with the smartphones.

How do you feel AI is changing the security industry for the future?

Gerard Figols: The combination of artificial intelligence and the latest generation open camera technology will change people's perception as the possibilities are limitless. Historically CCTV was meant to overlook a pre-defined space, but with the amount of surveillance growing and unfortunately also the risk of terrorism, deep-learning AI-based analytics allow us to truly access and benefit from the real potential of CCTV now-a-days; the camera acts more like a sensor, rather than a pure illustration device, that can proactively notify security staff in case of unforeseen behaviour patterns. New applications will emerge as the existing generation of cameras is updated to the new open and intelligent next generation devices, and the existing role of the security camera will also continue. In the future we'll not just be relying on security cameras for watching and reporting, but having a much wider positive impact on our lives. They could be used to switch on and off street and building lights as people come and go, where traffic jams are predicted and vehicles are automatically rerouted, where more tills are opened just before a queue starts to form and where cameras identify our personal shopping habits and show us how we might look in the latest outfit based on our likes as we browse – applications way outside of traditional security reaching into every aspects of our life, focusing on the behaviour rather than on the individuals to protect privacy.

I believe we are about to see an explosion of AI camera applications in the same way that we experienced an explosion of smartphone applications, also as a great basis for automation and the introduction of industry 4.0 where processes are automated, monitored and controlled by AI-driven systems, and the team from i-PRO is very excited to play a leading role in this evolution.

* (Panasonic i-PRO Sensing Solutions Co. Ltd
  until end of March 2022)

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SECURITY FOR LOGISTICS

Maximizing Logistics Performance

A Smart Loading Management Solution from Hikvision

At large, busy logistics sites, just a few dock managers control the flow of hundreds of vehicles waiting to load and unload – often causing delays and impacting performance. Hikvision have come up with a solution so that it becomes fast and simple to direct vehicles to available docks, speeding up loading and unloading, and maximizing throughput and efficiency. The Smart Dock feature utilizes video surveillance cameras and some ingenious software to smooth the loading/unloading process.

To meet rising consumer demands for parcel delivery – particularly for goods bought online – logistics companies need to manage their loading docks as effectively as possible. However, dock managers often lack the real-time information they need to make fast, accurate decisions. They may not be able to see which docks are available, which are in use, and which will soon be free. Without these vital insights, vehicles often wait unnecessarily when they could be loading or unloading, causing delays and negatively impacting productivity and the goods throughput of the facility. As an additional challenge, managers are often unable to see which truck parking areas are available. This means drivers often simply park where they can, blocking important areas of the site, or slowing down other vehicles trying to reach their allocated docks.

Dock Management with Intelligent Video

To address the challenges of ineffective and manual dock management, Hikvision has built Smart Dock Management features into its logistics solution portfolio. Using an intelligent dock camera at every loading and unloading bay, the solution provides real-time information that enables dock managers to make accurate, timely decisions across many more docks than would otherwise be possible. The feature incorporates several key capabilities that help to automate and optimize dock management operations. The first of these is dock occupation detection. The Hikvision cameras can detect, in real time, if trucks are loading or unloading at docks, or whether they are unoccupied. The solution also recognizes the truck's license plates to identify the vehicle. This information is relayed to an interactive map, giving managers instant visibility of load and unload operations and docks that are available, 24 hours-a-day. Drivers can then be dispatched to available docks quickly and efficiently via a mobile app.

Parking Optimization and Tracking

Information from dock cameras and other site cameras also provides a real-time view of available parking spaces across the site. This allows managers to dispatch trucks to vacant parking spaces where they can wait without blocking key corridors and routes on the site. Using

cameras positioned inside and outside loading bays, the solution creates a record for later reference. This is essential for determining responsibility and liability in the event of goods going missing or if an accident occurs, such as fragile goods falling from a truck or pallet.

Security Checks and Freight Cost
To maximize security, information from barcode scanners is cross-referenced with video records. This enhances goods tracking and provides an audit trail to ensure goods never 'leak' from the supply chain. By monitoring and recording the entire goods loading and unloading process, the Hikvision solution creates an audit trail for every product passing through the site. This helps to improve the security of goods and to prevent loss of inventory, while also helping to determine responsibility where goods are lost or damaged. Cross-referenced barcode information with associated video footage enables goods to be tracked and incidents viewed quickly and easily. The solution also eliminates the need to manually calculate transport costs for parcels, based on their weight and size. Instead, it uses product information from barcode scanners to automate the process.

Digital Dashboard
The solution includes a digital dashboard that displays all the docks, showing if they are available or occupied. The dashboard also displays historical performance data, allowing staff to optimize operational efficiency, optimize scheduling and take staffing decisions, and speed up the time between vehicles arriving and leaving. Together, these benefits serve to improve the overall operating efficiency of the logistics park. Logistics operations can improve their throughput and performance, while also providing far better experiences for dock managers and

truck drivers. Throughput is increased with features that automate a range of key processes, including goods tracking, security checks, sizing, and weighing. This all helps to improve operating efficiency, delivering significant cost savings for logistics operators.

Happy Drivers
Using the Hikvision solution, dock managers can handle their workloads much more easily and make the best decisions across a large number of vehicles and allocated docks. Drivers get clear instructions on where to park and where to wait, and are able to load or unload much more quickly than would otherwise be possible. This avoids frustration caused by having to wait for a free dock and helps them to meet their demanding schedules.

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SPECIAL FOCUS STADIUMS

Stadium Security in 2021

Or: "How to Make a Big Wide-open Building with Lots of Entrances and Exits and Thousands of Unknown Visitors Safe and Secure"

SPECIAL
FOCUS

The ancient roman amphitheatre Arena di Verona

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We have been holding sports events for thousands of years, where dozens of competitors and thousands of spectators come together to race chariots or formula one cars, to throw spears or javelins, to wrestle or see who can run the fastest, to play some ball game like rugby, hockey, baseball, tennis or soccer, or even to hear some musicians at work. You would think that by now we would have safety and security at such events under control. Well, by and large, we have, but improvement is always possible. GIT SECURITY looks at some of the security products and solutions specifically conceived for stadiums, and others that add a lot to overall safety and security.

Whether a stadium is old, new, or even just about to be constructed, a great deal of thought must go into the safety and security of everyone who is going to attend events there. To quote Lewis Carroll, we should "begin at the beginning, and go on till you come to the end: then stop." So where is the beginning? Let's first of all consider the most numerous group of people, the spectators.

Access Control – The Way in
To prevent those getting into the stadium who are only intent on causing trouble of one kind or another, we need a type

of access control. In its simplest form, this can be the ticket – paper or digital – purchased in advance and checked at the gate. This process though is slow and requires a lot of personnel to operate. A quicker solution is provided by Flowte, who can provide a complete stadium access and ticketing management solution. Laser barcode and QR code scanners are quick, flexible and efficient in controlling the validity of tickets, either in paper form or as images on mobile devices. They integrate with turnstiles from various manufacturers. You might also make contact with SecuTix who have adapted their ticketing solution to be able to observe the applicable social distancing

regulations for that particular venue. StadiumGuard from Biosec offers a modular solution that includes biometric identification options to create a zero-tolerance security system, which ensures that banned 'fans' really are kept out.

The ticket purchase process may already allow some pre-selection of preferred spectators by using the data that process generates to flag up any known troublemakers, criminals or indeed terrorists. Even so, weapons may be brought into the stadium by previously inconspicuous spectators. Evolv Technology has developed a solution aided by artificial intelligence that helps to detect a wide range of concealed firearms, metallic

Systems from Evolv can detect a wide range of weapons, metallic and non-metallic items of interest

© Dallmeier

The well-known Panomera multifocal camera systems from Dallmeier provide both, a wide-angle overview, as well as the ability to simultaneously zoom in on individual people

in people and object screening, Smiths Detection have a complete palette of detection products capable of sniffing out trouble before it gets any further.

Vehicular Access
Controlling which vehicles have access to the 'inner sanctum' of a stadium can be, at least partially, automated these days. As well as the traditional portable medium such as a magnetic stripe card or an RF token that is presented to a reader at the vehicle entrance, there are also automated barriers operated by radio signals, by recognition of a symbol in the windshield, and also by the analysis of the registration plate of frequently visiting vehicles. This latter version has the advantage of being almost a free add-on with today's video systems (see below). They are looking anyway at such entrances and exits and a simple plug-in to that system will provide reliable plate recognition to automatically grant access to authorized vehicles without further human intervention. They interact with pole barriers, electric gates or buried

weapons and improvised explosive devices carried by a visitor entering a premises. The 'hands-off' solution is quicker than pat-downs by security personnel, will detect different types of threat more reliably and has the additional advantage that pockets and bags do not have to be emptied. With many years of experience

road blockers, or bollards such as those provided by ATG Access. The Wedge road vehicle blocker from Gibraltar may also be of interest to you.

Security Video Surveillance
Let us move on to an old favorite of security personnel. Camera manufacturers have been working together with stadium operators and security forces around the world for many years to provide high

Capable of stopping cars, bikes, busses or trucks from getting any deeper into a protected compound, just the sight of the Wedge barrier from Gibraltar will put any potential ram-raider off the idea immediately

definition images of individual members of the public amongst the crowd - let's call them 'fans', even though that is sometimes not what they claim to be. The results are impressive and, coupled with today's intelligent video analysis techniques, it is relatively easy to have an alert raised quickly when known troublemakers are spotted within the stadium by automatic and continuously running face recognition. Of course, local laws on privacy may have an influence on the extent to which surveillance of individuals may be used, but generally there is no political objection to fishing out those who are only there to cause trouble. You will find systems from, amongst others, Dallmeier who provide their well-known Panomera camera in stadium environments. This delivers not only wide-angle views but also high-definition zoomed images of individual spectators, and both from the same multi-focal camera unit. To control all video operations and be able to rapidly respond to emerging security situations via a single, modular platform, Genetec offers their Omnicast solution. Plug-in video analytics modules can transform the data arriving from the cameras into actions and enhance overall security.

Health Video Surveillance

Facial recognition is widespread these days and used for various purposes. An important 'spin-off' capability of this is,

unfortunately, temperature checks of people entering a facility. One of many systems on the market is facial recognition and thermal imaging technology from Purview which analyzes people as they file into a stadium. The system checks and gives access to one of two routes – one leads straight in for those with no alerts and, if a raised temperature is detected, the other leads to a quarantine area where stadium officials can take further action.

Audio Alerting

In an emergency, concise and clear instructions on what action to take will help to minimize the negative effects of whatever event is occurring. The only way to communicate to a crowd of

people is audibly, and a stadium's loudspeaker system must therefore be carefully configured to cope first of all with the noise created by thousands of people and secondly with the very strange acoustics of the different shapes and sizes of stadiums. Powersoft can provide a Dante-enabled system, tailored with clever software control, to the individual characteristics of any particular stadium, no matter whether under an open sky or a closed roof. Detailed consultation will also be undertaken by Nexo in the planning stage to ensure that their public address/voice alerting system fulfils and, probably, even exceeds your expectations of clearly audible stadium sound.

Valuables Storage

Going below the rows of spectators above, our second group of people at stadiums are the players, artistes, hospitality staff, team coaches and officials who are busy with the sporting event or concert upstairs, while their personal belongings are often kept in lockers in rooms within the depths of the building below the seating. The amount spent will to some extent dictate how effective these lockers are against theft taking place when the locker rooms are deserted. Sadly, many simple lockers can be opened in seconds with a simple crowbar bought from any hardware shop. There are alternatives, such as those from the wide range produced by C+P Möbelsysteme in Breidenbach, Germany, while the basquill locks fitted by Rosstec to their lockers will frustrate any would-be thief.

Conceived, trimmed and adjusted for any size and shape of stadium, Nexo have a palette of products available to ensure clearly intelligible audio

Fire Detection

There have been some tragic examples of inadequate fire detection within stadiums in the past. Thankfully, hardly any stadiums still in use are built of wood as they used to be. Nevertheless, there are still potentially flammable materials and risk areas in any stadium today, such as in the often large kitchen areas and an up-to-date fire detection system therefore belongs at the top of the list of essential equipment. Addressable detectors pinpoint and smoke or gas accumulation, which is shown on the schematic map of the complex. Using optical flame and open path gas detection, the significant offshore experience of Spectrex in the oil and gas industry and their specialist detectors is also beneficial for a stadium environment. Esser Systems provide turnkey fire/gas detection systems built on their spectrum of flexible components, which includes rate-of-rise and flame detectors as well as aspirating smoke detectors.

Lightning Protection

Carrying on back up into the fresh air, many stadiums have open roofs with no opportunity to close them. This poses a deadly risk for players and spectators if a storm develops nearby. Some parts of the world have more frequent electric storms than others, but the risk of a lightning strike is everywhere, and they are nearly always unexpected. But the TWX300 thunderstorm warning system from Vaisala can provide early indication that trouble is brewing by detecting static charge, which gives time to retreat under cover to safety. The system can trigger lights, sirens or other devices when there is potential for lightning strikes. Biral, who also make systems for the aviation industry, offer the BTD-200 system to give advance warning of thunderstorm threats. CRS in Wisconsin have put all their significant experience into their Strike Guard lightning warning system. This provides various levels of alarm of an approaching lightning threat.

The Holistic Approach

If Aristotle was right, then Armored Things' approach to management will make the whole stadium more than the sum of its parts. Their software takes input from both new and existing systems and combines predictive physical security analytics with real-time data to minimize risks. Among other aspects, the package provides Covid-related access management and crowd intelligence results as well as enabling better space utilization. The Singapore-based ESS Group also look at the whole task ahead of each event and provide comprehensive security personnel and services through their worldwide network of highly-trained resources.

