

Health, Safety & Security Review

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Middle East

INTERSEC 2022: CYBERSECURITY ON THE GLOBAL STAGE

INSIDE...

Industry leaders to gather at
MENA HSE Forum

Safety eyewear

Approaching fire safety in
Covid-secure buildings

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editor's note

Intersec makes a welcome return to Dubai this month, with cyber security and technology taking centre stage (p9). Our article on p26 highlights the critical role threat intelligence plays in the evolving cybersecurity landscape. We look forward to the MENA HSE Forum (p12) and report on a new initiative to promote industrial safety technologies through policy responses, advancing best practices and facilitating cross-sectoral collaboration (p24). We also examine the importance of taking fire safety into account when modifying buildings for Covid-19 security, (p18), and take a look at safety eyewear (p20). Happy New Year!

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Study recommends measures to protect employee wellbeing

Worker wellbeing

Too many digital meetings, increasing workload and a lack of social connection with colleagues have all enhanced the risk of health and wellbeing problems for remote workers during the Covid-19 pandemic, new research published by the Institution of Occupational Safety & Health (IOSH) reveals. While organisations did have employee support mechanisms on offer, there was often a lack of awareness of these and how to access them.

On the plus side, employees appreciated the greater flexibility offered by homeworking. Duncan Spencer, head of Advice and Practice at IOSH, said, “With some people continuing to work remotely while others have moved to a hybrid system as we continue to live with the pandemic, it is clear that more needs to be done to protect the health and wellbeing of workers.”

The study, which was conducted by Affinity Health at Work, an occupational health psychology consultancy, unveiled eight recommendations to protect employee health and wellbeing, to serve during this and any future pandemics, including senior management demonstrating their commitment to this area through regular communication, acting on feedback and sharing personal stories, and involving employees in job design and redesign.

Other recommendations are developing line managers’ skills around wellbeing, promoting an



Image Credit: Adobe Stock

Remote workers have suffered from digital overload and the lack of social connection with colleagues during the pandemic.

environment of social connection and trust, embedding wellbeing across the culture of an organisation and communicating it consistently and continually, conducting an internal wellbeing audit and monitoring organisational wellbeing.

Dr Jo Yarker, co-director of Affinity, said, “Our research shows that the priority concerns for staff change over time, and this demands that organisations regularly review workforce needs and continually develop their provision.

“As we move beyond the pandemic, organisations must prioritise good jobs and put the ‘work’ back into workplace wellbeing.”

The research can be viewed at [iosh.com/covidlearnings](https://www.iosh.com/covidlearnings)

New partnership for fire and emergency response

Emergency response

EDGE Group entity, JAHEZIYA, a single-stop service provider for defence solutions and emergency response services, has signed a MoU with Serco to further discussions regarding potential collaborative opportunities in the fire and emergency response services sector.

The partnership is expected to reinforce fire and emergency response services in the GCC region and provide a range of capabilities across multiple sectors including workforce and asset management, training, operations, transport and maintenance services.

Rupert Soames, CEO of Serco, said, “Having won awards for our International Fire Training Centre, we bring best practice, global expertise and new technologies to the Middle East and with the combination of skills, experience and knowledge provided by JAHEZIYA as a well-established, local organisation, together we will provide added value to our clients.”

Saudi ministry launches new health and safety initiative

HSE

The Saudi Ministry of Human Resources and Social Development has set up a new platform to help regulate occupational safety and health standards in the kingdom, according to a report in the Arab News. It is hoped that it will have a positive impact on productivity by reducing employee absence and mitigating the risk of work injuries. Through the platform, employees are able to report work accidents, thereby initiating investigation procedures, which would help to

protect employees from losses resulting from work accidents and injuries, as well as violations and legal claims, according to the Arab News report.

Minister of Human Resources and Social Development Ahmed Al-Rajhi said, “Among the scheme’s strategic objectives are the creation of a safe and attractive work environment, believing in a worker’s right to be protected from any danger that poses a threat to their safety or health, in application, and in compliance, with the

provisions of the national strategy for occupational health and safety.”

The platform is reported to be in line with international standards.

The initiative was announced at a conference in Riyadh, organised annually by the ministry to raise awareness about health and safety in the workplace. During the event, a memorandum of understanding was signed between the ministry and Umm Al-Qura University to establish a centre to broaden the ministry’s health and safety research.

stc and Nozomi Networks partner to deliver cyber security solutions for KSA

Cybersecurity

Nozomi Networks Inc., an operational technology (OT) and Internet of Things (IoT) security provider and stc, a digital enabler in MEA, have partnered to address the growing demand for security services in the region. The solutions are designed to address IoT and OT cybersecurity requirements for customers in industrial automation, manufacturing, healthcare, public safety systems, smart cities, utilities and building management systems (BMS) industries across the Kingdom of Saudi Arabia. stc Group will offer Nozomi Networks' advanced solutions for OT/IoT cyber resiliency and real-time network monitoring and visibility.

Nozomi Networks solutions are available through stc for clients who need detailed insights into their industrial networks. With Nozomi Networks, consumers gain asset discovery,



Senior executives from stc and Nozomi Networks at the launch event.

network visualisation, vulnerability assessment, risk monitoring and threat detection in a single solution. The technology accelerates security and aims to simplify IT/OT convergence by delivering actionable intelligence to the business and operational decision-makers.

According to Nozomi Networks, the company's solutions support more than 57 million devices in thousands of installations across energy, manufacturing, mining,

transportation, utilities, building automation, smart cities and critical infrastructure. Nozomi Networks products are now deployable onsite and in the cloud and span IT, OT and IoT to automate the hard work of inventorying, visualising and monitoring industrial control networks through the innovative use of artificial intelligence. Use cases stretch beyond cybersecurity and include troubleshooting, asset management and predictive maintenance.

Image Credit: Nozomi Networks

Jazeera Paints' fire-proofing paints now Intertek certified

Fire safety

Jazeera Paints, one of the leading paint manufacturers in the MENA region, has announced that its FIREDAMP W3, a high-quality, fire-proofing paint, has been issued the 'Clean Air Gold' certification by Intertek.

The multinational assurance, inspection, and product testing company has acknowledged the quality and eco-friendliness of FIREDAMP W3 paint as one of the first fire-proofing paints to be certified for MENA markets.

According to Jazeera Paints, fire-proofing paints aid in preventing the spread of fire and limiting its impact on buildings. The importance of fire-proofing paints stems from the building's security and safety.

Jazeera Paints also offers multi-surface compatible fire-proofing products such as FIREDAMP 263 for iron surfaces; Firewood 150, used on wooden surfaces; and FIRETECH, a fire-proofing paint advised for gypsum surfaces.

Abu Dhabi Joint Committee for Traffic Safety's awareness campaign

Road safety

As part of its continuous efforts to increase awareness of traffic safety, reduce road accidents, and decrease human and economic loss that come as a result, the Abu Dhabi Joint Committee for Traffic Safety has launched an awareness-raising campaign to enhance the perception of drivers and educate them on safe driving measures and alertness during fog. This campaign is part of a series of awareness campaigns carried out by the committee, aimed at improving

general road safety and societal well being.

The Joint Committee presided over by the Department of Municipalities and Transport, whose members include the general command of the Abu Dhabi Police, the Department of Health and the Integrated Transport Centre explained that the campaign includes broadcasting warning and awareness messages through social media and media channels to enhance drivers' awareness on the necessity of adhering to preventive measures and precautions of safe

driving during fog.

According to the joint committee, dense fog contributes as one of the major factors in causalities and road accidents, especially on highways. The campaign, which is set to be carried out over the course of two months, aims to spread awareness about basic driving safety measures such as complying with speed limits, maintaining sufficient distance and lane discipline. It also aims to enhance the concept of safety and security on the roads.

Alstom marks 2,000 days of APM system operation

Safety

Alstom UAE has received the Safety Achievement Certificate for the completion of 2,000 safe days, since the start of the passenger service in Feb 2016, by Dubai Airports Authority. This marks an important milestone for the Innovia automated people mover (APM) system at the Dubai International Airport.

The APM system was reopened for passenger service in June 2021 after a 15-month hiatus due to the Covid-19 pandemic. During this period, Alstom's Dubai APM Operations & Maintenance (O&M) team maintained the competency of the people and conducted preventive maintenance to keep the system safe and ready to operate as soon as the airport reopened.

"Safety is a very important pillar in everything we do, and is a critical aspect of operations that cannot be taken for granted," said Mohammed Khalfan, vice president, Airport Logistic and Airfield Engineering at Dubai Airport.

"As the leading transport and



Alstom's Innovia APM system at Dubai International Airport has consistently been a top performer.

mobility provider in the region, we aim to deliver the best-in-class safe and green mobility solutions to our customers," said Tamer Salama, Alstom managing director for the UAE and Qatar.

The turnkey APM system to connect Terminal 1 to Concourse D was completed in 2016 by Bombardier Transportation. Alstom took over management in January 2021, as a part of its acquisition of Bombardier Transportation.

Alstom's Innovia APM system at Dubai International Airport has consistently been a top performer and has successfully delivered 99.87% average system availability and 5.4 mn safe fleet kilometres. In addition, the project won MEED's 'Innovation and Transport Project of the Year Award' in 2017 and was declared 'Top Performer' among all the contractors at Dubai International under the Health and Safety Index in 2018.

Image Credit: Alstom

DEWA to host 19th safety week

Health

The Dubai Electricity and Water Authority (DEWA) has organised its 19th Internal Health and Safety Week to promote occupational health and safety among employees, customers, and partners.

It featured various activities such as awareness lectures, physical and virtual activities, and interactive competitions on occupational health and safety issues. It also introduced the latest fire protection technologies and health and safety measures in the utilities sector.

Saeed Mohammed Al Tayer, MD and CEO of DEWA, said of the event, "DEWA organises the Health and Safety Week annually to promote health and safety standards in all its projects and make its employees aware of the latest systems, developments and best practices in occupational health and safety."

"The event helps provide a healthy and safe environment according to the highest excellence and quality standards."

Huawei sponsors Cyber Security Salons Middle East 2021

Cybersecurity

The online Cyber Security Salons Middle East 2021 event brought together key regional industry experts and Huawei speakers in a panel discussion to explore cybersecurity challenges faced by organisations and explore opportunities for future collaboration.

Cyber Security Salons is a communication platform for stakeholders to meet and discuss cybersecurity policies and regulations, while providing the opportunity for regional and

global regulators to explore how they can collaborate on cyber defense. The global series aims to bring in new perspectives from academics, policymakers, key opinion leaders and other stakeholders from APAC, European and Middle Eastern regions.

Dr Jassim Haji, president of Artificial Intelligence Group, stressed on how Artificial Intelligence plays a vital role in cybersecurity, and that it won't just be people that solve these issues. With the world in the Zettabyte

era, criminals are already using AI, machine learning, and complex algorithms to carry out cyber-attacks. With AI becoming more autonomous, machines will play a greater role in tracking cyber threats. "AI is a necessity in the future," he said, with more tools emerging with no human supervision.

