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Middle East

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January 2020 in this issue...



News

Market news 4
Developments across the HSE industry in the Middle East

Events

Calendar 7
A round-up of industry events worldwide

Renewing the focus on health and prevention 10
The Kuwait HSE Forum returns to Kuwait with some new features

Raising the bar in health & safety 12
A report of the Dubai HSE Forum

Enhancing health and safety with immersive technologies 19
The benefits of immersive technologies in promoting a safe working environment

PPE

Aiming for zero injuries to hands and feet 21
Swedish PPE company Ejendals welcomes new health and safety standards in the region

Safety

The latest advances in gas detection 25
Technology is driving safety improvements in gas detection, delivering greater connectivity, profitability and accuracy

Improving health and safety with temporary works 28
The impact of temporary works on health and safety

Training

Training - the driving force for the best HSE performance 30
Investing in staff training is critical for workplace safety

Arabic

Analysis 4

editor's note

HARNESSING THE BENEFITS of Fourth Industrial Revolution technologies for improved health and safety was a key theme at the Dubai HSE Forum which took place in November. Speakers discussed how technologies such as AI, IoT and immersive technologies can promote a safe working environment. Technology is also driving safety improvements in gas detection, delivering greater connectivity, portability and accuracy (p25). This issue also covers the impact of temporary works in the construction sector on health and safety (p28), the importance of training to drive the best health and safety performance (p30) and what to expect at Intersec (p22).

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Unilever encourages youth to push for sustainability

Sustainability

Unilever Gulf has organised a working session with 30 young environmental activists from various GEMS Education schools in Dubai and the American University of Sharjah.

In the session, the activists shared their expectations and proposed solutions to the plastic waste issue with the UAE minister of Climate Change and Environment HE Thani bin Ahmed Al Zeyoudi. The session was also attended by private sector representatives and NGOs.

In the UAE, sustainability is becoming an increasingly dominant issue for consumers thanks to the leadership and efforts of the local government in building awareness and knowledge.

Emphasising the importance of youth engagement in sustainability drives, Al Zeyoudi said, “In the UAE, we have always held our youth in the highest regard because we believe young people



HE Thani bin Ahmed Al Zeyoudi, Minister of Climate Change and Environment, addressing the students.

are the most effective change agents and realise the need to enhance their role in tackling climate change. In order to enable youth engagement in sustainable development, the UAE government has launched dedicated strategies, such as the UAE Youth Global Initiative and the Emirates Youth Climate Strategy.”

“Plastics is one of the main challenges that we face now, and we all need to change our attitudes towards plastic

consumption and waste management. I believe that we have the wisdom and the passion to become one of the most environmentally-friendly nations in the world. We thank the students for sharing their ideas and assure them that we are working closely with the Ministry of Education to implement environmental studies in the curricula across all stages of elementary and secondary education,” he added.

Safety campaign

Driver safety

Bridgestone Middle East and Africa ran a new corporate social responsibility (CSR) campaign aimed at long-distance truck drivers in the UAE in December.

Entitled ‘Eyes on Road’, the initiative offered truck drivers free health checks at select truck stops across Sharjah, Dubai and Abu Dhabi, and highlighted the importance of health and safety for truck drivers given the long hours they put in on the roads and the potentially catastrophic consequences of any lapses in concentration.

The campaign was organised in collaboration with police authorities across Sharjah, Dubai and Abu Dhabi in addition to Abu Dhabi Ports. Bridgestone’s partners Al Masaood and Al Serkal were also involved.

Stefano Sanchini, regional managing director at Bridgestone said, “This campaign is part of our efforts to ensure that truck drivers are aware of their health condition and take adequate preventative measures to ensure their own well-being if necessary.”

Intersec Saudi Arabia to boost business in region’s biggest security market

Safety and security

The fourth edition of Intersec Saudi Arabia will take place at the Riyadh International Convention and Exhibition Center from 23-25 March, featuring exhibitors across the sectors of Commercial Security, Information Security, Homeland Security and Policing, Physical & Perimeter Security, Fire & Rescue, and Safety & Health.

Intersec Saudi Arabia is the leading brand for Security, Safety & Fire Protection in the kingdom, with more than 120 exhibitors.



Intersec Saudi Arabia will take place in Riyadh.