For the stadium management, safety and security can sometimes – erroneously – be viewed as a necessary expense without a return. In fact, some of the systems and services mentioned above deliver valuable data about the people that visit their stadium, their preferences and habits. From that one can deduce where there is opportunity for change and/or improvement and, ultimately, higher revenue. So, for now at least and until the next review, we have reached the end. Thank you Lewis.

Contacts

Armored Things – www.armoredthings.com

ATG Access – www.atgaccess.com

Biosec – www.biosecgroup.com

Biral Lightning Protection – www.biral.com

CRS Lightning Warning – www.crs4rec.com

C+P Möbelsysteme – www.cp.de

Dallmeier Cameras – www.dallmeier.com

ESS Group – www.ess.com.sg

Esser Systems – www.esser-systems.com

Evolv Technology – www.evolvtechnology.com

Flowte – www.flowtesport.com

Genetec – www.genetec.com

Gibraltar – www.gibraltarus.com

Nexo – www.nexo-sa.com

Powersoft – www.powersoft.com

Rosstec – www.ross-tec.de

SecuTix – www.secutix.com

Smiths Detection – www.smithsdetection.com

Spectrex – www.spectrex.net

Vaisala Thunderstorm Warning – www.vaisala.com

Axis PTZ camera for stadium surveillance

It's Football Season

Returning Sports Fans to Stadiums Safely with Smart Technology

The atmosphere of being in a sports stadium is often as important as the event itself, if not more. The pandemic forced fans to abandon venues and watch sports events from their sofas at home. There is now hope for a return to normality as several countries around the world have re-opened their stadiums at varied capacities. Accordingly, many fans are eager to return to the stands for upcoming football seasons. However, in many cases, significant changes are required to ensure the health and safety of fans. Smart technologies like network cameras, smartphones and analytics are helping to ensure safety and security while also improving stadium operations and enhancing fan experience.

For many fans, the pre-match picnic in the car park is a big part of the game day experience. However, left unmanaged, this can easily turn into an overcrowded gathering. Network surveillance cameras can give security a comprehensive view of the car park. With the addition of video and audio analytics and speaker horns, security can be alerted when a party grows beyond a point considered safe. Staff would then have the option to physically intervene or broadcast a warning to revellers before the event gets out of hand.

Smartphone and Surveillance Solutions

A lot of stadiums were switching from paper tickets to e-ticketing even before the pandemic, as it saved them the cost of printing and mailing fans their tickets. Scanning a fan's smartphone is far more sanitary than exchanging bits of paper at the gate because it reduces the need for physical exchanges.

Smartphones can also be used to help stage entry times into the stadium. Instead of the traditional stampede when the gates open, stadiums can notify fans through a smartphone app when it is their turn to queue at a specific gate. Video cameras can play a role in maintaining social distancing by monitoring each entrance. Adding queue management analytics will enable bottlenecks to be addressed at the entrance in real-time and automatically alert staff when they need to move some fans to a less congested gate.

Health and Safety Inside the Stadium

To keep fans and staff protected, stadiums can shift to touchless, cashless

operations. Stadiums can adopt their own version of 'click and collect' to avoid crowded concourses for when fans line up to purchase food and souvenirs. Resultantly, instead of congregating to eat on the concourse, fans can place and pay for their orders through their smartphones and then be notified when they are ready for pickup. Once they pick up their order, the new norm will be to return to their seats to eat.

To further minimize the opportunity for virus transmission, stadiums can retrofit bathrooms with touchless door controls, faucets, and towel dispensers. To ensure safe social distancing, video analytics and network speakers can also be used to track and limit how many people can be in a bathroom at a time.

In the VIP lounges and bars, occupancy management analytics can be used to enforce assembly limits dictated by local guidelines. If a gathering crowd reaches a threshold, stadium personnel will automatically receive an alert to disperse the group into smaller, socially distant parties.

Surveillance Technology for Exiting

If the home team is losing the game or it is such a one-sided match that the ending result is inevitable, fans are likely to exit early to beat the traffic. During this point audio communication can be used to manage the movement of the crowds and keep everyone informed. Network video surveillance cameras can monitor the behaviour of fans and alert if any violent behaviour is taking place.

Stadiums are exploring strategies that will allow them to maintain health and safety standards without feeling too restrictive to fans. It may take quite a bit of trial and error until a workable solution is reached but smart technology solutions can help.

Smartphones and surveillance technology play a key role in ensuring the safety of fans during the football seasons. The technology can impact safeguarding from the point of arriving at the stadium, all the way through to the end of the event when fans exit. As more stadiums reopen their doors to the public and their capacities increase, it is crucial that people's health and safety is a primary concern.

Author:
Mark McCormack, National Sales Manager of Global and National Accounts at Axis Communications

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Automatic Systems: Diras Technology for Latest Pedestrian Products

Paying particular attention to technological innovations and with a strong desire to improve the quality of its equipment, Automatic Systems has incorporated the Diras technology into its latest pedestrian products: SlimLane security entrance lanes and FirstLane security turnstiles. This highly advanced technology makes Automatic Systems products the best in class for electronic detection. The Diras detection system consists of a high-density matrix of infrared transmitter and receiver photocell beams. It follows the users' progression through the gate as well as ensuring their safety during opening and closing of the obstacles. Moreover, it detects fraud attempts (such as tailgating) and recognises different passage scenarios. Thanks to its multi-directional infrared beam matrix (beams every 22, 5 mm) and its predictive algorithms, this innovative technology allows the system to analyse and anticipate the size, position, speed and direction of the user in the lane. Moreover, the detection system filters anything that may cause interference, obstruct or fall into the lane passage and which is not a security threat (such as arm movement, hand luggage etc.). Another advantage of Diras technology is its ability to track multiple entities in the lane in order to manage efficiently the flows of persons and generate much faster throughput rates.   **www.automatic-systems.com**

New i-Pro S-Series Network Cameras

Panasonic i-Pro Sensing Solutions Corporation of America announces their new i-Pro S-series line of network cameras. With the new i-Pro S-series, the AI processing found in Panasonic i-Pro Sensing Solutions' premium products is now available in their mid-range line of cameras, the S-series. The new i-Pro S-series comes with a built-in AI processor that transforms the camera into an edge-computing device to improve your surveillance operations, and it also offers the ability to select and install third-party applications without a cloud- or server-based connection. The new i-Pro S-series cameras provide stronger H.265 coding efficiency to conserve network bandwidth and server storage capacities, and stronger image processing optimization allows them to adapt to changing environments. This means these new cameras produce clearer images with less noise even in low-light conditions. Another addition to this new line is sound classification, which allows you to set alarms for targeted sounds, such as gunshots, yelling, vehicle horns and glass breaking, using an external mic. Plus, the new i-Pro S-series is compatible with i-Pro's multi-AI system, a time-saving search function that quickly finds people or vehicles through the video management software, Video Insight and Genetec.

https://ipro.panasonic.com/en/

COVER STORY

More Features, Convenience and Security

## GIT SECURITY Follows the Introduction of a New Generation of Locking Technology from SimonsVoss

SimonsVoss launches into a new era of digital locking technology with the Digital Cylinder AX

SimonsVoss is entering a new era of digital locking technology with the Digital Cylinder AX. The system is setting forward-looking innovation standards in terms of security, functionality, energy efficiency and scope of services. Outstanding ease of installation and convenience make the system market-ready to exceed the expectations of both market partners and users.

"The technological basis of the Digital Cylinder AX is formed by the new AX system platform," explains Oliver Brandmeier, head of product management. "Other core elements include developments in operational reliability and stability, the modular design as well as fast and efficient commissioning." The AX system platform provides a guarantee for the new cylinder's future-proof communication with all variants and options of the established reader types (active, passive, and hybrid), the standard Bluetooth Low Energy (BLE) interface, the initial rapid programming and the option of mobile reprogramming via a smartphone app using BLE. "This means programming in just a few seconds" says Tobias Lerzer, the product manager responsible. "You can also read access lists or directly open doors in an emergency via BLE using the new SmartSync service app."
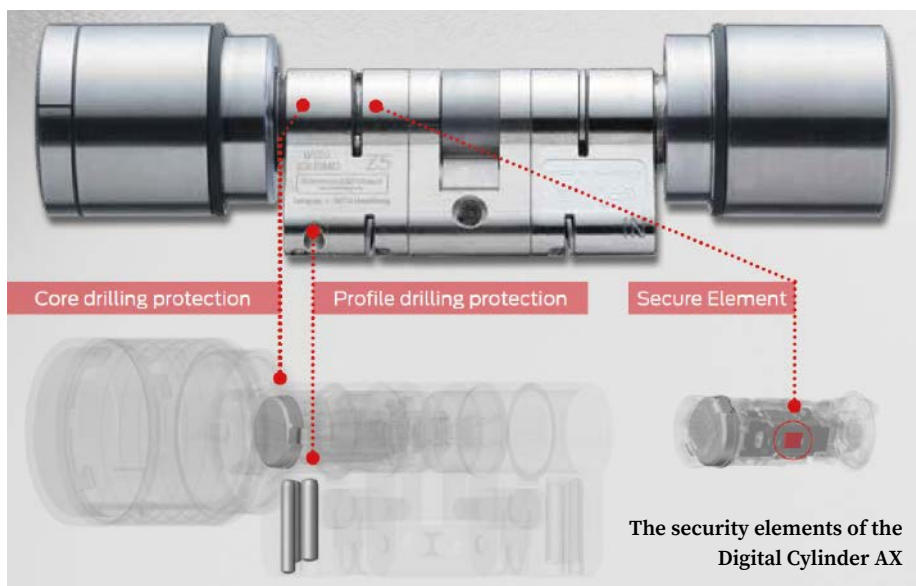
Protected Actuator Electronics

The AX system platform is also synonymous with maximum security: the actuator electronics with an integrated Secure Element are located behind the drilling protection element in the cylinder core. The Secure Element stores the encrypted system data, is an integral part of authentication and cannot be manipulated from the outside. It is a technology that Apple also uses in their new iPhones. The AX principle, which is also used in other products with readers in outside areas,

The security elements of the Digital Cylinder AX

Core drilling protection   Profile drilling protection   Secure Element

According to the manufacturer, the system can run for up to twelve years in standby, by far the longest battery operation amongst its competitors

provides visual and audible feedback for the Digital Cylinder AX and allows the battery to be replaced at any time. Further improvements in the feel and the ergonomics of the cylinder's compact knobs has made them even easier to grip.

Battery Capacity of up to 12 Years on Stand-by

An important element in operational reliability is the extreme longevity of the new cylinder: "We have been able to further improve the current, highly reliable cylinder in this respect. The system easily attains the highest durability class 6 specified in EN 15684," explains Lerzer. "This corresponds to 100,000 test cycles. In an additional voluntary test, we had an accredited testing institute perform 1,500,000 mechanical actuations (corresponding to 750,000 test cycles)." The cylinder's standard version also attains the maximum drilling protection class 2 as per EN 15684, which is noteworthy in the market.

There is also an additional VdS version with additional drilling protection to meet greater protection requirements. An important factor during development was the energy efficiency and the longest possible stand-by time. "This is crucial for battery life," explains Lerzer, "because stand-by ac-counts for 99.9% of the operating time. Although the extremely powerful AX platform with the new actuators requires more energy during operation due to its nature, we can offer the longest battery service life by far compared with the competition, with up to 12 years on stand-by." This capacity has allowed us to increase the already very long standby times in the current cylinder generation. In terms of operating costs, this means savings of up to 90% on an average system over a period of 10 years.

Greater Flexibility, Less Installation Work

Less complexity in planning and production and shorter turnaround times are the key advantages of the Digital Cylinder AX's modular design. Different versions and options are available for all reader variants and designs, including hybrid and half cylinders. The option of length adjustment reduces the effort of installation on site. Short cylinders, glass door cylinders and other options in the product range significantly increase the Digital Cylinder AX's application potential.

Typical of the company's other products, this new solution can be rapidly installation and commissioning of the cylinder. It can be installed in just a few seconds with no need for special tools and initial programming takes very little time at all. "With the new Digital Cylinder AX, we are continuing our success story as a pioneer in digital locking cylinders, concludes Lerzer.

Images © SimonsVoss

Ludger Voss,
Managing Director
of SimonsVoss

Not a Single Part is the Same as Before

GIT SECURITY Put Some Questions to Ludger Voss and Bernhard Sommer of SimonsVoss Management on Their New Digital Cylinder AX

GIT SECURITY: What were the greatest challenges in designing and implementing the Digital Cylinder AX?

Ludger Voss: The demands on all the company's departments were very high. We have reached technological limits with the current platform. In recent years, we have been confronted with ever-changing requirements – for example, with regard to IoT, mobile devices and cloud applications. Developing existing products further was not enough and we have therefore developed a completely new cylinder generation.

Bernhard Sommer: I mean what I say when I tell you that no functional principle in the Digital Cylinder AX is identical to the previous model, no single part is the same.

What unique selling propositions does the new cylinder offer on the market?

Bernhard Sommer: It is not so much individual properties standing out; it is more the breadth and combination of optimizations that unlock the potential for innovation – a true evolution. Our primary aim is to provide permanent functionality (1.5 million mechanical actuations), integrated drilling protection in the core and profile, an encapsulated actuator sleeve for the electronics for optimum impermeability and maximum energy efficiency with up to 12 years stand-by time.

Ludger Voss: We have given particular thought to practical use – regarding modularity, for example, which not only involves simple length adjustment, but

also offers the use of retrofittable core extensions on the outside for round holes in doors. The thumb-turns can also be detached at any time. The cylinder does not require any special tools for its installation and programming takes just a few seconds, also using BLE with the new AX SmartStick. The new magnetic key is used to uninstall the cylinder and replace the battery; this also takes very little time.