Huawei is a global entrusted ICT partner with leading cloud and cybersecurity expertise. It continues to collaborate with the industry across the region.



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→ events calendar 2022

January			
16-18	Intersec	DUBAI	www.intersec.ae.messefrankfurt.com
February			
13-16	Global HSE	MUSCAT	www.globalhse.org
March			
7-9	Middle East Energy	DUBAI	www.middleeast-energy.com
16-17	MENA HSE Forum	DUBAI	www.hse-forum.com
May			
17-19	Safety & Health Expo	LONDON	www.safety-health-expo.co.uk
17-19	IFSEC International	LONDON	www.ifsecglobal.com
17-19	FIREX International	LONDON	www.firex.co.uk

Please verify dates and location with organisers as this information can be subject to change

Global HSE 2022 to bring the HSE industry together

HSE

Global HSE 2022 will mark its 8th edition in the Sultanate of Oman, where HSE professionals from across the globe will converge to share their knowledge, for the enhancement of HSE practices. Taking place at the Oman Convention and Exhibition Centre from 13-16 February 2022, it will be held under the patronage of His Excellency Dr. Mohammed bin Hamad Al Rumhy, Minister of Energy and Minerals, Sultanate of Oman and will be jointly hosted by Oman Ministry of Energy and Minerals, PDO, Saudi Aramco & OPAL

Global HSE is an international cross-industry platform initiated and pioneered by a Governing council consisting of HSE thought leaders from all major industries around the globe. The conference is recognised for its breadth, expertise and extensive portfolio of strategic as well as technical sessions which advocate the role of HSE across the industries around the globe.

The conference is set to the theme of HSE Excellence – Leadership, Sustainability and Technology as the core components of the



Image Credit: Adobe Stock

The event will provide a forum to discuss HSE strategies.

show. It will have four parallel tracks focusing on Health, Safety, Environment & Sustainability, and Technology. The conference programme is being designed in cooperation with a Technical Committee comprising senior representatives from NOCs, IOCs and major industry operators of the MENA region.

The Global HSE exhibition will be the epicentre for global business leaders to challenge and explore advancements across the industry, providing an opportunity to engage with key decision makers and buyers. The event will provide a platform for NOCs, IOCs, government representatives, project owners, international service companies,

contractors, consultants, and investors to explore business, and maximise the potential opportunities in the HSE sector.

Together, the conference and exhibition promise to offer an inclusive and comprehensive gathering of the crème-de-la-crème of the HSE industry in the Sultanate of Oman.

“Oman, hosting Global HSE, offers a platform for HSE industry stakeholders to share, exchange and deliberate new ideas and innovations, leading to significant strategy formulation for implementation at the workplace,” said Dr. Hisham Al Siyabi, exploration director PDO and conference chair.

“Global HSE is devoted towards promotion and awareness about the HSE policies and technical literacy enabling the HSE industry to compete at the global level.

“Global HSE 2022 anticipates participation from 2000+ industry delegates, 200+ participating companies, 50+ countries over 10 industries and 7000+ attendees from across the globe.”

For further information see the website at www.globalhse.org

All eyes on Intersec

Intersec will return with an in-person event from 16-18 January 2022, with the event's 23rd edition gathering regional and international leaders.



Image Credit: Intersec

The industry keystone event Intersec has begun preparations for its 23rd edition from January 16-18, 2022. Industry leaders from across the fire safety, security, cybersecurity and technology sectors are set to return to the in-person edition of the flagship event, which is being held under the patronage of HH Sheikh Mansoor Bin Mohammed Bin Rashid Al Maktoum.

HH Sheikh Mansoor Bin Mohammed Bin Rashid Al Maktoum explained, "Intersec will be the most important platform of the year for businesses and governments to collaborate and

continue on their paths to building a sustainable, safer and more secure world for our generation and those that follow. We look forward to hosting our communities once again, safely, physically and live in-person."

2022's event will be staged under the theme of 'Uniting the world's leading industry specialists for the safety & security of future generations'.

Along with returning to an in-person format, the 23rd edition will feature an expanded three-day conference programme, with a focus on cybersecurity solutions. Elite international

"Intersec will be the most important platform of the year for businesses and governments to collaborate and continue on their paths to a sustainable, safer and more secure world."

HH Sheikh Mansoor Bin Mohammed Bin Rashid Al Maktoum

experts will participate in keystone panels, many of whom will be speaking in the Middle East for the first time.

Official partners for the event, which will be staged at the Dubai World Trade Center, include Dubai Police, Dubai Civil Defense, Security Industry Regulatory Agency, and Dubai Municipality. Additional government partners will be announced as the event draws nearer.

The emergency services, security, and safety event will mark its return with an elevated programme and never-before-seen additions putting

cybersecurity and technology at center stage.

With the innovation and technology focus on cybersecurity, the event will host its first-ever Cyber Lab, offering a vital and hands-on platform to learn about the latest revolutions in technology. Organiser Messe Frankfurt has worked closely with industry insiders from the private and public sector to develop an event that reflects current and future needs, and offers attendees bespoke platforms to gain expert insight on future capacity and capabilities.

Christine Davidson, Messe Frankfurt Middle East's Group exhibition director commented, "There has never been such an intense focus as there is today on the security and safety industry which has been at the frontline of protecting the world's communities over the last 18 months during this time of significant global disruption.

"Having invested heavily to deliver an outstanding programme that will address the sector's most vital issues and opportunities, Intersec 2022 brings the industry together at this crucial juncture to share knowledge from recent experiences and look to the future with the event's most powerful series of conferences including multiple platforms for strategic G2G, G2B and B2B discussions and deep dive sessions into key sector verticals."

Conferences running during the event will focus on six different industry-focused pillars.

The 'Global Security Leaders' Summit' will gather security industry stakeholders to discuss, debate, and exchange perspectives on global challenges, strategic initiatives, and cooperation to foster safety and security. Topics



Image Credit: Intersec

Intersec 2022 will return to an in-person format.

to be featured include responding to national shifts and crisis, the future of law enforcement, and leadership in civil defence.

'Protecting Future Connected Cities and Citizens' brings together global government representatives to communicate, share ideas and identify solutions for safe and resilient cities, discussing how cutting-edge technologies and best practices from around the world can be introduced. This summit will host case studies, demonstrations, insights on tools, principles of protective safety and more.

The 'Agile First Responders Conference' will reflect on the industry's most pressing issues, best practice, shared learnings, innovations, tactics and strategy for planning and preparation, operations and emergency response, resilience and business continuity planning and technical rescue. Speakers will also evaluate the industry's state-of-the-art technologies to protect lives and assets.

'Nexus Workshops' provides emergency responders with an

opportunity to set practical benchmarks and exchange knowledge on drills, policies, procedures and practical training before, during and after incident management.

'Safeguarding Critical Infrastructure' will identify potential threats to critical infrastructure, building security and smart construction. 11 critical infrastructure sectors have been identified across Dubai – this conference in particular will highlight defence, preparation and response strategies for each

different sector.

The 'Kingdom of Saudi Arabia Focus Day' will focus on the nation's mega projects, planning and strategy. Project leaders, government stakeholders and experts will share exclusive insights into the rising challenges and opportunities presented by the rapid expansion of the region's largest market.

On the expansive programme, Alex Nicholl, Messe Frankfurt Middle East's head of Intersec, commented, "For 22 years, Intersec has been renowned for being the only event in the region which brings the entire ecosystem of emergency services, security and safety together at one time. This elevated conference programme is a strong sign of our commitment to ensuring that those who attend derive clear value from the show, by having the ability to immerse themselves and contribute to conversations that will shape the future of the world and their respective industries.

"The industry is going through exponential rapid change, and

"This elevated conference programme is a strong sign of our commitment to ensuring that those who attend derive clear value from the show."

Alex Nicholl, Messe Frankfurt Middle East's head of Intersec.

Intersec 2022 is meeting the demand for knowledge sharing and presenting the most innovative solutions for the industry. We look forward to welcoming visitors and having them experience first-hand the immense work that has gone into making this edition the most compelling show yet."

Of the landmark speakers featured at Intersec 2022, the former chief of defense staff and head of British Armed Forces is taking to the stage as a headline speaker.

Sir Nick Carter served in Afghanistan, Bosnia, Germany, Iraq, Kosovo and is renowned for his extensive knowledge of the Middle East. Carter served as the head of the British Army from 2015, leading it through the Security and Defence Review in 2015. Intersec 2022 will mark his first time speaking since retiring from the military.

On his participation, Sir Nick Carter commented, "It is a pleasure to be invited to speak at Intersec, particularly during a time where our national interests

and multilateral relations are challenged by an increasingly complex geopolitical landscape. Having served in some of the region's most challenging environments, I look forward to sharing valuable insights and experiences at what promises to be a fascinating forum at Intersec 2022."

Alex Nicholl added, "We are absolutely delighted to have Sir Nick Carter at Intersec 2022. Without question he brings a unique set of insights, not just from a security perspective but in terms of multilateral political relations, defence strategy and the challenges of leading through some of the most extraordinary geopolitical moments in recent history."

Ethical hacker Freaky Clown (FC) will also speak for the first time in the Middle East, as a headline speaker.

The ethical hacker and social engineer will bring a unique perspective to the inaugural Cyber Security Lab conference, explaining how cyber criminals circumnavigate access controls,

how governments and organisations can identify weaknesses and how they can improve their security.

FC said of his appearance at the event, "At a time when governments, individuals and organisations the world over are experiencing a steep increase in cyber security threats, I am in a unique position to be able to share inside information on the very people that they are being attacked

"At a time when organisations are experiencing an increase in cyber security threats... Intersec... brings the industry's most important stakeholders together under one roof."

Freaky Clown, ethical hacker/social engineer.

by. I can help them become more aware, more secure and more capable of defending themselves and look forward to doing so at such a unique event like Intersec which brings the industry's most important stakeholders together under one roof."

The final headline speaker will be Sir Alex Younger, the ex-chief of MI6. Also speaking for the first time in the UAE, Younger will draw on his understanding of the security landscape afforded to him by almost 30 years in the United Kingdom's Secret Intelligence Service.

Sir Alex explained, "I am delighted to be speaking for the first time in the UAE at Intersec, and at a time when conversations for the Security and Safety industry have been thrust into the spotlight from recent global events.

"The Middle East has always fascinated me – the ever-shifting dynamics of geopolitics in the region and the impact they have internationally create a complex security landscape that I have been immersed in for much of my career. For this industry, Intersec offers the most valuable platform for knowledge exchange on the protection of citizens from existing and future threats."

Younger will be contributing to the 'Global Security Leaders' Summit'.

