GIT SECURITY EMEA

MAGAZINE FOR SAFETY AND SECURITY

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Public Transportation

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COVER: ASSA ABLOY:
Mobile Access and
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Dear Readers,

In 2015, the United Nations Climate Change Conference reached the Paris Agreement to mitigate the effects of climate change and achieve neutrality by 2050. For many years sustainability and green initiatives have been topics discussed on a corporate level with little to no impact on projects and products.

This has changed. In some parts of the business, e.g. when we are talking about security and safety for hotels, as a provider of products and services for this industry, your customers will ask you for green certificates and the impact your products have on the environmental footprint.

As you can see on pages 18 and 30 in this issue, more and more vendors react according to this trend. Salto has achieved carbon neutrality thanks to its participation in two innovative projects with a triple-transformative effect on the economy, society and nature to achieve Salto's goal: for its operations to have zero impact on the climate (see page 30).

In the article on page 18, we explain how workwear producer Fristads promotes work on sustainability in the industry, which means taking account of the entire product life cycle. They have reworked their production processes and make the environmental impacts of garments transparent for consumers.

For our own operations here at Wiley, we can state that our Global Operations Carbon Footprint is certified 100% Carbon Neutral across all of Scope 1 and 2, and part of Scope 3 (business travel and distribution of product). This is for the latest (2020) financial year, in line with the Carbon Neutral Protocol. As well as this, all of our locations are powered using 100% renewable energy, through green tariffs and certified energy attribute certificates (EACs).

To support this trend, we have added a 'Special Category Sustainability' for this year's GIT SECURITY AWARD. In addition to the already existing product categories, we welcome applications sustainable products, projects, solutions or corporate initiatives for this category. For all providers of security products, security solutions or security services who want to be part of GIT SECURITY: You can register new product entries until March 31st for the next GIT SECURITY AWARD 2023.

Stay safe and enjoy reading this issue!

Heiko Baumgartner
For Wiley's Safety and Security team

Welcome to the knowledge age

Wiley builds on its 200-year heritage by partnering with universities, businesses, research institutions, societies and individuals to develop digital content, learning, assessment and certification tools.

Wiley continues to share and deliver the answers to the world's challenges helping you to further your mission.

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SPECIAL
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Erja Sankari Appointed at iLoq

Erja Sankari has been appointed as Executive Vice President and Chief Operating Officer as of 1st February, 2022. Erja will also become a member of iLoq's Management Team. Before joining iLoq, Sankari has been working as Vice President of Global Supply Chain at Nokia. She will replace Esa Myllylä who will be retiring in 2022. Erja will be responsible for the comprehensive management and development of iLoq's global operations, internal practices and way of working and driving forward management systems. "iLoq is a well-known and well-respected company. I am looking forward to bringing

Erja Sankari

my own expertise into the mix and helping to cement iLoq's position as a leading player in software platforms and cloud-based services," says Erja Sankari. Esa Myllylä has been a member of iLoq's Executive Board since 2014. He will step out during spring 2022.   **www.iloq.com**

New Chief Revenue Officer for Milestone Systems

Milestone Systems, a provider of open platform video management, announced that Ilijana Vavan joined the Executive Leadership Team as new Chief Revenue Officer, effective February 1. Ilijana Vavan's primary responsibilities include direct oversight of the company's global Go-To-Market organization, such as channel strategy, sales operation, partner sales, and digital sales, as well as leadership and mentoring of the global sales team. Ilijana has expertise in commercial sales strategy and has worked in senior sales and management roles as well as technical roles. She will take a hands-on

Ilijana Vavan

approach to managing the day-to-day business and will help the company scale its sales operation, achieve business excellence, and strengthen structure for the channel business. She has a solid reputation in the security and software industry for surpassing sales goals. Ilijana will be based in Munich, Germany.   **www.milestonesys.com**

Mobotix Confirms Strategic Expansion by Acquiring Vaxtor Group

Mobotix has confirmed its strategic expansion and strengthened its operational business by reaching an official agreement to acquire Vaxtor Group, Tres Cantos, Spain, a leading artificial intelligence-based video analytics provider, specializing in optical character recognition and deep learning technologies. Vaxtor's OCR analytics technology, and in particular their automatic license plate recognition products, provide a wide range of solutions for numerous vertical market segments. With 100 % in-house development, their technical vision, expertise, continuous R&D investment and product quality have secured year-on-year growth and healthy operating profits. Vaxtor has a broad global customer base in 50 countries, and partners with most of the relevant players in the industry, delivering both camera agnostic and at-the-edge video analytics in various sectors.   **www.mobotix.com**

Malou Toft, Benjamin Low and Jos Beernink

Milestone Systems announces Senior Leadership Changes

Given Milestone's strong ambitions, the company has further aligned the organization for scale and growth by appointing Malou Toft as Vice President of Asia-Pacific, Benjamin Low is promoted into a new role with a global focus in Asia-Pacific, and Jos Beernink is appointed Vice President of Europe, Middle East, and Africa.

Milestone Systems announces that Malou Toft will transition from Vice President (VP) of Europe, Middle East, and Africa (EMEA) to VP of Asia-Pacific (APAC), effective April 1. Also, effective April 1, Benjamin Low will assume responsibility for a newly established role leading Global Partners of APAC, while Jos Beernink will lead EMEA as the regional VP, a position he has held in the interim while Malou was on maternity leave.

"To continue Milestone's strategic journey and to meet our massive growth ambition, I'm pleased to announce three, new exciting changes to our team," says Thomas Jensen, CEO of Milestone Systems A/S. "Malou will relocate from Copenhagen to Singapore to lead our APAC organization, Benjamin will focus on helping us grow and reinforce our strategic relationships with global partners in Asia, and Jos will head our EMEA region on a permanent basis. I look forward to working with all three of them in their new roles."

Malou, who has been with Milestone Systems A/S since 2018, has vast experience leading large organizations, and a strong background in sales. She has been an inspiration to the entire EMEA team over the years with a strong track record. Her primary responsibilities as VP for APAC will include leadership of Milestone's APAC organization and mentoring of the APAC team for continuous growth and scale.

Benjamin Low has been with Milestone Systems A/S since 2015. As current VP for APAC, he has been the catalyst for establishing Milestone across the APAC region. Once Benjamin moves into his new role, he will help reinforce Milestone's efforts with Global Partners, an important priority to grow and scale the business.

Jos Beernink has been with Milestone Systems A/S since 2019. He will now formally take over the role as VP of EMEA, a position he has held since October 2020. Jos is a charismatic leader that will drive organizational growth by devising innovative business development initiatives, forming important partnerships, and building strong business relationships.   **www.milestonesys.com**

Teleste Strengthens Presence in Italy

Teleste Corporation announced that it has acquired Ermetris, the Italian company specialized in rail electronics and related services. The acquisition strengthens Teleste's presence and capabilities to deliver services for rolling stock manufacturers and public transport operators in Italy, one of the key market areas of the company's Rail Information Solutions business. Ermetris designs and manufactures electronic products for the public transport market in Italy and Europe, and provides related services to mainly Italian railway and public transport operators. The company has been a local service partner for Teleste for many years in several major deployment projects. Teleste's solutions are currently installed in more than 500 trains in Italy. Through the acquisition, the company will be able to offer its customers increased local presence and the expertise of the Ermetris team as part of its lifecycle services. The acquisition will also create a new repair competence center, serving both Teleste's and Ermetris' public transport customers in Southern Europe and complementing the repair centers in Finland and Poland.

www.teleste.com

AVIA Appoints New General Manager of the Coalition Against Piracy

The Asia Video Industry Association has appointed Matthew Cheetham as General Manager of the Coalition Against Piracy, or CAP, with immediate effect. Over the last four years CAP has made real inroads into the systemic problems of video piracy faced by the broadcast and streaming video industry in Asia Pacific. As the General Manager of CAP, Cheetham will take over from Aaron Herps and build on the accomplishments achieved by CAP to date, with the aim of creating a stronger and healthier environment in which the video industry can prosper. "CAP is critically important to AVIA

Matthew Cheetham

and the industry as a whole and I am delighted that in Matt we have such a seasoned and experienced executive taking over. Matt will bring his own ideas and energy to the role and I am confident CAP and the industry's anti-piracy efforts will grow in strength under him," said Louis Boswell, Chief Executive Officer, AVIA. **https://avia.org**

Honeywell Makes Strategic Investment in Rapid SOS

Honeywell has made a strategic investment in Rapid SOS, as well as technology integrations between the two companies that will further modernize and digitize the public safety communications process. Rapid SOS is the emergency response data platform used by more than 5,200 emergency communications centres worldwide. The existing communications infrastructure between buildings, alarm monitoring stations, emergency centres and fire stations often uses legacy, manual technology, which slows response times and affects the accuracy of transmitted information. Through the strategic investment and technology integrations, the Honeywell Connected Life Safety System (CLSS) will link to the Rapid SOS emergency response data platform to provide faster, more accurate communications with emergency centres. When combined with Honeywell's solutions, Rapid SOS technology will securely transmit detailed data about the emergency, such as the type of hazard, severity, and location within the impacted building to emergency response centres. **www.security.honeywell.de/en**

STid Achieves Record-breaking Results in 2021

The French specialist in secure contactless identification solutions, STid, has announced a record annual revenue growth of +50 %, where the average growth of business in Europe is around 6.5 %. 2021 has been an astonishing year for STid. The company is proceeding well on a growth path that is expected to continue in the upcoming years. This growth is witnessed in all of the company's strategic business areas in Europe and throughout the world. It has won numerous large and small projects, including some very prestigious ones, such as at MIT (Massachusetts Institute of Technology) in the USA, KPN, Infrabel, Michelin, and the Olympic Games. In 2021 STid announced the opening of a brand new office in Dubai and the commencement of strategic partnerships with European and American industry leaders that decided to incorporate STid identification solutions into their portfolio. Between 2021 and 2023, STid has budgeted to invest 12 M€ in its growth plan. **www.stid.com**

BSIA appoint New Chief Commercial Officer

The British Security Industry Association BSIA has appointed James Gribben as its Chief Commercial Officer. Gribben joins the Association bringing 20 years of commercial experience in the fire and security industry, specialising in leading sales and marketing roles. He has a strong track record in aligning marketing strategy with sales objectives for companies such as SMC, Stanley Security and Tyco. His prime responsibility will be to drive membership retention and accelerate membership growth, working closely with the Marketing/Communications and Membership teams. Mike Reddington, Chief Executive, BSIA, said: "I am delighted that James will be joining the BSIA as our new Chief Commercial Officer. His many years of experience in the industry working with some of the leading companies in the field will provide great assistance to the Association as we build on our recent successes and drive for accelerated growth in the coming years." Gribben is based in the North-West and took up his post at the beginning of January. **www.bsia.co.uk**

Seven Trends in the Security and Identity Industry

HID Global has outlined what it considers the important trends that are set to reshape the security industry in 2022 and beyond: supply chain issues, sustainability, SaaS-delivered identities, digital IDs, future of work, contactless biometrics and data science. Semiconductor shortages, global logistics bottlenecks, and corresponding cost increases will impact everything from readers and control panels to sensors and detectors. The focus on sustainability will grow, driving suppliers to increase focus on digital solutions. Digital transformation has started the move to cloud deployments and service models, providing opportunities to manage access control for applications, physical assets, and data. Digital wallet adoption is at an all-time high. In 2022, there will be a tipping point for digital IDs to outpace physical ones, and digital services will play a vital role as suppliers organize around service models and service-led growth. Biometrics paired with cloud-based identity management solutions is poised to deliver secure authentication data privacy. Artificial intelligence and machine learning will become more tightly woven into the fabric of trusted identity solutions across the physical and digital continuum, automating and optimizing performance, accuracy, safety, and security. **www.hidglobal.com**

Suprema Announces its New Vision

Suprema, a global player in access control and biometric solutions, hosted its 2022 virtual global partner summit event on January 11 for partners from more than 80 countries. The company announced its business strategy for 2022, including a strong focus on the BioStar2 access control platform, AI-based facial recognition, and mobile access solutions. Over the past year, Suprema maintained its position in the rapidly changing access control security market. Owing to the Covid-19 pandemic, contactless innovations have become a big trend, which has led to dramatically increased market interest in the supplier's AI-based facial recognition products. The plan for 2022 is to increase global market share with the launch of a new facial recognition product and prepare to update the integrated security platform, BioStar 2, to enhance its scalability and flexibility by adding a variety of credential options and cloud-based services. Suprema also plans to expand its investments into mobile access solutions, an emerging technology supporting contactless access control. www.suprema.co.kr

Boon Edam's North Carolina Facility Receives SHARP Accreditation

Boon Edam has announced their North American manufacturing facility in Lillington, North Carolina has received national Safety and Health Achievement Recognition Program SHARP accreditation. Administered through the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA), the SHARP Recognition Program certifies employers that have established, implemented, and maintained exceptional workplace safety standards. By achieving SHARP status, Boon Edam USA has joined an elite group of small businesses that maintain exemplary health and safety programs. Businesses must meet several criteria in order to receive SHARP accreditation, including participating in OSHA's On-Site Consultation Program services, and maintaining employee injury and illness rates below the national average for their industry. "We've been working toward SHARP recognition for about four years," said Patrick Nora, President & Managing Director, Boon Edam Manufacturing, USA. "We started by changing our relationship with safety into a proactive one. Then we started working with OSHA, asking them to come in and help us identify what we needed to do to get to the next level." www.boonedam.com

New Vivotek Branding

Vivotek's new visual identity is inspired by the concept, "We Get the Picture." Founded in 2000, Vivotek established its headquarters in Taiwan and has concentrated on IP surveillance since inception. In the era of IoT, going beyond traditional surveillance IP surveillance systems have implemented Artificial Intelligence (AI) and been transformed by powerful IoT solutions. It is at this crucial turning point that we take this opportunity to redefine our positioning during the exciting era ahead with a new brand identity. Vivotek's new visual identity is inspired by the concept, "We Get the Picture." The overall look and feel of the brand identity with a modern, user-centered, and digital-friendly design. Our color palette remains blue-toned, but brighter and with extended variants. www.vivotek.com

New Date for Light + Building / Intersec Building 2022

Messe Frankfurt is postponing the world's leading trade fair for light and building technology including Intersec Building to autumn 2022. Last December, intensive discussions with customers and cooperation partners had already led to the examination of alternatives to the original date in March. Now the new date has been set: Light + Building Autumn Edition will be held in Frankfurt am Main from 2 to 6 October 2022. "We took the concerns of our partners very seriously and of course also weighed up the entrepreneurial opportunities and risks. As already announced in December, all options for a new date were under review. Fortunately, we managed to find an attractive autumn date and make it possible through internal rescheduling for Light + Building. This means that the prospect of a strong, international sector launch in Frankfurt in 2022 remains", explains Wolfgang Marzin, President and Chief Executive Officer (CEO) of Messe Frankfurt. Last December, the high incidence in Germany followed by the international appearance of the Omicron variant and the associated travel restrictions had already led to uncertainty in the lighting, building and safety technology sector.

Ingolf Jakobi explains

In the discussions, major parts of the industry confirmed the need for an international meeting place for the sector in Frankfurt this year. Chairman of the Electrical Installation Systems Division of the Electro and Digital Industry Association (ZVEI) of the Electro and Digital Industry Association (ZVEI) explained: "After the long break, the industry absolutely needs the new start to finally be able to present the many innovations in the future market of "sustainable building". The new date from 2 to 6 October 2022 gives all participants sufficient planning time and enables personal exchange before the end of the year."

Light + Building Autumn Edition in October 2022

Light + Building is the most important international sector meeting for architects, industry, trade, commerce and planners. As an innovation forum and interdisciplinary marketplace, it is also a guarantor for business initiation, new contacts and knowledge transfer. With its holistic orientation, it focuses on current topics that contribute to sustainability issues.

For the Light + Building Autumn Edition, the hybrid concept remains the same. In addition to the international industry meeting place in Frankfurt, participation is possible via the Light + Building Digital Extension platform. www.messefrankfurt.com/frankfurt/en

RELEASE 2022

vox-M & vox-C
outdoor sirens

vox-M outdoor siren is a luminous and **powerful** alarm sounder, an acoustic alarm device which plays dual-tone buzzer and **personalized voice messages** according to the software configuration; it is equipped with two high brightness multicolor LEDs and a third **high brightness LED**. vox-M siren is protected against opening or removal from wall (tamper protection), BUS wire-cut, anti-foam tamper system and it is designed for the anti-drilling tamper.

vox-C outdoor siren is made with the same mechanical case and the same **magnetodynamic speaker** as vox-M, but inside there is a simplified electronics that still guarantees acoustic alarm device which plays dual-tone buzzer; protection against opening or removal from wall (tamper protection), BUS wire-cut and designed for the anti-drilling tamper.

| VOICE MESSAGES | HIGH EFFICIENCY LED | ADDITIONAL FEATURES | QUICK INTEGRATION | SAFE AND SECURE |

Genetec Privacy Protector Re-certified with EuroPriSe

Genetec announced that its KiwiVision Privacy Protector has been re-certified with the European Privacy Seal (EuroPriSe) for the sixth consecutive two-year term. KiwiVision Privacy Protector is the only solution to have received the European Privacy Seal certification for its ability to protect the identity of individuals within video surveillance recordings. The prestigious European Privacy Seal is awarded to IT-based products that are compatible with European data protection laws and excel in privacy protection. Available on demand for the Genetec Security Center unified platform, KiwiVision Privacy Protector automatically anonymises individuals' actions and movements caught within a camera's field of view, so security operators see only what they need to see. Being able to access unobscured footage requires an additional layer of access permissions that is used only when an event warrants an investigation. An audit trail is then maintained that shows who accessed the additional information, and why. "Protecting the identity of people captured on video is an essential step in protecting their privacy," said Florian Matusek, Product Group Director, Genetec Inc. "The fact that KiwiVision Privacy Protector has been certified by EuroPriSe for over a decade is a testament to the ingenuity of engineers to deliver advanced physical security technology that can meet privacy first standards of operation while enabling users to comply with regulations." **www.genetec.com · www.privacy-protector.eu**

G4S: Managing and Securing Denmark's Storebælt Link Toll Road

G4S manages the toll station operation of the Storebælt Link in Denmark – the Great Belt Bridge in English – ensuring the smooth and efficient movement of up to 56,000 vehicles a day. The Storebælt Link in Denmark straddles the Storebælt strait, a stretch of water which divides Denmark into two. G4S manages the toll operation of the bridge which connects Zealand to Funen. The toll plaza has 12 lanes on the westbound side and 10 lanes on the eastbound. These are all located in Zealand. Drivers from Zealand go through the plaza before crossing and those driving from Funen make their payment once across. The combination of skilled G4S employees and the technology provided by A/S Storebælt, means that up to 6,000 vehicles per hour can pass through the toll plaza. The record for a single hour is 5,600 vehicles. Each lane has up to four video cameras configured to photograph a vehicle and its registration number. Using this video monitoring, the G4S traffic manager can help customers. In those lanes where cash is accepted, G4S technology is used to count the money and a G4S key card can access it and a cash in transit partner handles the money from there. **www.g4s.com**

Hochiki Europe Expands Panel Compatibility Reach

Hochiki Europe has announced a new partnership which will enable its most sophisticated addressable multi-sensor device, the ACD, to be compatible with the MxPro 5 range of addressable fire control panels from Advanced Electronics. This new partnership with Advanced Electronics allows Hochiki's ACD addressable loop-powered multi-sensor, with smoke, heat and CO sensing elements to be installed in even more projects than was previously possible. Both the ACD multi-sensor and MxPro 5 panel systems include several features that make this new partnership a good product and panel fit for the smallest to the largest of sites. There are 24 modes of operation in the Hochiki ACD multi-sensor, detecting smoke, heat, CO and the threat of COHb poisoning, all fully supported by the MxPro 5 panels. **www.hochikieurope.com**

Comelit-PAC Appoints Steve Carroll as Export Manager

Comelit-PAC has welcomed the appointment of an additional Export Manager, to support growth and capture the emerging global opportunities for its recently acquired PAC Access Control portfolio. Steve Carroll joins the team, in this newly formed role at an exciting time for Comelit-PAC, now standing as an all-encompassing security provider of door entry, IP access control, CCTV and compliant fire safety systems. Steve arrives with 30 years' experience working for SME as well as larger businesses, gaining valuable insights across many sectors and regions to now apply his knowledge to Comelit-PAC and the development of new markets. **www.comelitgroup.com**

Steve Carroll

Savoye: Partnership With Incube

Savoye expands its international reach by signing an agreement with the recognized software solution provider, Incube company. Incube, one of the Middle East and North Africa's premier supply chain mobility solutions provider now becomes the first distributor and integrator for Savoye software solutions in the region. According to the agreement, Incube is now distributing and integrating Odatio, cloud native software for the supply chain, combining Warehouse Management System (WMS) and Transport Management System (TMS), developed by Savoye. **www.savoye.com**

TDSi Appoints New Marketing Manager

TDSi announces the appointment of Nick Mercer as Marketing Manager. Based at the company's global headquarters in Poole, Dorset, Nick will oversee the overall marketing functions along with enhancing the accessibility of information, enabling customers and partners to enjoy the full benefits of TDSi's expanding portfolio of integrated security solutions and products. John Davies, TDSi's Managing Director commented, "We are always keen to attract and employ the best people in the industry and Nick is the perfect example of this. With over a decade's experience in Marketing, Brand and Design, and having worked within a broad variety of marketing roles he brings exactly the expertise TDSi needs as we continue to evolve and grow in the post-pandemic landscape. We are delighted to welcome Nick to the team to support us in these exciting times."