What does the term "new AX security architecture" mean?

Ludger Voss: The AX security architecture is based on the consistent strategy of accommodating all security-related aspects of the electronics – actuator con-

Bernhard Sommer,
Managing Director of
SimonsVoss

trol, storage of system keys, authentication processes, etc. – within the protected interior of a locking device, i.e. in the actuator in the cylinder core behind the drilling protection. A special Secure Element (similar to those on cash cards or in the latest iPhones) is systematically used to store and calculate critical system data. The challenge was to accommodate all functions in the tiny installation space available without changing the design of the cylinder. New manufacturing processes and materials have been used to improve quality and reliability. We have not made any compromises on tampering protection.

Do you intend the Digital Cylinder AX to replace the current TN4 cylinder in the long term or will both systems co-exist permanently?

Bernhard Sommer: Over the next few years, they will operate alongside one another. The market will ultimately decide everything else. We are waiting to see how trends develop. We haven't set ourselves targets or time limits.
Ludger Voss: It is important to consider the principle of compatibility in this context,

a long-standing tradition in our company. The new Digital Cylinder AX can be used in existing 3060 systems. We need to wait and see to what extent users will actually make use of this option. Whatever happens, the current software version LSM 3.5 (SP1) or the first version of our AX Manager, AXM for short, is all that is required to put the cylinder into use.

Are there any specific applications for which the Digital Cylinder AX is particularly suitable?

Bernhard Sommer: Its strength lies in its versatility. The system can be used practically anywhere and is more resistant to water and external influences (IP67) thanks to its innovative technology. We will also offer short cylinders measuring 25 mm for narrow doors plus a glass door cylinder with even smaller dimensions at a later stage.
Ludger Voss: The new cylinder's product portfolio already covers 98 percent of market requirements from the outset. This doesn't mean there will be no further developments in specific areas. In 2022, we will be offering the DoorMonitoring version with new sensor technology for all door installation types, including for MobileKey, our solution for small commercial units.

Are there any significant changes to the locking media?

Bernhard Sommer: No. Available in all versions, our hybrid cylinders can, as a basic rule, be operated with standard RFID cards. A mobile credential based on Bluetooth Low Energy (BLE) is in the pipeline; emergency opening for the system administrator using a smartphone is already possible with the help of the new SmartSync service app.

How was the Digital Cylinder AX tested?

Ludger Voss: This was the first time we carried out tests in-house on our own test benches and also in our own building. This allows us to reproduce component tests and carry out continuous production control during production runs. We had already started the first tests externally back in summer 2019. With over 1,000 cylinders installed in more than 40 properties, it became the longest, largest field test in SimonsVoss's history. In autumn 2020, we started to expand the test program with a further 3,000 cylinders in all approved variants. Among others, the test locations included large industrial companies and educational institutes with well-informed and necessarily critical observers of our innovations. The results made us very optimistic: not a single test cylinder needed to be replaced.

Where is the new cylinder produced?

Bernhard Sommer: Production takes place at our site in Osterfeld, which has been expanded by over 3,000 m² with a new hall built primarily for the new cylinder. The biggest challenge was introducing the processes with the extremely complex parts and setting up lean production, i.e. very streamlined and very efficient. Christoph Krüger, Head of Operations, and Andreas Löber, Project Manager in Production Engineering, planned and undertook the project as those responsible on site. Together with the entire team, they set up an impressive custom-built production facility that provides market partners with high-quality, high-performance systems that meet our standards.

What sales support measures are available for the market launch?

Bernhard Sommer: We are holding numerous specialist events for different target groups, obviously currently including online events, from a small, specially designed TV studio. We have also produced videos about the system, all its technical features and its installation. There are demo cases for the field sales team containing a thumb-turn cylinder, visible modular parts and locking media, which are also available to specialist retailers, and a presentation suitable for monitors, which can be shown to market partners. It goes without saying that standard materials such as brochures, data sheets and price lists are also available electronically via the SimonsVoss media library.

Besides Germany, where else is the Digital Cylinder AX available?

Ludger Voss: The market launch takes place throughout Europe at the same time, in all countries where we already operate. In Scandinavia, we're starting with the oval profile that is standard there and with round profiles in Switzerland.

What about delivery times?

Bernhard Sommer: They are currently within the usual range between two and four weeks. We're also able to meet these delivery periods during the current phase despite the high demand. We have expanded production to ensure we can offer the usual high, German-made quality standards.

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ACCESS CONTROL

Access Data Benefits

Aperio Wireless Locks' Integration with Siveillance Access Improves Businesses' Security

The recently announced integration of Siveillance Access from Siemens Smart Infrastructure Suite with Aperio battery-powered access control from Assa Abloy puts security at the core of any smart building. These buildings become trusted environments for those who work there or visit, offering reputational benefits to their occupants. They are more resilient and more cost efficient to manage.

Powerful integration of wireless locks generates valuable data

Wireless, battery powered locks, connected to a building management solution, make it simpler and more cost-effective to extend access control further into a building. This increases the overall security of the premises. Movement around the site can be monitored and measured to extract insights about building use, while reducing breaches and thefts. Filtering access deeper into a building — far beyond the perimeter or entrance door — provides an opportunity to harness this valuable business data.

"Interoperability across management functions is critical to making buildings smarter and to powering the next generation of building automation," says Richard Sharp, product unit director for wireless door locks at Assa Abloy Opening Solutions EMEIA. "This powerful integration helps to give security managers more granular control over doors and building usage." Deeper access control also enables more flexible use of space: access may be varied depending on the time of day or week, for example, making 'touchless office' policies easier to

implement. In the case of one-off events, open access can be extended widely then quickly returned to secure status.

Cost Efficiencies

A company's choice of access control technology can significantly impact costs. According to a recent Assa Abloy benchmarking analysis, choosing wireless rather than wired door locking, for example, brings a large reduction in energy use: more than 70%, or thousands of euros over a typical security installation's life-cycle*. Installing locks which do not

need wiring around the door is also faster, less disruptive and more cost-efficient than wired door security. These cost savings present a strong business case for investing in wireless access solutions.

Integration collaboration with Siemens supports a growing number of devices from the Aperio battery-powered lock range, including the escutcheon (E100), cylinder (C100) and server rack (KS100). Each integrates seamlessly with the SiPass access control system, giving security teams control over almost any interior or exterior door — including wooden and glass doors, as well as fire doors — from a single, familiar interface. Aperio locks are compatible with all major RFID technologies, as well as mobile access via NFC and Bluetooth. All communications between lock, credential and system are of course encrypted.

Extending University Access

An integrated system is already deployed at Hamburg's Hafen City University (HCU), where Aperio wireless locks extend intelligent access control from Siemens. Around 500 battery powered Aperio cylinders are connected to and controlled by the Siemens system. These locks have built-in RFID readers, so it was cost-effective to add access control to many more doors than would be feasible with traditional security. HCU's new building accommodates around 2,400 students plus 460 staff. It incorporates flexible-use spaces including a media center and library, seminar rooms, laboratories, and offices. To enhance security, the validity period for any credential can be adjusted for different use authorizations, and a card's access rights tailored to every individual.

The flexibility of Aperio means HCU's facility managers now have greater control. They can respond to organizational changes in real time, only needing to administer one unified system. And they no longer have to deal with the daily workload of physical key management. The university campus is a more intelligent, responsive environment for those who work and study there.

Altronix High-Capacity Trove Solution

Altronix announces a new Trove Access and Power Solution now available, which increases capacity to accommodate more Mercury access hardware with or without Altronix power from a single enclosure - saving valuable space. "Our Trove access and power integration solutions make system configuration and deployment faster, easier and more profitable, without compromising quality or performance," Ronnie Pennington, Director of Sales for the Americas at Altronix. "This new Trove angled bracket system, adds to these benefits by supporting up to 36-doors without power or 24-doors with Altronix power and sub-assemblies from a single enclosure for the largest access control installations." The unique angle bracketed system provides a scalable option that allows system designers the flexibility to accommodate more Mercury access hardware, Altronix power and sub-assemblies all in one Altronix Trove3 size enclosures without the need for mounting hardware on the enclosure door.   **www.altronix.com**

Major Update for Access Control

Vanderbilt Industries has launched the newest version of its cloud-based access control system, ACTpro 3.1. "The integration of ACTpro 3.1 with Network Optix delivers ease of management to our customers," said Michael Moyna, senior product manager. Also included in this update is the support of a custom card format, such as Wiegand card formats that can be sent to individual controllers. This allows the customer to have different credential Wiegand formats at a single door and integration with Network Optix to instantly visually verify access control activity and video events directly from ACTpro. Integration partners gain the convenience, control, and security that simplifies managing the system while adding operational efficiency and complete situational awareness for end-users.   **www.vanderbiltindustries.com**

Access Management System for Racetrack

iLoq has had an interesting collaboration with the newly-completed KymiRing – the only MotoGP track in Northern Europe. Certego was responsible for the locking equipment contract of the track, while the digital iLoq S was selected as the locking and access management solution. KymiRing has already been described after its short first season as one of the best in the world. The iLoq 5 Series system allows the customer to maintain an accurate overview of access and to update keys and access rights remotely, without the need to visit the site. "The iLoq S5 access management solution brings the customer a trouble-free solution that improves the security level of the track and the entire site. Different users can access the track and site easily at defined times without the constant need for on-call service at the site or worrying about returning the keys," said Esa Valtonen, sales manager at Certego.   **www.iloq.com**

Wireless Ethernet Solution

Comnet has introduced its Generation 4 line of Netwave wireless products that offer greater performance and increased stability. The NW1 Gen 4 can exceed 500Mbps throughput under ideal conditions, accommodates 10/100/1000Mbps Ethernet, and now also has IEEE802.3at PoE Compliant PD on port 1 and an IEEE802.3af power source (PSE) available on port 2. Distance is specified for applications of up to 2 miles. The new hardware features a high-performance chipset with a quad-core CPU that is designed to meet the high throughput demands that surveillance applications require. The NW1 is available in kit form, the NWK1, and consists of two MAC Address-locked radios and mounting hardware. Each NW1 unit is designed for extreme conditions and has an extended operating temperature range as well as being IP67 rated for resistance to water and dust intrusion.   **www.comnet.net**

ACCESS CONTROL

Both Sides Now

Locks With a Panic Function – And License-Free Access Administration Software

The ÜLock B locks from Südmetall provide security on both sides of the door – to protect human lives and valuables: there is always an escape route guaranteed by the panic function in the direction of escape. And the self-locking function ensures that the door is otherwise always locked. The lock has no parts that can be attacked from outside as the electronics are completely enclosed within the lock housing, and the lock itself has a high resistance to mechanical manipulation. The best possible encryption is used for data transmission between lock, RFID card and RFID reader – that ensures optimum protection against break-ins. Access control administration is through the license-free ÜManagement 2.0 software.

© Foto: Adobe Stock 96092853 / Südmetall

The access system from Südmetall: flexible, simple and easy to operate

The office building of Südmetall shows how an offline-based access system can be implemented, without having to carry out major alterations
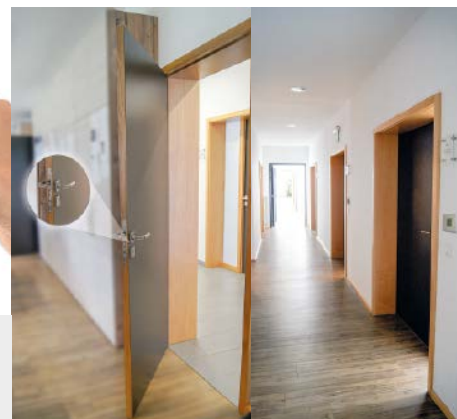
Ü Lock B from Südmetall is a family of locks with a panic function. They are available in many versions: ÜLock B Cable, B Battery and B Inductive. The ÜLock Z is also totally new on the market – this is in fact a ÜLock B with access control from both sides, i.e. without a panic function for particularly important rooms. There are also cabled, battery-driven and inductive versions of this too.

The fittings can be chosen according to the design requirements of the respective property: additional or new fittings are not absolutely necessary. Opening the lock is very convenient for the user: a valid card is held close to the reader and the door can be opened by turning the handle.

Retrofitting

The ÜLock locks are ideal for retrofitting because the doors do not have to be cabled. Added to that, the 'Data on Card' functional principle of access control means that no cabling has to be run between the doors and the computer. Both the battery-driven and the inductive locks are compatible here. It is possible to share the power supply for both the reader and the ÜLock B Inductive, or alternatively a battery-driven reader can be used. The locks can be used in fire doors too – they are correspondingly approved for such use.

Administration software for access control

ÜManagement 2.0 is a license-free administration software for access control that provides administration for individual objects but also for small to medium-sized hotels or multiple objects simultaneously. The uniform administration of different locks allows ÜLocks, electronic cylinders and cabinet locks to be addressed and, depending on the individual requirements, individually managed. Authorizations and user groups can be directly assigned to the individual locks using the software.

Commissioning can be either via a 'Standard' installation or via SQL.

- Standard: very simple installation / single administrator version
- SQL Server: multiple administrators (computers at which the system can be managed)

The software provides a number of advantages: users need only one transponder, not a heavy keyring. The security risk is low if a transponders is lost (a lost transponder can be barred or put into a blacklist with very little effort).