Alex Nicholl, Messe Frankfurt Middle East's Head of Intersec, concluded, "Intersec's commitment to bringing the brightest, most qualified experts to the stage in 2022 is at the forefront of our strategy to deliver the most relevant content for our audience." ❖

For further information on the upcoming event, see www.intersec.ae.messefrankfurt.com



A number of zones and summits will form a one-stop shop for industry insiders.

Image Credit: Intersec

MENA HSE Forum

Matthew Hayhoe reports on key themes and presentations awaiting industry stakeholders and leaders at the MENA Health, Safety & Environment Forum 2022, taking place in Dubai from 16-17 March 2022.



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16-17 March 2022

Five sessions currently form the event's key agenda

Session 1 will dissect 'The Role of HSE Leadership in a Post-Pandemic World', addressing the challenges faced by companies throughout the pandemic and ensuing recovery period.

The second session will tackle 'The Future of Digitalisation in the HSE Sector', analysing how cutting-edge technologies will influence the operational efficiency of the HSE landscape.

Session 3 will examine 'Process Safety and its Framework', examining new case studies which demonstrate the most effective approach to process safety management.

The fourth session will evaluate 'Learning from the Pandemic about Occupational Health and Behavioural Safety', identifying the key effects of Covid-19 and how to address the health and safety considerations.

Finally, Session 5 will promote 'Sustainable Value Creation: How ESG Moved from a Cost Centre to a Value Driver', reviewing the future of ESG reporting and understanding how holistic approaches with bespoke solutions can offer fundamental ESG infrastructure.

Speakers set to present at MENA HSE Forum 2022 include

“The Middle East’s leading HSE forum will tackle a wide range of subjects that serve as key landmarks for the future of the industrial sector.”

Industry leaders will convene for the Health, Safety & Environment Forum 2022, taking place in Dubai from 16-22 March, 2022. The MENA HSE Forum will mark the first in Dubai since the event returned to an in-person format in April 2021.

Saudi Aramco and ADNOC, among others, will deliver keynote presentations to over 200 HSE stakeholders from across the Middle East and North Africa, along with global industry.

The Middle East’s leading HSE forum will tackle a wide range of subjects that serve as key landmarks for the future of the industrial sector.

Attendees will get to know all the latest on upcoming HSE trends and critical new

technology, network with peers and industry partners, meet expert suppliers and industry bodies, and lay the groundwork to achieve the fundamental HSE targets that matter most to the region.

Leading partners featured at the event include ADNOC, Saudi Aramco, Petrofac, AMAALA and Dubai Holding.

Khushboo Narang, the conference producer, said, “This industry-leading conference will give unique access to expert analysis coupled with unrivalled business development opportunities in a brand new format, specifically designed to help the GCC’s most important organisations embrace and achieve a safe and sustainable future.”

Above: MENA HSE Forum 2022 will take place in Dubai.

Dr Essam Hassan, a senior environmental consultant for Gulf countries and the Middle East from the Egyptian Environmental Affairs Agency, Rob Cooling, the vice president of Health, Safety, Quality & Environment for Expo 2020 Dubai, Ghanim Kashwani, an academic researcher from New York University, and Tahir Azhibek, corporate HSE manager from ADNOC, amongst others.

Brian Maynard serves as the HSE director for AMAALA. AMAALA is an upcoming gigaproject, part of the Saudi Vision 2030.

AMAALA's HSE director will be contributing to MENA HSE Forum's second session, 'Future of Digitalisation in the HSE Sector', elaborating on how his team's approach embeds a range of digital technologies in its approach.

"So many projects and programmes don't have the opportunities or infrastructure within their own organisations to implement digital solutions. Honestly, this is my own belief, by automating health and safety, organisations can reduce their administrative burden by 40%," Maynard explained.

"We spend so much time filling out paperwork and forms, we don't give ourselves enough time to get out into the field and work with project managers and directors to focus on behaviours and relationships. These have the most significant impact on health and safety.

"I'll be looking at opportunities and ways to digitise companies' programmes, how to develop a strategy for digitalisation, all the while having a good understanding of their organisational needs and expectations."



The HSE Forum returned to a live format in April 2021.

The 4,000 sq km AMAALA development embeds HSE in its core, with Maynard explaining: "The emphasis on the section of the project that's not being developed, around 3,700 sq km, is around sustainability and environment, and maintaining that landscape."

The project's approach utilises a three-tiered structure, with Maynard elaborating, "We have a strategic section, which is me, and a tactical, comprising eight health and safety professionals. Those individuals are responsible for establishing various programmes – the ones putting the strategy and infrastructure into place. We're establishing the final tier – around 90% of the entire pyramid – which will be operational – the on-site section.

"We can build programmes and strategy, and have a direct link with their on-the-ground

implementation of them."

Maynard will dissect how companies can implement similar plans while utilising digital technologies to their fullest capability.

On the role of events and conferences such as MENA HSE, Maynard continued, "I've always been a strong advocate for events like these. These events in the

"These events allow all their speakers to spread the word... They allow health and safety leaders to showcase their level of expertise and knowledge, and help foster a regional health and safety landscape."

Brian Maynard, HSE director at AMAALA.

Middle East are in their infancy, they're still maturing and growing, along with the region's culture for health, safety and environment.

"These events allow all their speakers to spread the word – not just the companies – the industries, the countries and regions. They allow health and safety leaders from all over to showcase their level of expertise and knowledge.

"Finally, they help foster a regional health and safety landscape, which is so important. At AMAALA, we have a mandate that a large percentage of our health and safety positions will be fulfilled by local operators and junior staff. We're putting in place programmes to get junior Saudi professionals into operational positions, train them up over the next three to five years, so they're the future leaders of tomorrow."

In guiding the next cornerstones of industry discussion, Brian explained, “Leading into the question ‘What’s next?’, I think Covid forced us to identify our vulnerabilities. I think it’s going to show up companies’ resilience. It’s tested companies to the point of making future preparation for incidents so key.”

Saleh Ali Albalushi, the HSE director for Dubai Holding, will also be attending the event and presenting his thoughts on the current and future HSE landscape. Albalushi will draw upon his experience of handling HSE within a diverse 10-property-strong portfolio to contribute to the event’s first session, ‘Role of HSE Leadership in the Post-Pandemic World’.

When questioned on how important HSE leadership has become to Dubai Holding’s operations, Albalushi responded, “When it comes to Dubai Holding’s HSE framework as a group, it is a fundamental part of our operations and the Dubai Vision. We’ve established a management system for HSE, and all our HSE policies are signed off by the CEO – it’s an A-to-Z approach.

“Our mandate and corporate requirement procedures are implemented all across our operations, it’s very holistic and relevant to the day-to-day business, starting from the construction phases of projects all the way through to asset management.”

Along with dissecting his company’s approach to HSE, Saleh Ali Albalushi hopes to move the conversation on from Covid-19 at the forum.

“I believe that the industry understands Covid-19’s impact. It



Industry stakeholders will gather once again at 2022’s MENA HSE Forum.

has understood the requirements of rising to the challenges of Covid-19. We are beginning to talk about ‘post-Covid’, and we are going to share, in principle, details about HSE processes and open innovative discussions beyond Covid-19.”

In terms of looking ahead at the future, the HSE director continued, “I could see many companies embedding HSE, not just for operational or corporate reasons, but because HSE is evolving. It’s become a key part of crisis management in light of the pandemic. It’s a key part of business continuity management. Discussions and forums like this will help drive the importance of HSE to businesses.”

Albalushi will discuss the benefits of a holistic approach to HSE framework, conveying the importance of an all-encompassing approach to

matters of health, safety, and environment.

“On our projects, operations and management of buildings, from A-to-Z, we ensure the safety aspect for the public and ensure everyone who works in, lives in and visits our buildings, industrial cities and projects are safe and protected. We also ensure safety of the asset and the reputation of others.

“HSE is evolving. It’s become a key part of crisis management... business continuity management... forums like this will help drive the importance of HSE to businesses.”

Saleh Ali Albalushi, HSE director at Dubai Holding Group.

“We do this by demanding compliance from consultants and contractors – companies that work with us must abide by our requirements.

“This all-encompassing approach needs to be reflected in companies’ HSE framework. It needs to be reflected among attendees and panelists. It needs to be reflected within companies’ HSE frameworks. Members from human capital, finance, and corporate executives sit on our crisis management committee. All departments must start to realise how important this function is in adding value to the business and wider economy.”

“We need to talk about how this can be achieved moving forward, and we look forward to doing so at MENA HSE.” ♦

Attendees can register for the HSE Forum at www.hse-forum.com/mena

Managing risk

Duncan Higham, CEO of Remote Medical International, examines the current landscape and outlines the potential benefits of a rigorous medical and security risk management approach.

In a world of rising risks and a constantly innovating landscape of risk management techniques, assessing, securing and managing risks on projects is becoming all the more essential. The CEO of smart workplace health and safety solution provider Remote Medical International, Duncan Higham, has utilised his experience of risk management to analyse the benefits that a comprehensive approach can afford businesses.

Third-party risk management

Programme managers and risk managers know the benefits of applying risk management to

projects. Developing effective risk management plans helps companies avoid high-risk issues and preventing financial and time losses. These plans are critical in industries using heavy equipment such as mining, construction, and significant infrastructure projects.

In some cases, outsourcing risk management to an expert company makes the most sense. For example, security and medical risk management – both are important areas to protect – medical plans can save lives, and security plans may protect expensive and requisite equipment and facilities.

Third-party experts analyse the risks where the project will occur and make recommendations for the best approaches. For security, they may conduct local reconnaissance, complete a situation analysis, liaise with local medical teams, police, first responders, government officials, and the military. As part of the assessment, they evaluate medical facilities, identify their emergency response protocols, and locate the best resources for medical support, locally and regionally. Furthermore, these experts vet additional support resources. The experts will report their findings and make recommendations to

In a world of rising risks and a constantly innovating risk management landscape, assessing, securing and managing risks is becoming all the more essential.



RIGHT: Covid-19 has exacerbated the need for rigorous risk management.

mitigate issues and enhance security, proactively protect the health and safety of employees, and facilitate emergency medical support.

Medical risk management is closely related to security risk management. Both are focused on keeping employees safe and healthy. Suppose there is a high risk of a medical incident, such as an equipment failure or accident. In that case, medical risk management can help companies prepare with on-site medical help and quick and effective medical evacuations.

Companies using heavy equipment on job sites operate in a medium to high-risk environment. There is a significant increase in the potential for a catastrophic failure when heavy equipment is in use. In construction-related industries, cranes may tip, loads fall, or supporting infrastructure fail. Heavy blades, massive trucks, extreme heights, and conditions pose unique threats in the renewable segment. All these examples – and others – can cause serious injury and death to large numbers of people almost instantaneously.