According to recent reports, the combined value of the Saudi Arabia’s commercial security, fire and safety and homeland security markets was US\$6.02 billion in 2017, while the Saudi Vision 2030, stabilisation of oil prices and increase in government spending will all play a positive role in industry growth over the next few years.

For further information see the website at www.intersec-ksa.com.

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Model shown - EXP-J-14K/1500: 1500L Emergency Tank Shower fitted with the Zero Power Cooler (Patent Pending). Other chiller options are available.



Study shows that 20 per cent of road traffic accidents in Middle East are due to sleep apnea

Road Safety

Twenty per cent of road accidents are caused by underlying sleep apnea, a common sleep disorder, according to the Road Accident Survey. The disorder affects 20 per cent of women and 35 per cent of men. Men have higher incidence, the study revealed. Four per cent of adults are suffering from obstructive sleep apnea (OSA).

There is a correlation of high BMI and OSA risk. Some common symptoms of Sleep Apnea are daytime sleepiness, loud snoring, and restless sleep.

Dr Kalpana Nagpal, senior consultant ENT, head, neck and robotic surgery at Indraprastha Apollo Hospital said that robotic surgeries have given a new and easy way out to the sleep apnea patients. Doctor highlights that now there is no need to ignore snoring or sleep apnea. As per the Dr Nagpal, Robotic Surgery is becoming increasingly popular



Image Credit: Apollo

Dr Kalpana Nagpal, senior consultant ENT, head, neck and robotic surgery at Indraprastha Apollo Hospital.

among the surgical specialties and most of the institutions have or are investing in it. It has numerous benefits over the conventional methods like fast recovery, low infections, almost

painless, almost no scar, low blood loss, great cosmetic results and better post-operative immune function.

“The OSA or snoring is a dangerous disorder and most of us laugh it off or ignore or learn to live with it”, said Dr Nagpal. She further explains that this condition arises when a person constantly stops breathing while sleeping due to the collapse in his/her airway. It isn’t clear why a person develops OSA, but triggers for the same are many ranging from weight gain, alcohol, sedative use, decreased muscle tone or the physical makeup of the person’s airway.

If the condition is left undiagnosed/untreated or ignored for a longer span, the OSA can affect a person in many ways like the decreased quality of life, diabetes, impotence, high blood pressure, fatigue, stroke or cardiac arrest, memory disturbances etc.

SPA for SIRA launches in the Middle East

Security

The Middle East’s first security professional association aimed at connecting people within the security industry has been launched in the UAE.

The Security Professionals Association (SPA) for the Security Industry Regulatory Agency (SIRA) will serve as a platform for knowledge exchange and development for more than 50,000 security professionals in the country.

The initial launch has welcomed more than 600 security professionals of all levels, and invites everyone in the security industry to become a member in order to receive the benefits of a locally-based professional security association.

Khalid Al Hammadi, Chairman of SPA, said, “It is with great pride that we announce the launch of the first security professional association in the region.

“SPA for SIRA will open strong networking opportunities between security professionals and organisations.”

UL urges Middle East businesses to manage cybersecurity risks

Cybersecurity

UL, an independent safety science company, has urged companies in the Middle East to take drastic action against cybersecurity before it is too late.

Speaking at the ninth ASIS Middle East 2019 Security Conference and Exhibition, Arif Hassan, Sales Lead with UL Identity Management and Security division, delivered a presentation on the impact of cybersecurity in the Industry 4.0 and explained the importance

of taking adequate measures of managing cybersecurity.

Hassan told delegates that with businesses conducting their day-to-day operations digitally, Industry 4.0 is transforming the way we work. “Many tasks once performed by humans are now being automated in Industry 4.0. With the use of real-time data analysis and connected devices, production has become very efficient and customised to specific needs,” he said.

“While increased automation can free up

time to concentrate on more complex tasks, this also means that our workforce skills will have to adapt to make changes in the workplace. However, we will never be able to remove the human element,” Hassan said.

“It is a key component required to align all these new skills and technologies into effective communication, problem-solving, supporting change management, multi-discipline integration, and securing our ecosystems, products and services.”