There is more convenience and security for the operator, for example through individual rights and automatic locking.
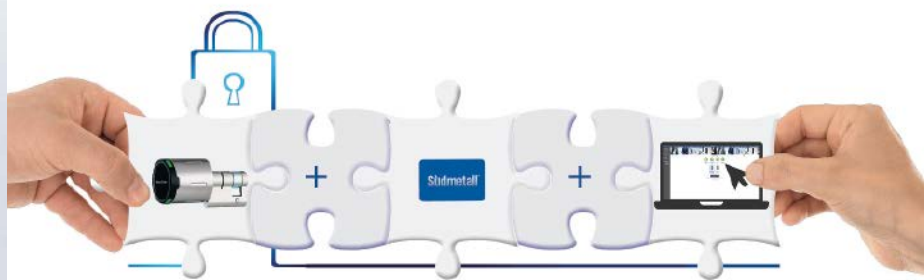
As running a cable to the entrance door would be too complex, an electronic cylinder is used here

There are no licensing charges and the software is optimized for retrofitting. The janitor and users benefit from the simple software and flexible functions.

Two operating modes

The software can be configured in two different modes, adapting to the specific requirements. While the 'Management' mode is tailored to simple operation of small to medium-sized installations, the 'Professional' mode provides additional features for larger installations, without sacrificing simplicity.

Various areas can be selected for each time zone. Room and apartment doors can be assigned to a building or corridor, so that access to these doors does not have to be individually set up. Common rooms can all be assigned to a door group for convenience. A door can also be assigned to multiple groups so that particular door automatically receives the authorizations of all the chosen door groups (such as to a swimming pool or sauna for example). Automatic unlocking times can be set up by applying the respective time zone.

An example: the entrance door to an office (multiple locks) with electronic cylinders is unlocked in the morning and locked again in the evening. Convenient access to an office door with a ÜLock is provided by the door handle, which can optionally be continually engaged while someone is in the building. The cabinet in the office can be secured with a cabinet lock that can be retrofitted without difficulty.

Guest cards can be easily programmed in In 'Professional' mode as these are specially formatted. Further features, such as the credit function, complete the system.

Three Questions For…

…Product Manager
Jörg Bärenfänger of Südmetall

GIT SECURITY: Mr. Bärenfänger, what are the most important advantages of this solution?

Jörg Bärenfänger: Retrofitting in existing buildings of various sizes is possible without having to sacrifice on security or convenience. The operator does not have to accept compromises on design. And there are no hidden follow-up costs with us in the form of software licenses.

You mentioned a credit function – what is that exactly?

Jörg Bärenfänger: The credit function enables a user card or transponder to be loaded with a 'credit'. The credit amount preset in the configuration will be reduced each time authorized access is granted to the appropriate door (e.g. the sauna). The user only gains access if they have sufficient credit.

What is the target market for your solution?

Jörg Bärenfänger: The potential markets are widespread. They include office buildings and industry for example, and retirement homes, but also small hotels and apartments, or the clubhouse of a society with a door that is managed by the club president.

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ACCESS CONTROL

Source for Access Control Solutions

Salto Unveils Newly Redesigned Website

Salto Systems has launched a newly-redesigned website that offers detailed product information, enhanced industry vertical focus, and covers the latest technology and electronic advances for Salto platforms, technology, and services.

The new site places a large emphasis on visitor experience and provides a streamlined, modern design, improved functionality, and accessible resources to help support the informational needs of clients and prospects alike.

„We are thrilled to launch the new Salto website and strongly feel that it aligns with our sustainable company vision of becoming the most technologically-advanced access control provider that develops disruptive electronic smart locking solutions for any type of application all around the world," said Borja Ganzarain, Brand, Content and Marketing Salto Systems. "We have been working hard to give our website an upgrade. Our goal with this new website is to provide our visitors, customers, partners, and end users a new ecosystem that will help them develop a better understanding about Salto. They will find a sleek new comprehensive site that delivers the information they need to make informed smart access decisions."

The website provides easily accessible information for potential customers, business, and technology partners to gain key insight into Salto access control solutions and deliver personalised and engaging content and experiences about cloud-based smart access solutions from the Salto KS platform or industry-leading Salto Space on-premise access management platform.

The new saltosystems.com website offers a clean and modern design, with information that will be updated on a regular basis with news, blog articles, business cases, new product launch updates and more. The newly-designed website offers detailed product information on the electronic lock products Salto develops and manufactures as well as educational information about robust access control technology platforms that enable end users to experience the most advanced, secure, and convenient keyless smart access.

Tools and Info at Hand

An enhanced section of the website features in-depth solutions for the variety of market industries that Salto has established a growing footprint and world class references within: commercial, residential and shared living spaces, education, healthcare, hospitality, coworking, and retail. Salto has electronic hardware and software solutions that work together (and with other building technologies) that apply to each industry, delivering security and safety; flexibility and scalability; an improved user experience; and simplified management.

The popular Salto MyLock configurator is also featured on the new site so that specifiers, architects, partners, and end users can individually configure Salto's wire-free electronic door lock components and visualize them on different door types or styles. In addition to the Salto electronic hardware, MyLock users can choose from several door models and a wide range of colors, finishes, handles, and functions, and then download the technical specifications of the selected product configurations.

To experience the new website, visit www.saltosystems.com.

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CPNI Approval Achieved

AEOS, the physical access control system developed by Nedap, now has CPNI certification. CPNI is the UK Government's national technical authority for physical and personnel protective security. To gain approval, systems must provide the intrinsic level of protection needed for the UK's critical national infrastructure. AEOS software, door controllers and card readers have all met these standards successfully and can now protect essential services such as healthcare, communications, energy, finance, food, government, and the transport and water sectors. AEOS is now included in the CPNI's Catalogue of Security Equipment (CSE), which is available to help security practitioners identify appropriate physical security equipment. The CSE provides a range of products that have been evaluated against specific CPNI security standards and the performance rating achieved.

www.nedap.com

Conformance with Onvif Profile M

Axis Communications announces that a selection of its cameras is now Onvif Profile M conformant, enabling standardized streaming of metadata and event sending from edge-based analytics applications in a multi-vendor surveillance system. Conformance to Profile M enables easier integration of metadata and events with Onvif Profile M conformant clients like video management software and services. Profile M conformant clients on the market would be able to query, filter and receive metadata to trigger automatic responses and effectively store and search for video content of interest. The initial list of Axis products with Profile M conformance supports the detection and classification of humans and vehicles from the company's object analytics. Profile M is the latest Onvif profile that Axis products support. Other supported Onvif profiles include Profiles A and C for access control devices, and Profiles G, S and T for video products. **www.axis.com**

NDAA Compliant Video Recorders

New NDAA compliant Wisenet Pentabrid video recorders just launched by Hanwha Techwin are designed to extend the life of existing analog based CCTV, whilst providing smooth and cost-effective migration to an IP network-based video surveillance solution. Combinations of analog or IP cameras up to 4K ultra high definition can be connected to the Pentabrid 4, 8 and 16 channel video recorders, with a simple onboard software switch enabling conversion of any channel from analog to IP. The recorders, which are ONVIF Profile S conformant, are equipped with dual track recording, multiple monitor output and the ability to create user groups. They also support Intelligent Video Analytics including audio, face, defocus, enter/exit and camera tampering detection, which trigger a response when an event occurs, such as moving a PTZ camera to a pre-set position or automatically sending email alerts to specified personnel, as well as directly to the Wisenet Mobile App. **www.hanwha-security.eu**

Bosch launches New X Series Cameras

The new Flexidome IP starlight 8000i X series cameras from Bosch combine built-in AI and enhanced image quality to support predictive solutions in mission-critical applications. The cameras offer 2 or 4-megapixel resolution, custom optics, HDR (high dynamic range) X, and starlight X for enhanced image quality in scenes with low-light and fast-moving objects. The technology helps to significantly improve image capture during the day. It excels in near-dark scenes, ensuring color images down to 0.0061 lux through its custom optics, advanced image processing algorithms, and noise suppression. HDR X enables the cameras to optimize video capture in scenes with fast-moving objects with a dynamic range up to 144 dB, ensuring perfect exposure regardless of challenging lighting conditions while reducing motion-related artefacts and blur in the daytime. The camera's new 1/1.8 inch sensor further improves image quality across all light levels. **www.boschsecurity.com**

Baggage Handling Process

Siemens Baggage 360 new release provides a real-time map to control operations remotely. It enables proactive collaboration and actionable recommendations for all airport stakeholders with the capability of potential bottleneck prediction using AI-based forecasting capabilities. It provides airports, airlines and ground handlers with real-time baggage flow forecasting, an interactive map of all airfield movements, and a resource planning and simulation tool. The software enables airport stakeholders to optimally plan and allocate their fixed, mobile and human resources. The virtual representation of real-time operations helps airports to monitor and manage processes remotely and intuitively. Thanks to its open interfaces, Baggage 360 can be implemented at any airport – regardless of size or the operating system in use. The apps are highly scalable, allowing businesses to access more features and services as they grow. **www.siemens-logistics.com**

New Wisenet Q Series PTZ Cameras

Hanwha Techwin has further strengthened its keenly-priced Wisenet Q series with the introduction of four new PTZ cameras. The new indoor and outdoor 2-mepapixel PTZs are equipped with a Focus Save function, which can be applied to 32 pre-defined areas and ensures that the cameras are able to rapidly come into focus when they are moved to a specific position. Precise PTZ control is by 'click and drag', which enables operators to use a mouse to rapidly move the camera to a new position and 'click to center', which focuses the cameras on a specific area of interest within a field of view. A scroll wheel zoom feature also allows operators to quickly zoom in to see close up activity of any suspicious activity or incident. In addition, up to twelve customized direction indicators, such as 'to the car park' or 'main exit', can be superimposed over a field of view to help operators who may not be familiar with the location they are monitoring. The cameras only need a single RJ45 cable to operate. **www.hanwha-security.eu**

Vincent Dupart,
CEO STid

François Gitz,
Sales Manager STid

ACCESS CONTROL

Building a Robust Defence

STid Offers High Security with Seamless Access Control Experience

The physical and cyber security threats for companies and the consequences of the health crisis have had an enormous impact on the perceived needs and requirements for access control and security. Vincent Dupart, STid's CEO, and François Gitz, STid's Sales Manager, talk with GIT SECURITY about this matter.

GIT SECURITY: What are these new challenges of the access control market?

Vincent Dupart: The access control market is taking a decisive turn towards a contactless and frictionless user experience. Today, more than ever, the security and access control need to be flawless. As a fact, the IT infrastructure of both large and smaller organizations are increasingly subject to attacks. And these attacks occur both in the physical and the digital reality. For example, an ill-intentioned person, with physical access to an organization's server room or even a workstation connected to the network, can often easily find access to critical IT systems. The consequences can be disastrous. The complete infrastructure may be taken hostage or inaccessible, which will impact all business processes and endanger the continuity of the organization. The loss or theft of sensitive or confidential data may also have serious financial consequences and cause damage to the reputation of the company. Securing infrastructure and systems should not only be about information security. The physical security of IT facilities and also

any physical access points to the network should be part of your security planning and policies.

How does STid help to protect against these threats?

Vincent Dupart: We have managed to combine two seemingly paradoxical requirements in our access control solutions: Ensuring a level of physical security that protects against cyber threats while offering a seamless user experienceby removing traditional identification technology constraints. We design and manufacture contactless identification systems and solutions for Physical Security, Logical Access Control and Automatic Vehicle Identification. With STid Mobile ID, the smartphone, our valuable personal device, becomes the access control key, offering improved operational effectiveness, flexibility and instinctiveness. Ensuring a seamless experience for users should not imply adding holes to the security. Our main strength is our capacity to offer comprehensive and uniform end-to-end security. End-to-end security principles are applied to

communication between the card and the reader including Mifare Desfire EV2/EV3 technologies, and also between the reader and the controller/LPU with systems capable of supporting OSDP and SSCP (Secure & Smart Communication Protocol) protocols. STid is a firm believer in the concept of open technologies. We help organizations to depend less on proprietary technology and remain in full control of all components in their security chain. Our customers are not locked into a solution or tied down by proprietary technologies. This choice of positioning fully benefits our customers and partners.

You have mentioned the role of the SSCP protocol for security systems. What is this protocol exactly and how do your clients benefit from it?

Vincent Dupart: The SSCP protocol is used to implement a security systems topology that safeguards the integrity and confidentiality of sensitive data by using cutting edge encryption standards. This protocol is fully supported and maintained by the Smart Physical Access

Control Alliance (S.P.A.C.). SSCP protects the communications of physical and digital access control devices. This standard provides unified protection for all your applications by protecting interface communications (RS485, USB, TCP/IP, etc.) It guarantees the interoperability of all equipment through conformity certification. Why? To build trusted solutions and provide true technological independence for greater freedom and sustainability. By applying STid technology, any access control system becomes instinctive and it will protect sensitive data much better. It is most important for us that all our access control solutions are future-proof and that we can adapt to any evolution of customer needs.

How do you adapt systems to the new security end-users needs?

François Gitz: Users are more likely to adopt simple and effective systems. At STid, we develop technology to make the everyday life of people easier while safeguarding effective data protection. STid readers and solutions are compatible with all access control systems currently available. The modular setup of STid's unique readers futureproofs the infrastructure of end users and it allows tour partners to offer enhanced levels of security to their clients, even when their secured estates grow, or their requirements change. Take for example the Architect RFID, NFC and Bluetooth reader with a built-in QR code module. Access control systems that support QR codes to identify people offer a cost-effective and reliable solution for visitor management within an office or other facility. QR Codes can be generated by existing systems/software and used in a paper format or they can be transferred to the smartphone (by email, virtual cards, etc.). Numerous deployments of this solution have proven that QR codes are an effective and relatively secure way to offer temporary access privileges to visitors, contractors, drivers and suppliers etc. You are now capable to identify and trace the whereabouts of these temporary users through the public zones of your secured facilities. It is yet another example how STid is looking to provide you with solutions that are easy to deploy and use and that benefit the total security of your building and infrastructure.