According to OSHA, there are four primary causes of death and injury to construction workers. The ‘fatal four’ accident causes include:

1. **Falls:** Falls from a height or off construction equipment accounted for 38.7% of deaths.
2. **Struck by an object:** 9.4% of workers suffered fatal injuries after being hit by an object on a construction site.
3. **Electrocutions:** Electrical accidents account for 8.3% of construction worker deaths.
4. **Caught in-between:** 7.3% of American construction workers



Image Credit: Remote Medical International

Industrial projects require a unique approach to risk management.

died after being caught between construction machinery components or materials.

OSHA investigations reported that most accidents involving heavy equipment operations are preventable. While an increased focus on these issues resulted in a drop in fatalities, constant awareness and preparation is essential.

Benefits of planning

Including medical and security risk management during the planning phase of a project can have many benefits.

“Constant awareness and preparation is essential. Including medical and security risk management during the planning phase of a project can have many benefits.”

Duncan Higham, CEO of Remote Medical International.

- **Low reportable incident rates:** Risk management plans help companies avoid incidents as much as possible and develop the appropriate response when they occur.
- **Improve health outcomes:** Preparation and training ensure that on-site medics treat emergencies immediately, stabilise patients, and evacuate them quickly and safely.
- **Protects assets:** Adequate and properly trained security teams discourage and prevent theft and sabotage, which helps keep project costs in line.
- **Aid in recruitment and retention:** The inclusion of a structured plan for employee safety communicates that a company cares for its employees.
- **Improves business reputation:** Taking a proactive approach to health, safety, and security demonstrates business acumen and allows a company to minimize risk while adhering to schedules and budgets.

Cost of planning

Some companies do not consider

security and medical risk management until they win a contract. Taking action early, however, and budgeting to incorporate these costs into the project, can be advantageous.

The level of security required impacts the budget. For example, armed guards or armoured vehicles may be needed if the project is in a high-risk area. These costs can add up over time, especially if they are unanticipated. The same is valid for medical evacuations. Proper planning ensures that the handling of any incident is efficient and as cost-effective as possible. When someone is injured, the financial and reputational costs can often exceed the costs to conduct security and medical risk management analyses before starting a project. Working with an external expert to complete an assessment before the project begins is critical.

Duncan Higham founded SSI Risk Management in 2012, retaining his position as CEO when it was acquired by Remote Medical International. ❖



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Fire safety in the age of Covid-19

“Commercial building owners are having to think about how they are using their space to keep employees and the public safe.”

Ashraf Yehia, managing director of Eaton Middle East.

Covid-19 safety precautions may not be conducive to fire safety.



Image Credit: Adobe Stock

When the pandemic heightened the necessity for safety compliance in 2020, businesses had one task on their agenda: ensure the safety of workers and site visitors in the age of Covid-19. Since then, organisations have adapted their approach to safety measures to comply with Covid-19 restrictions and security and fire safety regulations.

Eaton Corporation enlisted its managing director for Eaton Middle East, Ashraf Yehia, to examine the landscape of building security in the age of Covid-19, and the risks and rewards that are rising from infrastructure changes and additions.

“Commercial building owners are having to think about how they are using their space to keep employees and the public safe,” explained Yehia.

“At least for the short and possibly medium or long term, we are having to plan how social distancing will work in practice. For many, this means we need to change both the layout and how people move through the space.”

The representative from the electrical and industrial solutions provider highlighted the caution that businesses must continue to exercise when preparing buildings for Covid-19 security.

Risk arises when measures are not examined holistically, examining their effect on not just

Covid-19 safety, but fire risk, health and safety, and security.

“Most regulatory bodies state that if you make an alteration to the property then you must reassess your current fire risk assessment. As a result of building layout changes, including many temporary internal and external structures such as protective barriers and screens, you need to think about fire detection and alarm, exit signage and emergency lighting layout,” continued Yehia.

There is increased risk when changes are not being assessed for fire safety.

“At the moment, changes are happening so that we can minimise the risk of Covid-19,

but unfortunately, while the steps we take may achieve this, in some cases we are increasing the risk from another hazard – fire.

“It’s a serious risk for the people inside the building and also for the owners who don’t consider it. There have been many high-profile cases of company owners or building managers facing large fines and, in extreme cases, even imprisonment for failures in meeting basic fire safety requirements or because of a lack of fire safety planning.”

Infrastructure introduced to help in the fight against Covid-19 may be unfavourable in securing buildings against fire risks.

Yehia continued, “When you stop and think about it, a lot of the measures put in place to protect us against Covid-19 will affect fire safety.”

A key impact of pandemic-related measures will be on the safety of fire exits and escapes.

“Take a look at retail and hospitality outlets, for example. Most have organised one-way traffic through their premises either with arrows showing the direction of travel or, in some cases, by blocking off passages with barriers, rope or tape. If there is an emergency where the building needs evacuating, this could lead to doubt and confusion and may even prevent people from easily making their way to emergency exits.

“This will have implications for emergency lighting and exit signage – some of which may now be in the wrong place for simple and safe evacuation. Organisations should check that there are fire extinguishers on each of these new escape routes.”

Another risk arising from social distancing and sanitary



Image Credit: Adobe Stock

Covid-19 safety measures must be assessed in line with fire safety regulations.

measures is the risk of segregated people not being aware of fire alarms or escapes.

“If you are constructing new rooms, partitioning off areas or changing the layout to segregate people, you need to check that there are fire detectors installed in each new space and that people can hear and/or see fire alarms when they are in them, and that they are still compliant.

“Some of these partitions will also cause a fire safety hazard – whether it’s because they create a tunnel that funnels smoke, or, in many cases, because they are plastic, would create a lot of smoke if there was a fire. Some partitions may alter effectiveness of sprinkler systems.”

“Going back to the retail outlet example, checkout areas are partitioned off with a temporary structure of wood and clear plastic. These checkouts are generally near the exits – if a fire broke out, then you could potentially be blocking or inhibiting one route of evacuation, and if this structure

were to catch fire, it would create thick and toxic smoke.”

Safety measures introduced when the pandemic struck ought to be reviewed in line with risk assessments for all types of organisation security risks.

“While we need to implement many of these measures as we return to work, it is still our duty to consider all the risks that employees and the public may face in the spaces that we are

responsible for.

“It means that we may need to adapt or change our fire safety systems so that we can mitigate the risk. It may also lead us to consider the choices we make. For example, we might reevaluate what materials we use for partitions.”

“A well-designed fire safety system will have 20% extra capacity and allow some flexibility, but most do not, and those that do will not have considered the extent of change we need to make to our buildings.”

Concluding, Yehia summarised, “For new build and refurbishment projects, it is sensible to plan fire systems with flexibility in mind. It is increasingly likely that we will need to make buildings more flexible and change their use and layout in the future.

“If we continue to make buildings more adaptable and modular, we need to do the same with all the elements of a fire safety system.” ♦

“It is sensible to plan fire systems with flexibility in mind... if we continue to make buildings more adaptable and modular, we need to do the same with the elements of a fire safety system.”

Ashraf Yehia, managing director of Eaton Middle East.

Safety eyewear is a must where there are hazards which could cause damage to the eyes.

The importance of safety eyewear

Safety eyewear plays a critical role in protecting workers against hazards which can cause damage to their eyes, or even blindness.

In many workplace settings, workers are exposed to hazards which could cause temporary or permanent damage to their eyes. Some may even result in partial or complete blindness. While some injuries are immediately apparent, others may build up over time, such as exposure to UV rays from the sun. This is one of the biggest risks to the eyes, and can cause blindness.

Hazards range from flying objects and debris, eg. on a construction site, dust particles from cutting, grinding or machining, arc flash, sparks and splashes from molten metal, for example when welding, as well as dangers posed from harmful

substances such as chemicals, gases and acids. Such hazards can be defined as follows, according to JSP Safety and uvex safety:

- **Mechanical hazards:** This is where foreign bodies get into the eye, which can lead to injuries to the cornea. These include high speed particles, debris or dust, splinters from various materials, wood and metal shavings etc.
- **Workplace environments:** welding, forestry work, woodworking, factories, construction sites
- **Optical hazards:** Optical hazards include all types of light irradiation such as ultraviolet radiation, infrared radiation, lasers and welding arcs.

“While some injuries are immediately apparent, others may build up over time.”

Workplace environments: welding, laser treatment, working under black light/LED light, outdoor work

- **Chemical hazards:** Chemicals can cause permanent damage to the eyes. Chemical hazards include vapours, smoke, acids, solvents and other solid, liquid and gaseous substances.
- **Workplace environments:** laboratories, fire brigade, agriculture, chemical production and supply
- **Thermal hazards:** Thermal hazards refer to operations where there is a risk from molten metal splashes, hot particles and sparks. On the other hand, when liquid gases, infrared radiation or too much

Image Credit: Adobe Stock

cold acts upon the eye it can cause dryness or frostbite symptoms on the cornea.

Workplace environments:

refrigerated warehouses, working in cold weather conditions, fire brigade, welding, foundry work, garages

- **Biological hazards:** These include bacteria, viruses, fungi and spores.

Workplace environments:

laboratories, hospitals, disease control, gardeners

- **Electrical hazards:** Electric arcs may be produced during a short circuit, discharging particles at extremely high temperatures which can land in the eyes or face.

Workplace environments:

electronic engineers, industrial electrical industry, road construction.

Employers have an obligation to keep workers safe and to provide them with suitable PPE to reduce the risk of injury. Depending on the specific hazard(s) in the workplace, or posed by a particular task, the employer must also decide what type of eye protection is appropriate, by carrying out a full risk assessment. Sometimes the eyewear may be required to protect against a combination of hazards; for example an outdoor construction worker may require eyewear that protects against UV radiation as well as impact.

Types of safety eyewear

Safety spectacles – these are eye protectors for general use against low energy impact risks, such as flying objects and debris. Some also offer protection against ultraviolet and solar radiation, and glare.

Goggles – these tightly enclose the eye area, providing a protective seal, offering protection against particles, liquid droplets, and gases. They are suitable for dusty environments and against a risk of droplets when spraying hazardous liquids. They protect against eye hazards such as flying debris including metal, concrete, dust, or wood, and are

suitable for regular use of chemicals both liquids and gases, activities that involve the use of devices emitting radiation such as laser, ultraviolet, infrared, and ultraviolet, and medical departments dealing with blood-borne pathogens.

Faceshields / visors – these can be mounted on a browguard or helmet. With the maximum impact resistance and facial coverage, faceshields offer protection against high energy impacts, liquid splash, infectious materials, and sparks or other hot solids. Welding face shields are specifically constructed from tinted glass

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or auto-darkening surface to protect the wearer.

Welding helmets – these fit over safety glasses or goggles and protect the wearer from intense light from welding, sparks, and splashes of molten metal. They may have clear or tinted lenses.