→ events calendar 2020

| January | | | |
|----------|--------------------------------------|------------|--|
| 19-21 | Intersec | DUBAI | www.intersecexpo.com |
| February | | | |
| 2-4 | Kuwait HSE Forum | KUWAIT | www.hse-forum.com |
| March | | | |
| 3-5 | Middle East Energy | DUBAI | www.middleeastenergy.com |
| 23-25 | Intersec Saudi Arabia | RIYADH | www.intersec-ksa.com |
| April | | | |
| 28-30 | The Health & Safety Event | BIRMINGHAM | www.healthandsafetyevent.com |
| May | | | |
| 19-21 | Safety & Health Expo | LONDON | www.safety-health-expo.co.uk |
| June | | | |
| 15-16 | Bahrain HSE Forum | MANAMA | www.hse-forum.com |

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Renewing the focus on health & prevention

The highly acclaimed Kuwait Health, Safety & Environment Forum returns to the JW Marriott Hotel Kuwait from 2-4 February, with the addition of some exciting new features.

Held under the patronage of Kuwait's Ministry of Health, and in association with Kuwait National Guard and Kuwait Fire Services, the Forum builds on the success of the highly acclaimed inaugural event held in September 2018. It will provide a platform for the sharing of insights, expertise and best practice on critical issues across the spectrum of health and prevention, safety and security, environment, risk management and technology.

Despite rapid advances in the health and safety sector, Kuwait faces a range of occupational health challenges such as reducing environmental hazards, improving the effectiveness of health policies, addressing communication issues and promoting healthy lifestyles and behaviours that will encourage a safer work environment and advance worker wellbeing. There is also a big push on sustainable healthcare, tying in with the unified Gulf Health Strategy and the UN Sustainable Development Goals (SDGs), to raise standards of health and wellbeing throughout the country.

This year's event will have a renewed focus on health and prevention, and will be preceded by a one-day workshop on



Image Credit: Adobe Stock

“There is also a big push on sustainable healthcare, tying in with the unified Gulf Health Strategy and the UN Sustainable Development Goals (SDGs).”

The OHSM workshop will orient participants on occupational hazards in hospitals and empower them to establish effective health and safety management programmes.

Hospital Occupational Health and Safety Management (OHSM) on 2 February, prepared and presented by the Ministry of Health, which will enable those attending to obtain CME points.

The Forum on 3-4 February will address subjects such as health promotion; sustainable healthcare as a way forward to achieve the unified Gulf Health Strategy; improving competency and safety in high rise construction sites; protecting workers with 3D modelling; driving safety; leadership and safety culture; mitigating risks in hostile environments; IoT for monitoring potential workplace hazards; the effects of greenhouse gases on health and environment; and preventing environmental contamination by hydrocarbons.

The line-up of eminent speakers includes Dr. Duaa Alkhaledi, director - Occupational Health, Kuwait Ministry of Health; Nasser AlBuhairi, chief security officer and head of Emergency Coordination Unit, Kuwait Oil Company; Dr. Ghaida Mubarak Al-Shoraian, senior general practitioner, Kuwait National Petroleum Company; Qusai Al Shatti, acting director-general, Central Agency for Information Technology (CAIT); Dr. Muhammad Alamgir, HSE manager, Petrofac, Kuwait; and Dr. Ahmed Haji, senior doctor, Petrochemical Industries Company KSC. ♦

For further information and to register, see the website at www.hse-forum.com.

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Hospital Occupational Health and Safety Management
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3-4 February 2020 - FORUM

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CONFIRMED SPEAKERS



Dr. Duaa Alkhaledi
Director Occupational Health
Ministry of Health, Kuwait



Qusai Al Shatti
Acting Director General
Central Agency for
Information Technology
(CAIT) Kuwait.



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Raising the bar in health and safety

More than 130 leading health and safety practitioners, government representatives, regulators and solutions providers convened at the Habtoor Grand Resort, Autograph Collection Dubai for the Dubai Health, Safety & Environment Forum 2019.

“Humans are the weakest link in the systems that protect us from catastrophic process safety events.”



Image Credit: Alain Charles Publishing

Delegates at the Forum absorbed some insightful presentations.

The fifth edition of the industry-leading event, which took place on 24-25 November 2019, featured an array of high-level local and international speakers, and saw delegates absorbing some insightful presentations as well as participating in animated debates and panel discussions. The latest safety and protection solutions were showcased on the sidelines of the event, while lively networking sessions allowed plenty of opportunities to establish and strengthen business relationships. The opportunity to hear perspectives and share

experiences with a diverse range of speakers and participants was greatly appreciated by delegates.