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www.stid-security.com

Smart Padlock with IP-Protected Chassis

The Salto Neoxx padlock's innovative armored cover case with a double-layered structure guarantees the ultimate protection from falls, shocks, and harsh environment or usage. There is also additional UV protection to withstand solar impact. The reinforced bumpers around the body protect the most sensitive parts of the padlock and absorb the energy of any fall, isolating the electronics and the mechanics to maintain operability in cold or hot conditions. Built to withstand every application, tested and approved, the padlock can be relied on when it is out in the field in any type of application. It has IP68 and IP66 water resistance, and dust protection for extreme environments and climates, shielding it from the elements. A self-locking mechanism ensures that when closing the shackle, the padlock will always automatically be locked.

www.saltosystems.com

Ambient Noise Sensor Adjusts Volume Levels

The latest addition to the Bosch family of Public Address and Voice Alarm (PA/VA) systems is the Praesensa Ambient noise sensor, particularly relevant for applications such as campuses, shopping malls, airports, railway terminals, factories and more. The loud buzz of a crowd, the passing roar of vehicles or the hum of equipment can affect the intelligibility of voice messages. Similarly, music or messages can cause discomfort when they are played too loudly in a quieter building. Automatic Volume Control (AVC) technology – also known as Noise Dependent Volume Control (NDVC) – changes the loudspeaker volume according to the ambient noise levels and automatically solves the dilemma of being too loud in a quiet environment or too soft in a noisy environment. Announcements are then automatically adjusted to a comfortable level above the ambient noise to ensure intelligibility, and background music is adjusted to maintain the right atmosphere. **www.bosch.com**

SPECIAL FOCUS SAFE CITY

Olympics and Expo 2020 Dubai

Major Projects from Japan to the Middle East: City Security Deployments in 2021

SPECIAL
FOCUS

Tokyo – a metropolis that has been preparing for a century event. As Tokyo did not have an Olympic Park, the premises for athletes, trainers and staff were placed alongside of the pulsating Tokyo city life. So, it was a challenge to deploy an access control system for ca. 300,000 athletes, officials, volunteers, media and all the people with access rights. ID card theft and misuse were some of the major issues for which the people responsible for security and safety wanted to be prepared. Therefore, they set up another level of security for the Tokyo 2020 games: A facial recognition ID system to identify faces of officials and athletes granting them access into the Olympic venues. NEC Corporation provided technology for the facial recognition software. As the Japanese Government stated the facial recognition system is able to verify the identity of individuals from a database of 1.6 million images with an extremely high level of accuracy in only 0.3 seconds. Beginning with fingerprint verification, NEC has been researching biometric identification and developing technologies for nearly 50 years. "Numerous facial feature points are converted into data and matched to give an almost instantaneous identification. Deep learning in artificial intelligence improves accuracy levels leading to extremely low error rates. And because the data is encrypted and cannot be reconstructed, individual

facial images can never be leaked," says Yamagiwa Masahiro, senior manager for Public Safety and Network Business Promotion Office at NEC.

The company's facial recognition technology is being used in immigration at airports in many countries around the world and has also been used at customs in Terminal 3 of Narita International Airport. If passengers register their information using the app and scan the app at the airport kiosk, then the facial recognition system allows for smooth entry into the country.

Another invention which is rolling around Narita airport is the autonomous patrolling surveillance robot Secom Robot X2. It has a 360-degree omnidirectional camera but is also equipped with a thermal imaging sensor and a metal detector. "It's a security surveillance system that complements both human and robotic skills", explains OZA Koichi from the R&D Center at Secom Co., Ltd. (1)

Although visitors from other countries were not allowed, it is still one of the biggest events in the world to manage for a whole country and provide safety and security for everybody involved in the most prestigious tournament of the world.

An Event the Size of a City
One other application scenario extravaganza is the security system of Expo 2020

in Dubai which is starting in fall 2021. This event is not just a regular event: Ensuring all visitors feel comfortable, safe and secure is a key priority for any event of this scale. Therefore, Expo 2020 has appointed Siemens as a partner to provide the security management systems. Monir Kabiri is Head of the security portfolio in the Middle East & Asia-Pacific region with Siemens. Together with his team, he is responsible for all Siemens security systems at the Expo 2020 site, which is roughly twice the size of Monaco. "I've executed many projects throughout my career, but none of them compared to Expo 2020," says Kabiri. "Not only because of its sheer size, but because Siemens will thoroughly interconnect a large number of Expo's security subsystems. We will be deploying a combination of proven technologies and new innovations, which we will then use on smart city campuses around the world."

At the heart of Expo's security infrastructure is Siveillance Control Pro, Siemens' security management system (SMS). The SMS holds all security-relevant information, including footage from roughly 15.000 surveillance cameras and data from 3.500 access control readers. This also includes information from Expo's fire-alarm system, various communication systems, data from the vehicle and person location systems, as well as

video analysis powered by artificial intelligence (AI) engines.

The SMS can immediately localize an on-site incident, while also preparing an appropriate response. Live footage from the corresponding surveillance cameras, as well as the status of doors and access control systems in the immediate vicinity, are displayed to the control-center operator.

During Expo 2020, data will be exchanged between the security management system and MindSphere, Siemens' cloud-based, open Internet of Things (IoT) operating system. "Through Mind-Sphere, relevant alarms, events and notifications can be used by other third-party applications, providing added value in assessing situations," Kabiri explains.

Reducing a City's Crime Rate

Another practical example of a modern security system in the city comes from the city of Aulnay-Sous-Bois in France which was often criticized for its high crime rates. In 2014, it ranked highly in a list of crime levels in French cities. So, the city needed to take action to reduce these rates, including building a city security operation center, increasing police activities in the field and focusing political attention on the problems. Part of this action involved upgrading technology, and they turned to system integrators Trafic Transport Sûreté (TTS) who built a scalable video security system. The most recent additions to this system are state-of-the-art Hikvision cameras. The city is now classified as much more peaceful, dropping from the first group of cities in the list, to the last group.

Bosch Autodome IP starlight 5100i IR

Challenge

The obvious challenge here was to find the right technology to deliver the best crime-reducing results. But further, the solution needed to work with existing systems and be scalable to be able to anticipate the future needs. The city values innovation and strives for the development of new technologies for image capture and system operations to better cover the public space, protect citizens, and support police forces as they carry out their duties. More specifically, they needed to be able to effectively monitor areas to see the status of incidents taking place. They also wanted to be able to extract reliable video evidence in case of investigation. The city also had to overcome the issue that police encountered hostile behavior when carrying out tasks. They needed to find a way to both enhance trust and protect officers from unfair accusations and even violence. Finally, all this had to be integrated with an existing system that used Milestone Corporate Video Management Software.

Solution

One of the main resources the local police uses is its 100 m2 surveillance and operation center, now operating more than 500 cameras. The center's 11-meter video wall and 7 operating stations use the Milestone Systems VMS and TTS sentinel PSIM, enabling operators to detect offenses and thefts, transmit information to the national police and secure the police forces in the field. To enhance the existing system, TTS installed around 200 Hikvision cameras throughout the city. ANPR cameras allowed operators to clearly read licence plates and accurately classify vehicles. This provided the proof they needed that a vehicle was implicated in a specific criminal situation. It also allowed them to issue a fine when the driver was behaving illegally. Panovu and 4K cameras were installed, providing high quality video coverage of wide areas. PTZ cameras and body cameras for the police forces, as well als HikCentral software was also part of the employment.

Crimes have dropped dramatically in the city. For example, robberies have dropped 30% over the last 6 years, proving the value of an integrated security system.

Usable Video 24/7

A major challenge in urban surveillance is the changing light conditions. During daytime, low-light, pitch-dark and indirect lights like cars, lamppost or other light sources blinking and changing the lighting situation in seconds, it is very challenging for camera technology to deliver high-quality images. Bosch, for example, offers camera-based security

technology which is exactly for these changes in lighting. The Autodome IP starlight 5100i IR offers HDR X combined with starlight technology and dual illumination – integrated IR and white light – to capture usable images 24/7. The new HDR X technology has a dynamic range of up to 133 dB ensuring perfect exposure while eliminating motion-related artefacts in scenes with challenging lighting conditions and moving objects during the daytime. In low-light scenes, starlight technology provides clear and relevant images with color filtering down to 0.010 lux. At night, especially in pitch dark scenes, the camera's white light provides full-color images in complete darkness up to 60m (196 feet). The integrated IR illumination can help identify objects in monochrome up to 320 meters (1,049 feet) thanks to the built-in intelligent IR beam, which ensures optimum illumination of objects regardless of zoom level. The visible white light acts as a deterrent to intrusion, loitering, and other undesirable activities in city surveillance settings.

Residential Solution

Another area of city surveillance lies in securing residential areas. The Dahua Intelligent Residential Solution, for example, incorporates the company's AI offerings, panoramic camera, fish-eye camera and other advanced equipment to provide targeted security monitoring for different scenes in residential areas. For perimeter areas that are vulnerable to intrusions and threats, the AI perimeter camera that features target classification and precise alarm functions can accurately detect unauthorized people and vehicles entering into restricted areas. Combined with an active deterrence function, it can effectively prevent incidents. For vandalism and illegal activities in public areas, cameras equipped with AI functions support a variety of intelligent detections with real-time alarms that can assist property managers in quickly locating hidden dangers and abnormal incidents such as fire exit blockage, high-altitude throwing, illegal parking, etc.

Touchless and mobile smart living

In order to create better user experience, the solution integrates a myriad of recognition technologies such as facial recognition, ANPR, QR code recognition, fingerprint recognition etc., achieving touchless and efficient access control for both people and vehicles. It allows property owners to freely enter the lobby, parking lot and public facilities through flexible options in case they forgot to

bring their key or access card. Additionally, it improves the security of areas where privacy is required. For instance, only owners and authorized visitors are allowed to enter the elevator and go to their desired floors. At the same time, visitors can make an appointment via the mobile app and scan the QR code shared by the owner to enter the lobby and parking lot instead of waiting for on-site registration, greatly increasing traffic efficiency in the area.

A Media City with Access Control

MediaCityUK, an international hub for technology, innovation and creativity located at Salford Quays is home to companies such as the BBC, ITV, Ericsson, dock10 and Kellogg's. These are complemented by more than 250 smaller media and digital businesses, all using advanced contactless access technology from Salto to provide site-wide security.

Developed as a joint venture between Peel Land and Property Group (Peel L&P) and Legal and General Capital, MediaCityUK was designed around the specific needs of the media and creative industries, and the bespoke community features one of the biggest HD studio complexes in Europe; commercial offices; apartments; retail units, two hotels and a spectacular waterfront public piazza. Peel L&P own and manage 12 million sq ft of property and 20,000 acres of land and water, with holdings mainly concentrated in the north west of England, but they also own and manage significant assets throughout the UK with a total portfolio value of £2.6 billion.

Speaking about the mix of internal and external doors to be control, Head of Security Tony Chebrika and consultant, Richard Sumner of RS Security Consultants, who has been working with Peel L&P since 2015 on managing their access control on this diverse site, says: "We're using Salto readers to control road blockers, gates and barriers, wall readers to control main entry doors and mostly XS4 handle sets to control internal doors. Other onsite users such as SIS (Sports Information Services) have their own individual Salto solution but also have access to MediaCityUK doors i.e. they carry access permissions on one card for two systems. This is the same for ITV who also run their own system. All doors, whatever their location, are mainly accessed via contactless cards but we're also using Salto's JustIN Mobile with Bluetooth Low Energy (BLE). This enables a smart phone to be used as the access credential for the electronic lock on the door. The mobile key is sent 'Over the Air' (OTA) to a JustIN Mobile app installed on a

MediaCityUK is one of the fastest growing communities in the UK and took a great deal of care when evaluating and selecting their access control system

registered and verified smart phone. The user receives a message that they have a new key and for which doors they have access rights. They can then present their smart phone to the lock to gain access via the JustIN Mobile app. [...] We selected Salto as the access control solution plus IP Video Management Software firm Meyertech, Wavestore, Axis cameras, 2n Intercoms and Siklu Wirelss links. It was my task to procure and manage the new security upgrade which would include new cabling, software and IP cameras site wide tied into a new state-of-the-art control room."

Fire Detection at the Heart of Leicester

Based in the heart of Leicester, Beauchamp City Sixth Form has recently opened its doors for its first term to welcome 350 A-Level students, following a dramatic renovation of a city centre office block, formerly home to BT. The new four-storey college, opened by The Lionheart Academies Trust, presents classrooms, labs and IT suites, as well as study spaces and a library which will give students access to the latest academic research in their chosen areas of study. To ensure fire safety as part of the transformation process, main contractors worked with Avalon Technology Group, who specified Comelit's innovative Atena fire panels to operate across the site. This solution is a user-friendly touch screen addressable system, with the capacity to extend to 4 loops, supporting up to 1000 devices, due to its dual processor technology. In total, four panels have been networked at the college to manage the overall system requirements.

Guy Stephens, Director Avalon Technology Group said: "This was a complex renovation to facilitate the integration of security and fire safety, whilst working

with the main and electrical contractors to convert the empty office block into such an extensive education facility.

"For fire safety, we required simple to install systems that wouldn't compromise on the technology component and could also accommodate the sheer size of the scheme, which required a total of 13 loops. Comelit not only achieved this objective, but also with a focus on design, suited the modern college environment."