Safety goggles and glasses, including the lenses, are generally made from scratch and impact-resistant polycarbonate, or acetate when the focus is on splash protection.

When safety eyewear is used in combination with other PPE, such as safety helmets, care should be taken to ensure compatibility. Increasingly, there is a demand for integrated head and face protection. Examples are JSP's EVO® VISTAshield® and EVO® VISTAlens® next generation safety helmets, which both incorporate fully retractable optical class 1 eye protection. EVO® VISTAshield® incorporates a fully retractable optical class 1 integrated faceshield offering A-rated impact protection. It conforms to EN166.1.AT. While the EVO® VISTAlens® incorporates a fully retractable optical class 1 integrated overspec, offering impact

“As with any other item of PPE, comfort is key in ensuring worker acceptance and compliance.”

protection even at extreme temperatures, conforming to EN155.1.FT. Both products have anti-mist and anti-scratch coatings and provide UV protection.

Eye safety facts and figures

- ❖ In the USA, eye injuries alone cost more than US\$300mn per year in lost production time, medical expenses and worker compensation, according to OSHA
- ❖ Around three out of every five workers experiencing eye injuries in the USA were either not wearing eye protection at the time of the accident, or wearing the wrong kind of eye protection for the job, according to the BLS
- ❖ Around 2,500 people injure their eyes at work each year in the UK
- ❖ As reported by JSP Safety, 50% of construction workers will suffer a serious eye injury during their career, including injuries and conditions such as impacts and burns
- ❖ According to Bollé Safety, the most common cause of eye injuries are flying particles (pieces of wood, metal, glass, concrete); tools; dust; chemicals (spray and fumes); radiation, in particular ultraviolets, heat or infrared radiation and lasers; and pathogens (transmitted by blood or body fluids)
- ❖ Most common reasons why workers fail to wear eye protection is lack of comfort and adjustability; fogging; scratches on the lenses (Bollé Safety)
- ❖ 90% of eye injuries could be avoided or reduced by wearing suitable eye protection (Safety & Health Practitioner)

Another example is Honeywell's North Primair 900 (PA900) Series Headgear, an ergonomic and light-weight all-in-one eye, face, head and respiratory safety solution, which includes an anti-fog and anti-scratch visor.

Safety eyewear can provide a range of technical and ergonomic features designed to improve performance and comfort, such as anti-mist and anti-scratch coatings. If there is danger of exposure to harmful optical radiation, eye and face protection should be selected in an appropriate shade to protect against the specific form of harmful light (infrared, ultraviolet or blue light).

As with any other item of PPE, comfort is key in ensuring worker acceptance and compliance. This is a focus of Uvex's new i-range of safety spectacles. The ear and nose pieces are non-slip and adapt perfectly to any facial shape thanks to Softflex zones – soft plastic connectors that are gentle on the skin – and flexible side arms. The use of soft, non-slip

plastic at points of contact between spectacles and skin means that pressure points on the forehead and nose are prevented, even after long periods of use.

Safety eyewear standards

The general EU standard for safety eyewear is EN166:2001, which specifies the minimum requirements for a range of performance tests relating to field of vision, heat and ignition and corrosion resistance, resistance to UV light, optical transmission and diffusion, and robustness. It is supported by EN167:2001 and EN168:2001 which specify the optical and non-optical test methods. For more specific tasks, or increased exposure, eyewear that complies with further standards will be required; for example EN175:1997 relates to eye and face protection during welding and allied processes.

The standard species the various letters and numbers on the lens and frame which denote the level of protection and field of use. Optical class is marked by a 1, 2 or 3 – 1, the highest rating,

is for permanent, long-term use, while optical class 3 is only for short-term use. Lens shade and light transmission are also denoted by a series of numbers. Impact protection is marked by a letter (A, B, F or S), and if followed by 'T' indicates it satisfies the requirements for extremes of temperature. Field of use is denoted by a single, separate number; 3 (protects against liquid droplets/splashes); 4 (protects against large dust particles); 5 (protects against gas and fine dust particles); 8 (protects against short circuit electrical arc); and 9 (protects against molten metals and hot solids). ❖

For further information see:
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Preventing legionella formation in wet dust collectors

Rösler has developed an automated dosing system which prevents legionella infestation in wet dust collectors, and is an economical and effective alternative to conducting regular, time-consuming and costly controls.

The process water in cooling towers and evaporation cooling systems is an ideal breeding ground for legionella and other microorganisms. The same is true for wet dust collectors used for neutralising the explosive dust created during shot blasting operations with work pieces made from aluminium and other non-ferrous metals. Since in all these systems the water is sprayed, aerosols containing legionella can contaminate the environment around the equipment and become a health hazard for the personnel working nearby.

For this reason, the authorities in various countries have imposed comprehensive and strict obligations regarding the operation of such systems. For example, in Germany their operation must be reported to the authorities, and the process water must be analysed by an approved test lab during the startup phase.

Some regulations also demand maintaining an operating log, in which the results of regular microbiological tests for the presence of legionella are documented. Operators not complying with the various legal requirements face substantial financial penalties imposed by the respective authorities.

The penalties can be easily avoided if the operators establish



In conjunction with a specially developed additive, the dosing unit RDS-pH10 consistently maintains the pH value of the process water above a value of 10, preventing the formation of legionella.

specific technical conditions. All that is required is maintaining a pH value of 10 or higher in their process water, which prevents the formation of legionella.

For this purpose, Rösler has developed the dosing unit RDS-pH 10 and special additive RST-P1. The dosing unit, in combination with the special additive, automatically maintains the pH value of the process water in the required alkaline range above a level of 10. It is equipped

with a measuring device that continuously monitors the pH value. As soon as the pH level falls below 10, a certain amount of additive is injected to increase the pH value. This prevents the formation of legionella consistently and reliably. The measured values are transferred from the dosing unit to a USB memory drive. The data can then be easily analysed and visualised with a special Excel tool.

This procedure completely eliminates the need for creating any additional documentation. The dosing unit can be connected as stand-alone system to practically any wet dust collector, regardless of the manufacturer.

The system has been used to good effect by GSB Aluminium GmbH, which operates a wet dust collector to neutralise explosive dust. The company was replacing the process water in the dust collector on a weekly basis to prevent the formation of legionella. Following the installation of the dosing system, the company was no longer required to implement time-consuming and costly controls, and in the 18 months since installation, the process water has not had to be replaced once, since the pH value of the water is kept constantly above 10. The company has since purchased a second unit from Rösler. ♦

“Aerosols containing legionella can contaminate the environment around the equipment and become a health hazard for the personnel working nearby.”

Promoting future industrial safety

A new global initiative to promote industrial safety technologies was announced at the 4th Global Manufacturing and Industrialisation Summit (GMIS) in Dubai.

“Sharing knowledge and expertise, innovative approaches and technologically-driven solutions are critical to enable secure industrial safety globally.”

Bernardo Calzadilla-Sarmiento, UNIDO managing director, Directorate of Digitalization, Technology & Agribusiness.

Launched by GMIS in partnership with Lloyd’s Register Foundation and the United Nations Industrial Development Organization (UNIDO), the ‘Global Initiative for Future Industrial Safety’ is a collaborative platform that will promote industrial safety technologies through policy responses, advancing best practices and facilitating cross-sectoral collaboration. It will bring together a global coalition of stakeholders – policymakers, manufacturers and innovators – that puts safety at the heart of Fourth Industrial Revolution developments and aims to make the world a safer place by developing tools and resources to advance safety capabilities in the manufacturing sector.

This initiative, a continuation of the ongoing relationship between Lloyd’s Register

Foundation, GMIS and UNIDO, was supported by the University of Cambridge, which facilitated the implementation of the project scope through working groups with industrial safety experts. Together, the three partners aim to build global consensus on universal safety standards, guidelines and trainings, in addition to promoting the latest cutting-edge safety technologies and industrial innovations.

Bernardo Calzadilla-Sarmiento, UNIDO managing director, Directorate of Digitalization, Technology and Agri-Business, said, “Innovation is happening at a rapid pace, which means disruption not only surpasses safety but produces uncertainty. Sharing knowledge and expertise, innovative approaches and technologically-driven solutions are critical to enable secure

industrial safety globally.

“Adopted at local, national, regional and international levels, this newly emerging industrial safety paradigm will be decisive in addressing industrial safety and security risks, ensuring high productivity and efficiency of enterprises and preventing devastating disruptions, while boosting competitiveness and impacting economies and societies at large. We are delighted to launch the Global Initiative for Industrial Safety as it carries a promise for developing universal standards and state-of-the-art capabilities necessary to reinforce the safety of the workforce against rapid industrial technological advancements.”

Overlooked aspect

Industrial safety and security is an important but often overlooked

Technologies such as AI, Internet of Things (IoT) and robotics bring new safety challenges.



Image Credit: Adobe Stock

aspect of pursuing the 2030 Agenda for Sustainable Development. At the same time, as technologies and human-machine interactions become more complex with hyper-connectivity of businesses resulting in industry-wide transformations, the need to establish productive discussion platforms in the global manufacturing sector comes to the forefront.

Through the organisation of international conferences, a specialised webinar series and technical assistance projects, UNIDO has accumulated expertise from governments, regulatory institutions and committees responsible for industrial safety; international organisations; academia and the private sector, which led to the formulation of essential concepts and best practices for ensuring safety and security. Depicting

major trends that encompass a broad spectrum of organisational aspects, technological safety and implications for cybersecurity in light of the COVID-19 pandemic, UNIDO and its partners will work towards encouraging a wider adoption of industrial safety practices that help overcome challenges and

“The initiative will act as an international platform to tackle new potential safety challenges brought as a result of emerging technologies.”

generate opportunities in developing and least developed countries, while promoting the introduction of new technologies into the workplace within the context of the Fourth Industrial Revolution (4IR).

Against this backdrop, the Global Initiative for Future Industrial Safety will act as an international platform to tackle new potential safety challenges brought as a result of emerging technologies such as artificial intelligence, Internet of Things (IoT) and robotics, fill gaps in safety-related knowledge and awareness, tackle issues of transparency and openness in the industrial landscape, and gather new safety insights for business leaders and policy makers.

The initiative will also ensure that emerging technology tools and solutions are adopted by industries safely through its three focus areas. The first is set to facilitate new evidence, insights and thought leadership; the second vouches to disseminate awareness and recognition; whilst the third aims to offer resources to convene communities of practice.

Dr. Ruth Bounphrey, director of Research & Strategic Programmes for Lloyd's Register Foundation said, “The launch of the Global Initiative for Industrial Safety is a continuation of a fruitful and dynamic relationship with GMIS, which initially began in 2019 to explore the safety-related challenges posed by the Fourth Industrial Revolution. Over the past few years, the Foundation has identified an urgent need for cross-disciplinary research and collaboration to develop possible actions and interventions to increase industrial resilience.