Role of leadership

The critical role of leadership was a strong theme at the event. Faaeza Al Katheeri, geoscience manager, Al Dhafra Petroleum, spoke about effective leadership in achieving 100 per cent HSE, highlighting interesting case studies of how HSE culture at organisations is a top down process, fostered by collaboration and open communication. She highlighted the need to obtain top management commitment;

build a common understanding of culture; assess the existing culture and communicate assessment results; identify gaps, root causes and key initiatives to improve; and communicate the direction, engaging team leaders and personnel.

In a similar vein, Salman Dawood Abdulla, executive vice president - HSSEQ, Emirates Global Aluminium, discussed how leadership and a motivated workforce can help enhance industrial safety, over and above equipment and safety management systems. He highlighted the critical role of leaders at all levels of an

organisation in infusing a positive culture, and how this can enhance worker safety. Accountability of leadership is key, he said.

Dr Mohammed Aref, QHSE expert, Ministry of Human Resources & Emiratisation, explored the human factor deeper in his talk. “Humans are the weakest link in the sophisticated and complex systems that protect us from catastrophic process safety events,” he explained. “The next step change in process safety is likely to come from a growing awareness of how to analyse human behaviour and design management systems to minimise its risk.”

He highlighted the need to consider the system in which the individual operates, including communications, man-machine interface, etc; develop management commitment; engage all staff to develop co-operation and commitment to improving safety; fight complacency; control the three ‘big monsters’ - frustration, stress and fatigue; and create sustainable behaviour change through sustainable interventions and promoting a motivating environment.

Focus on human capital

A key message was the significance of investing in employees. Many speakers stressed that investing in employee safety and well being is the road to a better business.

Joyveer Dutt, regional manager QHSE, Al Futtaim Engineering stressed the significance of understanding that gains should not only be in monetary terms, but also in what he explained as the ‘Triple p bottom line’ based on profit, people and planet. “Human capital is the key; no organisation can run without humans. Even in Industrial Revolution 4. It is



Dr. Maisoon Ali Alshaali, Ministry of Health & Prevention, addressing the Forum.

absolutely necessary,” he told the audience. “If you want to enhance human capital you have to invest in them, invest in trust and invest in skills and training. Make them safe: invest in the best quality of equipment and welfare.” A poor safety culture results in low morale and productivity, hitting your bottom line, he added.

Taking a similar approach was Nancy Nouameih, VP Quality & Safety, Abela & Co. who said that the company has taken a human-centric approach – saying, “Give your employees, colleagues and co-workers a reason to believe in: you, the team, their contribution counts.” She added, “As safety practitioners and leaders it is our job to remove barriers to effective work; to do that requires a shift in mindset to incorporate more into our safety programmes and policies.”

In his presentation, “Make trust your objective,” Andrew Barker, a culture change and behavioural safety leader, added that small steps can help. He explained to the

audience that a quality conversation is significant. “It is okay not to be okay,” he said.

Occupational Health issues

Dr. Mona Shawki, specialist of occupational medicine, Ministry of Health & Prevention, highlighted the global challenges to occupational health and safety – currently, more than 374 million people are injured or made ill every year through work-related accidents, the main causes of occupational mortality being circulatory diseases, work-related cancers, respiratory diseases and injuries. She outlined a strategy to provide occupational health in the

workplace, including more work on anticipating new and emerging OSH risks; adopting a multidisciplinary approach; promoting a better public understanding of OSH issues, such as carcinogens in the workplace; expanding partnerships with government agencies; and strengthening international safety standards and national legislation.

Dr Maisoon Ali Alshaali, consultant, Public Health Medicine, Ministry of Health & Prevention, stressed the need for long-term action and commitment to reduce pollution levels, involving changes in attitudes and lifestyle choices. She gave a presentation on the UAE’s National Health & Climate Change strategic framework which looks to assure the expansion of health surveillance and enhance data protocols related to climate factors. The framework will focus on four points: governance, policy and engagement for health protection from climate change; climate-resilient health systems;

“Many speakers stressed that investing in employee safety and well being is the road to a better business.”

enhanced management of environmental health interventions; and mobilising public support for the public health response to climate change.

This would require an integrated effort between government policies and individual behaviours, she stressed.