Source: (1) www.japan.go.jp

Suppliers

Avalon Technology Group
https://avalonllp.com

Axis Communications
www.axis.com

Comelit
www.comelitgroup.com

Dahua Technology
www.dahuasecurity.com

Hikvision
www.hikvision.com

Meyertech
www.meyertech.co.uk

Milestone
www.milestonesys.com

NEC Corporation
www.nec.com

Salto
www.saltosystems.com

Siemens
www.siemens.com

Siklu
www.siklu.com

Wavestore
www.wavestore.com

▲ **UltraSync can launch a series of pre-defined actions that allows rapid intervention**

Using the UltraSync App on a smartphone or tablet offers the end user a secure connection to their security system ▼

SMART HOME SECURITY

Stay Smart
Safe Remote Access to Security Systems with UltraSync

UltraSync is a cloud-based platform that can turn any home or building into a smart home and smart building. It seamlessly connects Carrier Fire & Security's xGen Connect and Advisor Advanced intrusion detection panels to remote applications via a managed web portal.

Thanks to UltraSync, the installer can quickly and easily establish M2M connections to intelligent IoT edge devices. This means that peripheral devices of the safety systems can be added via the portal even before installation. This ensures that the connections are already pre-configured when the technician arrives. The system then becomes a plug and play solution, without the need for comprehensive knowledge of IP technology. The installation of the security solution is much quicker and makes it more cost effective.

UltraSync offers installers the opportunity to connect directly to the respective headquarters without changing the router settings or firewall rules at the customer's or remotely accessing the system using the Domain Name Service (DNS). Remote system diagnosis can quickly be achieved in the event of a malfunction, giving the end user a quicker resolution time to keep their site protected.

Management to Go for the End User
Using the UltraSync App on a smartphone or tablet offers the end user a secure connection to their security system. They can remotely control their smart system from anywhere, anytime: arming/disarming the system, receiving alarm/event messages, geofencing-based actions, assigning access permissions, controlling Z-Wave components for lighting and air conditioning, viewing live video and recording, creating, and activating automated procedures, and much more.

When a security event is detected, UltraSync can launch a series of pre-defined actions that allows rapid intervention: Send alarm message directly to the security guard, start event-based video recording and/or send push notification to the end user's smartphone. The result is a secure and smart system management via one intuitive smartphone app.

Cyber Secure
The UltraSync connection allows control of the security system. Above all, UltraSync ensures that the connection is secure at all times by using encrypted, end-to-end communication with VPN technology between the intrusion detection panel and the installer portal as well as between the intrusion detection panel and the end user's smartphone. With UltraSync, the data remains on the local device with confidential data stored in the cloud environment. All personal data associated with credentials for remote access to the device is in accordance with the GDPR stored in the device itself, with the UltraSync environment hosted on Amazon Web Service (AWS) servers in the EU. This gives the customer full control over their data at all times. In combination with the Advisor Advanced (ATSx500A) security system, the UltraSync communication solution is certified with 3 Shields CNPP NFA2p, the highest security level available. This certification tests the resilience of a system against cyber attacks and is awarded by the French Center National de Prevention et de Protection.
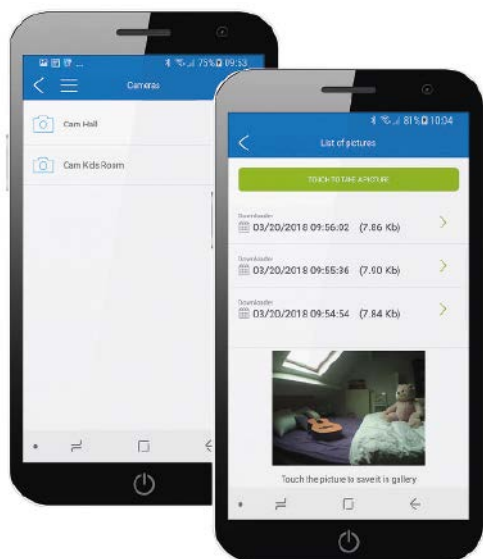
HOME AUTOMATION

The Controller of Things

A Wireless IoT Platform for Security and Home Automation

Ksenia have introduced an advanced wireless alarm and automation control panel which is dedicated to the professional distribution market and designed for typically residential applications. The lares 4.0 wls 96 utilizes the 868 MHz band, is fully bidirectional and compatible with all Ksenia Security wls peripherals already on the market.

This product is designed to cover the range from quick and simple installations (in wireless mode) to that of the small residential installation, also integrating smart-home functions. The lares 4.0 wls 96 also manages the domus multifunction module, auxi and auxi-H expansion modules and the energia energy management module.

With both wireless and wired connections, the control panel maintains the characteristics of the whole lares 4.0 platform: video verification and audio verification of alarms, integration with Google Home, Amazon Alexa and related voice assistants, integration with Control4, Crestron, full compatibility with porta 4.0 modules for Konnex integration, a porta IoT HTTP gateway and much more. New features are included, such as video verification by connecting any model of ONVIF camera and by sending emails or push notifications, with screenshots related to the timeframes of the selected events.

All-In-One

The all-In-one panel is housed in a white or black polycarbonate box of a A4 sheet size, and contains the mother board of the control panel with an IP interface and transceiver on board, a soft-touch LED keypad, an indoor siren, the 15V-25W switching power supply protected by a fuse, as well as space to install a 12V/2Ah backup battery.

The control panel can manage up to 96 zones, a maximum 40 of which can be wired. It has 18 outputs, of which up to 16 can be wireless. In addition there are four IP video inputs. The external communication of the system, in addition to the IP connection, is ensured either by the 4G/LTE/or PSTN modules, which can be installed directly on the mother board, or by the gemino IoT. For the first time therefore, even without an IP network or in the event of a power failure, it will be possible to use the app also for the programming via a 4G/LTE channel.

Broad Certification

The system has comprehensive certification, including EAC, EN50131 Grade 2 - Class II, T031: 2017 and SSF 1014 Larmklass R. To provide further support for system reliability, Ksenia Security offers a 5-year extension of the warranty period for the lares 4.0 wls 96 control panel. The control panel can be expanded with a KS-BUS: up to three user interfaces (chosen from an ergo keyboard, volo and volo-in proximity readers), one BUS siren

Lares 4.0 is a control center for alarms and home automation

The Ksenia user app provides simple control of features and functions

(imago or radius), one domus to manage the functions of the chronothermostat, six expansion modules (a choice of auxi and auxi-H), and two of either opis or divide. IP peripherals management includes ergo-T, gemino IoT, porta 4.0, and ONVIF cameras.

SecureWeb is the secure cloud environment that allows the development of complex applications, which has made a leap forward in the business intelligence world. The graphic interface has been improved with simpler organization of the data. Greater fluidity has been brought to the installer dashboard and the speed of downloads has increased significantly.

Installer App
The Ksenia SecureWeb app helps installers to realize competitive strategies, offering processing power, database storage, orderly distribution of content and other features that support the sizing and growth of different requirements, both for the end user and for the installer. The app enables setup of the control panel via a mobile device – such as connecting a smartphone by reading a QR code – its registration with geolocation, and also push notifications. Moreover, the Pro

app maintains a Ksenia installer profile, which can be adapted using the points accumulated through the loyalty program. Centralized management of different systems and access to the technical documentation as well as to the latest news about Ksenia is provided by push notifications.

User App
For the first time, the users themselves can safely manage their residence, office, commercial or industrial building through a dedicated user app, without requiring intervention by the installer. This app enables monitoring of all security aspects (intrusion, video surveillance, access control) and simultaneously the management of home automation or a BMS (Building Management System) from a smartphone or tablet.
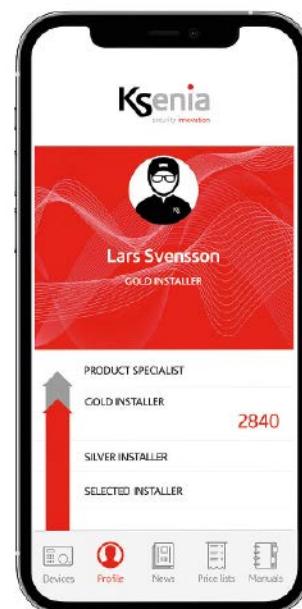
The installer app administers multiple sites and provides online documentation

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Cylinder Housing for Fire-Proof Doors
The Uhlmann & Zacher locking cylinder convinces customers worldwide with its uncomplicated implementation and usability. The modular design of the cylinder offers additional flexibility. If, for example, a new door is installed due to renovation, then only the centerpiece needs to be replaced, as the cylinder length is different. With the new cylinder housing for fire and smoke protection doors, Uhlmann & Zacher offers a special solution for the use of electronic knob cylinders in doors up to the fire resistance class 'fireproof' (T90). In combination with the appropriate knob module and the mechanical knob, the respective certified fire protection product is assembled by simply fitting together the components. This solution is also available in combination with the knob module for outdoors. **https://uundz.com**

Thermal Solution for Zero-Contact Temperature Detection
Mobotix has developed the M16 EST Thermal Camera as a special thermal solution for zero-contact detection of body surface temperature fluctuations (EST = Elevated Surface Temperature). Non-contact temperature detection is very useful for healthcare professionals to screen and potentially identify (Covid-19) infected people. The camera complies with the speci-

fications of the U.S. Food and Drug Administration (FDA) and satisfies the requirements of the Covid-19 Emergency Use Authorization (EUA) and the FDA's enforcement policy for tele-thermographic systems. Users can include healthcare facilities, schools, government institutions and retail environments. A black body radiator is used to create a reference temperature for the camera and the M16 EST thermal camera measures the difference between this and the temperature of the hottest point of the uncovered face of a person. Usually, this is the inner canthus (tear duct) of the eye. **www.mobotix.com**
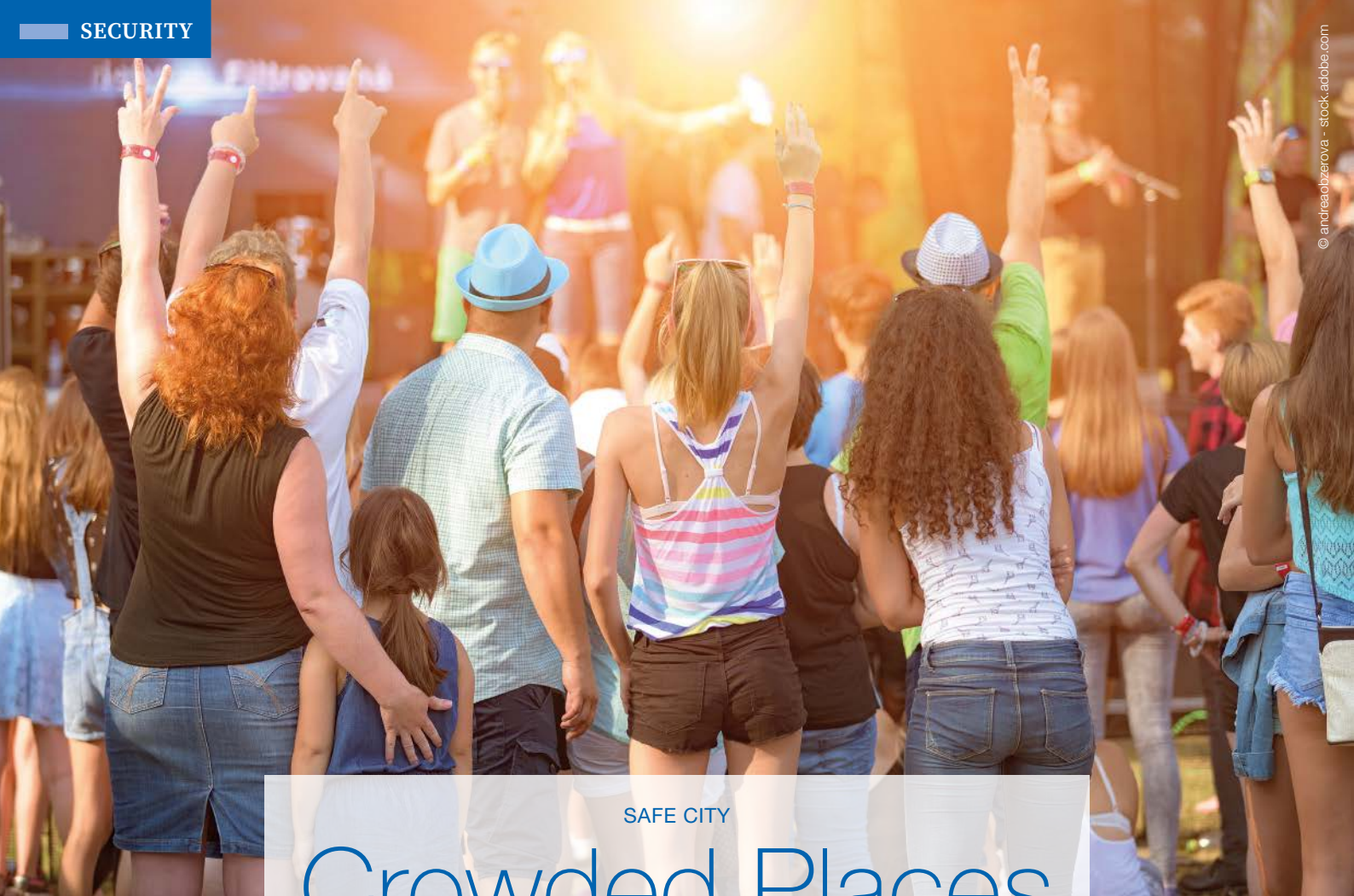
SAFE CITY

Crowded Places

Harnessing Technology to Adhere to Martyn's Law

Martyn's Law, more officially known as the Protect Duty legislation, is a proposed piece of legislation that is being backed by the UK government to improve the safety and security of public venues and spaces. There are estimated to be about 650,000 crowded places in the UK, of which only about 0.2% are prioritized to receive direct support from the state's network of counter-terrorism experts. It should apply to any place or space to which the public have access. Evacuation procedures and planning are likely to form a key part of these proposals.