“Currently, 7,500 people die

from unsafe working conditions every day globally, whilst 1,000 die from occupational accidents and an additional 6,500 from work related diseases, together representing 5-7% of deaths globally. The data demonstrates a need for closer attention to potential hazards at industrial sites and a more thorough global approach, encompassing all nations. The Global Initiative for Future Industrial Safety holds great potential to shape the future of health and safety for manufacturers worldwide.”

The Initiative was announced at the press conference that was held at the fourth edition of the Summit. The announcement was further explored in a session titled ‘Navigating Health and Safety in Cyber-Physical Environment’, which opened a discussion regarding stakeholder responsibilities to fill safety gaps in the manufacturing industry and challenge global disparities in the occurrence of workplace accidents and fatalities.

Badr Al Olama, head of the Organising Committee of the Global Manufacturing and Industrialisation Summit, said, “As the world’s first cross-sectoral and cross-functional platform to support industrialisation, innovation and technology, GMIS has strong ambitions to facilitate the development of safety technologies for all. The ambitious co-development of the Global Initiative for Industrial Safety will lead the way for more resilient capabilities together with our partners and global organisations. The future of global industrial safety starts with shaping the policy responses of tomorrow, owing to cutting-edge manufacturing capabilities and refined best practices.” ♦

The importance of threat intelligence

Threat intelligence is as critical to success on the cyber battlefield as it was on the battlefield in the time of Sun Tzu, says Firas Ghanem, regional director – Middle East & Pakistan at ThreatQuotient.



Image Credit: Adobe Stock

Military general and philosopher Sun Tzu once led the largest armies in the world and authored *The Art of War*, still considered a masterpiece of tactical warfare, and very relevant as we wage our battles against evolving cyberattacks. That's because even though threat intelligence is a relatively new discipline in our cyber defence processes, it has actually been around for more than 2,500 years.

Threat intelligence was central

to Sun Tzu's winning strategies, and it is foundational to our

“Threat intelligence was central to Sun Tzu's winning strategies, and it is foundational to our success today as our security approaches continue to evolve.”

success today as our security approaches continue to evolve, most recently with Extended Detection and Response (XDR) solutions. Most cybersecurity professionals are familiar with this widely referenced quote by Sun Tzu: “If you know others and know yourself, you will not be beaten in one hundred battles. If you do not know others but know yourself, you will win one and lose one. If you do not know others and do not know yourself, you will be beaten in every single battle.”

ABOVE: Knowing your enemy is key for good cybersecurity.

According to Sun Tzu, the first step in awareness is information gathering. This includes information about yourself – your assets, priorities, strengths and vulnerabilities. You must also know your enemy – who and where they are, their size, the types of weapons they use, their motivation, and their tactics and techniques. This information drives basic decisions – is this a threat or not, should we fight or flee, and what actions should we take? Then comes the most important step – calculations. As Sun Tzu said, “The general who wins a battle makes many calculations before and during the battle. The general who loses makes hardly any calculations. This is why many calculations lead to victory and few calculations lead to defeat.” We should not act on the basis of raw data, but rather on information gained by examining the data for relevance, priority and other situational information, which on the battlefield includes terrain and weather conditions. The goal is to apply context to data, so you have the right information at the right place and time.

Parallels between The Art of War and the XDR process

Relating this process to XDR, we see close parallels. Gathering information from different disparate internal and external sources and domains is the “extended” part. The distribution or dissemination of information across your security infrastructure is the “detection and response” part. Finally, calculations involve converting raw data into relevant intelligence, and this is the basis for responding efficiently and effectively to a given situation.

To accomplish this, what is needed is a data-driven security operations platform that allows you to extend capacity to consume and manage data, be it internal or external, structured or unstructured. A lot of valuable data you get from third parties is trapped within their technologies, so the platform must be based on an open architecture, where integrations are broad and deep to help you unlock that valuable resource as well. Having aggregated and normalised all that data, the platform then must be able to correlate the data and apply context so you can prioritise

and filter out noise.

Ultimately, you want to be able to operationalise the data and take the right action. So, the platform must translate that curated, prioritised data for export, allowing for data flow across the infrastructure to quickly activate defense technologies and teams. Closing the loop, the platform also captures and stores data from the response for learning and improvement. And remember, all of this happens at speed and scale, so automation is key – allowing you to act efficiently for a comprehensive response.

Threat intelligence best practices to enable XDR

For organisations considering XDR, or that have already embraced XDR, the following best practices will help you leverage threat intelligence to derive more value.

- Use data from all sources: Integration is a core competency to enable XDR, because organisations are not starting with a clean slate but have dozens of technologies, feeds and third-party data sources across departments and teams. Allowing for strong integration and interoperability with all systems and data sources, internal and

“What is needed is a data-driven security operations platform that allows you to extend capacity to consume and manage data, be it internal or external, structured or unstructured.”

external, enables you to leverage threat data. Displaying a wealth of contextualised data via a common work surface enables teams to apply it to understand the threats they are facing to reach the goal of extended detection and response across the infrastructure and across all attack vectors.

- Use data to focus efforts: Prioritisation should be automated but under the control of the security team. Filtering out noise (false positives and information that is irrelevant) using parameters you set ensures



Firas Ghanem, regional director – Middle East & Pakistan at ThreatQuotient.

prioritisation is based on risk to your organisation. Analysts can focus on threats that matter most instead of spending time chasing ghosts. Feedback and results should be continuously captured, stored and used to improve security operations.

- Use data to drive response: The most effective way to empower teams is to apply automation to repetitive, low-risk, time-consuming tasks, and recognise that the need for human analysis remains. Irregular, high-impact, time-sensitive investigations are best led by a human analyst with automation simply augmenting the work. A balance between human and machine ensures that teams always have the best tool for the job, and a data-driven approach to both improves the speed and thoroughness of the work.

XDR is gaining a lot of traction. But in order for it to deliver as promised, we need to heed Sun Tzu and start with a data-driven approach. Threat intelligence was critical to success on the battlefield then, and it is critical to success on the cyber battlefield today. ■

Johnson Controls unveils concealed pendent sprinkler

Fire safety

Johnson Controls, one of the global leaders for smart, healthy and sustainable buildings, has announced the newly redesigned Tyco Series LFII Residential 4.9 K-factor Concealed Pendent Sprinkler. With an increased vertical adjustment level of 19.1 mm, the new LFII sprinkler provides more adjustability. This gives contractors added flexibility when cutting fixed sprinkler drops. The flat profile of the cover plate assembly conceals the sprinkler operating components above the ceiling for an aesthetically pleasing design.

The Tyco Series LFII Residential Concealed Pendent Sprinkler is available in both ordinary 68 C and intermediate 93 C temperature-rated configurations. Both sprinkler models are designed with heat sensitivity and water distribution characteristics proven to help control residential fires and

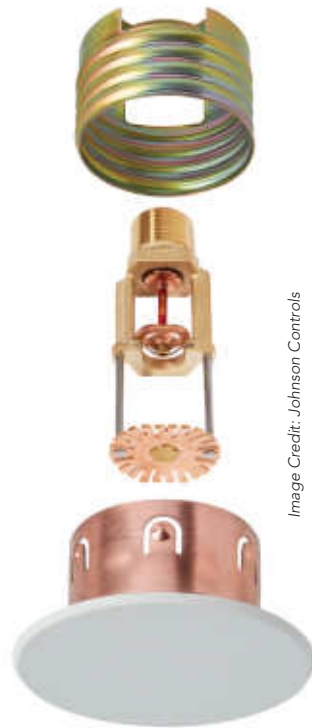


Image Credit: Johnson Controls

With an increased vertical adjustment level of 19.1 mm, the new LFII sprinkler provides more adjustability than many current products available.

improve the chance for occupant evacuation.

The sprinklers are intended for use in wet pipe systems for one and two-family dwellings, mobile homes, residential occupancies up to and including four stories in height and residential portions of any occupancy, per NFPA 13, 13D and 13R. They are UL and C-UL Listed and have a maximum working pressure of 175 psi (12.1 bar). A disposable protective cap is provided to protect the sprinkler during ceiling installation.

Don Ricca, global product director, Johnson Controls said, “The LFII residential sprinkler can be paired with Tyco Rapid Seal Fittings for even greater efficiency during installation. When combined, they provide the ideal mix of form and function, helping keep installations simple and aesthetically pleasing while offering exceptional performance for our customers.”

ECOM presents Visor-Ex 01 smart glasses for industrial use

Smart PPE

The Pepperl+Fuchs brand ECOM Instruments, together with its cooperation partner Iristick, is introducing Visor-Ex 01 smart glasses for industrial use in hazardous areas. The intelligent wearable combines high camera quality and reliable communication features in an ergonomic design for the user’s comfort. A total of three integrated cameras aims to transform Visor-Ex 01 into the remote expert’s bionic eye. The glasses weigh 80 gms, making them the optimal solution for mobile workers for all tasks that require hands-free use as well as continuous communication. This can include many digital workflows like maintenance procedures under the guidance of a remote support expert, with instructions being given remotely and operations being carried out on-site through the eyes of the technician. The Visor-Ex 01 also comes equipped with simple administration, global service and support from ECOM.

Sword GRC launches occupational health and safety management solution

Risk management

Global risk, compliance and governance software specialist Sword GRC has unveiled its latest innovation for occupational health and safety risk management.

The new software, Sword Verify, digitalises the risk management process to reduce both liability and hazard likelihood. Combining with ARM, the solution offers a single port-of-call to provide risk managers with the right

information to protect workers and reduce disruptions. 'Sword Verify' solution ensures best practice within hazardous and high-risk environments via a digital platform that reduces an organisation's liability and the likelihood of workplace hazards.

Keith Ricketts, Sword GRC, VP of marketing, said, “ARM is the only fully integrated solution that meets the needs of all stakeholders within Projects, Enterprise, Supply Chain and OHS risk management.

Confident that effective controls are in place, being followed and that operator safety is ensured, organisations can meet their regulatory requirements and safeguard their business reputation.”

Nick Scully, CEO of Sword GRC said that through digitalisation Sword are equipping organisations, particularly those within high-risk sectors such as mining, energy, and aerospace and defence, with practical solutions to manage the efficacy of

Heat tracing cable secures UL mark

Fire safety

Underwriters' Laboratories (UL) has verified the performance of the nVent RAYCHEM HTV self-regulating heating cable to retain 100% power output following 18 months of intensive, continuous testing at the product's maximum operating temperature of 205°C.

This announcement marks the first time the international certification agency has verified a heat tracing product's performance over such an extended period.

"nVent has been at the forefront of innovation in the heat tracing sector for well over 50 years, continuously developing new technologies and techniques that connect and protect people, infrastructure, processes and buildings," said Brad Faulconer, president, nVent Thermal Management.