Nick Mercer

www.tdsi.co.uk

Dahua has appointed Mark Massie as Sales Director for UK and Ireland

New Sales Director appointment at Dahua Technology. Mark Massie will lead Dahua's business development teams, growing existing relationships with security integrators and creating valuable new opportunities, as the company continues to accelerate growth in its highly valuable UK and Ireland markets. Massie previously held senior sales roles for security equipment manufacturing and distribution companies, including Head of International Sales for ADI Global Distribution and Senior Director of Sales for UK and Ireland at Avigilon. James Wang, General Manager of Dahua UK and Ireland, said: "We are delighted to have Mark Massie on board as Sales Director. Mark's valuable experience in senior sales management roles with leading manufacturer and distributor companies will stand him in good stead, as he takes on the role of leading our commercial teams in enhancing existing relationships with customers and creating new opportunities around the UK and Ireland."

Mark Massie

www.dahuasecurity.com

GIT SECURITY AWARD 2023: Register again Now

Information to all providers of safety and security products, solutions or services. Register now until 31 March 2022 at the latest for the next GIT SECURITY AWARD. A neutral jury makes a pre-selection for each category after the application phase.

GIT SECURITY AWARD

The readers of the print magazines and the associated online communities of GIT SICHERHEIT, GIT SECURITY EMEA and PRO-4-PRO.com are then called upon to vote for their favourite products. If you are a provider in matters of safety and security, then register here now. There you will also get info and tips on how the registration works.

www.security-award.com

Jon Könz new Euralarm President

During the 51st General Assembly of Euralarm, the members have chosen Jon Könz as the new President of Euralarm. He succeeds Martin Harvey who was President for the past 3½ years. Before being elected President Jon Könz was chair of the Services Section of Euralarm. He is head of Industry Affairs at Siemens Smart Infrastructure. The 2021 General Assembly was held in Brussels where the outgoing President praised the work that was done in fostering internal communications in times

Jon Könz

when more and more people were bound to their (home) office and much of the communications takes place via online communication platforms. Nevertheless, the association succeeded in aligning opinions and developing clear priorities shared across the whole scope of the industries represented by Euralarm: product and system manufacturers, installers, integrators, service providers, and national associations from all over Europe. Having added more than 10 new members over the past years, Euralarm now represents a bigger share of the industry, allowing the association to exert more influence at European level. Under Euralarm's umbrella model, different industry disciplines are represented by distinct Sections with separate membership, but they work together in their high-level dialogue with institutional players and other European stakeholders. The General Assembly also elected Anja Schäfer (JCI) as chair of the Marketing Committee whereas Dominique Taudin (Carrier) will remain as chair of the Advocacy Committee. On the following day, section chairs and vice chairs were elected or re-elected by their respective section members. Neil Budd (FIA) was elected vice chair of the Fire Section, Milan Ceeh (AGA) will be the acting chair of the Security Section with Oscar Feijo Jimenez (Verisure) as vice chair. Robert Thilthope (FIA) will succeed Jon Könz as chair of the Services Section with Victoria Ferrera Lopez (Verisure) as vice chair. Alan Elder (JCI) and Tornbjörn Laursen (SikkerhedsBranschen) will remain as chair and vice chair of the Extinguishing Section. www.euralarm.org

Smart Buildings Toward a Sustainable Future

Henning Sandfort, CEO Building Products at Siemens Smart Infrastructure views digitalization as a door opener to bringing more intelligence to literally any building. A smart building should be designed with the environment and future generations in mind. This is especially important when you consider that, in Europe for example, three out of four buildings are underperforming in energy-efficiency, and have high energy consumption. The growing global population demands safe, healthy places and communities for people to live and work. To accommodate this, we will require more smart buildings and infrastructure that operates efficiently, avoids waste and complies with increasingly stringent regulations for building performance and decarbonization targets. Controlling space conditions for temperature and humidity, and protecting these spaces from fire or damage will need smart concepts and smart technology. Sensors, control systems and building management systems are just some of the elements that help intelligent structures achieve targets for operating costs, efficiency and sustainability, and personal wellbeing in the workplace.

https://new.siemens.com

SECURITY IN THE CHEMICAL INDUSTRY

No Capital Investment Without a Security Concept

Security in the Chemical Industry: Current Projects at Merck, a Science and Technology Company

The virtual Wiley GIT Panel Discussion on "Security in the chemical industry" was held around a year ago. The topics not only included the shortage of skilled personnel and digitisation – but also trends in society at large, including the increased incidence of conspiracy theorists as well as Islamists. In the future, GIT SECURITY will keep on addressing both these and other issues that are currently on the minds of those in charge of security at chemical industry sites. Matthias Erler from GIT SECURITY spoke to Dr. Peter Schäfer and Bernd Saßmannshausen from the Fire Prevention and Security department at Merck in Darmstadt about the current hot topics at Merck.

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Bernd Saßmannshausen,
Head of the Fire Prevention and Site Security department at Merck in Darmstadt

Dr. Peter Schäfer,
Works Fire Service, Head of Emergency Response, Prevention and Security Management department, Merck

The Challenge of the Shortage of Skilled Personnel

For the first time in years, Merck has resumed its recruitment of trainee protection and security experts. According to Dr. Peter Schäfer this is how the company intends to gradually solve the problem of finding skilled personnel, an issue that is partly being caused by demographic factors. He said this had been preceded by a phase of placing greater emphasis on optimisation and, in cases of doubt, resorting to the German Act on Temporary Agency Work (AÜG). Like many other companies, Merck has also noticed the decline in the general educational standards of people in the early stages of their careers, which has been the subject of a good deal of comment. Particularly when it came to the fire service role – which is one of the training pathways offered at Merck – they were finding that the physical condition and fitness of new trainees was not up to scratch more frequently than had previously been the case. Stamina and co-ordination are however essential: after all, fire service staff need to be all-rounders who are good at swimming, running and carrying heavy loads, and they must be as agile as possible at the scene of the fire. For example, they might occasionally have to "run up to the third floor and rescue a 90-kilo man from the building and be able to push themselves to the limit", says Bernd Saßmannshausen in a nutshell. At the same time, he insists that the young men and women – who may, for example, also need a lifesaver certificate – are very dedicated. Merck offers them all manner of opportunities for advancement, e.g. in the form of part-time study.

Digitisation

Merck is no different from other companies in that the digitisation of processes is an ongoing task that affects all divisions. Merck has a highly skilled IT team dedicated to Security and Fire Response, which is responsible for overseeing a small special-purpose network with a firewall to protect it against external attacks. The systems are required to operate at full capacity while meeting the most stringent of availability requirements. Business-critical functions have to be taken into account constantly. Dr. Schäfer explains that, in contrast to the Group IT services as a whole, it is not possible to rely on the outsourcing of responsibilities here. The reason for this, he says, is that in the field of security, most of the software you deal with is not of the standard kind but is specialist software of a pretty exotic nature – e.g. for fire prevention or incident response control systems. He said that while you can call upon vendor support, there is also a great deal you can do yourself. He said this was also necessary, because, if specialists and support are to detect and rectify errors, they must be able to speak to one another on equal terms.

However, digitisation also covers accounting for services, the associated documentation and general order processing (e.g. via a tablet). This leads to significant reductions in workloads, stresses Bernd Saßmannshausen, adding that digitisation also leads to faster and more efficient exchange of information. Intensive networking within the company makes it possible to utilise data and information that are actually already available. In turn, this means that the latest versions of this data and these plans are always available when needed in the context of fire service and security operations. This now makes it possible, adds Dr. Schäfer, to make use of the standard tools that are available everywhere, such as Teams meetings. Nowadays, images can be transferred to the control centre immediately and from anywhere – by mobile phone and via a standard WiFi connection – in the past, this would only have been possible after a lot of inconvenient preparation work.

> ## Dedicated test centre – but without taking temperatures.

Coronavirus and its Consequences

According to Peter Schäfer, what the pandemic has highlighted overall is the need for a site to be working on its crisis resistance all the time. He says that the company's senior managers are now more sure of that than ever before. We must be prepared not just for any new pandemics, but also for heavy rain events, such as those in the Aar valley or ones like them. During the coronavirus pandemic, a great deal of ad hoc learning has been taking place. Although hazard prevention is, by its very nature, part and parcel of a fire fighter's thinking, a problem will occupy that person for one day at the most, and definitely not for a year or more.

Several task forces were set up at the Darmstadt site in order to tackle the pandemic. One lesson learnt from the Covid19 period is that task forces of this nature have to be established at an early stage. At the same time, it is important to consider that managing a task force of this kind is a full-time job. Networking with other sites is essential at all times to keep track of the situation and maintain communication – sometimes on a global scale. Matters relating to employment law – such as the issue of short-term working from home – must always be clarified in collaboration with the Human Resources department.

At Merck, stresses Bernd Saßmannshausen, some of the rules imposed by the coronavirus task forces are stricter than legally required. This applies for example to the arrangements for returning to work after an infection, suspected cases, etc. The company has also done a lot to protect itself, particularly as far as critical areas are concerned. One specific example concerns the operational capability of the in-house wastewater treatment plant. According to Dr. Schäfer, it would be an absolute disaster if that had to be shut down. Office employees can of course work from home – but that does not apply to security, to the fire service, to workshops responsible for servicing equipment or to the area of power supply. These require people to be on site. These efforts certainly paid off – have done a great deal to ensure that there were sufficient staff in these Divisions at all times.

From the outset of the pandemic, we realised that we could not isolate ourselves – e.g. we implemented a dedicated security concept so that we could put skilled workers from Austria – which was classified as a country of high risk – to work on our systems; otherwise, we would have been at risk of a shutdown. We also procured protective clothing and FFP2 masks at a very early stage, since large quantities of these items are also required for regular production processes.

Efficient processes were promptly put into place for security at the entrance gate – for example, visitors were accompanied, lorry drivers from high-risk areas had to remain in their cab at all times. Issues which might appear to be trivial were, according to Peter Schäfer, often particularly challenging. For security staff, deciding whether or not to admit an employee from an external company could be a stressful experience: it might well relate to a really important repair job – but, on the other hand, protection against infection must be maintained. Merck drew up standards for this in the first few weeks of the pandemic.

Bernd Saßmannshausen explains that a dedicated test centre was also set up, but that – for example – people have not had to have their temperature taken on the way in. According to him, this technology is not reliable enough and might simply provide a false sense of security: for example, a person might have been standing in a queue in the sunshine, with the upshot that the thermometer gives a false reading of fever.

Current Security Projects

Merck is able to look back on a number of structural developments which have improved the status of security over the last two years. Dr. Peter Schäfer and Bernd Saßmannshausen say that fire prevention and security are now a fixed and integral part of any capital investment proposal at Merck. Enquiries are built into the decision-making process to find out what needs to be considered from a fire prevention and security perspective in the context of a particular project. Unless these boxes are ticked, the approval process will not progress any further. A typical example of this would be the approval of a new building in the research department. From the outset, a security concept is drawn up and implemented based on a risk assessment. The format for the risk assessment was jointly developed by employees from the Security department in Darmstadt and various colleagues from the Group's international sites; this is now used worldwide throughout the Group. A corresponding evaluation system for fire prevention is currently under development. Business continuity is a key factor to be considered in this context – and is part of the reason why the fire prevention and security concepts often go beyond what is required by law. The protection of research results – which are sometimes the fruit of years and years of work – is naturally of vital importance from a business perspective.

Another major fire prevention project has also been undertaken at Merck, this time in relation to the fire alarm systems. These have been completely renewed and digitised in their entirety. Schäfer and Saßmannshausen report that this project was used as an opportunity to streamline and optimise all the processes involved. This involved reviewing everything done to date. As a result, decisions are now being made more quickly and, thanks to the minimisation of errors, a higher level of security has also been achieved. Previously, it was usual for data to be entered into an Excel table manually – along with all the associated typing errors and transposed digits that inevitably occurred – but this has now been replaced by fully digital processes as part of a Six Sigma (Black Belt) process. This brings us close to a 100% solution.

Dr. Schäfer sums the situation up as follows: "What we have realised above all is that a good description of processes is becoming increasingly important." However, if something does not work in analogue form, e.g. with paper and pencil, it is not automatically going to improve just because it gets digitised. On the other hand, anything that works well in analogue form can also be digitised. However, the process actually has to work, eventualities must be mapped – and then the programmers convert it into digital form.

The future user must be involved from the word go. After all, it is pointless if an area is protected but the forklift truck cannot get inside it. Instead of that, the security measures facilitate a high volume of goods movement and are designed to ensure that the forklift truck driver does not have to keep getting in and out. Another example is the fire door, which has to be held open all the time, because users have to come and go continually. Solutions simply have to be matched to the process every time.

Although there are lots of standard solutions available on the market to accommodate all of this, they often do not fit the bill because of the sheer variety of different requirements on the Merck Campus that are imposed by offices, research facilities,

> *In the field of security, you cannot rely on the outsourcing of responsibilities.*

the level of explosion protection required, etc. It is a similar story when it comes to facilities for storing keys at the gate and the workshops. There are only a few people within the company who are able to switch off the burglar alarm system, yet other people are constantly coming and going from the Merck Innovation Center. However, even if the system is activated at the site perimeter from a specific time onwards, it is still possible to leave the building from the inside at any time without the alarm being triggered. The motion sensors are activated only if someone tries to enter from outside.

One of the latest developments takes account of the fact that employees sometimes need to gain access to the office at night because of time differences, e.g. to hold conferences with Asia or the USA, explains Bernd Saßmannshausen. This has to be made temporarily possible to enable technical discussions to take place, for example. The alarm and security systems have been adapted to these requirements as appropriate for the users concerned.

Environment and Emissions Protection

To an extent, the Security and Fire Prevention department at Merck also deals with environment-related matters – for its own purposes and also in the role of an internal service provider.

For example, a third party is currently constructing a fourth treatment stage within the wastewater treatment plant. As this is concerned with trace substances in wastewater, it directly affects the Security and Fire Prevention department: for instance, many airports – among others – used to use the general-purpose AFFF (Aqueous Film Forming Foam) extinguishing agent. This is gradually being prohibited by specific deadlines. Alternatives which do not leave behind any harmful trace substances are currently being tested. However, you cannot just use any old extinguishing agent in the chemical industry. This is because chemicals can destroy extinguishing foams, for example. At the same time, this is precisely the kind of situation where you need extinguishing foams which are very fast acting – for example, you need to be able to cover a fuel depot in foam within a matter of minutes. Joint projects are also being carried out with other companies in these areas at association level – with the research being accompanied by sponsorship for university graduates.

Overall, Merck has set itself the target of becoming climate neutral across the entire Group by 2040. Just like all the other parts of the Group, the Fire Prevention and Security department is involved in achieving this target. This includes projects such as the transition to electrical vehicles, replacement of the air conditioning systems in buildings and the power supplies for buildings. Even the choice of raw materials and products used – along the entire supply chain – is being reviewed. Efforts are also being made to obtain relevant certifications.

In the interest of climate protection, the Science and Technology Park in Gernsheim has also been turned into a green tech park. The concern everywhere is to keep on developing technology – with a view to creating a better future.

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FIRE PROTECTION

Prestigious Project

360-Degree Approach to Fire Protection at Dubai Office Complex

A host of fire and life safety solutions from Advanced have been installed to protect 26,000 square meters of grade A office space in Mohammed Bin Rashid City, Dubai. EN 54-approved Axis EN fire panels with integrated voice evacuation and fire telephone systems have been installed across four seven-storey office buildings at the prestigious Dubai Hills Estate Business Park.

Cignetix Systems was responsible for the installation, testing and commissioning of the Advanced Axis EN fire panels at the site. The Axis EN system comprises five 4-loop panels with integrated telephone systems, two 2-loop and four single loop panels as well as a repeater. It is connected to over 1,000 detectors in each of the four office blocks, as well as to the site's PC-based graphical mapping system, which is in turn connected to the Dubai Civil Defense for monitoring. The company also integrated its graphic command centers for system monitoring, and configured its Alarmcalm software for false alarm management and reduction.

Well Connected

The system has been designed so that it is easy for new tenants to add more panels and devices to the network, depending on their individual fire protection requirements. Sunil Kumar Gopalkrishnan, Managing Director of Cignetix Systems, said:

"Cignetix has worked with Advanced's solutions for many years, and we were entirely confident that its fire system could deliver the levels of performance and functionality required to offer a high level of protection across this prestigious site.

"We programed a two-stage positive alarm sequence to support the site's false alarm management strategy. We also integrated the fire system with a range of third-party systems including access control lifts, air handling units and smoke control to make it easier for end users to monitor and control the system on a day-to-day basis." Gary Craig, Sales Director at Advanced, said: "Cignetix has taken a 360-degree approach to fire protection at the Dubai Hills Estate Business Park. They have carefully considered not only fire detection and notification but also false alarm management, graphical monitoring and system integration. The result is a sophisticated system that will provide many years of robust and reliable fire protection for the business park's users and infrastructure."

Truly Alarming

Axis EN panels are EN54 parts 2, 4 and 13 approved and can be used in single-loop, single-panel format or easily configured into high-speed, multi-loop networks of up to 200 nodes covering huge areas. Alarmcalm software comes as standard and allows the false alarm management strategy for a particular site to be precisely refined to take account of occupants' needs and area usage. An optional Alarmcalm button allows occupants or trained staff to confirm whether a signal in their area is due to a false alarm.

CONTACT

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www.advancedco.com

Plug and Play Fire Alarm Management and Monitoring Software

Global Fire Equipment has launched Owl, an advanced 'plug and play' management and monitoring software for its Chameleon Network range of intelligent control panels. Users can monitor the status of their fire alarm panels and receive real-time information and complete visibility of their entire fire detection alarm system. Intuitive, user-friendly and very easy to set up and operate, the system supports everything from a single panel system to multi-panel and multi-site applications with up to 64 systems. The software is fully compatible with the company's G-One, Gekko and Octo+. As it is a PC-based platform, Owl can be accessed simultaneously from different PCs wherever they are located in the world, as long as they are on the same network. The software can be backed up in case of a main PC outage and a customer's configuration file can also be restored.
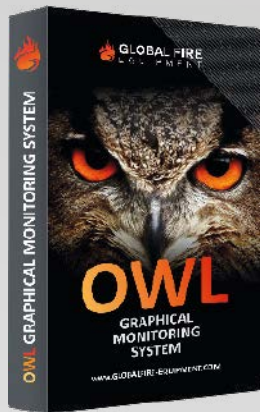
www.globalfire-equipment.com

Fire Safety Systems

Comelit-PAC has upgraded its entire fire system range with the launch of LogiFire, which represents a complete technical and aesthetic evolution of its innovative addressable platforms. The systems can be expanded from one to eight loops and support up to 2,000 devices on an 8-loop system and have a greater loop capacity of 700 mAh. The panels are feature rich and have many onboard fault-finding diagnostics.

The system has been designed to offer a simple to install, fire safety solution that is compliant with BS and EN standards. It is complemented with a new range of detectors, offered with award-winning designs to ensure systems blend with their surroundings.

www.comelitgroup.com

Functional Safety components from Zander Aachen

In machines and plants, there are often various safety requirements and tasks to be taken into account. With the safety relays of the SR series, Zander offers a cost-optimized series that protects man and machine. From two to seven safe relay contacts and up to six auxiliary contacts, Zander offers a wide range of safety relays. Depending on the combination, several emergency stop buttons, protective door switches (e.g. from the ZCode series) and protective grids can be monitored. Zander also offers the ultra-compact Minos safety relay with a width of only 6 mm, which saves important space in the control cabinet. In addition to classic relay technology, Zander also offers safety relays with wear-free semiconductor outputs. The wear-free, safe semiconductor outputs enable the implementation of the highest safety level regardless of the switching cycles, which is particularly advantageous when the switching cycles are high. Despite their minimal width, all modules of the Minos series have I/O status LED's including an error LED. This provides a high level of diagnostic options, which makes installation and maintenance easier.

www.zander-aachen.de/en

GREEN PRODUCTION

Transparency not Greenwashing

Fristads Firmly Believes that Workwear Should be Durable and of High Quality

Marcus Gotthardt,
Digital Sales Manager for the
DACH region at Fristads

The textile industry impacts severely upon the environment worldwide. Fristads wants to promote work on sustainability in the industry, which means taking account of the entire product life cycle. This involves making production processes and the environmental impacts of garments transparent for consumers. GIT SECURITY interviews Marcus Gotthardt, Digital Sales Manager for the DACH region.

GIT SECURITY: How do you interpret "sustainability" – in terms of your company philosophy?

Marcus Gotthardt: As far as Fristads is concerned, "sustainability" means minimising environmental impacts as far as possible and in all aspects of what we do. In order to do that, we use lifecycle analysis and gather data for all areas in which improvements can be made – from the design process and then production right through to delivery and eventually disposal.

Honesty and transparency are guiding principles for our work on sustainability, since we are determined to avoid greenwashing. This includes being open about the fact that the textile industry is a sector with major environmental impacts which it needs to reduce significantly. At present, production of clothing accounts for 4–8% of greenhouse emissions worldwide, generating some 20% of the world's water pollution. We want to accept responsibility and rise to the challenge of promoting work on sustainability in the textile industry.

The best way to reduce the environmental impacts of clothing is to manufacture less of it. At Fristads, we take great pride in manufacturing high-quality workwear which is resistant to wear and tear and does not go out of fashion. And on those occasions where garments do get damaged, we would rather repair them than replace them with new ones.

To ensure that consumers can make informed decisions when they buy clothing, manufacturers must also assume responsibility for ensuring transparency in relation to the production process and the environmental impacts of every garment. We would even go so far as to say that measuring the environmental impacts of clothing should be made mandatory. Development of our EPD was a crucial step in the right direction and we hope that other clothing manufacturers will follow our example. Because as far as our planet is concerned, we are all responsible.

How have you implemented this?

Marcus Gotthardt: We are particularly proud of the fact that all our green products come with an EPD (Environmental Product Declaration) and that we can therefore prove that they are manufactured sustainably. For each green product, we produce an EPD report detailing the environmental impacts of the product in question and explaining the extent to which it is more sustainable in comparison to a conventionally manufactured product, e.g. how much CO_2 or water is saved during the manufacturing process. Our fristads.com Website has a "green calculator" which allows customers to work out how many tons of CO_2 and how many litres of water can be saved if they opt for green clothing.