It's currently uncertain the exact form that Martyn's Law will take when it comes into effect. However, what is certain is that security operators will need to implement new measures to improve counter terror preparedness and adhere to the 'Protect Duty' soon to be imposed on them by this legislation. Stadia presents a unique security environment, as most locations rarely have such a convergence of security challenges – like the number of visitors and staff and of course, the size of the venue itself.

In the context of protecting stadia, simply adding more security check points, like bag scanners or metal detectors, might seem like a good measure to enhance security; but actually, this may be counterproductive. It's understandable that security operators think they are successfully protecting the premises by stopping malicious actors from entering. But terrorist incidents always aim to do the maximum amount of damage to the most people – so any bottleneck or high traffic area becomes a potential target. Therefore, taking a static approach to security still leaves a vulnerable target in the form of large queues. It's only by taking a holistic approach to security that operators can successfully nullify an attack.

Utilising Technology

Technology can be a powerful asset as it helps increase security's situational awareness. By integrating video surveillance, analytics, access control, and automatic number plate recognition into a single pane of glass, staff have a full overview of the premises, from the car park to the stands. This heightened level of observation helps operators identify, react and resolve problems more effectively. However, it's alarmingly common how many organisations use disparate security assets. Without a unified system, disconnected assets give an inadequate picture of their surroundings – which in turn affects the efficiency of their response.

Venue administrators should also use a system that has pre-defined response procedures, which can be used to guide operators through the right steps as an incident unfolds – meaning the most

suitable actions are always taken. All of this ensures an uninterrupted and safe experience for guests. Advanced security systems can be used to audit premises for vulnerabilities, identifying blind spots, optimising manpower and promoting best practices. It helps with more mundane issues too, for instance if there's a crowd bottleneck, a door being forced open, or a bag lying around; the system will send a notification so an issue is resolved before it escalates. This is particularly important in the stadium setting, as seemingly innocuous incidents can have a snowball effect, quickly becoming chaotic, and disrupting the event.

Communication is Key

Operational difficulties can also arise with such large numbers of staff operating across a wide area, with teams often working in siloes. There are multiple organisations coming together on a temporary basis, like local law enforcement, private security teams, and other non-security personnel too. In these instances, when an incident does occur, a disjointed approach to security can be extremely detrimental to an effective emergency response plan - leading to duplicated efforts, missed opportunities and lapses in security. This becomes more apparent when siloes turn into blind-spots

that terrorists could exploit – leaving the event revellers and staff at risk. Increasing communications and sharing information across the private and public sectors should be a priority as it will improve security for everyone.

The main advantage of a security system that accommodates this functionality boils down to improved communications. Being able to quickly share information between on-site staff is a powerful advantage, and means they have up to the minute information to mount an effective response. Having a better understanding of any incident also means staff can relay more accurate information to law enforcement, in turn bolstering their response plan too. All of this will help ensure that security can contend with any threat, and guests have an uninterrupted and safe experience.

An Uncertain Future

This is the first time we've seen the government take such an active top-down approach to private companies' security policies, so it'll be interesting to see what happens next. Of course, we can only hope that these regulations are unnecessary, but it's imperative that organisations do their utmost to mitigate against similar incidents and prevent loss of life in future. Though the details of Martyn's

Law are yet to be finalised, the consultation phase will be beginning shortly; and it's vital that governmental decision-makers don't arbitrarily enforce weighty security measures without first considering the practicalities of employing them or their real-world effect.

The devastation of the Manchester Arena attack and other more recent terror incidents, like the 2019 bridge attack, will remain engrained in the public psyche for a long time; but hopefully these new regulations – whatever the form they eventually take – will help protect people and make them feel safer.

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IT-SECURITY

New Normal Management

Managing Operational Technology (OT) Networks Remotely Without Introducing Intruders

In February 2021, an unidentified intruder gained access to the network systems of a US water treatment plant in Oldsmar, Florida, and briefly altered the chemical levels in the drinking water. Fortunately, an employee noticed the intrusion attempt and acted immediately. This incident sparked many discussions on the topic of cybersecurity in operational technology (OT) environments within the media and the industrial sector.

By adapting to the digital transformation, OT network infrastructure starts to grow in scale and becomes increasingly complex and interconnected. A single point of failure could bring tremendous harm to the whole networking system, so ensuring maximum network uptime is critical to keep business going smoothly. Remote network management is becoming an invaluable tool for handling emergencies quickly and efficiently. However, there are multiple obstacles hampering the use of remote services, with cybersecurity being the biggest concern. Cyberattacks are a common occurrence nowadays and, without cybersecurity, the door is set wide open for malicious individuals to take advantage of vulnerable networks. Looking back at the Florida water treatment facility case, the FBI assessed that the intruder likely accessed the facility's systems by exploiting cybersecurity weaknesses including poor password security and the lack of firewall protection when logging in to the plant's systems remotely, as well as using unsafe remote access software.

Pay Special Attention to OT Requirements

Considering the requirements of secure remote network management, everyone is looking for a solution that could help simplify daily operations without having to worry about cybersecurity. While there are many pieces of software available designed for remote access or network management, they often cater to IT networks and are rarely part of larger, consolidated solutions. However, OT and IT networks have different characteristics and priorities. While IT prioritizes data confidentiality, OT focuses on network availability and zero tolerance for downtime. This difference in approach makes it difficult for OT networks to adopt IT practices. Another hurdle is that many automation engineers are not familiar with VPNs or know the public IP necessary for setting up remote access.

Convenient and Secure Remote Maintenance in Practice

Cybersecurity remains the number one concern for OT engineers. A solution with flexible access control could fulfill

different OT scenarios and enhance network security. For example, customizable access control lets facility owners decide when and for how long third-party engineers can access their network. Furthermore, access can be restricted to specific network areas. These measures can ensure the safety of their network when opening the door for remote maintenance services. Remote services for OT should also be accessible and easy to use. An ideal solution lets OT engineers easily set up remote access when needed, even if they are not familiar with VPNs or know the public IP.

With purpose-built and consolidated solutions, different players in the OT world would be able to enjoy the benefits of remote network management. Let us take a look at how this works in two different customer scenarios.

Facility Owners

Manufacturers with facilities scattered across multiple locations require expansive networks to sustain operational effectiveness and efficiency. To manage such large and disperse networks, the network management software installed

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'Simple Network Management for the New Normal' from Moxa is available here:
► https://bit.ly/3dxH9tl ◄

Moxa knows ways of ensuring secure management of remote operational technology

at the remote sites monitors the local network and sends data back to the HQ control center through an encrypted tunnel. This gives engineers a complete view of the network from a central location for remotely managing operations at each site. If any incident occurs, engineers at the headquarters can remotely access the on-site network device via a secure VPN connection or call in the help of third-party support services if necessary using an on-demand encrypted VPN tunnel.

Service Providers/System Integrators

To better help their customers manage and maintain their network smoothly, network service providers require a simple solution to respond to service requests from multiple customers and solve issues as quickly as possible. Real-time remote service allows service providers to overcome geographical limitations

and streamline their customer service. An on-demand encrypted VPN tunnel can let support engineers easily access the network management software at the customer's site without jeopardizing the safety of the customer's network.

The new normal has accelerated the digital transformation of many industries and has completely changed the way we work. Moxa has put together an application note to let you learn more about how you can leverage remote network management and tackle the challenges of the digital 'new normal' without worrying about cybersecurity. It can be viewed via the link below.

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Avon Protection Announces NFPA Certification

Avon Protection announces that its argus range of thermal imaging cameras have been certified to levels set forth in the 2021 edition of National Fire Protection Association (NFPA)1801, Standard on Thermal Imagers for the Fire Service. The argus range includes the Mi-TIC E, Mi-TIC E L, Mi-TIC 320 and Mi-TIC S models. Once again, Avon Protection offers the largest, most diverse, lightweight range of NFPA-compliant thermal imaging cameras. The 2021 edition of NFPA 1801 is the latest edition of the standard. First published in 2013 and again in 2018, the standard defines minimum performance requirements for sophisticated thermal imaging equipment and is adopted throughout the world. While there are no physical changes to the Mi-TIC cameras as a result of the latest edition, the most notable changes are specific to testing requirements and software. Those include spot temperature measurement moving from "TI Basic" to "TI Basic Plus", updated test matrices for both stand-alone and integrated thermal imagers, an amended spacial resolution source target used for testing, and a revised region of interest figure used for testing.

www.avon-protection.com

INDUSTRIAL SAFETY

It's Safe and Efficient

Practical Check: Universal Safety Relay for Diagnostics and Information

Even in times of crisis, most machines in the German industry run in chord. And demands regarding productivity, flexibility and efficiency are constantly growing. For many mechanics, electricians or technicians on the factory floor, this means: if a machine switches off for safety reasons, the clock begins to tick. But restart does not always go smoothly.

Even if no one is standing on the safety mat or the light curtain is supposedly free, the machine sometimes does not start. Cable breakage, forgotten emergency shut-off unlocking, or faults in the wiring are typical causes. But no matter how simple the reason, troubleshooting and diagnosis are often a time-consuming and costly process. For many service technicians this is a recurring and nerve-wracking challenge – especially when the cause of the fault is not clearly indicated.

Safety Relays: Today and Tomorrow

Conventional safety relays from the group of safety switching devices are used wherever only a few safety functions need to be monitored, no bus technology is installed or safety controllers would simply be too expensive – for example in simple processing machines. But despite all the economic advantages – ordinary safety relays also have disadvantages. And this in two respects: On the one hand, a classic relay can only process one type of signal. This means

that a separate, suitable relay is needed for each safety door, each light curtain and each magnetic switch. Not exactly ideal in terms of storage and procurement of spare parts. On the other hand, classic relays only have rudimentary possibilities for diagnosis and status evaluation. Without any bus connection, the relay is directly wired to the control system and only communicates the basic status information: machine stopped. For the work of the service technician, this means: If the machine does not start as usual after shut-off, the actual troubleshooting begins. Now it is time to dive into to machine, armed with torch and measuring device. This is a tedious, sometimes dangerous undertaking, which usually costs a lot of time and money.

This is why universal safety relays represent such an enormous progress. With their multi-functionality and diagnostic capability, these devices do not only have a positive impact on material and operating costs, but also have a very tangible effect on the daily work of technical staff.

Preventa XPSU

The universal Preventa XPSU safety relay from Tech Group Schneider Electric provides a practical description of how modern relay solutions work. For example, on a safety door, which is standard equipment in many machines, a safety relay is usually installed between the door switch, the contactor for the motor control and the control unit. Since a general control system cannot be used so easily for safety applications, the safe evaluation takes place in a safety switching device that not only monitors the switch, but also only releases a machine again when the necessary start conditions are fulfilled.

Diagnostic and Status Information

The universal safety relay is connected to the control via a simple, direct line. But instead of the one, binary status signal, the diagnostic output of the Schneider relay generates modulated signals that are transmitted to a standard digital input of the PLC via the hardwired connection, similar to a Morse telegram.

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unit – and thus help to drastically reduce safety-related downtimes.

Every mechanical device is subject to wear and tear – even safety technology products. Therefore, it is important to keep a close eye on the service life of all components. In practice, however, this is often not easy. Users often only notice the end of a device's service life when a failure has already occurred. And failures are always problematic. They cost time, money and often nerves. Universal safety relays therefore represent a real quantum leap for everyday operation. On the basis of their diagnostic data, the PLC can carry out an evaluation through stored switching frequencies and inform the user at an early stage according to the real switching frequency. In this way, maintenance work can be planned at an early stage and, in the event of failures, there is no need to react hectically in order to reduce downtimes.

shown on the display in such a way that the user receives direct instructions for action – such as "Machine running" or "Waiting for start button to be pressed".

Flexible Setting of Function Modes and Start Conditions

Not only door switches, emergency stops and contactors wear out, a relay also has to be replaced at some point. Here, too, universal relays mean a considerable reduction in workload. Preventa XPSU, for example, has two small but decisive rotary knobs on the front that transform the supposedly simple component into a true all-rounder. Behind the six digits arranged around the knob titled "Function" is the possibility to set the relay to up to six different safety functions. By setting the rotary knob to "1", for example, the relay is ready to monitor an emergency stop. If you set it to "6", a light curtain is monitored – the right function depending on requirements. The advantages of this flexibility are obvious: if, as is practically always the case, you have installed different safety features on your machine, from now on you will still get by with only one type of safety relay. This results in enormous simplification regarding stock keeping and re-ordering of spare parts.

The second rotary knob on the front of the relay refers to the starting conditions. Whether automatic start, monitored start or optional start-up test – the required start function is available in the device and only needs to be selected. This means that the same safety relay can be used to implement compact machines right up to modular machine concepts without any problems. One advantage is that the connections on the relay do not differ from the required start function. This can therefore be easily adapted to the respective requirements. In terms of flexibility and user-friendliness, this is a real quantum leap.