"Securing a UL Verified Mark for our nVent RAYCHEM HTV heating cable's superior performance is the latest in a long line of industry firsts."

nVent combined the recent nVent RAYCHEM HTV heat tracing cable test data with 3D Arrhenius modelling techniques



The cable withstood intensive testing at the maximum operating temperature of 205°C.

Image Credit: nVent

to establish concrete lifetime ratings for its heating cable. Based on these ratings, the nVent RAYCHEM HTV heating cable sets a new standard in heat tracing performance, offering a minimum of 95% power retention after 10 years and a design life of 30 years. The result is a reliable solution that can be trusted in temperature-intensive operation.

Consistent power retention is

critical for ensuring plant efficiency. It can be difficult for operators to regularly assess the performance status of heating cables, making it challenging to quickly identify diminished power retention. With extensive reliability data now confirmed by a third-party source, the nVent RAYCHEM HTV heating cable can be deployed to help plant managers keep their facilities running smoothly and safely.

GM launches OnStar in-vehicle safety solution

Vehicle safety

OnStar offers the widest range of safety and security services to drivers and enables the underlying connectivity in the vehicle brands allowing a suite of connected services focused on convenience and innovation. The subscription-based service also features an in-vehicle Wi-Fi plan offering, a first for the region, and will be available on most 2021 Chevrolet, GMC and Cadillac models.

"Launching OnStar in the UAE is a milestone on our journey towards a future of Zero Crashes, Zero Emissions and Zero Congestion. We have just celebrated the UAE's Golden Jubilee and as we look forward to the next 50 years, we envision a fully-connected future which begins with the launch of OnStar," said Gary West, managing director OnStar and Future Mobility at General Motors Africa and Middle East.

"OnStar is a service unlike any other, offering our customers unparalleled levels of safety and security, backed by a human touch. We recognise the visionary leadership in the UAE, which is working to build the smarter cities of tomorrow, and we are proud to work closely with our government partners to achieve our joint vision of safer roads, supported by OnStar."

Each of the available OnStar and Connected Services plans is priced at (approx) US\$27 per month, with a bundle plan priced at (approx) US\$40.

OCIMF overhauls ship inspection process

Maritime safety

The Oil Companies International Marine Forum (OCIMF) is overhauling its Ship Inspection Report Programme (SIRE) by introducing tablet-based inspections, a more comprehensive inspection process and enhanced policies and procedures from Q2 2022.

The new programme, SIRE 2.0, will facilitate a risk-based approach to assessing the safety and quality of a vessel and its crew on an ongoing basis,

with accredited inspectors completing a Compiled Vessel Inspection Questionnaire (CVIC) in real-time using a tablet device. The SIRE 2.0 CVIQ uses a sophisticated algorithm to create a bespoke risk-based inspection questionnaire. The inspector is required to provide responses based on hardware, processes and human factors. It will provide more meaningful and actionable insight and will result in more detailed, reliable, granular and comparable marine assurance data.

Cirrus Research unveils cloud-based noise monitoring system

Noise monitoring

UK-based Cirrus Research has announced the launch of a cloud-based noise monitoring system, Quantum Outdoor, for the remote monitoring of noise 24/7.

The solution uses powerful cloud technology to give users control over their environmental noise impacts at their desks.

Quantum Outdoor can be installed around the boundary of the premises or in remote locations, and multiple devices can be synced up to the cloud together. Once installed, they will start gathering noise data and other environmental information in real-time. The cloud connectivity instantly makes noise and other environmental data available to view and analyse.

“Our live data and audio capture allow you to visualise and understand your noise impacts, so you can make the best noise management decisions, ultimately reduce your



Image Credit: Cirrus Research

Quantum Outdoor noise monitors can be installed in any location, for a number of uses.

environmental impact and protect your business from noise complaints,” said Daren Wallis, CEO of Cirrus Research.

“The systems run with the MyCirrus cloud platform; we’ve developed uniquely flexible cloud subscription packages, there are no fixed fees and no set up charges, and you can manage your subscription yourself, changing the package up and down as you need to.”

According to Wallis, “Charting the locations of your Quantum devices and adding them to floor plans and maps, and triggering

automated alerts if noise levels get too high, are just some of the many features unique to Quantum Outdoor.”

Craig Storey, business development manager, added, “Users just log in to our powerful Quantum cloud interface anywhere, anytime and on any device to get updates remotely at their convenience. It is well-suited for monitoring environmental noise across many applications from construction and demolition, to outdoor sporting and music events.”

AC safety helmet launched in UAE

PPE

Dubai’s NIA Limited has announced the UAE launch of the world’s first AC safety helmet for outdoor workforce and field executives.

Manufactured by India’s tech and safety start-up Jarsh Safety, the Jarsh-NIA AC Helmet works on patented solid-state cooling technology to provide cooling up to 24°C.

NIA is the exclusive regional distributor of a wide range of consumer electronics and home appliances. In the presence of M.T.H Nia, founder and chairman of NIA Limited, the state-of-the-art AC Helmet was unveiled at the India Pavilion of the Dubai Expo 2020 by Kamran Birjees Khan, CEO, NIA Limited, and Kausthub Kaundinya, CEO of Jarsh Safety.

The Jarsh-NIA AC Helmet offers to prioritise the comfort of workforces without compromising on productivity. The use of the AC Helmet is not only socially responsible, but also offers commercial benefits.

Tenable announces new features for Terrascan

Security

Tenable has announced features for Terrascan, one of the leading open-source cloud native security analysers, with the aim to enable organisations to embed security into their DevOps tooling, pipelines and supply chains.

“It’s now more critical than ever for developers to have tools that can detect compliance and security violations across their entire cloud systems, including IaC,” said

Nico Popp, chief product officer, Tenable.

“Just as IaC opens the door to programmatically embed policy checks earlier in the development lifecycle, Terrascan detects compliance and security violations across IaC to mitigate risk before provisioning.”

Terrascan now features the ability to identify security risks in more IaC and container definition formats; integration with all major container registries, including to identify vulnerabilities in container images

referenced by IaC; more flexible developer workflows, including the programmatic enforcement of security policies before changes are committed into the code repository and before they are applied to the runtime environment; improved ability to filter and prioritise findings according to user needs; deeper integration with external dashboards and reporting frameworks; and a new graphical user interface to simplify creation and testing of new policies.

Ion Science launches ARA H₂S single gas detector

Gas detection

Ion Science has launched the ARA H₂S (hydrogen sulfide) single gas detector that aims to protect users from toxic levels of exposure to hydrogen sulfide.

The ARA H₂S is completely maintenance free and offers continuous monitoring of exposure to hydrogen sulfide levels using e-chem detection technology which can operate without interference. It offers a choice of display for users, either a lifetime countdown or concentration lifetime exposure, and it is possible to switch between the two if desired. The ARA H₂S can also provide short term exposure limits (STEL) or eight-hour time weighted average (TWA) readouts for



Image Credit: Ion Science

Each unit is designed with a two-year lifespan.

greater visibility into the overall health of a worker.

Each unit is designed with a two-year lifespan. Once activated, the ARA H₂S will continuously

operate until the end of the two-year period, giving appropriate warnings so a replacement can be sourced in time. There is also the option for a three-year lifespan

model which offers a hibernation mode, ideal for contractors or consultants who only visit site on occasion.

The ARA H₂S unit weighs just 92g and is equipped with a sturdy clip for attaching to a lapel or strap for wearing within the breathing zone. At only 87mm in length, it does not impede worker movement and is suitable for use in confined space working, such as maintenance on pipes or tankers. As an intrinsically safe model, users can be assured it is safe in all environments, with a three-signal system of a flashing light, audible alarm, and vibration to alert the wearer of exposure levels reaching dangerous concentrations.

Toposens GmbH unveils ultrasonic echolocation sensor

Industrial safety

Munich-based high-tech company Toposens GmbH has launched its ultrasonic echolocation sensor for 3D collision avoidance.

The industrial grade sensor development kit, called ECHO ONE DK, is the next level development based on the company's proven 3D ultrasonic technology, which mimics a bat's echolocation techniques.

Toposens' ECHO ONE DK uses echolocation to generate robust, real-time 3D echo location data to guide autonomous systems across a variety of applications. The performance of this sensor is particularly robust in harsh environments (featuring the IP67

protection rating), as it is dirt tolerant and not affected by dust, smoke and mist.

Offering solutions to shortcomings of existing, typically optical range-finding technologies through best-in-class 3D object detection (such as detecting forklift forks in 3D space), makes the ECHO ONE DK the perfect go-to technology for the development of reliable 3D collision avoidance.

"Our biggest asset is our innovative combination of unique hardware configuration and software packages, based on patented 3D and Time-of-Flight algorithms and noise filtering, processing ultrasonic echo data into reliable 3D data," said Tobias Bahnemann, CEO and co-founder of Toposens.

Suprema integrates biometric access control with Genetec

Biometrics

Global access control and biometrics solution provider Suprema has announced the successful integration of its biometric access control products with Genetec Security Centre, a unified security platform that connects security systems, sensors, and data in a single intuitive interface.

Through this integration, Genetec Synergis (the access control system of Security Centre) can be paired with Suprema access control devices to allow users to verify access credentials with fingerprints and facial recognition along with existing RFID cards and PIN numbers. Biometric data such as fingerprint and facial recognition records can be quickly registered through either the Security Centre software or Suprema's BioStar 2 software, with all data being synchronised in real time and transmitted to a server. The integration allows up to 1,000 devices to be connected at once.

ميكرومترات، وتشتد ذروة بخار الماء الساخن في نطاق 2,7 ميكرومتر. ومن المتعارف عليه أن كواشف اللهب مصممة لاكتشاف الانبعاثات الضوئية في تلك الأطوال الموجية، وتشيع أخطاء الشدة مع أسنة اللهب الناتجة عن الحرائق المندلعة في الأماكن الخارجية.