Karim A. Pachyannakis, Corporate HHSE & Quality manager, Al Mansoori Specialized Engineering, demonstrated how poor loading could lead to endangerment to life, legal repercussions, environmental damage, lost production, loss of company reputation and of course damaged equipment. Load safety training should be mandatory for all those security loads and transporting them, he said, suggesting that oil and gas companies should include load safety standards in their codes of practice.

Will Cadwaladr and Samantha Ellaby, associates, Clyde & Co, made a practical demonstration of the criminal investigation process, which may follow a workplace injury or fatality, exploring best practice and common pitfalls during the police and public prosecutor interviews. Beware of inadvertently admitting responsibility, steer clear of sharing hearsay, stick to facts and have a dedicated point of contact were amongst the pieces of advice they gave.

Impact of digital transformation in the workplace

Leveraging digital technologies to promote workplace safety was an important theme. Daryl Wake, business development representative – Middle East at Universal Site Monitoring, an Australian manufacturer of



A lively panel discussion took place on HSE issues facing the workforce and safety professionals.

“We need to set the bar in the Middle East - not just follow what’s happening elsewhere.”

location-sensing devices, outlined how harnessing the benefits of Industry 4.0 combined with the Internet of Things (IoT) can provide an enhanced level of worker safety.

Dr. Sana Farid, co-president, VRAR Association MENA, commented on the evolution of training delivery methods. “Immersive technologies are widely applied across sectors,” she said. “We are moving towards elearning; online learning, virtual reality and augmented reality. They are affordable and convenient and have much more impact compared to the traditional model,” she said. She pointed out that VR simulation training enables accelerated development of expertise in a risk-free environment, bridging the gap

between classroom training and real-life on-site experiences.

Bringing a valuable perspective from academia, Dr. Ghanim Kashwani, post doctoral associate at New York University, Abu Dhabi, discussed the impact of Industry 4.0 on safety mindsets in the construction industry. Safely incorporating Industry 4.0 technologies would require efforts across the technical, behavioural and management fronts, he said.

“On the technical side, we need to ensure all personnel are competent; on the management side, senior management must know how to deliver their message effectively, and reach their operational goals with no compromise on health and safety; and on the behavioural side, we need to treat safety as a value and a KPI.”

The Forum also showcased the latest products and technologies in the sector. Ian Hume, sales director MEAIR, JLG Industries presented access solutions offered by his company to drive safety, pointing

out that untrained operators accounted for a significant number of fatal accidents involving MEWPs and stressing the need for the “right person for the right job with the right equipment for the task”. The company will continue to innovate its products to keep operators safe, he said, and focus on operator awareness and training. He commented that industry needs a strong safety culture, especially at this time when companies are under pressure to deliver projects on time for Expo 2020 and might be tempted to cut corners.

“We need to set the bar in the Middle East, not just follow what’s happening elsewhere,” he said.

Dr. Cherian Varghese, founder & CEO, VIN Technology Systems, highlighted the benefits of collision avoidance systems, Daryl Wake presented Universal Site Monitoring’s multi-featured safety monitoring devices, while Syed Farrukh Ali, senior territory manager, and Mohammed Jamad, key account manager at Ansell presented the company’s range of protection solutions. ❖

Using Industry 4.0 technologies to save lives

Daryl Wake, business development representative – Middle East at Universal Site Monitoring (USM), outlines how harnessing the benefits of Industry 4.0 combined with the Internet of Things (IoT) can provide an enhanced level of worker safety.

“USM’s aim is to disrupt the market through supplying next generation safety devices, transforming workplace safety on a global scale.”

Daryl Wake addressing the Dubai HSE Forum.



Image Credit: Alain Charles Publishing

What are some of the latest advances in IoT technology for industrial workplace safety?

Industry 4.0 combined with the Internet of Things (IoT) fosters what has been referred to in the workplace as a "smart factory". Within modular structured smart factories, cyber-physical systems monitor physical processes, create a virtual copy of the physical world and make decentralised decisions. Over the IoT, cyber-

physical systems communicate and cooperate with each other and with humans in real-time both internally and across organisational services offered and used by participants of the value chain. By applying similar philosophies and technologies we will advance workplace safety performance. Integrating these technologies and providing tools to capture and analyse real time data from a worker to identify

emerging hazardous situations or health exposures will be extremely advantageous.