Our green products implement sustainability in all four main aspects of the product life cycle:

- **Design:** Even during the design process we pay attention to developing products in such a way as to reduce sewing times and waste as little material as possible. The small amount of scrap material which is still produced is processed to make other products, such as comfort pads – zero waste.
- **Raw materials & choice of materials:** For Fristad's green products, we only use products with a higher level of sustainability, such as bio cotton, recycled polyester made of recycled PET bottles and Tencel Lyocell (cellulose from sustainable wood).
- **Production:** The e.dye process, also known as the waterless dye system, is used to dye most products. In comparison to traditional dyeing, water consumption is reduced by 75%, since the dye is added to the raw materials.
- **Packaging & delivery:** All goods are transported by sea and road. To enable transport capacity savings, green products are packaged using a special folding technology. This has enabled us to dispense with most plastic packaging. Where it is unavoidable, we use plant-based or recycled packaging materials.

As manufacturers, however, we must assume responsibility by manufacturing high-quality clothing which is durable and by being transparent about the ecological footprint of our garments. That is why, in 2018, we joined forces with 40 other manufacturers in the Swedish Textile Initiative for Climate Action (STICA), thereby committing ourselves to precise monitoring and reduction of greenhouse gas emissions. Fristads has managed to reduce emissions by 58% since 2018. This is also the reason why we developed our environmental product declaration, a standard for measuring the environmental impacts of a garment objectively.

Which limitations remain at the moment? In financial terms? In technical terms?

Marcus Gotthardt: Actually, there are no technical limitations which cannot be overcome. Since the market is large and many manufacturers are all working on or conducting research into ideas for solutions at the same time, many beneficial advances in textiles technology are currently happening at lightning speed.

One example: Up until about three years ago, we were still experiencing technical limitations. In collaboration with our supplier Tencel, we were attempting to take clothing already made of recycled materials and recycle it again by turning it into new clothing. When it came to be recycled for

Customers can use the green calculator to work out how much CO_2 and water are saved by opting for green clothing

the 2nd or 3rd time, this led to compromises in quality which were unacceptable for workwear. It is difficult to separate out blended fabrics, e.g. those comprising cotton and polyester, and to process them without compromising on durability.

We were finally able to partially close the recycling loop thanks to a pilot project with our partner Post NL, where we manufactured polo shirts partly made from old garments. This was a major step forward for us, but we will continue to look for solutions in order to turn "partially" into "completely". From 2022 onwards, we will be assisting or co-operating with research institutions and universities across Europe on various studies and research projects on the subject of "Closing the loop", confident of being able to find a solution.

Can even minor adjustments enable you to make a long-term impact? If so, what are they exactly?

Marcus Gotthardt: Yes, absolutely – and that goes for both the manufacturer and the consumer. Manufacturing durable, easy-care clothing has a huge long-term impact. It means that less clothing needs to be produced and fewer returns need to be processed.

Consumers also need to understand that clothing should be used for longer. When making purchases, they can prioritise quality over quantity and before throwing clothing away they should check whether it could actually still be repaired. To keep enjoying your clothing for as long as possible, it is absolutely essential to take note of the care instructions (ideally at the purchasing stage).

If the usable life of all the T-shirts on the British market could be extended by just 10%, it would prevent 100,000 tonnes of CO_2 being released into the atmosphere every year.

In 2020, Fristads launched the Care & Repair campaign to raise awareness of the fact that repairing clothing – not replacing it – is the sustainable solution. The other point here is that clothing will also last longer if it is cared for properly. Most of the items in the Fristads collections are particularly easy-care and can be washed at 60°C, which also makes them more durable. Many collections can also be washed in industrial machines at 75 °C or 85 °C.

Does a garment really have to travel all around the world?

Marcus Gotthardt: The clothing itself can also be manufactured in European factories, such as our factory in the Ukraine. The raw materials and most of the "components" of the clothing – such as buttons, zip fasteners, thread, and fabric – are sourced from Asian countries, however.

What obligations do employers have? Or has it so far "just" been a question of having the foresight to take voluntary action?

Marcus Gotthardt: Since durability is the key to reducing the environmental impacts of a garment, more employers must also start thinking more about the quality than the price. Viewed in the long term, quality is no more expensive. The time has come to cease promoting our throwaway society and to develop an industry that is genuinely sustainable. And we would like to be part of that solution.

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SAFETY

Hard as Steel!

Optimized Control Monitoring Provides a Longer Mission Time and Efficient Troubleshooting on Start-Up Burners

The steel coils are processed and heat-treated in the furnace in order to retain the necessary metallurgical properties

The latest production technologies are the focus for the steel giant ArcelorMittal, the world's leading steel manufacturer. Their aim is to make their own production processes safer and more efficient and that included optimizing the burner monitoring of the furnaces in their downpipe cold rolling mill in the Belgian city of Ghent. Efficient, safe automation should include more efficient diagnostics. When converting the plant, ArcelorMittal opted for the all-round service package from the automation expert Pilz: their automation system PSS 4000 is used but that's not all – Pilz also assumed responsibility for implementing the conversion.

The cold rolling mill at ArcelorMittal in Ghent is used to refine steel coils (strip steel rolls) in accordance with customers' requirements. The production process for downpipes in the cold rolling mill is divided into five steps in total: pickling, cold rolling, annealing, tempering and then finishing.

Production Conditions as Hard as Steel

Before pickling there is a hot rolling process, during which an oxide layer forms on the steel plates. This must then be removed in the cold rolling mill during pickling, before the steel plates can be further processed. In the next step, cold rolling, the pickled, hot-rolled plate is cooled and then reduced to its required thickness through pressure and tension forces.

The steel strip must first undergo heat treatment to enable it to be cold-formed. This process is carried out in two bell annealing areas – i.e. in annealing furnaces for steel coils, where the steel strip remains for a while in a closed furnace – and in a continuous annealing and refinement plant, which the steel coil passes

through relatively quickly, in contrast to the closed annealing chamber. The steel coils that leave the bell annealing area are then tempered (special heat treatment for steel), improving the mechanical surface properties of the steel plate. In the final step the strip steel rolls are packaged and are then ready for shipping to the customer.

Yves De Sloover is an engineer at the cold rolling mill at ArcelorMittal: "Our department is responsible for maintaining the processes in this area. On the continuous annealing plant we also look after the PLC controller and the burner setting. Our aim is to keep production running continuously. That includes constant optimisation of the furnace."

One problem was that the start-up burners that ignite the main burners frequently shut down, so this stage of the process was one area of focus for optimization. De Sloover explains: "At the start of the process the furnace is heated up to 1200 °C with an open flame. In total there are 50 main burners, which are fed by 30 start-up burners. When the temperature of the furnace drops

In the control cabinet, the automation system PSS 4000 from Pilz ensures that the furnace in the cold rolling plant can now fulfil its task more productively ▶

below 760 °C after a standstill, these main burners are always used to restart the furnace". That is also prescribed in the standard – it is a mandatory step to comply with DIN EN 746, the engineer adds.

### Fault Diagnostics Were the Challenge
In the past, the start-up burners were controlled via a module, while flame monitoring occurred via UV cells at ignition. If one UV cell was defective, the whole plant would stop and would need to be restarted. Each restart would take at least 40 minutes because unburned gases containing nitrogen had to be expelled first. The defective UV cell also had to be replaced each time. That was a real game of hide and seek because you never knew which UV lamp had failed. As a result, the downtimes were considerable. Troubleshooting was also inefficient: although the burner control module forwarded information about the gas and air supply and UV detectors to the PLC, the opportunities for analysis were limited and time-consuming. "And we couldn't make any changes on the controller because it only acted as a black box, so it was only responsible for recording the data from the PLC signals", De Sloover explains.

A new Automation System
Downtimes had to be drastically reduced. "First we switched to ionisation instead of UV detectors. The second step was to replace the 'old' burner control module," said Ives De Sloover. The 'replacement' was the Pilz automation system for automation and safety, the PSS 4000. The Belgian steel manufacturer already had positive memories of the German automation solution supplier from an earlier collaboration: "We had already installed a Pilz safety solution on another plant and were completely satisfied with the quality of the components, the service and also the support. We were already familiar with the automation system and thanks to its scalability it represents a forward-looking solution", says the engineer.

One-Stop Competence
Pilz directed the whole procedure for converting the cold rolling mill. The blast furnace is divided into 5 zones, each with 10 burners. Zone 3 was the first to be converted. The first step was to document the specifications of the module that had been used previously. Pilz then transferred these design specifications to the
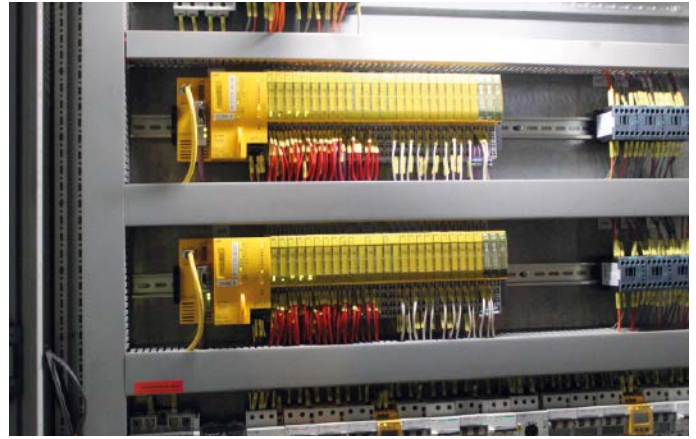
automation system's PSSuniversal PLC controller. The aim was a longer mission time and speedy, therefore adequate diagnostic options. So efficient visualisation to display the status of the burner was installed alongside the PSSuniversal PLC in a new, designated control cabinet.

As the burners run through various steps and sequences in accordance with the standard and must meet certain conditions in doing so, the visualisation was designed to guarantee the operators' ability to read this status on the display at a glance. "Also, the flame is displayed graphically on all 10 burners and the sensor data from the burner controller is shown on the display, so it's now possible to react much more quickly when a value is too low at any point", says a delighted De Sloover.

Finally, in zones 4 and 5, an additional control cabinet with two PSSuniversal PLC was installed for both zones. Their status can also be read on the display in zone 3.

Flexible Software Blocks
The PAS4000 software from the automation system PSS 4000 can be used to configure function blocks, which focus on specific application scenarios; in this case, the burner application. With the burner management software package it is possible to implement programs to control various burner types simply and flexibly and to perform safety functions such as safety gate contacts, E-STOPs and light curtains. The use of ready-made, certified function blocks for burner management not only simplifies installation but validation too.

Numerous other function blocks are available in the software for the automation system. Ives De Sloover describes the benefits of the system and its software package in a nutshell: "A huge advantage of the automation system is that it allows applications to be implemented to meet customers' specific needs.

◀ The software platform PAS4000 of the automation system PSS 4000 comprises several editors and a wide range of software blocks, including for burner management, such as the one used at ArcelorMittal in Ghent

COVER STORY

Clouds Are Building

A Versatile Hub for Connected Building Security

Business systems must always be under review because none of us can predict the future with 100% accuracy. Things change, so people and processes should therefore always be ready to adapt, but adaptation in security is easier said than done when systems are static. Accommodating change and diversity — with flexibility, scalability and the widest possible range of devices — was the ethos that Assa Abloy applied when they launched their Incedo access control ecosystem.

Incedo is built to grow and change alongside the organizations where it is deployed. The range of available access control hardware has grown since its launch in 2020; it now includes Aperio wireless locks, cutting-edge wired readers, and Pulse intelligent keys powered by the company's own energy-harvesting technology. Software options have expanded to incorporate Incedo Business Plus, which integrates with third-party solutions that include video surveillance, biometrics and face recognition, and also the high specification, Incedo Business Cloud.

A cloud solution makes system management of access control more convenient. Implemented as part of a digital transformation strategy, cloud management helps companies to administer security in a streamlined, location-independent and efficient manner. Incedo has been created for this kind of business. Security managers running an Incedo Business solution can work remotely too, while maintaining complete control over every building access point.

Incedo Business Cloud solves many pressing daily challenges faced by facility managers. They no longer need to be on-site to handle day-to-day security. It operates securely 24/7 from any PC with an internet connection. Installing the system is easy, with no complex integrations needed. Software updates are regular and automatic, with real-time reports and analytics available with a few clicks. The system works out of the box via a cost-efficient subscription service, while onboarding is fast and hassle free. Organizations can feel confident about compliance and confidentiality: business and user data are safeguarded with an information security management system certified to ISO/IEC 27001.
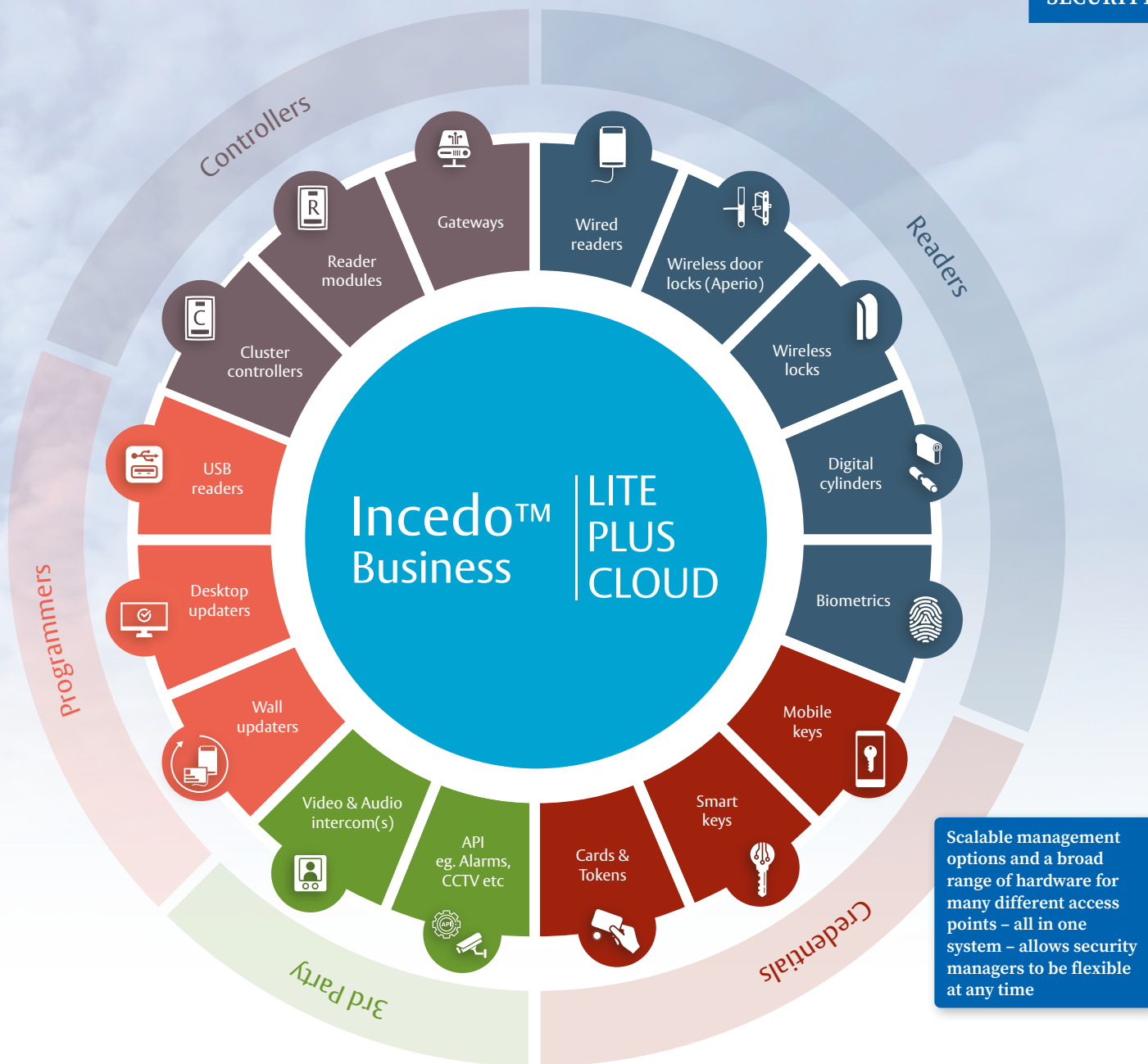
According to Assa Abloy's Wireless Access Control Report 2021, over one third of companies now use cloud-based access management. This proportion is likely to grow in the years ahead as working practices become ever more mobile and a hybrid model of location-independent employment becomes even more popular.

Growing Demand for Cloud Management

The business benefits of 'managing from anywhere' are driving demand for cloud solutions, both within security and beyond. A survey by Morphean of organizations in diverse sectors across Europe, 78% of 1,000 decision-makers anticipated increasing

The serviced offices of Clockwise are secured by the Incedo Business access control system

Incedo™ Business LITE PLUS CLOUD

Controllers — Gateways, Reader modules, Cluster controllers
Readers — Wired readers, Wireless door locks (Aperio), Wireless locks, Digital cylinders, Biometrics
Credentials — Mobile keys, Smart keys, Cards & Tokens
3rd Party — API eg. Alarms, CCTV etc, Video & Audio intercom(s)
Programmers — Wall updaters, Desktop updaters, USB readers

Scalable management options and a broad range of hardware for many different access points – all in one system – allows security managers to be flexible at any time

their use of hosted cloud services. In 2021 alone, growth in public cloud infrastructure was forecast by Forrester to be 35%.

Cloud-based management gives security managers the flexibility to work remotely, adding extra flexibility to their workflows and greater scope to manage multiple sites from a single control point. Mordor Intelligence found that across Europe businesses are increasing their expenditure on IT to accommodate the boom in remote working. Yet conversely, a cloud access control solution can actually save businesses money.

"A cloud software solution like Incedo makes budgeting more predictable for facility and security managers," says Kevin Hoare, EAC Product Unit Director at Assa Abloy Opening Solutions EMEIA. "It removes the need to hire additional in-house IT support and maintenance teams, or to buy additional equipment: you know ahead of time how much of your resources to allocate and can quickly scale infrastructure up or down."

Cost and Efficiency Benefits

"The business benefits of 'managing access rights from anywhere' will continue to drive ever greater demand for cloud solutions within security and beyond," says Kevin Hoare. "Survey data shows that the way companies manage access control will continue to be a mixed picture, with both locally hosted and off-site cloud solutions for access control as a service. This is why we always give users the choice when developing and extending our Incedo ecosystem, and the ability to change their plans at any time."

Migration between Incedo's local and cloud management options is always seamless in either direction. Businesses can choose the security hardware and credentials they need to start with from a wide and ever-growing range of Assa Abloy and 3rd-party solutions, and combine their chosen hardware with the right management option. With the recent launch of Incedo Business Cloud Offline, security managers now have even more choice about how they

work remotely, while maintaining control. Offline and online control can be managed together within one flexible installation, and from anywhere in the world.

Choice of Devices

The range of hardware and management functionality has been a huge attraction for European companies that have already adopted Incedo Business Cloud, including Clockwise who provide flexible office space for entrepreneurs and established businesses. The company's fast-growing services include contemporary offices, meeting rooms and shared workspaces in multiple cities in the UK and continental Europe. Co-working is a fast-developing market as demand grows for flexible or hybrid working almost everywhere, Covid having accelerated a trend that was already well underway. A recent Mordor Intelligence forecast suggests that Europe's co-working spaces market will continue to grow at almost 5% per year over the next 5 years.

Makita's premises are now equipped with a wide range of Incedo electronic locks – all managed with the intuitive software

system must be able to instantly scale up or down. Incedo can.

The diversity of Incedo-enabled devices enables Clockwise to select the ideal electronic lock for every doorway. Internal private office doors, 'zoom rooms' and meeting rooms as well as communal area doors and entrance/exits are all secured with wireless access control devices and managed by Incedo Business Cloud. Users may select physical credentials like smartcards or unlock using mobile keys stored on their smartphone. Incedo saves everyone's valuable time: managers do not have to issue new keys in person or ever require a user to visit reception before using a meeting room, for example. At Makita, Clockwise and elsewhere, Incedo's flexibility equips businesses with a future-proof access solution that is designed to grow with them.

Any business that relies on flexibility has high expectations of door security and access control. Clockwise needs a broad choice of electronic devices to secure meeting rooms, private offices, communal spaces and main entrances, and these access points require different types of lock. The range of Incedo-enabled devices on offer was critical in the company's choice.

The same challenge faced another Incedo adopter, power tool manufacturer Makita. "The diversity of access control devices available for an Incedo system was a decisive factor," says Makita's Richard Cimerman. They searched for a single, intuitive system to control every access point at their newly-built premises in Banská Bystrica, Slovakia, for now and for the future. As at almost any sensitive commercial site, not every door or opening is the same and Makita needed an access control solution with a comprehensive range of devices to secure escape doors, entrances, interior doors and more.

The facility now has an Incedo system controlling access through main entrances, fire doors and emergency exit doors, as well as interior doors fitted with Aperio wireless electronic escutcheons. The user-friendly software manages and monitors everything together from a single control panel. It filters and restricts employee and visitor access to specific areas of the plant.

Flexible Management

Businesses that cannot afford to stand still – which is almost every business – need access control that can move with them. For example, Clockwise's access management must adapt as quickly as their clients' needs. The office space requirements of a start-up, a freelance co-worker or a growing SMB can change at any time. Clockwise facility managers need the tailoring of user access rights to be as easy as possible because tenants come and go frequently. Their own spaces and portfolio may also evolve, so their access

Assa Abloy Pulse is the latest addition to the Incedo portfolio: Self-powered digital keys that give back the power to the user

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ACCESS CONTROL

Dynamically into the New Year

In Conversation with Bernhard Sommer, Managing Director of SimonsVoss

SimonsVoss has made the best out of the second year affected by Corona: digitalization has been brought further on, the new Digital Cylinder AX was launched, a cooperation has been started with FSB, and the company presented the first stages of the new AXM software at the SecurityExpo 2021 in Munich, which will gradually replace the current LSM software. SimonsVoss Managing Director Bernhard Sommer draws a positive conclusion to the year during a conversation with GIT SECURITY – and looks forward enthusiastically to the new year ahead.