التعرف على تقنيات كواشف اللهب

توجد أربع تقنيات أساسية لكواشف اللهب البصرية بناء على إشعاع خط البصر:

- الأشعة فوق البنفسجية
- الأشعة فوق البنفسجية/تحت الحمراء
- الأشعة تحت الحمراء متعددة الطيف
- تصوير أسنة اللهب المرئية

وتختلف أنواع محددة داخل الفئات الرئيسية بناء على استخدامها:

كواشف الأشعة فوق البنفسجية للإشعاع تستجيب في نطاق يتراوح من 0,18 إلى 0,26 ميكرومتر. وهكذا توفر أسرع استجابة وتسم بحساسة في نطاقات قصيرة نسبياً (0 - 15 متراً لحريق مركب الهبتين، وهو برفان هيدروكربوني، بمساحة 0,1 متر مربع). وتمثل عيوبها في حساسيتها لأعمال اللحام ومصابيح الهالوجين وتفريخ الشحنات الكهربائية (كالبندقية)، ويكثر استخدامها في الأماكن الداخلية. إلا أن الدخان الكثيف والسخام يمكن أن يتسبب في توقفها بسبب التقليل من قوة الأشعة فوق البنفسجية. كواشف الهيدروجين بالأشعة فوق البنفسجية/تحت الحمراء تجمع بين مستشعر بصري للأشعة فوق البنفسجية (نطاق يتراوح من 0,18 إلى 0,26 ميكرومتر) مع مستشعر للأشعة تحت الحمراء (نطاق يتراوح من 2,7 ميكرومتر إلى 3,0 ميكرومترات) مصممين لاكتشاف بخار الماء الناتج من احتراق الهيدروجين والهيدروكربون. ويعمل كاشف اللهب بالأشعة فوق البنفسجية/تحت الحمراء المزدوج على التخفيف من عيوب كاشف الأشعة فوق البنفسجية المباشر، بحيث يمكن استخدامه في الأماكن الخارجية، ولكن

يقبل زمن الاستجابة قليلاً. وقد يقل نطاق اكتشاف اللهب بسبب الدخان الكثيف كما هي الحال مع كواشف الأشعة فوق البنفسجية.

كواشف الهيدروجين بالأشعة تحت الحمراء متعددة الطيف تركز على منطقتين طيفيتين للأشعة تحت الحمراء عند نطاق يتراوح من 2,7 ميكرومتر إلى 3,0 ميكرومترات، ومن 4,2 إلى 4,7 ميكرومترات لاكتشاف انبعاثات بخار الماء وثنائي أكسيد الكربون. ويعتبر نطاق بخار الماء الساخن شديد الأهمية لاكتشاف حرائق الهيدروجين التي تنصف أسنة اللهب الناتجة عنها بأنها غير محسوسة عملياً في نطاق الضوء المرئي، وتحظى هذه النوعية من الكواشف بقدرتها على اكتشاف اللهب في نطاق بعيد، وقلة تأثرها بالدخان، وندرة إطلاق إنذارات كاذبة.

كواشف الهيدروكربون بالأشعة تحت الحمراء متعددة الطيف تركز على نطاق عريض للأشعة تحت الحمراء لاكتشاف انبعاثات ثاني أكسيد الكربون الناتجة عن حرائق الهيدروكربون، لكنها تعجز عن اكتشاف بخار الماء. وتستطيع هذه النوعية من الكواشف اكتشاف حرائق الوقود والغاز في نطاق بعيد وندرة إطلاق إنذارات كاذبة، لكنها تعجز عن اكتشاف حرائق الهيدروجين.

كواشف أسنة اللهب المرئية تستخدم مستشعراً للصورة يعمل بجهاز اقتران الشحنة وخوارزميات اكتشاف اللهب. وتعمل خوارزميات التصوير على تفسير صور الفيديو الحية التي يجمعها جهاز اقتران الشحنة وتحليل شكلها وتقديمها للتمييز بين مصادر اللهب ومصادر غير اللهب. وعلى النقيض من كواشف اللهب بالأشعة تحت الحمراء أو فوق البنفسجية، لا تعتمد الدائرة التليفزيونية لكواشف أسنة اللهب المرئية على انبعاثات ثاني أكسيد الكربون وبخار الماء ومنتجات الاحتراق الأخرى لاكتشاف الحرائق، كما أنها لا تتأثر بشدة الانبعاثات الناتجة عن الحرائق. ومع كل هذه المزايا، لا تستطيع كواشف أسنة اللهب المرئية اكتشاف أسنة اللهب التي لا تُرى بالعين المجردة، كآسنة اللهب الناتجة عن حرائق الهيدروجين، كما يتسبب الدخان الكثيف

في إضعاف قدرتها على اكتشاف الحريق. عائلة «إيمرسون-روزمانت» لكواشف اللهب 975 تقدم باقة من كواشف اللهب المتطورة التي تعتمد على تقنيتي الأشعة تحت الحمراء متعددة الطيف، والأشعة فوق البنفسجية وتحت الحمراء:

كاشف الأشعة تحت الحمراء متعددة الطيف «روزمانت 975 إم آر» يعمل على اكتشاف الهيدروكربون الناتج عن حرائق الوقود والغاز على مسافات طويلة، ويتميز بأعلى قدرة على عدم إطلاق إنذارات كاذبة من خلال تصميمه القائم على استشعار الأشعة تحت الحمراء متعددة الطيف.

وأما كاشف الهيدروجين بالأشعة تحت الحمراء متعددة الطيف «روزمانت 975 إنش آر» فهو يتميز بالقدرة على اكتشاف حرائق الهيدروكربون والهيدروجين في آن واحد مع كافة مزايا تكنولوجيا الأشعة تحت الحمراء متعددة الطيف. كاشف الأشعة فوق البنفسجية وتحت الحمراء المزدوج «روزمانت 975 يو آر» مجهز بمستشعرين مضبوطين على نطاق يتراوح من 0,185 إلى 0,260 ميكرومتر ومن 4,4 إلى 4,6 ميكرومترات على التوالي، وهو مناسب لاكتشاف أسنة اللهب الناتجة عن حرائق الوقود الهيدروكربوني نظيف الاحتراق.

كاشف الأشعة فوق البنفسجية وتحت الحمراء فائق السرعة «روزمانت 975 يو إف» يمكنه اكتشاف حرائق الهيدروكربون، فضلاً عن حرائق الهيدروكسيل والهيدروجين والمعادن وأنواع الوقود غير العضوي الأخرى.

بوسعنا أن نقول إن كاشف اللهب يعتبر الركيزة الأهم لنظام إخماد الحرائق، ولا بد أن يكون شديد الحساسية حتى يتمكن من سرعة الاستجابة لأي حادث، مع تجنب إطلاق إنذارات كاذبة. ولحسن الحظ تتوفر هذه الكواشف في باقة من الخيارات التي تغطي الاستخدامات التي تنصف بأنها الأبعد والأصعب من نوعها. وبوسع هذه الكواشف المساعدة على ضمان حدوث الحد الأدنى من الضرر في حال نشوب حريق وعدم عرقلة الإنتاجية والربحية.

← مفكرة الفعاليات 2022

يناير/كانون الثاني

16 - 18 المعرض الدولي للسلامة والأمن والحماية من الحريق - إنترسك دبي www.intersec.ae.messefrankfurt.com/dubi

فبراير/شباط

13 - 16 المعرض الدولي للصحة والسلامة والبيئة مسقط www.globalhse.org

مارس/آذار

7 - 9 معرض طاقة الشرق الأوسط دبي www.middleeastenergy.com

16 - 17 منتدى الصحة والسلامة والبيئة لمنطقة الشرق الأوسط وشمال أفريقيا دبي www.hseforum.com



الكثير من المصانع والمنشآت بها وسائل قابلة للاشتعال وغازات تشكل خطر نشوب الحرائق

كواشف اللهب لإخماد الحرائق بفاعلية

يقول المهندس نيشانت ثانكابن، مدير تطوير الأعمال بشركة «روزماونت للتحليل والاكتشاف» إحدى شركات «إيمرسون لحلول التحكم الآلي»، إن كواشف اللهب تعتبر ركيزة من الركائز التي تضمن كفاءة وفعالية نظام إخماد الحرائق. فالكثير من المصانع والمنشآت تتعامل مع كميات كبيرة من السوائل والغازات القابلة للاشتعال والانفجار المعرضة، حتى مع مراعاة أفضل الممارسات، لأخطاء المعدات والعمال، مما يتسبب في حدوث تسريبات تنشب الحرائق على إثرها.

الكواشف قادرة على الإنذار بوجود حريق في غضون ثوانٍ إذا نحن أحسنا استخدامها، فمعظم المنتجات، التي تعتبر قابلة للاحتراق، تحتوي على كربون ينتج ثاني أكسيد الكربون كمادة أولية، ولكن توجد منتجات غير عضوية أخرى كالهيدروجين والنشادر وأكاسيد المعادن والسيلان لا تحتوي على الكربون، بل تحتوي على الهيدروجين الذي ينتج بخار الماء. وتحتوي الكحوليات والهيدروكربونات وأنواع الوقود الأخرى على الهيدروجين والكربون اللذين ينتجان ثاني أكسيد الكربون وبخار الماء. وبغض النظر عن مصدر الوقود، تُنتج أسنة اللهب، والغازات الساخنة الناتجة عنها، إشعاعاً كهرومغناطيسياً في مجموعة من الأطوال الموجية، بداية من الأشعة فوق البنفسجية، ومروراً بالطيف المرئي، ووصولاً إلى الأشعة تحت الحمراء. وتشتد ذروة ثاني أكسيد الكربون الساخن في نطاق يتراوح من 4,2 إلى 4,5

لتحريك هذه الجهود من خلال كواشف اللهب المتطورة، وعدد أقل من العمال، إذ يعتبر اكتشاف أسنة اللهب أسرع طريقة لاكتشاف الحريق، إذ تتشكل أسنة اللهب فور احتراق الغازات أو السوائل. غير أن القيام بذلك بالسرعة الكافية، والطريقة المناسبة، لا يخلو من التحديات.

اكتشاف أسنة اللهب

يكتشف البشر أسنة اللهب من خلال الضوء والحرارة الناتجين عنها، ولكن تختلف طريقة احتراق الوقود باختلاف أنواعه، فلا نكاد نرى احتراق الكحول - مثلاً - مقارنة بالمواد البترولية عند احتراقها. كما أن كواشف اللهب يمكنها التمييز بين هذه الاختلافات، والتعرف على الانبعاثات الساخنة ونواتج الاحتراق والجذور الكيميائية الحرة، وغيرها من المنتجات الثانوية في الطيف الكهرومغناطيسي. وهذه

تتمثل الخطوة الأولى لمكافحة الحرائق في التعرف على لحظة حدوثها من خلال اختيار واستخدام كواشف اللهب المناسبة التي تتصف بقلّة إطلاق الإنذارات الكاذبة أو انعدامها. فكاشف اللهب، الذي يُفعل نظام إخماد الحرائق الآلي، يستطيع تفادي الحوادث الممكن وقوعها عن طريق قطع مصدر الوقود وإطفاء الحريق، فيقلل بذلك تلف المعدات وإصابة الأفراد وتلويث البيئة لأدنى حد ممكن. كما يعمل كاشف اللهب على تنبيه أول المستجيبين للحريق من عمال المصنع للانتقال إلى مكان الحادث على الفور. وهكذا يمكن اكتشاف الحرائق، والوقاية منها، على الفور قبل تفاقمها من خلال أنظمة السلامة الفعالة وتدريب العمال. وقد كانت المصانع تعتمد في الماضي على العمال بالدرجة الأولى لتحريك جهود مكافحة الحرائق، ولكن تعتبر الأنظمة الآلية اليوم من أفضل الممارسات

في هذا العدد ...



تحقيقات

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