Can you tell us more about the Universal Site Monitoring products highlighted in your presentation at DHSE 2019?

Historically, employee safety across high risk industries has been difficult to manage and monitor. USM’s aim is to disrupt the market through supplying



Image Credit: Alain Charles Publishing

next generation safety devices, transforming workplace safety on a global scale. The patented intrinsically safe Personal Safety Monitor (PSM) Hero is a communication tool worn by the worker, serving as the ultimate safeguard for multiple risks simultaneously to ensure they are protected regardless of job, industry or working conditions.

The PSM Hero will proactively protect employees against avoidable workplace injuries and fatalities through its interface with the Web-based Universal Data Interface (UDI). It gives a combination of real time communication, gas detection, operational intelligence, location and ambient condition sensing, slips trips and falls, bio-metrics (e.g. health – heart rate, blood oxygen levels etc), and other site-specific required data via bluetooth connected devices. The PSM Hero and its UDI are fully customisable to suit business operational needs and compliance standards.

An animated overview of the

PSM Hero 715 can be found at <https://vimeo.com/287362826>.

What are some of the common safety issues faced in the sectors that you operate in, and how do your products help overcome them?

Globally, a worker dies from a work-related accident or disease every 15 seconds. Whether it's due to excessive gas exposure, falls, poor communication systems, or lack of information from the field to decision makers – timing, data collation and dissemination is critical.

A recent case study related to a steel blast furnace area inside a large industrial complex worksite with a multitude of hazards. The key focus was to provide an indication of the location of personnel within the blast furnace area and to immediately communicate hazardous situations that personnel are exposed to.

The PSM demonstrated capabilities of an all-in-one personal safety monitoring device

and its suitability for a range of complex industrial sites, and included:

- Real time identification of worker location (based on level/height and specific area in the plant)
- Gas alarm indication on PSM and UDI
- Indication of a man down or fall from height alarm (both on the PSM and the UDI)
- Ability to initiate and emergency response action from the PSM
- Ability to call the user at all times.

In your opinion, what is the future of workplace safety?

Across industry we have been able to remotely monitor plant and equipment for well over 50 years, and yet we still have no idea of the location or condition of our people. Think of the time, money, research, development and resources that have been invested into making sure that our equipment runs smoothly; we achieve maximum production

rates; emerging issues are identified; and plant failures and breakdowns are avoided.

Through the use of sensors, vibration analysis and condition monitoring we can remotely monitor the health of our operating equipment; but how about our operators? We talk about people being our most valuable asset, but do we really demonstrate the commitment and resources to support this rhetoric?

By combining hardware, Industry 4.0, IoT and some cloud computing we are now able to apply a similar level of rigour to our 'human assets' as we are to our equipment.

Better utilising this new technology and having a smart alert and navigation system that collects and displays information via a variety of wireless communication methods, allowing data to be monitored, reported on, actioned and stored in a centralised location, provides us with a new level of keeping workers safe...and alive. ❖

Saving lives with collision avoidance systems

At the Dubai HSE Forum, Cherian Varghese, founder & CEO, VIN Technology Systems, discussed how collision avoidance systems can save lives and improve vehicle safety on construction/mining sites and in warehouses.

“Collisions arising due to blind spots are one of the key reasons of fatalities and injuries in the warehouse, construction and mining industry.”

Cherian Varghese addressing the Dubai HSE Forum.



Varghese pointed out that man-machine interaction cannot be avoided in the construction and mining industry and because of that, accidents involving heavy vehicles / construction equipment are the leading causes of fatalities at construction sites, mostly due to blind spot and workers getting caught while backing up. These type of accidents because of man-machine interference account for 25-50 per cent of heavy-equipment related accidents,

according to the National Institute for Occupational Safety and Health (NIOSH).

“Collisions arising due to blind spots are one of the key reasons of fatalities and injuries in the warehouse, construction and mining industry, whether it’s building roads, refineries, real estate development, factories etc.,” said Varghese. “Today we have proven technologies which we can use to overcome this.”

VIN Technology Systems is a market leader in collision

avoidance systems, designed to detect people and objects in blind spots, significantly reducing accidents. They detect stationary and moving objects, providing the driver with in-cab visual and audible warnings – alerting the operator whose attention cannot be focused on all danger areas. VIN is an R&D-focused technology company fully focused in mobility safety solutions and specialising in collision avoidance systems and camera monitoring systems. The

latest technologies such as AI, Machine learning and IoT are integrated to ensure total 360 degree safety.