Bernhard Sommer, Managing Director of SimonsVoss, during the presentation of the new Digital Cylinder AX

GIT SECURITY: Mr. Sommer, before we talk about the new year 2022, can we take a brief look at the outcome of the past year from a commercial perspective. The Corona crisis – sadly still unsolved – is now starting its third year. How has SimonsVoss managed to survive this situation?

Bernhard Sommer: Even under the difficult corona conditions, 2021 went very well for us with the demand for digital security technology remaining high. An important factor in this is that our market partners stayed loyal to us, even if we did have to overcome some obstacles along the way, such as matters of the supply of raw material and our ability to deliver. We used the year to force digitalization – on the one hand of course in the market with our end users, on the other hand with our own internal structures and processes.

What expectations do you have of 2022? Are there some strategic milestones that you would like to reach? And where do you see the most opportunity for SimonsVoss to grow?

Bernhard Sommer: We expect the positive dynamics of 2021 to continue in this year just started; all the signs are pointing this way. Our intentions for the year are unchanged: we want to further develop the market for digital locking technology and, amongst other activities, are planning some targeted marketing events. At the end of the day, we create the potential growth ourselves by generating future-oriented initiatives together with our customers.

The digital AX cylinders (Euro profile cylinders) can even be fitted in doors up to resistance class RC4

The Digital Cylinder AX that you launched in the second half of 2021 will still be important for the coming year. You have improved a whole range of features here. Significantly, these are the practice-relevant modularity of the system, the versatility of its application and the AX security architecture?

Bernhard Sommer: That is correct. Some further significant features that make the difference to competitive systems are its long life, which has been proven externally, the extremely long battery life and the robustness of the system against external influences, particularly attempts to manipulate it. In contrast to many other standard cylinders on the market, the AX cylinder (Euro profile cylinder) meets the requirements for resistance against attacks and can even be built into doors meeting resistance category RC4. The actuator electronics with an integrated Secure Element are mounted behind the drilling protection element at the core of the cylinder. The Secure Element itself stores the encoded system data, is an integrated part of the authentication and cannot be manipulated from outside.

You put the Digital Cylinder AX through a comprehensively tough test program – also in cooperation with large industrial companies. How did it perform in practice? How has the system been received by the market? What has been the feedback from installers and end users?

Bernhard Sommer: The tests ran for over 18 months, both internally in our own premises and also in field trials with large companies and smaller end users. The feedback from these installations was put into further product development. We have received consistently positive comments since the introduction of the AX cylinder – from installers, our trade partners, from architects, and end users. Apart from the technical features we mentioned, the simplicity of the installation and commissioning of the cylinders was praised

structures whereby the customers look for simplicity of distribution and installation. We will support activities in these countries during 2022 with investment in targeted marketing campaigns.

To what extent will the system be developed further?

Bernhard Sommer: At the moment we are working very successfully with the current product family, but of course we do have ideas for its development, for example to include door monitoring for every conceivable door, for energy management and also the continued expansion of usage scenarios.

What can we look forward to from SimonsVoss with regard to interesting new products and solutions in 2022?

planners, architects and house builders. And that is exactly where the benefit lies for both of us – we gain mutual access to the corresponding markets. FSB opens the door for us to the world of discerning design – we take them with us into the area of high-quality digital locking technology. We have close contact between our product managers, in the development department and in sales – however, both of us continue to address the markets independently.

You had to present the Digital Cylinder AX – because of corona – in an Internet show. How was it received?

Bernhard Sommer: This was a totally new way of presenting the products for us. There were one-hour Internet shows over four days, that is, transmissions with our

SimonsVoss presented the Digital Cylinder AX over four days in one-hour live programs (Internet shows). At the same time, the sales personnel were on site locally with the company's trade partners

in particular. This provides the most flexibility when making changes later on site. Many trade partners have spoken of the "quality feel" that they noticed when installing and using the cylinder. We intentionally introduced the Digital Cylinder AX in parallel to our classic 3060 cylinder to give installers and wholesalers a chance to make the transition. And already after just half a year, it seems that this is happening faster than we expected.

How much potential are you expecting from this solution in the coming years – in which vertical, regional, and also international markets?

Bernhard Sommer: We do deliver to all relevant vertical markets, from educational and health institutes to large and small commercial users and industry. We benefit here from the versatility of the system – it almost always meets the requirements of the buyer. Apart from our traditional markets of Germany, Austria and Switzerland (D/A/CH) we see potential in other european regions such as Benelux, France, Italy and Scandinavia. We are dealing here with multi-layer sales

Bernhard Sommer: We showed the first stages of our new AXM software at the SecurityExpo in Munich that will progressively replace the current LSM software. At the core are a more modern system architecture with a new database structure, a very user-friendly graphic user interface, optimized granting of access rights and the whole subject of mobile access management. We will also be pushing the marketing of our new digital cabinet lock, the SmartLocker AX.

You started a cooperation with FSB last fall. What is the current status of this cooperation? Could you explain briefly where you see the benefits and potential – for FSB and SimonsVoss?

Bernhard Sommer: The idea for this cooperation originated during a discussion at the beginning of 2021 under the title of "the best of both worlds". FSB and SimonsVoss have the same motivation, namely to deliver top quality products, made in Germany. This joint venture combines premium design with high-quality digital locking technology to produce superior solutions as requested by certain

senior management and product management live from our studio. At the same time, our sales force had issued an invitation to brunch and were on site together with our trade partners to watch the program from Unterföhring. This allowed us to directly reach more than 1,000 customers. This 'hybrid concept' was very well received because our sales partners could talk about the new system during and after the presentation directly with our sales personnel, place their questions and get to know it 'hands on'. We think that this new form of communication will catch on because the customers receive authentic information, have face-to-face contact and also save both time and expense.

ACCESS CONTROL

After the Record Year

New Products and Strong Partnerships Fuel STid's Future Growth

Vincent Dupart,
CEO STid

François Gitz,
Senior Business
Developer for Europe

French specialist in secure contactless identification solutions STid currently rides on a wave of positivity. The company reported outstanding financial results for the year 2021 and has released an ambitious growth plan. GIT SECURITY spoke with STid CEO Vincent Dupart and François Gitz, Senior Business Developer for Europe, about the progress that STid is making and their Outlook for the future.

GIT SECURITY: Vincent, can you explain to us how STid achieved to exceed the average growth numbers in the industry as much as you recently reported?

Vincent Dupart : It is really rewarding to be able to report an annual revenue growth of +50%, where the average growth of business in Europe is around 6.5%. And of course this is not only the result of efforts by our great commercial and technical teams in 2021. I consider last year's result a logical consequence of our strategy and efforts in

the years ahead of 2021. For many years now we have put great effort in releasing solutions for secure contactless identification that meet three major conditions: They represent real practical value to customers, support an instinctive user experience and are no compromise on security and stability of the product. We try and combine this innovative approach with customer orientation and high quality support. And even during the COVID-19 pandemic we have put great effort in finding ways to remain close to our partners and customers. And

finally, because of our unique sourcing strategy, we were hardly affected by the global component shortage and have been able to ship products in time. I'd like to believe that alle these elements combined have resulted in a great financial year 2021.

Do you think STid will be able to continue to move forward on this path of success?

Vincent Dupart : Honestly, I am certain that we will continue to be successful in the

years ahead of us. We have a great relationship with our loyal channel partners and we continue to see many really impressive implementations of our products throughout the world and in many industries. This does not only provide us with feelings of pride, but it also supports our confidence about the future. STid group management recently approved the release and implementation of the 2021-2026 growth plan. We are clear about our ambition: In five years we are planning to be the leading provider of identification solutions in the European market and a full-fledged competitor of our American competitors. Between now and 2023, STid has budgeted to invest 12 M€ in our growth plan. We will recruit another hundred new skilled people to ensure continuity in our ability to adequately support and satisfy our growing channel of partners all over the world.

François, do you expect that the recent release of Spectre nano will contribute to the growth that is projected by STid?

François Gitz: Yes, of course. The Spectre nano is really a unique solution that currenty has no equivalent in the industry. It is a small sized UHF reader with all the usual features that you expect from a STid product. But in addition, it also has a Bluetooth (BLE) reader built into it. It is fully compatible with both our Spectre UHF product line and also our Mobile ID solution. It is a perfect solution for entrances that require remote identification of vehicles or people, like parking facilities, industrial sites and corporate campuses. Vehicles can be identified at a convenient read range of several meters using a UHF windshield tag. And drivers and pedestrians can use the virtual access card that is stored on the smartphone. This way, security managers could even decide to identify both the vehicle and the driver and only allow authorized combinations to enter the facility. This solution really enables an efficient and quick access control process combined with an instinctive user experience and without any compromise on the security requirements.

Do you consider Spectre nano a valuable asset in the protection against unauthorized intrusion of the secured perimeter?

François Gitz: Absolutely. Spectre nano really is more about intrusion prevention than it is about intrusion detection. Incidents related to unauthorized access often are a result of the human factor. If you secure a building, site or perimeter one can procure and deploy the most sophisticated security measures and equipment, but in the end people will need to be able to use and to manage the implemented systems intuitively and it should never interfere with their ability to perform their job or activity of choice. That is why we spend so much resources on features in our products that support their instinctive use. Carrying and applying STid technology should feel natural and safe. No hassle. And of course without any compromise on security levels. Spectre nano is a perfect example of our vision on security technology and the translation of that vision into the design guidelines and of course also the final solution that we are now bringing to market.

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ACCESS CONTROL

How Big is Your Footprint?

Salto has Achieved Carbon Neutrality by Offsetting its 2020 CO_2 Emissions

In 2015, the United Nations Climate Change Conference reached a global pact (the Paris Agreement) to mitigate the effects of climate change and achieve neutrality by 2050. Neutral greenhouse gas emissions are achieved when the same amount of greenhouse gases (CO_2 equivalent) emitted are removed from the atmosphere in different ways. This does not mean human activities cannot emit any CO_2, but it does imply that we cannot generate more than we can remove.

Salto Systems has achieved carbon neutrality thanks to its participation in two innovative projects with a triple-transformative effect on the economy, society and nature to achieve the company's goal: for its operations to have zero impact on the climate. This initiative was preceded by ambitious emission reduction targets that, subsequently, aim to offset emissions that cannot be avoided.

100% of the electricity used in Salto's factory is now sustainable and comes from renewable sources. 25% of the electrical energy comes from the sun. Salto has installed 640 solar panels in its factory, the first large-scale solar power installation in its global network. Salto has also minimized single-use plastics in its packaging, offices, work café and marketing materials and replaced them with more sustainable alternatives, such as biodegradable products made from FSC-certified paper, cellulose and wood. The company also sets mandatory environmental standards to embed sustainability across its worldwide network of offices.

Tree Saving

In order to accelerate decarburization and contribute to achieving the emission-reduction goals set by the Paris Agreement and the UN Sustainable Development Goals, Salto is committed to promoting environmental recovery projects through revegetation, in order to offset CO_2 emissions by sequestering them in tree species. In total, the 1,721 tons of CO_2 generated in 2020 (359 at its headquarters in Oiartzun, Gipuzkoa in Spain and 1,362 across its worldwide network of offices and group companies) were offset in 2021 through two ground-breaking projects: reforestation and protection of hydrographic basins in the Andes, and Apadrina un Olivo (Sponsor an Olive Tree) in Teruel, Spain, which fights to recover and maintain olive groves in Spain. Both projects, in addition to having a positive environmental impact, contribute to the fight against climate change and positively influence the local society and economy.

MDL Forestal Chinchiná

This forestry project in the Chinchiná river basin was the first to be registered with the United Nations Clean Development Mechanisms (CDM) program in Colombia, generating benefits through the mitigation of climate change by guaranteeing the capture of carbon dioxide. It also improves water quality and protects the region's flora and fauna by creating biological corridors.

Apadrina un Olivo

At ApadrinaUnOlivo.org, their mission is to recover abandoned olive groves in Oliete in the Teruel region of Spain. This environmental, social and sustainable rural development project helps families and keeps people in depopulated rural towns by developing rural areas. The initiative also protects the precious flora and fauna that inhabit and depend on the olive groves to survive, helping to protect biodiversity and reduce the carbon footprint. Thanks to these two projects and other strategies devised to decarbonize Salto's activities, together with a commitment to the environment and looking after the natural world, Salto has been able to achieve carbon neutrality across all its factories and offices, in more than 40 countries.

CONTACT

Salto Systems
Oiartzun, Spain
www.saltosystems.com

Hikvision at Intersec

Hikvision presented its latest innovations at Intersec 2022. This year, under the theme "Hand in hand for a safer, smarter world", Hikvision demonstrated its latest intelligent products, technologies, and solutions at the show. Hikvision has been demonstrating its versatile AI solutions at Intersec in the past few years. This year, the focus was on its intelligent vertical solutions, with success stories from customers across vertical industries such as education, energy, logistics, retail, smart city, and traffic. Hikvision also showcased its latest product lines, such as the intelligent cameras with AcuSense technologies, which delivers accurate intrusion prevention alerts; and cameras with ColorVu technology, which provides high-quality color imaging, even at night. The advanced technologies make up a complete portfolio of security solutions for all kinds of business. In addition, Hik-ProConnect, a convergent cloud-based solution designed for security service providers; and Hik-ePartner, a one-stop solution for professional installers, was demonstrated to provide insight into how system integrators and installers can make the most of Hikvision technologies to help the end customers. Hikvision hosted several technology partners at the booth, including the GET Group, Alfalak, Network Synoptics, and Vostok.   **www.hikvision.com**

Tailgate Prevention

IEE has launched TDexpress, a reliable, cost-efficient sensing solution specifically designed for human 'tailgate' detection that applies to speed gates. The innovative product is the latest addition to the family of intelligent security sensors for smart and safe infrastructure. For fast-paced or high-traffic environments or areas where access control with identification is mandatory, TDexpress blends into existing or newly installed speed gates. It protects multiple gates, optimizing people transit in both walking directions while maintaining a high level of security. Kai Pabelick of IEE says, "It is relatively easy for a person to follow another one and sneak into an unauthorized area, even when monitoring tools are in place, or to enter without validating a ticket or showing the necessary ID card. Our solution covers several gates instead of one, which is more practical and financially viable." The technology behind TDexpress is based on "Time of Flight" (ToF) and has been developed in-house by IEE engineers.   **www.iee-sensing.com**

Face Recognition

Face recognition is a method of identifying – or confirming the identity of – a person based on his or her face. This method is one category within biometric security. C-Werk's server-based analytics can be used, for instance, to search for people in video recordings. The function can also be used to alert in real time to specific individuals, such as registered hooligans before entering the stadium or known gambling addicts at a casino entrance. It is also possible to match the recognized face with an existing photo in order to perform further automated actions. The C-Werk solution also offers a counting function, dashboard display and extensive reporting. In addition, the location of the detected face can be displayed on a site plan.   **www.grundig-security.com**

Experience Connected Security at Intersec 2022

Connected Digital Security Solutions was the theme of Assa Abloy Opening Solutions 2022 showcase in Dubai, a special highlight being the Incedo Business solution, created for businesses on the move who need a security solution that grows with them. With the launch of new Cloud Offline functionality at Intersec 2022, security managers have more choice on how they work remotely, while maintaining control over all their buildings. The company staged live demonstrations of Incedo Business Cloud at the Dubai International Convention center. Incedo Business is a fast-evolving ecosystem that includes management software options which give organizations of any size a system that is flexible, scalable and easy to deploy and administer. The modular platform approach provides locking hardware options to suit any premises, access point or industry.   **www.assaabloy.com**

IT INFRASTRUCTURE

Game Changer 802.3bt

New Standard Enables New Ways for Deploying Security Systems

Ethernet infrastructure is the preferred backbone for IP surveillance and access control applications. And regardless of what type of IP-enabled products you are deploying, they all have one common denominator – they all need power. New advanced PoE solutions provide power delivery to a multitude of security products and edge device with added capabilities to ensure continued operation even when power goes down. Today's more advanced PoE solutions make designing and powering an access control system a simple plug-and-play experience.

IT-Centric Physical Security Systems

The migration to more IT-centric physical security video surveillance and access control applications is requiring many administrators to ensure these systems work off their facility's existing IP infrastructure rather than using a separate RS-485 (serial) network that can be difficult to manage and even worse to service when they crash. As access physical security systems continue to migrate to IP-network environments, it makes sense to have them running on a platform that IT understands and can also easily manage.

With Power over Ethernet (PoE) powering most network product and appliances, many single-door access control panels now have the option to be PoE powered as well. They are using either a midspan PoE power injector or a PoE switch to provide reliable power. The infrastructure's uninterruptable power supply (UPS) is supplying backup power to the controllers.

Power to ancillary devices such as card readers, fail-secure electric strikes, electrified lever sets and motion request to exit (REX) devices can also be supplied by access control panels via PoE. Since these controllers are being powered by PoE, the amount of amperage is limited. Average PoE controllers provide two voltage limits for lock output power and the total power output. But in many instances, the total power output for all ancillary components, including the lock power, is approximately 600 mA. In that case, all components connected along the network's PoE controller must be prescreened to determine the amperage draw so the total amperage for all components is less that the total output limits of the controller.

The High Cost of Installation

High-voltage installs can be costly and cumbersome for both systems integrators and their customers. High-voltage wiring must be separate from low voltage inside an enclosure, which takes up space. The installation can be further complicated because high-voltage wiring cannot be in same pathways/wire runs with low-voltage wiring. This most often requires that a certified electrician perform the installation since electrified locks are usually powered by hardwired, high-voltage ports that take an AC power input that reduces the output to 12VDC or 24VDC.

That single output is then connected to a distribution board where the electrified locks are connected. Most jurisdictions require that this power input be hardwired with a dedicated circuit. Because of high voltage, the installation typically requires dedicated conduit runs for the electrical as well as expensive large gauge copper and dedicated circuit breakers. After initial installation, regulatory compliance may be required to service the system.

Finding a way to provide a PoE solution that eliminates the need for high-voltage AC power inside the cabinet to power locks, panels and readers has been a longstanding desire of systems designers and integrators. Having the ability to use a power solution that takes 90 watts 802.3bt, the new standard that was ratified in Sept. of 2018, monitors input power, includes a battery for fail or normal conditions, and allows for stackable sub-assemblies is a real game changer.

New Approach to PoE Power Supply

Such a revolutionary PoE-driven power supply has finally been developed, providing integrators with the ability to deploy access control systems utilizing low-voltage installation methods and techniques, dramatically reducing installation costs for integrators and their end-user customers. For example, the Altronix Tango Series PoE-driven power supplies allow 12VDC and 24VDC devices to be powered simultaneously via 802.3bt PoE input. IEEE 802.3bt, also known as 4PPoE or 4-Pair PoE, using all four pairs of wire in a structured cable to evenly distribute power. This new power distribution solution allows physical security device manufacturers to design products with power hungry features such as PTZ cameras with IR illuminators, heat-ers and blowers for harsh environments and other specialized physical security video surveillance and access control applications. Security technicians can also wire up the power input without the need for a licensed electrician since the PoE is distributed over Cat6 cabling and shares the same pathways as other low voltage wiring.

Altronix Tango Series products also save valuable enclosure space by using an eight-pin connection allowing installers to stack the access control power controllers and power distribution boards directly on top of a Tango product. This leaves more space in enclosures for additional equipment or provides the ability to install a smaller enclosure where wall space is often limited. Another advanced feature employed in Tango Series products now being sought by installers is the inclusion of a Lithium Iron Phosphate Battery charging circuit. This new-era battery solution provides system integrators with a multitude of benefits when compared to the sealed lead-acid batteries by giving 5,000 duty-cycles as well as a 10-year shelf life. Tango is an UL294 Listed industry game-changing power solution.

Employing the new lEEE 802.3bt, 4PPoE low-voltage installation standard to power an physical security video surveillance and access control systems will eliminate the need for a licensed electrician and the associated costs such as permits, electrical cabling and dedicated conduit typically required when AC power is required. The low-voltage cable used to distribute PoE can run in the same cable trays and paths as other network cabling along with video surveillance and access control cabling. For service and maintenance, the lack of high voltage inside the enclosure also eliminates the need for regulatory safety precautions. When you add up all the benefits of the IEEE 802.3bt, 4PPoE power distribution solution, it is clearly a game changer.

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Lares 4.0 provides convenient control of multiple systems from one device

ALARM SYSTEMS

A Unified Home Controller

Combining Manual Control and Monitoring Systems

You get an app supplied with almost everything these days: for your (video) door entry system, your heating system, your greenhouse watering and temperature control, your ambient room lighting, your electricity or gas metering device – it's only a matter of time before you get one for your toothbrush too! Oh … apparently there is one already. Anyway, imagine having just a single control panel for all these building systems instead of a dozen different apps. The developers at Ksenia have done their homework and produced a panel to do just that.

The core of the entire Ksenia system is enclosed in the control panel lares 4.0. It is a real technological revolution because, with a single control panel, an entire security and home automation system can be created. It provides total control of the house, with the ability to manage alarms, entrance doors and gates, energy consumption, lighting, temperature, irrigation, shutters and much more. The Smart Home automation extensions simplify daily routine, and each environment can be managed separately via the free app, which is available for both iOS and Android mobile devices, smartphones and tablets. At any time and wherever you are, you can control your home simply from your smartphone.

The lares 4.0 APP is divided into three sections: the Dashboard, Security (Intrusion, Video Verification, Video Surveillance, Access Control) and Smart Home (Home Automation and a Building Management System).