A single question remains: how does one prevent unauthorised changes in the settings? There is a simple solution in place: the rotary switches are located behind a transparent cover that can be protected with a numbered locking strap. This is included in the scope of delivery of Preventa XPSU and – similar to a cable tie – can only be used once. Thanks to the unique number on the tape, a change can be easily verified.
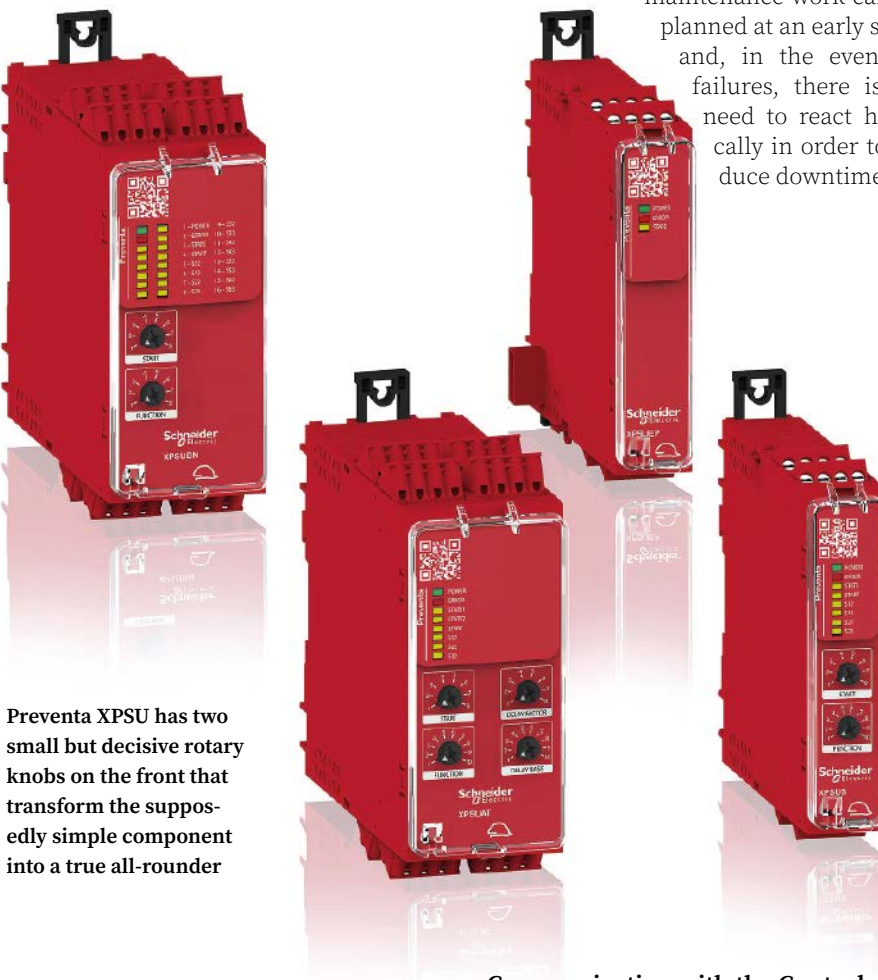
Preventa XPSU has two small but decisive rotary knobs on the front that transform the supposedly simple component into a true all-rounder

The control decodes the signals of the telegram and communicates them to the operator in the form of a diagnostic or status message. If the machine does not restart properly after an interruption in operation, the service technician or plant electrician simply looks at the display on the machine and immediately recognises, for example: the power contactors for the safety function must not be switched on due to a fault. In total, the universal relay can communicate up to 40 different diagnostic messages to the control

Communication with the Control
For successful communication of diagnostic data between the universal safety relay and a control system, it is important that the data can be made available and used easily. In order to obtain a fast and reliable interface here, ready-made function blocks are already available for common programming systems. In this way, you simply integrate the corresponding function module into your control system program and do not have to worry about decoding the clock signals yourself. The status message is then

GAS DETECTION

The Takeaway Lab

An All-In-One Device

Detecting hazardous substances in the smallest concentrations and measuring them precisely is a major challenge, and not only for industry. With the Dräger X-act 7000, carcinogens or other hazardous substances can be measured more quickly and precisely than ever before – in refineries, hospitals, in fire services or even in a space shuttle! Bettina Runge, Dräger Product Manager, explains in an interview with GIT SECURITY how an innovative measuring solution opens up new possibilities for customers' measurement strategies.

GIT SECURITY: The Dräger X-act 7000 promises to "measure one out of billions". Is this where it differs from other gas monitoring devices?

Bettina Runge: This is not the only factor, but it is an exceptional one. As a short background, when measuring substances that can cause cancer, we're not only concerned about limit values, but increasingly about significantly lower acceptance or tolerance limits. Users want to be able to detect concentrations of up to 0.06 ppm (0.06 parts per million). Until now, portable gas detection devices could not detect such low concentrations. That is why we have developed X-act 7000, which can even detect values as low as 1 ppb (1 part per billion).

How does it work?

Bettina Runge: The Dräger X-act 7000 itself is an analysis device. We also offer various MicroTubes that can be inserted into the device, a bit like a cartridge. MicroTubes contain what are known as capillaries, which change colour through contact with certain substances. Inside the analyser, on the other hand, there is a CMOS chip, like those used by smartphone cameras. These are very sensitive and detect the faintest discoloration in the capillaries that the human eye cannot see. This is how we get highly precise results.

So, if someone wants to measures additional substances, they don't need another device but just a different MicroTube?

Bettina Runge: Exactly and that's another decisive advantage. For instance, in the oil and gas industry special devices are used which can only detect mercury. These devices are not only much more expensive than the Dräger X-act 7000, but are also limited to being able to measure just one hazardous substance. In petrochemical plants, however, other harmful substances are also present, like benzene, gasoline hydrocarbons or hydrogen sulphide. Additional devices used to be needed to measure these. These devices must be functionally tested and calibrated before use if necessary, and sometimes this calibration can only be carried out by the manufacturers. The X-act 7000 performs a self-test every time it is switched on, to check that the device is functioning properly. The calibration data of the MicroTube is stored on the cartridge's RFID tag, so a daily function test for this is not necessary.

So the X-act 7000 is an all-in-one device?

Bettina Runge: Yes, and also in terms of safety, because it is ATEX/IECEx-certified for Zone 0 – areas where a hazardous and combustible atmosphere exists continually or for long periods. Many devices on the market are not designed for these environments and users would therefore need to know the exact safety zone they are currently in on a plant. With the Dräger X-act 7000, users don't need to worry about this.

What other advantages are there for customers?

Bettina Runge: Currently the detection of such low con-

centrations is only possible with complex laboratory analyses or by using larger devices. With the X-act 7000 you can obtain results very easily and immediately on site. The time saved is a great advantage for many of our customers in industry. In addition, we avoid errors that can occur during sampling, transport or storage. Although measurement results from X-act 7000 are not sufficient for test reports that can be used in court, as only laboratories can provide these, its measured values can be used as preliminary results. Laboratories can then concentrate on analyses where pre-tests showed a critical value, meaning further, laboratory-supported measurement is necessary.

For which substances are MicroTubes already available to use?

Bettina Runge: When developing our solutions, we think in terms of customer-focused application packages. This means we want to make an application range as comprehensive as possible for a customer group. For our market launch in mid 2020, we focused on MicroTubes for carcinogenic substances, such as benzene, formaldehyde, mercury, ethylene oxide and 1,3-butadiene. Four more substances were added a few months later so we can now cover all the common requirements for the oil and gas industry. Further standard gases were added after this, including ammonia which, among other things, is used in cooling systems. So now we don't only have comprehensive solutions for industry, but even for use in space! Ammonia is used as a coolant on the ISS, which is currently measured with Dräger tubes. However, X-act 7000 is much easier to handle. The next group of substances which MicroTubes will cover aims to address the needs of firefighters who have to test accident sites of hazardous materials transporters for certain substances. This is to be followed by a compilation of disinfection applications comprising, for instance, MicroTubes for hydrogen peroxide and ozone. Then hospital staff can find out when they may re-enter a sterilised room.

What are the potential further developments of X-act 7000?

Bettina Runge: One thing is that in the future we want to offer substances that cannot be measured with any other portable system. To name just one example, customers in the plastics industry continually ask us about measuring devices for analytes, such as toluene-2,4-diisocyanate (TDI) or other isocyanates because these substances are often used in their industry. So far, they can only be measured using stationary devices or through laboratory testing. We aim for the X-act 7000 to be able to cover these areas as well.

IOT

Inherent Security Authentication

Addressing IoT Security Issues in Manufacturing Sites

Although the Internet of Things (IoT) has enjoyed explosive growth in recent times, it's still a relatively recent concept. It is based around the idea of connecting any devices or objects that incorporate electronics, software or sensors, with the aim of collecting and exchanging data. Over the past few years, IoT has spread like wildfire, and shows little sign of slowing down. However, the component manufacturer Omron points out that this rapid increase in the number of devices or end points for the Industrial Internet of Things (IIoT) also means that there is a correspondingly higher risk in terms of security.

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According to Cisco, the number of connected devices is expected to exceed 50 billion imminently. These range from everyday items such as controllable lighting and heating in the home through to machine-to-machine (M2M) communications in the factory. The potential security issue – especially in relation to the data that is being collected and exchanged – needs to be urgently addressed so that the IoT as well as the IIoT can continue to develop safely and securely in the future. CMS Wire recently reported that, if this can be achieved, "It is likely that adoption will continue at an

exponential rate, greater consolidation will drive developers to edge computing and connected applications will unlock multi-purpose robots, leading to far greater capability and functionality."

In reality, this is already beginning to happen in some areas. Manufacturers around the world are striving to strengthen their global competitiveness and corporate value by enhancing their manufacturing capabilities through the use of IIoT. The industry is also rising to the challenge of making manufacturing sites more intelligent through the active use of digital technologies. However, the risks are also much higher in the manufacturing industry than in many other sectors. Manufacturing sites are facing more serious threats than ever before, as evidenced by recent cases of disrupted production due to ransomware and other malware attacks.

Meanwhile, both customers and the market are demanding higher levels of quality and safety through measures such as more stringent regulations on food and pharmaceutical products, as well as better traceability that will ensure the quality of individual components in the electronic parts industry. Manufacturers therefore face significant challenges in continuing to improve the technologies they use while addressing these issues.

Key Issues for Manufacturers

Three specific areas of security risks in relation to the use of IIoT in manufacturing include the people who access equipment and data at the manufacturing sites, the devices that are connected to machinery and production lines, and the data that are collected and exchanged. Each of these areas poses challenges in terms of effective authentication procedures. One of the first areas that is likely to come under attack involves hackers who attempt to impersonate an authorised user so that they can access data or carry out a disruptive task of some kind. Everyone is now familiar with the Internet, where authentication takes place through passwords and where websites are protected by the SSL (Secure Sockets Layer) protocol.

However, usernames and passwords are not always a very effective method of personal authentication for potential users of IoT. Some of the encryption methods that are used can also be fairly weak and ineffective against potential hackers. IoT security – particularly authentication and encryption – is therefore an area that leading manufacturers are urgently addressing.

Device Security

Authentication, access control and a lack of basic cyber security measures are all key issues relating to the devices employed in an IIoT set-up. If the devices have weak security, that will also have implications for the systems to which they are connected and indeed the whole infrastructure.

Traditional authentication methods and weak passwords are inadequate and cannot cope with the sheer number of devices and the machine-to-machine communications that occur within an IIoT operation – which in turn will typically be part of a complex manufacturing environment. The devices need to be able to authenticate each other so that data can be safely exchanged within the system. The IIoT platform also needs to be able to provide strong authentication processes as well as device authorization and access control.

Another important step includes the development of an inventory of the devices, especially those that could be particularly vulnerable to attack. This can help managers to isolate any devices involved in a breach until the issue is resolved. After the security of the devices has been assured, the next step is to ensure the security of any communications between the devices, any apps and the cloud. This could typically include the use of sophisticated encryption techniques.

Data Security

At the center of all of the concerns about the security of IIoT within manufacturing sites is the need to maintain stringent data security – including safeguarding its transmission, storage, processing and ultimate disposal. Any security must also comply with a range of strict data protection regulations, including the General Data Protection Regulation (GDPR). Quite apart from the hundreds or thousands of interconnected devices that might be present within a manufacturing site, the sheer quantity of data that is collected and exchanged is almost impossible to monitor: for instance, IBM believes that as much as 2.5 quintillion bytes of data could be being generated each day.

An experienced hacker can exploit a single weakness to gain access to a company's whole network – and the data within it. So cyber security and anti-hacking measures become not only important but vital if manufacturers are to take advantage of the many benefits of IIoT without opening themselves up to potential disaster.

Data security starts with personal and device security and might also involve further encryption techniques and the use of items such as data signatures. Network communications also need to be carefully monitored for signs of any vulnerabilities or data breaches. This includes the need to identify any affected devices; any services that might have been accessed; and any data that might have been compromised. Finally, manufacturers will need an effective strategy in place for rapidly resolving any issues that might arise.

Addressing IIoT in Manufacturing

So, what steps are organizations taking to try and ensure that manufacturers can enjoy the benefits of IIoT whilst being protected from its vulnerabilities? Omron and Cisco Systems have announced that they will join forces to address this issue. Cisco's networking and security technology will be integrated into Omron's machine and programmable logic controllers (PLCs). The latter have been designed to deliver reliability under extreme conditions at manufacturing plants. This collaboration will help manufactures to achieve safe and secure production in intelligent sites that are enhanced by the use of IIoT.

Omron and Cisco will jointly develop a secure environment in which machine controllers and PLCs, as core automation components, provide security authentication for the three discreet elements mentioned earlier: people at manufacturing sites; devices connected to machinery and production lines; data exchanges. Before joining forces with Cisco, Omron had already developed the Machine Automation Controller NJ Series. This is its flagship machine controller, which comes as standard with the OPC UA server and complies with the security-enabled global communications standard. Its new PLCs enable secure data communication with software and devices that support OPC UA.

The rapid increase in the number of IIoT devices is creating a higher security risk, especially in relation to the data that is being collected and exchanged. This issue needs to be addressed so that IIoT can continue to develop safely and securely in the future. Ensuring the security of IIoT solutions in production lines will ultimately help progressive manufacturers to streamline their processes whilst also enabling them to make further new advances in manufacturing.

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