Benefits of collision avoidance systems include

- Safety to operators, workers and vehicles
- Efficiency improvement
- Compatibility to all type of equipment
- Ruggedness to work in any environment from -20 deg C to 60 deg C
- Incident reporting which will help in preventing incidents and analysing
- Eliminates “BLIND SPOT”
- Proximity warning based on systems selected and settings from 3-100 metres
- Camera systems from front/reverse to 360 bird eye view.

Success stories

VIN has manufacturing bases in Bahrain and Saudi Arabia and is in the process of opening a factory in the UAE to cater for



the local and African market. VIN has notched up some notable successes in the Middle East. These include Saudi Aramco, where its systems have contributed to the elimination of blind spots and avoidance of collisions.

“Saudi Aramco, which has a robust safety management system, has incorporated Proximity Warning Systems into their Construction Safety manual, to eliminate accidents / fatalities due to collisions, which are mostly because of blind spots,” explained Varghese. Saudi

“As of now we have more than 15,000 PWAS/collision avoidance systems working in Saudi Arabia, where we have been operating since 2013, with more than 70 per cent market share.”

Aramco introduced a Proximity Warning Alert Systems project whereby such systems were to be installed on all construction equipment working on Saudi Aramco projects, including vendor yards.

“We were one of the first few companies who manufactured these systems and first in the GCC region to develop and manufacture this system, according to the stringent requirements of ARAMCO,” said Varghese.

“As of now we have more than 15,000 PWAS/collision avoidance systems working in Saudi Arabia, where we have been operating since 2013, with more than 70 per cent market share,” he said. “We are proud of saving so many lives / accidents. Using our systems have

improved the safety statistics on accidents due to collisions.”

“Another big area where we should avoid collision is the Warehouse, where people and forklifts come in proximity and accidents happen, which results in injury/fatality and asset damage. In view of the same we created a collision avoidance system for Warehouse and we launched it as a “warehouse safety system,” he continued. He explained that forklift collisions in the aisles of industrial warehouses are a frequent occurrence, with one in six workplace fatalities linked to forklifts and 20,000 injuries caused by forklifts every year. “This is one of the biggest areas where you don’t necessarily have fatalities, but you have many accidents, and these accidents cost money. We have come up with a device which can help with aisle management, where pedestrians will hear an alarm when a forklift arrives.”

Commenting on the evolution of HSE Varghese said, “LTIs and fatalities are much reduced compared to ten years ago, but we have still much more to do. We have many technologies in our hands; we need to make the best use of these to eliminate incidents, and should not stop until we are 100 per cent incident free.” ❖



The VIN Technology Systems stand at the Dubai HSE Forum.

Enhancing health and safety with immersive technologies

The VR/AR Association (VRARA) highlights the benefits of immersive technologies in promoting a safe working environment.

“The global immersive media market is expected to grow at a CAGR of 76 per cent and reach up to US\$179bn by 2022.”

Dr Sana Farid, co-president of the VR/AR Association Middle East, addressing the Dubai HSE Forum.

GenZ, also known as iGen or centennials, ie the youth of the world, is a risk-averse group and is hypersensitive to workplace safety (see <https://ohsonline.com/Articles/2019/12/06/How-Gen-Z-Will-Lead-Workers-Safety-in-Technology>). They are well educated, and highly focused on curating a safety-oriented working environment. And being technologically savvy, they are spearheading innovative solutions to prioritise worker safety and establish a safe working environment, such as the IoT platform, Connected Safety. The platform is designed to connect workers, equipment, and locations, which enables the organisations to automate the safety process and enhance worker safety.

Many such innovative solutions have been developed to ensure workplace safety, such as

- Smart Personal Protective Equipment (PPE) which is connected to the Internet and delivers real-time safety information through smart helmets, glasses, cold wear, fatigue monitors, sensor clothing, and wearable technology
- Immersive training solutions, which help simulate the real-time working environment and help employees to understand workplace safety better.

The global immersive media market is expected to grow at a CAGR of 76 per cent and reach up to US\$179bn by 2022, according to a report by NASSCOM, *Growth of Immersive Media – a Reality Check*.