The dashboard is the main page of the app and first shows the name of the control unit, the contact details of the Installer, the temperatures measured, the name of the location where the control unit is installed, an icon that represents the weather situation in that specific location and, finally, the user's favorites. The status of the security system can be seen at a glance thanks to the icon located in the center of the dashboard: this can be armed, disarmed, partially armed or in alarm mode. These state changes are also marked in either red, green or blue.

The security section provides complete monitoring of the domotics part and all aspects related to security and video verification by connecting to any ONVIF camera model. The status of the entire system is visible on the dashboard and the alarm

system can be quickly armed or disarmed. There is an event log and the status of all sensors can be seen, timers managed, and the details of any faults along with access to the user management are included.

Home Automation

The third and last section is entirely dedicated to the Home Automation section. On this page the user controls all the outputs, assigns categories and has full control of lights, blinds, scenarios, and much more. The application is extremely flexible and also provides two methods of control: a category view where all actuators of a particular type, such as lights, thermostats or gates for example are grouped together, and a page view that shows all the actuators contained in individual rooms. This makes programming easy and provides a detailed view of the entire system.

Lares 4.0 also interfaces with Google Home or Amazon Alexa App, so all the smart devices in your home can be managed simply by using your voice: the lights, shutters, scenarios, the air conditioner and all the other automated systems. What it won't do, however, is pick up your toothbrush for you.

All the various elements of home security come together with the lares app

Central VMS Management Platform

Qognify launched its web-based central VMS management platform – Umbrella – for Ocularis. Customers with large or distributed video surveillance installations can now use Umbrella to centrally monitor and remotely manage and configure every VMS installation across their deployment. As video surveillance projects become larger and more complex, they also demand more resources and incur increasing operational costs. Modifying the configuration of multiple sites is time-consuming and monitoring the health status of all servers and cameras across every location is a challenge. Consequently, organizations frequently over-spend on technical expertise and unnecessary licenses, as well as potentially exposing themselves to regulatory risk. This is why Qognify decided to make their management and monitoring platform Umbrella available for Ocularis VMS too. It can be either hosted in the cloud (e.g. on Microsoft Azure and AWS) or on-premise. It provides enterprise organizations with a comprehensive view, monitoring the status of every connected camera and server, highlighting those which require attention. What is more, any changes to the video system can be quickly and easily configured from a central point using the Umbrella interface, and immediately deployed, either to an individual system or to multiple recorder systems. Umbrella is perfectly suited for any enterprise that places an emphasis on tactical real-time and live visualization for its security and surveillance operations, such as education institutions, public safety departments, and healthcare organizations. Ari Robinson, head of Ocularis product management at Qognify, comments: "Umbrella is a powerful platform that combines perfectly with Ocularis, to provide our customers with the ability to closely monitor and manage their entire video management system, no matter how large or distributed it may be." **www.qognify.com**

No threat from Log4j

On Friday December 10, 2021, the Apache Software Foundation announced a critical security vulnerability in its 'Log4j' software. Due to the wide distribution of this software, the disclosure was widely reported in the media. Log4j is an open source software component widely distributed on the Internet and used by the largest companies in the world. However, after a detailed review by the Mobotix cyber security team, it is clear that users of the company's hardware and software products, including the Mobotix Hub, Management Center and Cloud video management systems, do not need to take any action on their network systems. The company will continue to track updates and announcements from official sources. **www.mobotix.com**

Mobile Key Credentials

The convenience, security and cost saving benefits of managing access control with smartphone keys are now available with Assa Abloy Opening Solutions' Incedo Business system. The new Incedo Business mobile key solution is simple to manage, which saves valuable time for security staff. It harnesses on-device biometrics to add another layer of site security. At the same time, it gives employees and visitors the option to unlock doors with a convenient key stored on their own mobile device. A mobile phone can then open the car park barrier, access the printer network or even operate a locker, without visitors needing to collect a card or fob face to face. The mobile keys operate on a broad range of mobile devices, including phones, tablets and smart-watches. NFC and Bluetooth LE are both supported, ensuring versatility for the business. The Incedo-enabled hardware range of wireless locks and wall readers is already compatible with mobile keys, which can be deployed alongside standard RFID credentials. **www.assaabloy.com**

Infrared Technology Panoramic Camera

The NDAA compliant PNM-9031RV infrared panoramic camera, launched by Hanwha Techwin Europe, provides operators with a seamless continuous view of a wide area. Operators can use fewer cameras to monitor events with the 15 MP 4x lens panoramic camera in a 3:1 aspect ratio (6720 x 2240). This makes it a highly cost-effective option for organizations seeking high-quality, infrared video surveillance. WiseIR integrated infrared illuminators, alongside independent zones with auto and manual adjustment, ensure monitoring is not interrupted in low-light conditions. IR can illuminate up to 20 meters away for all four lenses of the camera. It offers a 192-degree horizontal field of view and 65-degree vertical field of view, along with a wide dynamic range of 120 dB. The panoramic camera can handover events to other cameras where needed. This high image quality is complemented by automatic image stitching that provides an uninterrupted single image view of what's happening over a wide area. **www.hanwha-security.eu**

Altronix with New Products at Intersec 2022

Altronix showcased several new additions to its line of security, access, surveillance and fire products at Intersec 2022. These new solutions enable more edge devices to be deployed at longer distances, and with more power to accommodate a greater range of specialized surveillance and security applications. Highlighted features include the ability to deploy devices in remote locations with or without local power, and the ability to power access and surveillance systems utilizing 802.3bt PoE, increasing overall security, while reducing labor and installation costs. Altronix presented an enhanced portfolio of NetWay and NetWay Spectrum PoE and Fiber Solutions that accommodate 802.3bt IP cameras, illuminators, locking devices, LED lighting and more. Providing up to 90W per port, new midspans and hardened PoE switches accommodate fiber and structured cable for a wide range of indoor and outdoor applications. **www.altronix.com**

End-to-end Surveillance Solutions

Featuring HD and UHD network cameras plus powerful NVR and enterprise-class PC servers that connect seamlessly to a choice of VMS, Idis's end-to-end, NDAA-compliant solutions are now being chosen for a growing list of European projects in sectors ranging from education, retail, hotels, data centers, and commercial office space. The company's updated camera line-up includes a range of 2 MP, 5 MP, and 8 MP domes, bullets, and turret cameras plus the company's best-selling and award-winning 5 MP and 12 MP IR Super Fisheyes. The new NDAA-compliant models come with IR, true WDR, smart failover, alarm in/out, and two-way audio and vandal resistance options. New NDAA-compliant recording is enabled with 16 to 32-channel network recorders, featuring built-in PoE switches, incoming throughput of up to 370 Mbps, and allows 960 ips UHD real-time recording. **www.idisglobal.com**

ACCESS MANAGEMENT

Another Buzzword You Should Know: "Proptech"

Filling the Security Gap in Proptech for Property Management

As is often the case with technology trends, the loudest noise is around the newest and flashiest products. With proptech identified as a growth area within physical security for 2022, there is sure to be a tidal wave of new apps and other buzzworthy entries to the market. Many of these new products are costly and may be too new to have truly demonstrated their effectiveness and ROI.

As property owners and managers, as well as security managers, consider the new technology flooding the industry, it is important not to lose sight of the security mechanisms that are already in place. It is a certainty that virtually every building still employs keys – sometimes hundreds of keys – to secure every door in the facility. Whether or not new proptech software, platforms and products are deployed, many if not all of those keys will still be in use.

This could create a gap in security if there is no technology in place to control the usage of these keys. However, with key management systems, each key is securely locked into a key cabinet, and can only be removed or returned by an authorized user. It's the best way to safeguard the keys in use now.

Best Practices

Beyond security, particularly in the current pandemic environment, there is a need for information about building usage and occupancy. Tenants need to know if their space requirements have shrunk now that so many people are working remotely. They need to understand which rooms, offices and other areas are no longer being used enough to warrant keeping them rented, heated or air-conditioned and otherwise in service. Building owners and property managers have a need for data around usage of shared amenities, as well as overall density of traffic in facilities.

Here too, key management systems provide a wealth of insights. Each key or group of keys is attached to a "smartkey" which tracks every time the key is removed from or returned to the cabinet, along with additional data including which key was removed/returned, who removed and returned it, which cabinet it came from and was returned to etc. All these data points can deliver useful insights about occupancy and traffic.

One of the goals of proptech is to help deliver better experiences for property owners, tenants, employees and visitors to buildings. Key control solutions can help ensure that this is as true for legacy keys as it is for all security technologies.

Sources
[1] 2022 SECURITY MEGATRENDS, published by SIA

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What is Proptech?

Proptech is one of the biggest trends for security in 2022, according to the Security Industry Association's 2022 Megatrends Report (1). Proptech, or property technology – also known as real estate technology – is technology, software platforms or applications designed for the management, sale, and rental of buildings. Within proptech, security technology is a fast-growing segment as building owners and managers seek the best ways to keep tenants, employees, and visitors safe and secure.

STADIUM SECURITY

For Security Fans

New Edition of the DFB Guidelines "Video Technology & Data Protection in Stadiums" Published

Fabian Stegmaier is the Manager Safety & Security Technologies at the ZVEI Safety and Security Division

Christian Delp is the Stadium Officer at the German Football Association (DFB)
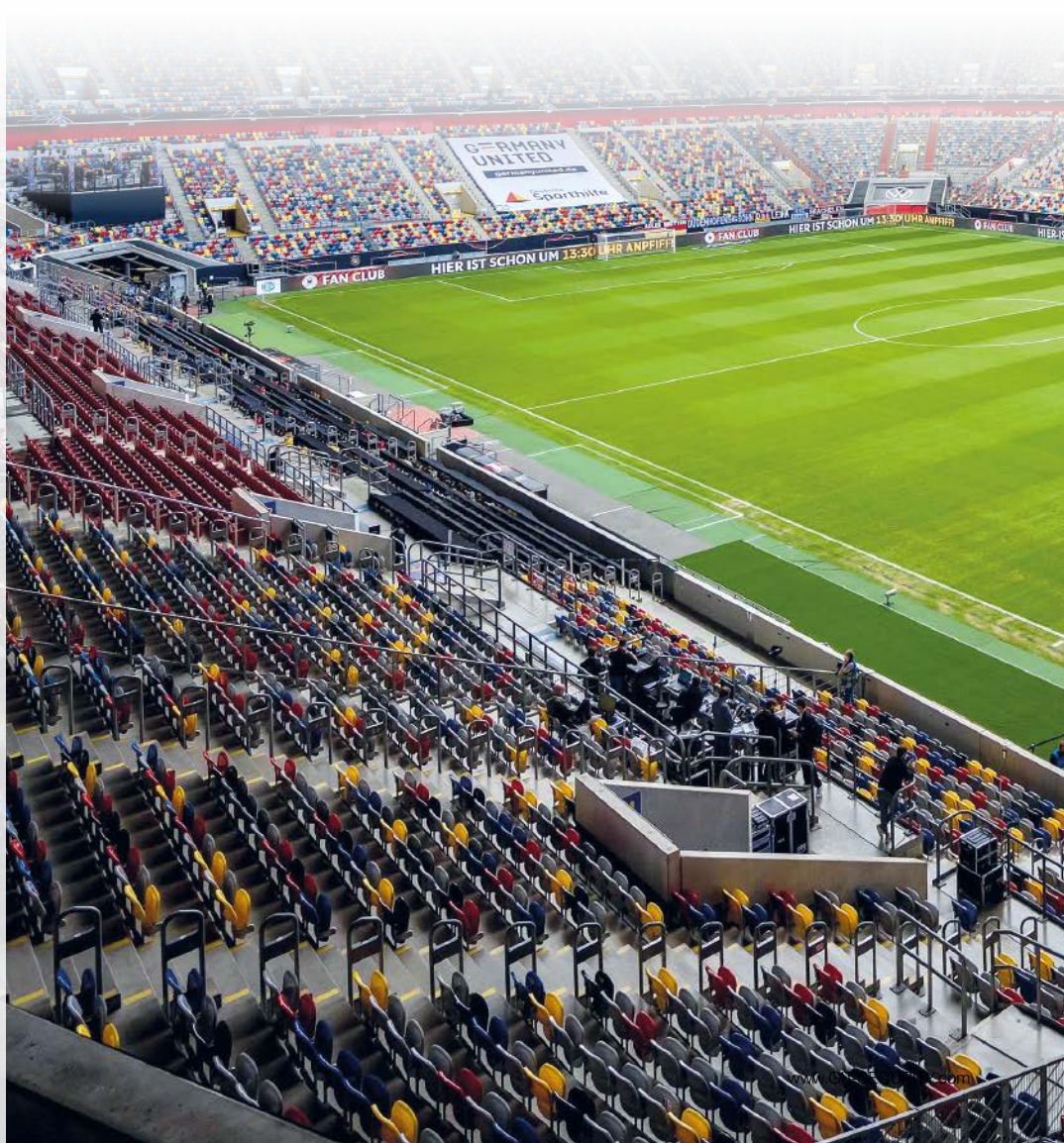
In its updated guidelines, the German Football Association (DFB) provides an extensive set of recommendations for using state-of-the-art video technology in stadiums. These have been drawn up with the assistance from the Electro and Digital Industry Association (ZVEI). The new version of the practical guide, which was first published in 2013, takes account of technological progress and the latest developments concerning the legal framework. The guide was a collaboration between the Video Systems expert group at the ZVEI and Christian Delp and Gerhard Kißlinger, both of whom are the Stadium Officers at the DFB. One of the key reasons why the guidelines were revised was because of the EU General Data Protection Regulation (GDPR), which came into force in 2018. GIT SECURITY spoke to Fabian Stegmaier, Manager Safety & Security Technologies at ZVEI and Christian Delp, DFB Stadium Officer.

Video systems enable preventive risk detection and help stadium events to run smoothly. The DFB and ZVEI assist stadium operators with their guidelines on video technology & data protection in stadiums ▶

GIT SECURITY: Mr Stegmaier, the DFB's guidelines on video technology & data protection in stadiums have just been updated in collaboration with the ZVEI Video Systems expert group and released as a new edition. One of the major reasons for this was to take account of the EU General Data Protection Regulation (GDPR). From your point of view, what are the most significant amendments compared to the first edition in 2013?

Fabian Stegmaier: One of our central concerns during the revision was to incorporate the European data protection provisions, which have been in force since 2018. The comprehensive outline concept for the stadium and the stadium environment included in the guidelines therefore explicitly references the GDPR and the resulting data protection requirements. Our intention is to assist stadium managers in implementing video systems in a manner that they know to be fully compliant with the law. At the same time, the guidelines ensure that the privacy rights of fans and visitors are protected. And that's because the increased security provided by video technology has to go hand in hand with the protection of personal data.

It was also necessary to update the technical requirements in light of the currently applicable DIN EN 62676 series of standards, because DIN EN 50132 – the standard on which the first edition of the guidelines was based – has since been withdrawn. Among other things, these cover the definition of the image quality in relation to specific surveillance and security objectives, which is now shown more clearly using relevant illustrations. The notes on the scopes of application (prevention, protection, response, documentation) have also been revised. Once again, we generally adopted the principle of showing how state-of-the-art technology and the underlying standards can be applied to the example of a stadium.

In addition to providing an overview of the applicable standards, the guidelines also concern themselves with the latest technology. Video technology is actually a very innovative and versatile element of security technology. Which developments were particularly important from the stadium operator's point of view?

Christian Delp: As far as stadium managers are concerned, it represented a key milestone when the guidelines on video

technology and data protection in stadiums were introduced.

In this way, we have created instructions and clarity for this complex subject area, with the result that all stadiums – from the Bundesliga right down to the third division (3. Liga) – now have high-resolution camera systems. In the interim, terms such as artificial intelligence are no longer regarded as gibberish within this sector. For example, cameras are able to identify people whose behaviour is unusual. One example: A person suffers a heart attack and collapses in a place where nobody else happens to be present. In such an event, the systems can set off an alarm and institute prompt and targeted assistance. The automated processes are a particularly good example of how visitors benefit from enhanced service and convenience. These range from controlling rights of access and car parks through to managing queues. There are lots of measures of this kind and they reduce the numbers of staff required. Every innovation is of course subject to rigorous checks to ensure that it conforms to data protection law.

How would you describe the co-operation between DFB and ZVEI? Does it include any other subjects or projects? ▶

Fabian Stegmaier: The original idea of producing a comprehensive set of guidelines has developed into ongoing, constructive collaboration. For the second edition, we held several meetings to discuss the revisions required, which were then implemented. We made a conscious effort to harness synergies from co-operation between different associations. Combining practical experience with the conditions laid down by the DFB ensures that the guidelines address subjects of relevance to stadium operators. At the same time, we can – from the perspective of the manufacturers – contribute technological expertise and know-how regarding standards to help create well-founded and appropriate solutions for stadium operators. In view of our very positive experience of working on this project, we are currently in the process of collaborating in the area of Public Address and General Alarm (PAGA) systems in a similar way.

The DFB guidelines have actually been conceived as a decision-making tool for investments in stadium security. How has that been received and implemented in practice – at the DFB and by other stadiums and stadium operators?

Christian Delp: The concept has been very well received in practice. This is underlined by the large number of enquiries we have received about the update. The guidelines have helped many decision-makers to gain a better overview of the subject matter. As a result, they have been able to hold more purposeful meetings with various providers. The DFB's ongoing consultation service has played its part in ensuring that the stadium landscape has been provided with practical solutions.

In your opinion, to what extent does video security as a whole actually contribute to achieving the security objectives of stadiums?

Christian Delp: Provided they are designed, implemented and used correctly, video systems can offer a great deal to clubs, authorities and fans. In this respect, the DFB and ZVEI have achieved what they set out to do. For stadium visitors, the primary benefit of state-of-the-art video systems is that they offer reliable technical solutions for preventive risk detection and enable the event to run smoothly without a hitch. The video technology – along with all its functions – is constantly being developed and enhanced to ensure a safe and enjoyable stadium experience.

Installing video technology in stadiums is a complex process because of the sheer number of parties involved – from the club and the police right through to skilled security staff. Structural measures and lighting systems also have to be devised, designed and implemented. This calls for a certain degree of specialisation and help from consultants – how does that play out for security managers in practice?

Christian Delp: A stadium is a complex entity made up of multiple elements, each of which is divided into many levels of its own. Each of these elements helps to create a safe experience for spectators in the stadium. The DFB employs two graduate engineers as the Stadium Officers to oversee the area of "Stadiums and Infrastructure" in the form of myself and my colleague Gerhard Kißlinger. We specialise and have been trained many areas, such as fire prevention, noise protection and security. Among other things, we act as representatives on the Standards Committee for DIN EN 13200 and the associated CEN Committee. These bodies are responsible for creating the standards on which stadium construction is based.

Which services does the DFB provide in this respect?

Christian Delp: We are able to provide the clubs with effective consultancy services thanks to the experience we have built up, and – in particular – the guidelines that have been produced, as well as our continuous dialogue with other experts in the field. The DFB Stadium Officers also act as an auditing body. We have to approve the respective systems and elements to ensure that games can go ahead. The DFB provides these services free of charge to all clubs and they regularly take advantage of them. The consultancy services include meetings with the respective stakeholders. The club in question therefore receives support with a view to installing systems that are not only viable but also cost-efficient.

How does that affect 3rd Division clubs?

Christian Delp: As part of an annual approval procedure, 3rd Division clubs have to complete a video technology report to demonstrate that the video technology system is fit for purpose. Fit-for-purpose solutions have been installed in consultation with the security managers at all locations. The fully comprehensive consultancy service means that it is not just a question

of identifying solutions in an isolated way; rather, they are also coordinated with other issues, such as the German Regulations on Places of Assembly (VStätt-VO), lightning protection, noise protection, inclusion or sustainability. Essentially, we have to keep on advancing in what is a very wide and varied sector. And with that in mind, the DFB engages in dialogue at both a national and an international level.

Can you name any comparable developments in the field of stadium security that are helping to improve stadium safety and security, including in relation to other elements – such as fire protection?

Fabian Stegmaier: Over recent years, continuous advances have been made concerning the elements in the area of electronic security technology. As far as the operators are concerned, these are now translating into new and improved applications, systems and services. For example, digitisation has opened up new opportunities in the field of electronic access/locking systems or fire protection installations, and these are making a contribution to security in stadiums. As a consequence, we are seeing increased networking of technology, which adds value and makes for faster processes. None of this is possible unless cyber security is ensured, which is why we have addressed this aspect explicitly in the guidelines.
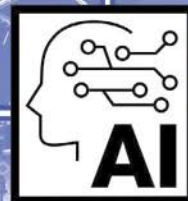
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SPECIAL
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SPECIAL FOCUS INTRUSION DETECTION

Intrusion Detection in 2022

A Collection of Intrusion Detection Technologies

In this article GIT SECURITY takes a look at Artificial Intelligence in intrusion detection technology, takes a look at radars, gives an overview of products, and looks at an installation example of video security.

Artificial Intelligence for Intrusion Detection?

A Close-up on Sensor Fusion by Senstar

Sensor fusion is still a relatively new technology in perimeter security circles. With this newness often comes misunderstanding. Sensor fusion is the process of combining simultaneous inputs from different types of sensors to extract meaningful signals using machine learning techniques to derive intelligent results from potentially unclear inputs. It analyzes data streams from security cameras, fence sensors, volumetric sensors, and other inputs to identify events like intrusion attempts or even maintenance needs.

Sensor fusion systems cannot extract subtle features from the constant stream of sensor data they process unless they've been first trained. Training involves collecting large amounts of data to systematically fine-tune the algorithms. Even more importantly, it learns what sorts of patterns don't merit attention, even when those patterns might fool simpler systems. A sensor fusion system might detect simultaneous fence vibration AND camera movement, yet still be able to recognize a false alarm triggered by the wind and nearby, non-threat, human activity. Or conversely, produce an intrusion alarm with high confidence even when a skilled intruder is employing a method to defeat a specific sensor. The sensor fusion system can also be fed with historical information about the site and the outcome of alarms, allowing it to learn as it goes and improve its ability to correctly sense security issues. **www.senstar.com**

Bandweaver: Perimeter Intrusion Detection Systems (PIDS) with AI

Another system that can be used with AI technology comes from Bandweaver. They use AI technology or detection algorithms to develop an acoustic fingerprint of different events. This enables the distinction between genuine security risks and extraneous environmental noise. Advanced

◀ Senstar uses sensor fusion to combine simultaneous inputs from different types of sensors to extract meaningful signals using machine learning techniques

signal processing technology combined with intelligent algorithms enables fast and accurate identification of the specific location of a potential threat to within ±5m.

They utilise their Perimeter Intrusion Detection Systems (PIDS) to ensure that organisations are fully secure and to help reduce operational risk. The fiber optic intrusion detection solutions provide both covert buried and fence or wall mounted detection capabilities from a single detection unit. With fully scalable systems for sites less than 5 km to more than 100 km, all PIDS detection units are offered in a 1 or 2-channel variant. The 2-channel variant will continue to provide uninterrupted detection along the perimeter. This remains true even if the cable is cut or damaged.

But not only securing fences and larger grounds is important, another reason to deploy an intrusion detection system or a security system is to protect valuable assets. Taking a closer look at what video security can do in supporting an intrusion detection system, we have been looking at an application story. **www.bandweaver.com**

◀ **Bandweaver uses AI technology to develop an acoustic fingerprint of different events**

Automotive Repair Franchise deploys Security System

Business success drove the Australia-based mechanical repair specialist Florida Automotive to a large new facility. With expensive equipment and client assets on-site 24 hours per day, and the new workshop positioned in a quiet industrial area, the automotive repairer put a new, state-of-the-art security system in place. For the installation, they chose an innovative solution from Hikvision. Working with the installer and Hikvision representative, Florida Automotive deployed a converged solution built around Hikvision cameras, NVR, indoor stations, and centralized management software.

The Intercom Door Station was deployed at the main gate, capturing a wide field of view as individuals and vehicles approach. It also provides remote control to the main gate of the repair shop for afterhours access. A two-way audio is set up at the front gate as well, allowing for easy communication between the reception or manager's office, and whoever happens to be at the gate. A KH8 Series Indoor Station was deployed in the reception area to control access to the main gate.

Additionally, two control points for the security system were created, one at the reception area, which combines with the front gate system for easy and convenient operation, and another in the manager's

Working with the installer and Hikvision representative, Florida Automotive deployed a solution built around Hikvision cameras, NVR, indoor stations, and centralized management software ▶

office, which includes four 50-inch monitors for full and clear observation and monitoring.

"We are very happy with our system design and infrastructure, especially the fact that we are able to check and control the system remotely. This means that we are able to avoid most of the false alarms by checking the live view and activating it from wherever we happen to be," said Florida Automotive's Nilanga Lakshan Kirulapana.

"It's quite a relief that such a large area containing expensive customer vehicles is adequately safeguarded, and we are fully compliant with security regulations and insurance guidelines." **www.hikvision.com**

The Value of Radar by Innosent

Moving forward to another perspective, radar technology opens a whole other dimension of intrusion detection.

For many years, the question of which sensor technology fits best for an application was easy to answer. When searching for a cheap and uncomplicated motion sensor, PIR was the choice. For commercial intrusion detection and alarm systems the integrators often had only a low budget. So they accept the possible troubles of PIR in outdoor applications. Radar was only used for more sophisticated functions. But now radar sensors are tackling the low-cost segment. They became smaller and cheaper, but also offer more features. This development could disrupt the market of motion detection. Especially for intruder detection, radar convinces with additional functionality which make the application more efficient and reliable.

Radar Motion Detection for Intrusion Alarm

Between modern radar sensors and PIR, only a small price gap is left. This persuades security technology companies to leave behind negative presumptions from the past and consider radar detection for their alarm system.

So what can they expect from new radar devices? The sensors working under difficult environmental conditions like dust, dirt, rain, snow, heat or cold. It is possible to notice the presence and the movement of vehicles, animals or people. The determination of moving speed and direction and also the distance optimizes the detection efficiency. It allows to make individual adaptions to the use case scenario. This reduces false alarms and improves the performance of the security system.

Intrusion systems based on radar technology only record security-related events (and not curious neighbors or roaming animals). For example it is possible to sort out irrelevant events like passing cars. With configuration of the sensitivity small animals like cats can be filtered out, so they won't trigger an alarm. ∎

Intrusion Detection Products

360 Perimeter Solutions: VibraTek – Vibration-sensitive Sensor

Vibration sensing technology applied to fence structures constitutes by far the most widely used and cost-effective method of intrusion detection. When used on the barriers or fences of secure site perimeters, the VibraTek Plus vibration-sensitive linear sensor provides intruder detection. One of the key differences VibraTek Plus has to other linear magnetic sensors is the mechanical damping that is incorporated. This design eliminates responses that happen with similar sensors which are undamped. The electrical signal that the sensor creates is a precise representation of the mechanical energy that created this signal. The signal analyser module to which the sensor is connected is able to accurately distinguish which type of signals they are, for example intrusion type hostile signals, or non-hostile such as those created by the environment, e.g. rain, wind etc. The resistance built in the design of the sensor ensures its performance is not affected by the access of any water caused by cable sheath damage or badly sealed joints. The sensor is set up as a pair of twisted conductors. With respect to the ground, these are balanced which ensures any externally generated electromagnetic interference sources are rejected. **www.360perimetersolutions.com**

Sorhea: Solaris – Autonomous Active Infrared Barrier

The Solaris is an active infrared barrier consisting of a network of columns that create an immaterial and invisible wall of detection around the site to be protected. The columns communicate an alarm when an intruder cuts the infrared beams as well as filtering any unwanted alarms. Traditionally, IR barriers need cables for power and to send alarm information. The Solaris is an 100% autonomous infrared barrier that is powered by a solar panel and built-in battery. The alarms are communicated via an encrypted mesh radio network to the Maxibus hub that in turn relays the alarm information to third party systems. The Solaris is designed to equip existing sites where there is a real practical or economic interest in removing the civil works. **www.sorhea.com**

Optex: Redscan Pro Series Firmware Update

Optex has launched a new firmware update for its Redscan Pro Lidar Series, featuring enhanced sensor functionality. The Onvif-compliant Redscan Pro series – which includes two models, the RLS-3060V with a range up to 30x60m and the RLS-50100V up to 50x100m – provides highly accurate detection outdoor and indoor, without any 'gaps' or the detection reliability 'fading' with range. The upgraded firmware features dynamic event filtering, which allows for alerts to be configured to meet specific detection criteria or logic. Alarms can be raised based on the sequence of zone detection, such as a target entering a specific zone first then a second one. It allows to filter events and focus on what really matters to the security team. In another scenario, for instance in a logistics or warehouse environment, an intelligent logic can be created based on the height of vehicles positioned by the loading bays. Delivery lorries or trucks entering the detection zones would not trigger any alarms, but smaller vehicles such as vans or cars would trigger the system. A series of new modes have been added to the Redscan Pro panoramic assistance camera module. To help adapt to further applications and to varying privacy restrictions, the camera can be set in image mode, mosaic mode, which pixelates the image to make persons non-identifiable, and all black mode, to render a black screen for both viewing and recording footage. **www.optex-europe.com**

Qognify: Cayuga R17 – Real-time incident handling

Qognify has launched the latest version of its renowned Cayuga video management system (VMS). Cayuga R17 provides control rooms with powerful new person tracking, masking and camera forwarding capabilities to improve real-time incident handling and post-incident investigation. It enables operators to easily follow persons of interest, either in a real-time monitoring situation or as part of a post-incident investigation, across every camera connected to the VMS. The operator simply activates Click2Track and clicks on the appropriate highlighted area (depending on the direction of travel) displayed on the screen. They are then automatically presented with the next camera feed, the moment the subject is in its field of view, ensuring the subject is always kept under close observation.   www.qognify.com
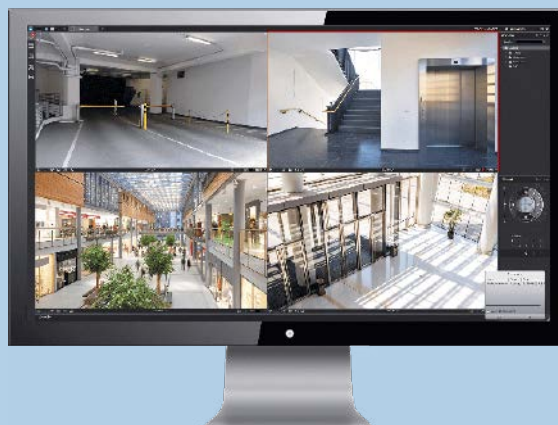
Innosent: IMD-1100 – Radar

Innosent has been developing sensors for motion detection since it was founded in 1999. One of the newest solutions is the IMD-1100 radar front end. This sensor is the smallest 24 GHz radar available in their portfolio, maybe even the smallest of its kind. The size is a game changer for many applications. It is so tiny, that it can be placed even behind a light switch, in a window frame, a wall or a doorbell without being noticed by intruders. The efficient radar technology will not miss any intruders around the building.   www.innosent.de
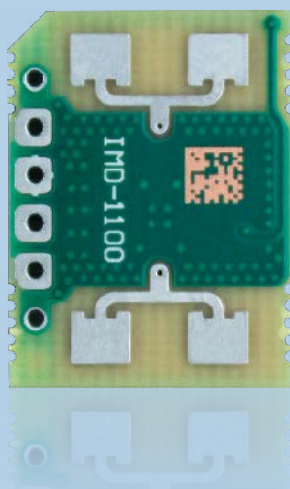
Perinet: MultiSense – Perimeter Intrusion Detection, Monitoring and Control

MultiSense is a holistic solution for perimeter intrusion detection, monitoring and control. The basis of the MultiSense system is an encrypted network (PeriNet) which was specifically developed for the application in outdoor areas. In terms of intrusion detection, different types communicate via the PeriNet network with the centralised server where the decision making takes place. In addition, the PeriNet network interconnects all accesses such as gates, barriers or turnstiles. The browser-based software visualizes the perimeter, informs about intrusions or escapes and offers the possibility to control all accesses intuitively via a digital control panel.   https://perinet.io

Ksenia Security: matrix – Universal Transmitter

Matrix is a bidirectional universal radio interface connecting low-power third-party motion detectors with the IoT control panel lares 4.0. It is designed to convert any motion detector into wireless systems thanks to the two dedicated inputs detecting the sensor's sabotages and/or alarms. matrix can be equipped with 3 batteries to power the connected device, providing up to 4500 mAh autonomy. Its interface is fully compatible with BXS, VXS, WXI, WXS and QXI Optex motion detectors, and it communicates with them wirelessly through radio signals.   www.kseniasecurity.com

matrix
Bi-directional Universal Radio Interface

WORK SHOP LEFT
Super wide-angle network cameras monitor the workshop area

INTRUSION DETECTION

Locked Wheels

An Automotive Repair Franchise Relies on Advanced Security to Mitigate Risks

Business success drove the Australia-based mechanical repair specialist Florida Automotive to a large new facility. With expensive equipment and client assets on site 24 hours per day, and the new workshop positioned in a quiet industrial area, the automotive repairer put a new, state-of-the-art security system in place. For the installation, they chose an innovative solution from Hikvision.

Florida Automotive in Melbourne's Craigieburn satellite suburb is a Victorian Automotive Chamber of Commerce, or VACC, certified automobile services business. With many years of experience, the repairer has become well-known in North Melbourne for their high quality work on all makes and models of vehicles. The business had grown in recent times requiring the move to new and bigger premises located in an industrial area of Craigieburn, which gave them the space needed to work on multiple vehicles at once, and store clients' cars overnight for diagnoses and repairs. Nevertheless, as it is a pretty quiet area, especially at night, the company recognized the need for an upgraded and advanced security system to protect a range of expensive, specialty equipment while providing high-level vehicle services.

The owner of Florida Automotive, Nilanga Lakshan Kirulapana, began to look for a comprehensive security system that would protect his premises and the assets within it, and help the company maintain compliance with regulations and security insurance guidelines. The

system had to be reliable, accurate and cost-effective, while having the capability to act automatically in the event of a security incident, and ward off potential intruders. "As we grew, so did the assets we had on-site. Our new facility required greater security, but we also needed a better way to control and monitor that system. With Hikvision and our trusted security partners, we have designed the ideal solution for our needs," said Nilanga.

Security at the Perimeter, Access Points, and Inside

Nilanga deployed a sophisticated, converged solution built around Hikvision cameras, NVR, indoor stations, and centralized management software. Ten 4K-resolution Acusense Live Guard cameras (DS-2CD2386G2-ISU/SL) were installed around the property, providing complete 360-degree coverage of the perimeter. These are coupled with Smart Event technology (intrusion detection and line crossing) which triggers a built-in siren and strobe light in the event of someone crossing into a specific area once the system is turned on. Three 4K EasyIP 3.0

cameras (DS-2CD2385G1-I) were installed at the entry and exit points of the premises, providing continual monitoring of anyone entering and exiting the building. Three super wide-angle fixed bullet network cameras (DS-2CD2T45G0P-I) were installed internally for their ability to capture a 180-degree range of movement.

The 32-channel network video recorder (DS-9632NI-I8) provides Florida Automotive with a minimum of two months' recording. RAID6 acts as a backup, in the unlikely event of a hard drive failure. The intercom door station (DS-KD8003-IME1) was deployed at the main gate, capturing a wide field of view as individuals and vehicles approach. It also provides remote control to the main gate of the repair shop for after-hours access. Two-way audio is set up at the front gate as well, allowing for easy communication between the reception or manager's office, and whoever happens to be at the gate. A KH8 series indoor station (DS-KH8520-WTE1) was deployed in the reception area (front desk) to control access to the main gate.

All the security devices are linked to the Hikvision Hik-Connect software,

High value tools, parts and customer vehicles are now secured

Complete coverage of the perimeter is provided by ten Hikvision cameras with smart event detection technology

giving the business owner the flexibility to view, arm, and disarm everything in the security system with a single touch. Two control points for the security system were also created, one at the reception area, which combines with the front gate system for easy and convenient operation, and another in the manager's office, which includes four 50-inch monitors for crystal clear monitoring.

Peace of Mind

With the total solution from Hikvision, Florida Automotive now has a large warehouse space fully monitored both inside and at the perimeter. The entire security system can be controlled from the app on a phone or tablet. The staff receive automated alerts pushed to the application in the event of any intrusion. The accuracy of the alerts is ensured by the Live Guard solution, which has been calibrated by Hikvision's representative to avoid unnecessary activation. "We are very happy with our system design and infrastructure, especially the fact that we are able to check and control the system remotely. This means that we are able to avoid most false alarms by checking the live view and activating it from wherever we happen to be," said Florida Automotive's Nilanga. "It is quite a relief that such a large area containing expensive customer vehicles is adequately safeguarded, and we are fully compliant with security regulations and insurance guidelines."

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5x3

Video Security for Retail

1. What products do you recommend for retail security?

2. What benefits can users get through video sensors beyond security?

3. Please describe a success case where you implemented your system in a retail solution?

Graham Swallow
Retail Lead for Axis Communications EMEA

www.axis.com

1. Axis have end 2 end solutions for Retail security. Devices that are open technology and designed with quality image, Cyber security, and sustainability in mind are vital.

Axis VMS with one time license and redaction built in reduces cost, Cameras from PTZ to fixed with edge processing capability. Smart camera tracking with Radar or IR for perimeter. IP Audio speakers directly interacting with camera analytic improves deterrent impact. Switching from analogue to IP with Axis encoders is a scalable conversion for both CCTV and audio.

Our access control is open and SMART, body worn camera is built to service the demands of a tough day in Retail security. We also have an echo system of partners that provide analytics bringing safety and security features to life.

2. Capturing images and driving actionable alerts to reduce burglary, theft and violence brings value but it doesn't need to end there. Video analytics on the camera edge can be used to create actionable alerts to drive a retail operation (identify loitering customer in a high-risk area to initiate service to deter or drive a sale) and provide data for long term planning (Busy times require more staff and available baskets). The same analytics improve the customer experience, drive sales but also impact on the safety of customers and staff.

3. An online retailer had an imbalance in reported customer shortages at the point of delivery and evidence to understand the difference between theft, lost or poor operational practice. Axis camera and our echo partner capture the order packing and shipping process by order number and add a packet of video of the process to store the product journey. When a customer complains that a product is missing from the delivered package or not delivered the service team sitting miles away from the DC can access the stored information. This simple desk top review allows a customer centric decision. The complaint is sent to the correct department to repick, investigate a potential fraud or call on the currier service level agreement to compensate for failed delivery. Driving customer confidence and reducing unknown losses.

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1. At Genetec, we tend not to bring our range of products to the customers but instead understand their operations and see how we can create the business case for the retailer. Since its early introduction into the retail environment, video systems have presented a challenge in showing a clearly identifiable Return on Investment, particularly relating to the tangible components of retail loss. For instance, installing CCTV has rarely translated into a measurable and sustainable reduction in shrinkage. But, in many cases, its role has often been seen as delivering much more intangible benefits that are less easy to capture in a businesses' P&L, such as staff and customer safety and protecting organisational reputation. Video systems are often a form of 'insurance policy' – retailers showing due diligence when things go wrong in their spheres of influence and responsibility.

2. We have seen the situations when retailers have cameras for marketing and operational purposes installed next to security cameras. This is an unfortunate underutilization of the security system and can lead to potential loss of the budget, leading to investments elsewhere. The Security Center platform can help you tap into this data to present actionable business intelligence. These insights can enhance decision-making across your entire organisation, not just security.

In the pandemic, one of the popular examples is occupancy management. As you prepare to reopen your business, you'll need to keep your customers and employees safe by adjusting your security measures to adhere to physical distancing regulations. A top priority will be defining occupancy guidelines and mobilising your operations to limit the risk of COVID-19 transmission.

These guidelines can vary from a maximum threshold to the number of people per square foot. To enforce this, you'll need to know how many people are on your premises at any given moment– then continuously monitor the data and take action when thresholds are met.

Our new Occupancy Management Package will enable customers to operate within the guidelines for occupancy density. This solution can count

Evgenia Ostrovskaya
Business Development Director at Genetec

www.genetec.com

the number of people in your store or equivalent public-facing business, visualise the data and send alerts to employees when occupancy limits are being reached. Reports can also be produced to demonstrate your compliance with local measures. Another example is using existing cameras for heatmaps to capture your customers' navigational and interactional behaviour. Designed as a decision aid, heat maps help you gauge promotion and display interaction and help key decision-makers improve store layout and product placement.

3. Unibail-Rodamco-Westfield (URW) owns and operates two of Europe's largest shopping centres; Westfield London and Westfield Stratford City. The two landmark retail and leisure destinations annually attract over 73 million shoppers and generate £2.1bn in retail sales. To keep shoppers safe, the security team uses Genetec Security Center. As described in detail in the article in this issue of GIT SECURITY, the unified platform helps the team better understand and respond to everything happening in their widespread environment.

1. Perhaps the biggest development in video technology in recent years has been the wider deployment of AI 'at the edge' – to not only deliver better image quality, but provide users with greater insight into the images captured. So, while retail security systems may have grown in complexity in recent years, retailers need to understand that the massive processing power of the latest generation of high definition cameras means they are able to offer so much more than traditional security cameras.

Indeed, the wider availability of affordable, easy to configure and discreet cameras equipped with video analytics software has opened up a massive opportunity for retailers to gather reliable and verifiable data that can help them assess why an individual store is performing better than others, for example, or better understand the behaviour and intentions of customers.

2. Retailers want maximum benefit from their investment in a video system. So while loss prevention managers want to deter and detect criminal activity, operations, marketing and merchandising colleagues want video to help them identify business efficiencies.

Yet by harnessing AI, applications such as people counting, heat mapping, queue management and demographics are available on camera, ready to work 'out-of-the-box', but configurable to meet specific customer requirements.

The benefits to retailers include making better use of staffing levels, managing the peaks and troughs of customer flow at checkouts, as well as measuring the impact of advertising and online promotions on the number of people who enter their stores.

3. Hanwha Techwin's video solutions help many of Europe's best-known high-street retailers, supermarkets and

Uri Guterman
Head of Product & Marketing at Hanwha Techwin Europe
www.hanwha-security.eu

fast-food restaurants prevent loss and unearth new and valuable insights into the way their operations run.

Typical applications for these users include using video to better understand who is coming into their store by confirming details such as age and gender, and highlight hotspots on the shop floor – helping them identify any bottlenecks that might disrupt the customer experience Video can also be used to assess customer interest in a particular area of a store, even a range of specific products on a shelf, by capturing the amount of time customers spend at a certain point, and the degree to which they interact with a product. By comparing this data to sales figures, retailers can identify any room for improvement in terms of product display, point of sale or even pricing.

Finally, many retailers also rely on Hanwha Techwin's public view monitors which feature an integrated camera to actively deter crime, while providing business data and intelligence. A default blinking 'Recording in progress' message is superimposed over the displayed graphics to let would-be thieves know they are on camera, with operators having the option to customise the message to feature promotions or advertising messages.

Iris Huo
Retail Solution Manager
at Hikvision

www.hikvision.com

1. The security solutions for retail industry vary from one another, there are many factors impacting the video cameras used by retailers. But still, there are something in common for what are needed, for example, loss prevention, improved operational efficiency, better customer experience, etc. For retail security, it usually comes to the security during off-hours, the security of goods on the shelf and in the warehouse, the security of a transaction, and many others. Critical positions like the checkout areas, we recommend to install HD cameras, in case any transaction dispute happens, so quality videos can be retrieved for evidence review. It is also important to secure the premise during off-hours, so intrusion detection system becomes crucial here. Hikvision offers a range of intrusion systems including video cameras for securing a property. Our DeepinView camera range offers edge-based intelligence that can distinguish humans from other objects, and warn off the intruders with its visual and auditory warning. The cameras can protect the facility 24/7, thanks to the Hikvision's signature ColorVu technology which ensures images are vivid and in color even at night.

Next, it's about warehouse protection. It usually combines perimeter protection with fire protection. We recommend thermal cameras to cover them both. With advanced algorithms, our thermal cameras accurately detect abnormal temperature changes and intruders. For some large retailers, there are also office areas that can be only accessed by staff. Access control with our MinMoe terminals provide touch-free access using facial recognition, so only authorized staff are allowed to enter.

2. Besides security as a fundamental offering, today's video sensors can further generate more insights for business. In retail industry, specialty stores and supermarkets care more about how customers move through the floor, their shopping patterns and customer's shopping experience. Hence, business intelligence (BI) cameras are a good choice. One aspect is Area Density Monitoring. Retailers can adopt fisheye cameras for both area heat map and global heat map. In the shelf area, heat-mapping technology marks the popularity of each shelf areas. For the entire store, using ceiling installation of several fisheye cameras helps generate global heat map, so store managers can see where the hot areas are and to enable better product allocation for promotion. Likewise, queue detection cameras can be used to monitor queues in real-time and send notifications when there are too many people waiting in line.

Another great advantage is remote inspection using existing CCTV systems to look at the cleanness inside the store, the staff service, and operations, whether these are well conducted as required. This is usually done offline before the pandemic, with audit managers travelling to each store for inspection and reporting. Now it can be processed online – vastly improving efficiency and standardization.

3. Polish reseller Volta used Hikvision's AI products including people counting cameras, fisheye cameras, NVRs and Hikvision's centralised software platform to help Miniso Poland (a retail brand) streamline its marketing strategy, and identify trends throughout the network of stores. With this tailor-made solution, management could calculate how many people were passing by to see a purchasing conversion rate. Using ceiling installation of several fisheye cameras, the system can generate heat maps. This helps managers to see where 'hot areas' are, helping them to allocate products in the optimal place for promotion. Hot areas can also be compared with sales figures to provide further insights into shopping patterns. This is a great example of how AI security products can change the landscape of business decision-making. For the full case study, you may visit our website here:

Mathias Glock
Manager Regional Sales
i-PRO EMEA

**https://i-pro.com/eu/en/
surveillance**

1. The products that I would recommend in retail are the ones that are both, reliable and discrete. Customers should not even notice the cameras during their shopping experience. On top of that, retailers need video surveillance products that are able to resist vandalism and produce high quality images for clear proof in case of incidents or damages. In addition, the usage of AI capable cameras can give an extra benefit for the retail market. Thanks to this new and innovative technology, cameras are not only used for capturing security footage, but also for statistics and additional data analysis generating business insights, for example for marketing purposes.

2. The benefits of AI-capable CCTV cameras are mainly based on the opportunity to analyse and use data, as a sensor that can (pro-)actively notify for different approaches. You can evaluate the usage of different locations inside the store and the type of customers which are coming into your shops, providing key information thanks to different applications they can run for data analysis: people counting, people behaviour, "non-wearing mask" detection for COVID surroundings, occupancy detection, lost object detection and many more. Thanks to AI, you can even analyse the mood of the customers and their reactions whilst strolling through the store. Beyond that, the camera is also useable as a "facility management sensor" linking into heating, lighting and also stock management. In addition, it can be combined with plenty of third parties applications for access control or also easy and self-payment solutions.

3. One of the success cases we have implemented in 2021 is with a retailer in Switzerland. It's a test shop without any employees, which is open 24/7. Inside that shop, everybody can enter with an app and buy some groceries. The cameras with AI capabilities analyse what customers have inside their shopping bags, what they are taking from the shelves and in the end, in front of the barrier, the system summarises the contents inside your bag, so you can pay and then leave the shop. Thanks to these analytics, the retailer can get the information about the products availabilities, so they can manage the product supply. For the company, it has a very important cost saving impact such as employment cost, extended opening hours and stock saving management – as they only restock the products when the product availability is decreasing.

VIDEO ANALYSIS

Joined Forces

i-PRO and Vaxtor to Deliver Powerful Edge ALPR Apps on AI-capable Cameras

i-PRO EMEA and Vaxtor, a leading analytics company, announced a global collaboration for the latest generation of its powerful automated license plate recognition software, VaxALPR, to run on i-PRO AI-enabled camera models. These powerful and reliable AI capable cameras can now integrate Vaxtor's high performing and easy to use edge application – reducing system costs and complexity.

More information about i-PRO and VaxALPR On Camera visit this web:

With analytics carried out on the edge of i-PRO cameras, the on-camera solution does not need to stream video to a PC/server ensuring efficient operation on all networks, including 4G. The app runs embedded on i-PRO AI cameras with simple per-camera licensing and no minimum camera count. It's also integrated for use with the i-PRO Video Insight video management system (VMS) for easy deployment and operation.

The AI solution is ideal for a range of applications, including city surveillance, parking, access control, security, law enforcement and intelligent transportation systems (ITS). This latest on-camera VaxALPR application has recognition rates above 98% and is suitable for any traffic environment.

Future Plans

Moving forward, Vaxtor also plans to integrate its other object character recognition (OCR) applications, including its generic OCR reader VaxOCR Genesis, for use on i-PRO cameras. This user-programmable, multi-functional OCR will open a whole new range of uses beyond security, including stock auditing, asset tracking and logistics, and for any automation processes that include tracking of numeric codes. "We have been impressed by the processing power of the i-PRO cameras, the open system and the flexibility and support of its technical team," said Juan Vercher, CEO and founder of Vaxtor. "This combination of powerful hardware and collaboration will enable us to offer additional unique functionality to our joint customers. It's an exciting future ahead."

Gerard Figols, i-PRO EMEA President, added: "It's i-PRO's mission to collaborate with the strongest third-party software developers, using our open hardware camera system, to deliver the most powerful AI applications across every industry sector. This global collaboration with Vaxtor, an application provider driving innovation in ALPR and OCR, is another example of our customer-focused business model in action."

CONTACT

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ACCESS CONTROL

Megashopping

Unified Security for Two UK Retail and Leisure Destinations

Unibail-Rodamco-Westfield (URW) owns and operates two of Europe's largest shopping centers; Westfield London and Westfield Stratford City. The two landmark retail and leisure destinations annually attract over 73 million shoppers and generate £2.1 bn in retail sales. To keep shoppers safe, the security team uses Genetec Security Center. The unified platform helps the team better understand and respond to everything happening in their widespread environment.

Westfield Stratford City had been using Genetec Security Center for just over a year when Adrian Howles was appointed URW Security Manager at the center in 2017. He quickly recognized it had further potential to enhance security, decision-making and operations. "The value was clear from the outset and it was immediately apparent that Genetec would be an important strategic partner for today and tomorrow," explains Adrian. "The platform is comprehensive, intuitive and, as part of our five-year strategy, the open architecture gives us so many options."

From the outset Genetec Security Center ensured Westfield Stratford City's security team could effectively monitor over 1,200 cameras from Axis Communications, covering 177,000 m^2 of retail floor space. The solution unified video surveillance, access control and analytics to streamline everything from preventing theft and locating missing children through to pre-empting or responding to health and safety incidents.

Maximize Resilience, Save Costs

Implemented within around 25 % of URW's global sites, Security Center is fast becoming the platform of choice for the wider group. On a site-by-site basis, the URW teams choose Security Center for its ease of use and ability to evolve and grow in line with each center's needs. Using the Genetec Federation feature, the teams can also monitor multiple sites from a single platform. This allows them to build centralized control rooms, which further enhances resilience and costing efficiencies.

Following Westfield Stratford City's lead, Westfield London has also deployed Security Center. This provides a common interface and user experience for security staff across both sites. URW is benefitting from economies of scale with regard to training and development while also helping to ensure greater uniformity in how each center responds to day-to-day security issues. Westfield UK continues to run its security infrastructure within its own on-site data centers, maximizing returns on past hardware investments. However, in the longer term, the team expects to transfer more of its security infrastructure to the cloud. "Knowing the system is cloud-ready and can support centralized monitoring if and when we need it is very attractive," says Adrian. "We can realize significant cost efficiencies and further improve our high levels of security and resilience."

Beyond Security

Today, Westfield UK continues to find new ways in which Security Center can add value to the business. One example of this is the integration of Genetec Security Center with Westfield's Delivery Management System (DMS), which has resulted in a considerable

annual saving. The DMS system automatically sends Security Center a list of approved delivery vehicles which have access to the site each day. When AutoVu SharpV number plate recognition cameras detect these vehicles at the gated delivery entrance, the system seamlessly grants access to the right service yard, with no manual intervention required.

Westfield UK has also deployed Genetec Mission Control at the two centers. This decision management system helps to further streamline processes, maximize efficiencies and ensure standard operating procedures are followed. Pre-set with Westfield's standard operating procedures, the software simplifies tasks for the operator by guiding them through every step in their response to a variety of situations. For example, in the case of a lost child being reported, Mission Control prioritizes actions for the operator such as getting a description, communicating information to those on the ground, and reviewing camera footage for possible sightings.

"Front-line security is an all-encompassing role so we rely on technology to support our people in responding predictably and effectively to whatever gets thrown at them," explains Adrian.

GDPR Conform

Finally, the rollout of Genetec Clearance, the cloud-based digital evidence management solution, has facilitated General Data Protection Regulation (GDPR) compliance. Upon receiving a request for evidence, the Westfield team can now automatically blur faces or parts of the video and instantly generate a secure link to be shared with the approved agencies. Furthermore, they can watermark, set time limits and manage user access rights retaining greater control over how that footage is further used and shared. This has massively reduced liability concerns surrounding the possible misuse of footage that must be retained for a significant period of time. "As publicly accessible sites that welcome millions of visitors, we receive thousands

of requests for footage each year from visitors, retailers and law enforcement," explains Tom Lish, Assistant Security Manager, Westfield Stratford City. "After validating requests, we used to have to manually redact innocent parties in the footage and then burn it on to DVDs but thankfully much of that is now automated, saving us significant time and resources".

With ambitious growth plans and two rapidly evolving sites to manage and secure, Westfield doesn't yet know how their Genetec deployment will continue to grow. However, they are confident in the system and its ability to continuously adapt to their evolving requirements.

Dieter Dallmeier,
Founder & CEO,
Dallmeier Electronic

These are the three most important matters that are currently being discussed worldwide – and they also influence the policies of many companies, such as Dallmeier Electronic: data protection, acting ethically, and sustainable and resource-conserving commerce and production. There are many sensitive questions arising from video surveillance technology with respect to the first two metasubjects. Matthias Erler from GIT SECURITY asked the founder and CEO of Dallmeier Electronic, Dieter Dallmeier, about these and other current topics.

VIDEO SURVEILLANCE

Step Up to the Mark

Data Protection, Ethics, Sustainability. A Conversation with Dieter Dallmeier

GIT SECURITY: Mr. Dallmeier, recent months have shown that the Corona epidemic is not over yet. How have you and your company handled the crisis so far? What financial effects has the pandemic had on your company, and what do you envisage for the future?

Dieter Dallmeier: We had a painful loss of turnover because of the weakness in our important airport, casino and stadium markets, although these have not made a fundamental difference. We saw a significant increase of business in these sectors during the second half of 2021. And in addition – to our relief – we noted that other sectors such as the Safe City or industry developed beyond our expectations. We are looking forward optimistically to 2022 and expect above-average growth just as soon as customers in our main markets can clear their investment blockages.

Before we come to specific projects in 2022: there are a number of wide-reach-ing matters that are not only occupying the security industry in these times. Dallmeier is also concerned with a trio of partially overlapping subjects –under the headings of data protection, ethics and sustainability. To start with data protection: it all revolves around GDPR …

Dieter Dallmeier: … correct. The requirements of GDPR as a guideline with the principles of 'Privacy and Security by Design' are well known, and equally the potential vulnerability of video systems as IoT systems. The first question that comes up in many conversations with customers is therefore about data protection and data security – and above all the question of the documentation of the capabilities. This is a burning subject that, in our opinion, is gaining relevance daily.

The second subject is ever more often the 'ethical responsibility' within our industry. The EU Parliament installed cameras from a Chinese manufacturer in October 2020, whose systems are pre-sumably used as part of the internment of the Uighur in Xinjiang. In response to public pressure and the approval of almost 90 % of the representatives, these were removed again in April 2021. This is just one example to illustrate the matter to your readers: public pressure to behave ethically is growing. Governments are increasingly regulating the markets – the USA for a long time and most recently the UK – as to which systems may be used by the public sector. I expect – and hope – that this also happens for the rest of Europe. And I assume that the sensitivity of the subject will increasingly influence the behavior and purchasing decisions in the private sector, too.

GDPR is a typically European project: it involves the maintenance of free data movement within the single market – and in a form that requires the protection of individuals whose data is being processed to be taken into consideration. What does this foundation of basic

◀ The new Dallmeier Domera camera series will be officially launched in early 2022 and eliminates many disadvantages of conventional solutions

AI: Trustworthy and free of discrimination

Quality AI training data (Input)		Quality Video data (Input)		Quality AI results (Output)
❌	+	❌	=	❌
✅	+	❌	=	❌
❌	+	✅	=	❌
✅	+	✅	=	✅

Only the combination of high-quality AI training data and high-resolution video images delivers analysis results that are trustworthy and free of discrimination ▶

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rights mean for a German and European brand? Is it a valuable argument in the worldwide market? Could more be done here?

Dieter Dallmeier: Our western understanding of privacy, political independence and human rights has been established historically with much suffering along the way. Data protection and data security are, so to speak, in our cultural DNA. If you can demonstrate that the entire value chain lies within Germany or Europe, that you as a manufacturer employ external service providers to carry out intensive penetration tests on your products, that you develop and manufacture under a constitutional system where no government would even think of requiring the programing of 'back-doors', then that is important for many decision-makers.

I believe that manufacturers and customers as well as 'politics' and the regulatory authorities for data protection and cyber-security should take on more responsibility here in the future, not least for our own markets. We should apply GDPR rules and our cultural DNA to develop products that absolutely lead the way in data protection. Then the supposed bureaucratic hurdles suddenly create the potential for distinguishing features that, just for cultural reasons alone, cannot be so easily copied in a collectivist community.

This includes not choosing the often apparently cheapest solution as a reflex, but instead the one that demonstrates the greatest ethical responsibility. If we absorb this in the short term, everybody profits in the long term: manufacturer, customer and our constitution based on the principles of democracy and liberty.

Data protection stretches into the subject of 'trustworthy AI' – a metasubject that is also on the agenda of the European Union: a system that employs artificial intelligence should not only be unproblematic in a normative sense. It should also satisfy fundamental ethical standards – and must not only not cause any technical damage, but also no social damage, for example through nontransparent decision processes or discriminatory AI results. How does a manufacturer of video security technology meet these very high requirements?

Dieter Dallmeier: The combination of video technology and artificial intelligence promises important advantages in efficiency and productivity that will strengthen the competitiveness of European industry and improve the welfare of its citizens. It can also help to find solutions for some of the most pressing social challenges. These include fighting climate change and destruction of the environment, the challenges of sustainability and demographic change, the protection of our democracies and, insofar as is necessary and proportionate, fighting crime – for example within the context of a 'Safe und Smart City strategy'.

But as a manufacturer we are duty bound to ensure that our products and solutions as well as our company itself are 'trustworthy' as a whole, no matter whether it is about data protection and data security, cloud services, sustainability and environmental protection, commercial ethics or even the subject of AI. I view the subject of 'trust' as a comprehensive matter – for security technology even more than for other areas. And this particularly affects the use of artificial intelligence: we will

only be able to expect the necessary public acceptance in the mid and long term when politics in cooperation with industry develops the right answers and a corresponding moral compass. So this provides a great opportunity for us as a European technology manufacturer.

Let us look a little closer at some examples of what trustworthy AI means in connection with video technology. For example, there are the aspects of classification of objects with the help of studied comparable images or face recognition…?

Dieter Dallmeier: AI is always particularly problematic when it has to do with personal data or person-related data. The subject of face recognition is a good example: there is an ethnic bias in many machines through the skin color. For so long as this problem remains unsolved, there will rightly be a problem with trust and acceptance. And the question always arises as to how the algorithms actually work. The processing of data in an algorithmic 'black box' in which it cannot be clearly followed how the data are correlated is not without its problems, and in particular when there is an aspect of self-learning involved. Another matter, aside from the quality of the real data and video data, is the data that are used to 'teach' the systems. We use synthetic data here in many applications meanwhile to solve the big problem of 'data protection-relevant personal attribution of training data'.

You have your own 3D team that does the teaching, and also for planning purposes in a customer environment?

Synthetic training data of high quality and quantity (representative cross-section of the population) can help develop AI systems that are non-discriminatory, privacy compliant, and robust. Seen here: Computer-generated 3D figures that can be used to train video analytics systems.

Dieter Dallmeier: Yes, that is right. A good example is the teaching of our systems to look for features – such as the color of clothes. Our 3D team then creates a whole army of artificial 3D figures for our systems to recognize the appropriate pattern. We work in a similar way with our Casino solutions when analyzing piles of chips.

The third subject after data protection and trustworthy AI is one that affects all branches of commercial life, namely sustainability and how it can be achieved. Could you explain what the Dallmeier strategy is here and what contribution you can make?

Dieter Dallmeier: The subject of sustainability and resource conservation has been prevalent at Dallmeier since the beginning. As a manufacturer of security systems we can, of course, only contribute a small amount. But we can see that the quality that can be directly translated into long service and low maintenance effort is important for ever more customers. This is not only about costs – many of our customers want

to do their bit under the aspect of 'corporate responsibility' to protect our natural resources. I should also mention our own sustainability management system that consists of quality, environment, and workers protection and energy management.

Mr. Dallmeier, let us move on to news about products for this year. What can we expect here?

Dieter Dallmeier: We will definitely be bringing a new camera solution in the category 'single sensor/dome' to the market: the Domera camera series will solve quite a few 'headaches' caused by classic solutions. To start with, it will significantly reduce the installation and adjustment time necessary for the installer. A lot of things that must be adjusted manually today 'on the ladder' will be easily completed in future on the computer. You can also look forward to a brand new white light and infrared illumination setup. The dome casing also removes the many disadvantages in almost every situation of the classic box or bullet shape – starting with the notorious 'spider

problem' where the camera's view is often impeded by spiders webs, and including the much more difficult adjustment of the camera. New analysis functions and apps complete the function and feature portfolio of the new Domera camera series.

And on the subject of open systems, I am very pleased to let our installers and end users know that our patented Panomera multifocal sensor system is now completely integrated into the video management systems of Milestone and Genetec. This puts an extremely powerful 'best-of-breed' combination of leading software systems and the best camera system for long distances and large areas onto the market for our common customers.

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Training for New Commercial Partner

IPS conducted the first technical training for the technical managers of Sovec Entreprises, their new solution partner, at the end of November. They learned how to operate the extensive video manager and the video analytics packages. Alain H. Benoit, partner manager EMEA at IPS, and Oliver Saborowski, training and technical support, trained the Sovec team on site in France. In a small group, the participants learned over a period of three days how to install the video manager interactively. All agreed that the software is easier to use compared to others thanks to its simpler structure. The camera-based video analytics were also well received because they can be integrated into the cameras with just a few clicks. The company's help desk can be reached directly, without telephone queues or anonymous hotline numbers, so if support is required for a project, it is immediately available with advice and action.   https://ips.securiton.de

Eagle Eye Networks Launches Cloud VMS Edition

Eagle Eye Networks has announced enhancements to the Eagle Eye Cloud Video Management System, providing three editions: Enterprise, Professional, and Standard. Customers can choose the edition that best meets their needs, based on factors such as: number of locations, number of users, system complexity, and regulatory requirements. Eagle Eye Networks growing customer base includes organizations of all sizes and types that choose Eagle Eye cyber-secure cloud solutions with artificial intelligence and analytics for security and operational optimization. Larger organizations have more complex needs, while smaller businesses appreciate simplicity. Editions delivers on both of these needs. "Our new Eagle Eye Cloud VMS Editions will propel customer and reseller success by delivering the right solution for each customer, while ensuring customers have the flexibility to scale," said Dean Drako, Founder and CEO of Eagle Eye Networks. www.een.com

i-PRO and Vaxtor: Powerful Edge ALPR Apps on AI-capable Cameras

Panasonic i-PRO Sensing Solutions and Vaxtor have announced a global collaboration for the latest generation of its powerful automated license plate recognition software, VaxALPR, to run on i-PRO AI-enabled models. These powerful and reliable AI-capable cameras can now integrate Vaxtor's high-performing and easy-to-use edge application — reducing system costs and complexity. With analytics carried out on the edge of i-PRO cameras, the on-camera solution does not need to stream video to a PC/server ensuring efficient operation on all networks, including 4G. The app runs embedded on i-PRO AI cameras with simple per-camera licensing and no minimum camera count. It's also integrated for use with the i-PRO Video Insight video management system for easy deployment and operation. The AI solution is ideal for a range of applications, including city surveillance, parking, access control, security, law enforcement and intelligent transportation systems (ITS). This latest on-camera VaxALPR application has recognition rates above 99 percent and is suitable for high- and low-speed traffic environments.   https://i-pro.com/eu

Cyber-hardened Door Controller

Johnson Controls, the global leader for smart, healthy and sustainable buildings, has launched Tyco Software House iSTAR Ultra G2, a next generation door controller designed for cyber resiliency, providing customers with faster processing power, advanced enterprise functionality and the building blocks needed for future expansion. Ideal for mid-size to large scale deployments in higher education, healthcare, government, data center, industrial and manufacturing facilities, the device is a highly flexible door controller, supporting both wired and wireless locksets, with expanded memory capacity to ensure the device grows with customer needs. It can manage up to one million credentials for up to 32 doors. Advanced enterprise features such as dual GigE network ports using TLS 1.3 network authentication and cluster-based anti-passback provide the power to handle the most demanding access control applications.   www.swhouse.com

Senstar announces Integration with Halo IoT smart sensor

Senstar announces the integration of its Senstar Symphony Common Operating Platform with the Halo IoT Smart Sensor from IPVideo Corporation. The integration allows Halo users to monitor alerts and notify personnel of out-of-normal ranges or levels of vaping, sounds and gunshot, chemicals, air quality and health, within the Senstar Symphony Common Operating Platform. "Our customers benefit from strategic technology partnerships like we have with Senstar and all the possibilities it brings for client safety," said Jack Plunkett, CTO, IPVideo Corporation. "Be it vaping prevention, security or identifying healthy spaces for occupants, this integration is a value proposition that allows Senstar clients to provide security for privacy areas across markets." The Senstar Symphony Common Operating Platform with sensor fusion is a modular solution for security management and data intelligence. In addition to being an open, highly scalable video management system with built-in video analytics, it includes full-featured access control and perimeter intrusion detection modules.   www.senstar.de

Teledyne Releases New Flir Research Studio Professional Edition

Teledyne Flir announced the release of the latest versions of Flir Research Studio software. This new release includes both a Professional Edition with Flir Research Studio Player – designed for research and science applications requiring robust data capture and analysis – and an upgraded version of the Flir Research Studio Standard Edition. Both the Standard and Professional Editions are now offered as one-year subscriptions or perpetual licenses. "The new Flir Research Studio Professional Edition works the way you work, featuring the recording and analysis capabilities needed for cutting-edge research and development applications," said Chris Bainter, vice president of business development, Teledyne Flir. "Both the Standard and Professional versions offer a streamlined, intuitive 'Connect – View – Record – Analyze – Share' workflow, making it easy to quickly characterize important thermal data to support critical decisions. This helps improve collaboration and increase efficiency to reduce the potential for misunderstanding critical thermal data."   www.teledyne.com

VIDEO SURVEILLANCE

Silent Monitor

An Alert-to-Action Security Solution for Hospitals

Due to surges in demand for care associated with Covid-19 cases, increased bed occupancy rates and demand for facility access and diagnostics has put a strain on hospital resources and staffing, and highlights a need for advanced, integrated solutions to alleviate growing pressures experienced by medical staff. An efficiently-running facility relies heavily on nursing staff and security personnel having the right information at the right time so they can respond to critical situations quickly.

Nursing staff are a crucial component to providing optimal care to inpatients and also support visitor enquiries, manage patient data and records, and prepare medication. High occupancy rates and the resulting strains on staff furthers the need for effective real-time notifications that qualify the need for clinical attention and allow nurses to respond to critical events quickly.

Supporting Nursing Staff

Eizo's IP video decoding solutions support customizable integration with security, life-safety, and access control systems with their Alert-to-Action function. This means that the monitor itself can serve as a two-way communication device and provide alert notifications directly to nurses in response to specific events. For example, motion sensors or heat-sensing cameras can detect movement from a fall-risk or bed-restricted patient by sending an alert to the monitor over the network. The monitor can be programmed to automatically adjust its layout, enlarge the screen, or apply visual indicators such as a text message or colored frame, in response to this alert to actively notify nurses that attention is needed.

Even with a centrally positioned nurse station, it is usually not possible to maintain visual contact to every patient room. A proactive alert solution gets the most important information into the nurse's hands during critical moments to better support their patient care workflow. The solution can also help to provide quicker assistance to patients prone to wandering, or patients who require close monitoring, such as those in the ICU.

People Flow Management

Hospitals are required to be accessible to the public, and as a result, unknown visitors can enter the premises at almost any time. With high volumes of people accessing medical facilities daily, real-time notifications are needed to better facilitate incident investigation, prevent unauthorized access to sensitive areas, and respond quickly to emergencies.

When integrated with the local access control system, Eizo's IP decoding solutions can take a more proactive role in protecting hospital grounds. With the Alert-to-Action function, the monitor can provide visual indicators if an unauthorized person enters a sensitive area such as a quarantined or sterile area, if door or window locks have been tampered with, or if unknown or suspicious persons have accessed the facilities or exhibited odd behavior. Specific examples include when someone enters an area that requires a badge swipe or access code, access credentials can automatically appear on screen, or when a surveillance camera detects tailgating, the monitor can automatically change its layout or add a visual indicator to the screen.

Prompt Alerts During an Emergency

Fire alarms and smoke detectors sometimes go off unintentionally due to exposure to aerosols, steam or dust. False alarms in a hospital cause deep disruption in patient service and must be urgently verified following hospital protocol before risking patient safety with unnecessary evacuation. Furthermore, fire and rescue crews en route to respond to the emergency can be promptly notified, saving valuable time and resources.

Integrating smoke detectors or fire alarms into the visual communication framework allows for quick and reliable verification of hazardous situations. When an emergency alarm is activated, an alert can be sent to Eizo's IP monitor or box solution from the detector that was triggered. A message or other visual indicator can be set to appear on the screen instantaneously so personnel can quickly investigate the location of the potential hazard. If the alarm was determined to have falsely been triggered patients do not need to be put at risk due to unnecessary relocation, and the hospital does not suffer lost staff hours caused by evacuation. Furthermore, fire and rescue crews en route to respond to the emergency can be promptly notified, saving valuable time and resources.

Customizable Event Response

Eizo's IP decoding solutions' web API supports custom integration with the local security systems and devices to allow communication with and response to alerts over the network. When an event occurs and an alert is sent from IP cameras, access control, hazard detection, VMS, or other systems, Eizo's solution responds with a preassigned action, such as layout adjustment, message display, audio activation, camera adjustment, masking, and more. Implementing an intelligent visual communication system into the workflow is a step forward in alleviating some of the pressures caused by a fast-paced, information-heavy environment for nurses, security personnel, and other hospital staff – the ultimate goal of which is to ensure optimal patient care and maintain safe premises.

Multiple triggers can initiate a change of priority information for nursing staff

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Eizo FDF2711W-IP – an IP decoding solution

The monitor displays video streams transmitted over a network without a computer. Neither software nor other hardware is required. In summary, it is simple to install, is low maintenance and saves time and effort.

- Connection of IP surveillance cameras and IP video streaming without a PC
- Powerful decoding technology for up to 48 streams
- Simple to make changes to settings and react to events via the web interface and API
- Live data is protected
- Supports ONVIF, Panasonic and Axis VAPIX camera protocols
- Supports RTSP control
- HDMI port for a second Full HD monitor

www.eizo.eu/security

PERIMETER PROTECTION

Sunny Outlook

Reliable Perimeter Protection Creates Higher Profitability

One of the six isolated solar parks in Portugal where the remote monitoring function of the SDC-M 48V DIN2 RS helps avoid false alarms and unnecessary, costly maintenance calls

Theft of solar modules is not uncommon these days. Reports of burglaries in solar parks and photovoltaic plants indicate that organized gangs are at work here. But high replacement costs and the failure of an entire plant because of minor defects or faults are a major problem for the operator. Critical mobile phone and power grid connections of the isolated solar parks are an additional risk factor. Alarm.direct, a service provider for security solutions, has specialized in solar park security in various European countries, Canada and the Dominican Republic, and has developed comprehensive concepts to protect against the theft of plant components such as copper cables, solar panels, inverters, against vandalism and the consequent operational failures.

One of several major projects was realized in Portugal in 2020/21. Six isolated solar parks (approx. 150 MW total output) have been secured with a complex perimeter solution designed by the installer: video surveillance systems buffered with Slat DC UPS, electronic rip wire fence surveillance and detectors for deterrence. The technical consulting, detailed planning and logistics were carried out by Nexonik, a distributor of security technology. The main objective was to meet the requirements of the property insurer, to reduce costs and to protect the isolated plant from unauthorized access. Solar production outages were to be prevented and profitability reliably maintained for investors.

Camera masts with high-resolution dome video cameras were installed at regular intervals along the solar farm fencing. For safety reasons and to guarantee continued operation even in the case of a power outage or micro power cut, each camera was also connected to a Slat micro UPS, type SDC-M 48V DIN2 RS. Besides the ultra-compact design, the special functional advantages of the SDC-M played an important role in its choice. These include the battery management system developed by Slat that uses lithium iron phosphate technology, which is considered the safest choice in terms of battery buffering. There is also no risk of thermal runaway, while deep discharge protection, 9 months storage without recharging and a special sustainability concept (10 years lifetime, lead and cadmium free and 100% recyclable) add to the desirable features.

The solar park perimeter video surveillance solution buffered by a Slat DC UPS ▶

Slat micro UPS SDC-M 48V DIN2 RS ensures reliable operation of the connected equipment in case of power outage and micro cuts ▶

Well Connected

Further features such as electromagnetic interference filtering, a constant voltage supply to the connected cameras with a variable adjustable output voltage (from -8% to +13) and self and environmental diagnostics capability brought additional benefits into play. The micro UPS's communication capability (Modbus and BACnet MS/TP) and a remote data readout via an RS-485 serial connection (system status, remaining backup time, internal temperature of the micro UPS, etc.) proved to be of particular benefit.

Via remote monitoring, it is possible to detect faulty conditions in good time and to avoid false alarms. Security guards are able to intervene in a timely manner in the event of a 'real' fault and do not have to go on site in the event of a false alarm – all important factors for saving time and costs. All in all, a solid and reliable solar park security concept was realized here, the success of which is due to the dedicated cooperation of all three team partners: alarm.direct, Nexonik and Slat.

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PTZ and Bullet Camera in a Single Unit

Hikvision has launched its new TandemVu PTZ camera range, which integrates PTZ and bullet camera capabilities into a single unit. The cameras can monitor large areas and zoom in on specific security incidents while maintaining focus on both 'viewpoints' simultaneously. These cameras eliminate the need to deploy separate PTZ and bullet cameras in pairs. The TandemVu technology features Hikvision's next-generation camera design, integrating multiple lenses in one unit to provide big picture and small details in tandem. The cameras offer a range of benefits vs. deploying stand-alone PTZ cameras, or pairs of PTZ and bullet cameras mounted together.

1. 100% coverage with no 'blind spots'

TandemVu PTZ cameras allow security teams to continue monitoring large areas with no interruptions, while simultaneously zooming in to monitor specific security incidents that occur. This ensures that there are never security blind spots related to PTZ zooming, tilting, or panning.

2. Extraordinary image performance

The cameras provide high-definition imaging with 2 x 4MP lenses and a super-wide view of 180°, with no image distortion. Specifically, its bullet unit features Hikvision's signature ColorVu technology, which provides crystal-clear, full-color imaging 24/7; while its PTZ unit employs Hikvision DarkFighter technology that enables excellent HD color images down to 0.0005 Lux.

3. Based on smart automation

Engineered with intelligent AI, the cameras are able to differentiate between real security threats and innocent moving objects such as falling leaves, heavy rain, or animals moving. They can also differentiate vehicles and people and use smart linkages to check on trespassers as they move within the PTZ coverage.

Customers can rely on more advanced security, thanks to its leading AI chipset that facilitates massive computing power.

4. Effective sound and light alarms

TandemVu PTZ cameras incorporate a Live-Guard solution using sound and light alarms that warn would-be trespassers before they enter a site or building. This can help to prevent security incidents, helping organizations to protect their people and assets.

5. More efficiency and cost savings

The cameras significantly reduce installation, configuration, and maintenance costs vs. separate PTZ and bullet cameras. Procurement costs compared to deploying PTZ and bullet cameras side-by-side is also reduced dramatically.

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SPECIAL FOCUS PUBLIC TRANSPORTATION

Public Transport Security 2022

An Update on Solutions for Public Transportation Security

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SPECIAL FOCUS

Two years ago, in the March 2020 issue of GIT SECURITY we took a look at some of the products and solutions on the market being supplied to secure public transport. It is time for an update to see what the latest technology now offers.

Some things just don't change: we wrote then about terrorists planning an attack, "If an AI system is fed with good information, it can analyze and predict much better than any team of people, no matter how large. And that is crucial to success in preventing such attacks – the gathering and input of good information. So the quality of video surveillance, movement analysis and system instructions is still going to decide how effective such an effort will be."

This is just as true today as two years ago, but in the meantime we generally just call all this input 'big data'. The level of artificial intelligence being built into components and systems has significantly increased, with the magic letters "AI" appearing in many product descriptions. So there is an increasing amount of assimilation and linking of data going on

in the background and all around us. This really has led to a welcome ability of the security forces to predict and be prepared for illegal/terrorist activity, with many

planned attacks thankfully being foiled before they could be carried out.

Machine learning and big data analysis work through the huge amounts of data
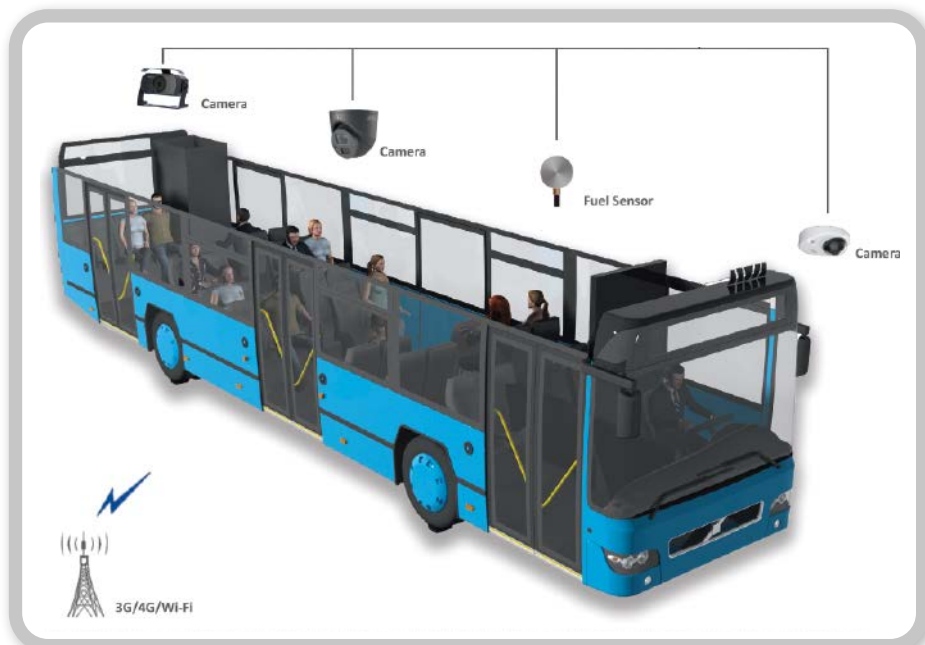
The mobility solution from Dahua combines security system information and operational parameters into a highly informative data stream ▶

Video-supported security and analytics for busses can be provided by solutions from Seon ▶

generated by biometrics, facial recognition, smart cameras, and other video surveillance systems. This can identify otherwise invisible patterns, correlations and trends that humans cannot see so that the appropriate measures can be taken by the responsible authorities to intervene before devious deeds can be done – predictive policing.

Ethical Dilemma

Although controversial in western countries (and even some cities in the US have banned it), predictive policing is being deployed widely in Asia. A survey by Deloitte entitled "Surveillance and Predictive Policing Through AI" has highlighted considerable differences in the tolerance of these technologies between regions. Both surveillance and predictive policing are considered intrusive in more privacy-aware regions such as the EU and North America. In Latin America and Asia, however, they are more acceptable.

There is evidently still some work to be done in gaining the trust of the general public that their privacy rights will be fully respected before the widespread introduction of AI-based security on public transport and in public spaces. In any event, this must be accompanied by strict procedures for the human follow-up of AI findings to avoid innocent people being the victim of over-eager algorithms, with the assimilated data kept as generic and environmental as possible, and not personal.

Video Surveillance in Vehicles

While airline pilots enjoy a securely locked 'driving compartment' and the name of everyone on board has already been established long before they sit down, the same cannot be said for bus drivers. They are in close proximity to passengers and unfortunately the butt of some people's frustration when things don't run to plan. A physical barrier can protect drivers to a large extent, while avoiding interaction by using contactless ticketing is a pro-active measure to minimize personal contact and to speed up boarding. Providing a microphone and panic buttons (concealed for drivers) will help to ensure their safety. Cameras installed throughout the vehicle – whether in a bus, a train or a tram carriage – can easily provide real-time images of any unusual situation for a central operations control room. From their wide-ranging product palette, Seon has already implemented video security and analytics in numerous public transport vehicles, in particular those ferrying schoolchildren every day. Streamax also have the products tailored to provide informative public transport video solutions.

With 5G mobile networks coming on stream in many towns and cities, transmitting high-quality video from a train/tram carriage or a bus has become relatively easy in urban environments, although solutions for rural transport still seem to be few and far between. This may change imminently as the LEO satellite networks attain complete geographic coverage. The transfer of IP video and other operational and performance data of vehicles or rolling stock back to HQ for analysis is provided by a plethora of companies these days. Add in signage, GPS location, passenger information apps and wi-fi to the mix, and public transport is truly buzzing with continuous data communication.

With an increasingly impressive international reference customer list, Teleste provides custom information and security solutions for road and rail public transport, while GMV offer comprehensive public transport solutions incorporating security, ticketing, tracking and information provision. Dahua Technology has established a strong reputation for itself as a video surveillance solutions provider, facing the challenge from an increasing number of terrorist attacks targeted at public transportation systems to bus accidents that happen because of driver fatigue, using a mobile phone while driving, speeding and other dangerous driving behavior.

Mind the Gap

The European Passengers' Federation (EPF) has highlighted a gap in the concept of video surveillance, namely that when an incident occurs and CCTV is being used to follow the perpetrator, there is no continuity between systems. Although a troublesome or criminal passenger can be clearly seen in, on and around public transport via a vehicle's cameras and those on platforms and station entrances, they can disappear into the crowd once out on the street. It is already possible to quickly share recorded video sequences with the police or other authority – Axis Communications is one company whose transport solutions provide such a facility – but the call is clearly for the intelligent 'handover' of tracking between different surveillance systems, something that AI should be able to realize.

Who is Driving?

An analysis of traffic accidents involving public transport vehicles has revealed that in many cases it was driver error, rather than a technical defect, that caused the crash. Overtired, inattentive or inebriated drivers can be detected by their driving behavior – sensors reporting via the CAN bus on speed, acceleration, braking and

◀ Not R2-D2, but K3, K5 or K7 from Knightscope will happily trundle around looking for trouble

© Knightscope

steering can provide the necessary data for AI systems to raise an alarm if necessary. Video analysis can detect closed eyes or other signs of sleepiness. The Russian Skytracking Transport Security Platform combines these into one platform that ultimately reduces accidents and injury. In cooperation with Cisco, the young Irish company Davra has implemented a multifunctional information system for the San Diego transport authority in California. It provides rich data with edge analytics and a two-way communication system that informs of related initiatives such as predictive maintenance, the security and safety environments, and a near-real-time display of alerts and notifications.

Sharing the Knowledge

As part of its ongoing commitment to making public transport safer, the International Association of Public Transport (UITP) is joining forces with the EU Safe Bus project, along with four other consortium partners. Safe Bus will bring to the table special security services in the public transport sector, ensuring that all transport providers have access to knowledge about transport safety and emergency procedures. The project will also introduce new training initiatives on the security of public bus transportation systems for both managers and bus drivers, enrich safety procedures and implement ready-to-use recommended solutions. The Transport Innovation Summit will provide an online platform to discuss the evolution in public transport from 6–8 April 2022.

All these aspects and others will also be the topics of discussion at IT-Trans 2022, taking place in Karlsruhe from 10–12 May. The exhibition is focused on IT solutions for public transport and will bring together around 270 exhibitors from 35 countries. The conference program running in parallel will present some 180 speakers over three days covering, amongst others, topics from artificial intelligence, big data, autonomous mobility, mobile ticketing, on-demand mobility, cyber security and data governance.

The Personal Touch

Although automatic systems – whether AI-supported or not – can take a great load off centralized operational staff, the action at the scene of a disturbance of any kind is taken by intervening boots on the ground. Those people – probably wearing high-visibility jackets – in fact do not just solve a problem but also passively contribute to customer satisfaction while using public transport. A number of studies have shown that the number one anxiety people have before using public transport is a lack of security personnel. These do not have to be police officers, but can also be appropriately trained security staff provided by private enterprises. Ciborius has specialized in providing security at bus and train stations, airports and ship terminals by training its staff in first aid – also with a defibrillator – bringing them to the fire protection and evacuation assistance certificate, the security specialist examination according to §34a of German trade law, unarmed self-defense and also de-escalation. They are also instructed in the use of self-defense equipment for specific purposes, including pepper spray, handcuffs and a telescopic baton.

For a much more passive but nevertheless reassuring presence, you could consider introducing the friendly little robots built by Knightscope. The K3, K5 and K7 models will wander around, always on the lookout for unusual situations, and provide deterrence, increased awareness with a conspicuous physical presence, and high-quality evidence to prosecute criminals. They're also quite cute!

Suppliers

Axis Communications
www.axis.com

Ciborius
www.ciborius-gruppe.de

Dahua Technology
www.dahuasecurity.com

Davra
www.davra.com

Deloitte
www.deloitte.com

European Passengers' Federation
www.epf.eu

GMV
www.gmv.com

International Association of Public
www.uitp.org

Transport (UITP)

IT-Trans
www.it-trans.org

Knightscope
www.knightscope.com

Seon
www.seon.com

Skytracking
www.skytracking.ru

Streamax
streamax.com

Teleste
www.teleste.com

Transport Innovation Online Summit
www.intelligenttransportconference.com

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Security Management

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