The UAE is progressive in terms of business growth and organisational expansion, and is highly focused on developing safety-oriented workplaces that improve the quality of work and life. With this motive, this year’s Dubai Health, Safety & Environment Forum 2019 emphasised the latest innovations to help businesses deal with challenges related to occupational health and safety. At the event, Dr. Sana Farid, co-president, VRARA, Middle East, an X-Reality and AI Strategist, shared her

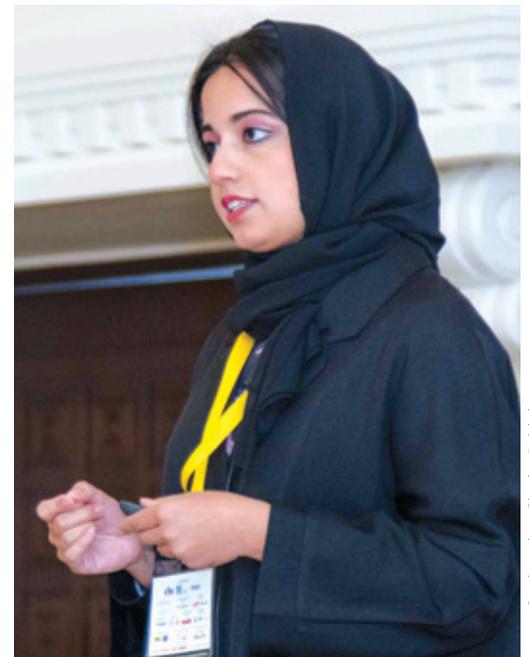


Image Credit: Alain Charles Publishing

thoughts on “Health & Safety Training Innovation - Through the Lens of Virtual Reality.”

In her session, she enlightened attendees about “how VR simulations can be helpful to create an actual training environment and how they can reduce the risk of new and uncontrolled workplace situations and real-time dangers through its use.” Her thoughts and ideas were powered by the benefits of immersive technologies in establishing a safe workplace environment. Experts predict that by 2025, immersive technologies will be omnipresent, just like mobile devices.

The Dubai Expo 2020 will also focus on the health and happiness of the world and will give innovative solutions related to opportunity, mobility and sustainability. With the participation of 190 countries and an audience of approximately 25

million, the Expo will be committed to set a new record in spearheading the business world with safety-oriented technology solutions. The Expo will witness the presence of innovators from across the world presenting their inspiring ideas about immersive technologies and their importance in empowering the world and enhancing the quality of life.

Improving workplace safety with VR-powered training solutions

As per the statistics of the National Safety Council, every seven seconds, a worker gets injured on the job. And the more staggering fact about the situation is that these injuries could easily be prevented if proper measures are taken. Workplace injuries can be substantially reduced by employing immersive training solutions.

To eliminate such occupational hazards, PIXO VR is developing ground-breaking virtual reality-based training solutions. <https://pixovr.com/hazard-recognition/>. These tech solutions are primarily designed for military, offshore drilling, construction, aerospace, healthcare, and first responders as these are the most hazard-prone domains. Employees are challenged to explore photo-realistic 3D workspaces to recognise potential safety hazards and curate a safety mechanism for the same, following OSHA standards.

Immersive learning tools are helping trainees to get the highest level of training even in critical scenarios, making them smarter to deal with emergency situations, and be prepared, as they practice all this and more in a completely safe environment. To find extensive solutions to these problems, innovation is the key. In a panel discussion at HSE Forum 2019, Salman Dawood Abdulla, executive vice president, EHSSQ, and Business Transformation, Emirates Global Aluminium, stated that “Incremental innovation or improvements are imperative, as they add and sustain value to existing processes, products and services.”

Immersive technologies leading innovation

A leader in innovating technology solutions, HP is collaborating on powerful VR solutions, including products like the HP-Backpack and Reverb Headset, which is set to revolutionise



Delegates at the Dubai HSE Forum were able to have a virtual reality experience.

organisational training with its better visualisations and improved immersive experience obtained through its high-resolution LCD. The backpack comprises a fully functional computer powered by 8th Gen Intel Core i7 CPU and an Nvidia RTX 2080 GPU to deliver 30 per cent better performance and 25 per cent faster graphics. The Reverb headset offers a sharp resolution of 2,160 by 2,160 pixels per eye, which makes workplace simulators even more realistic, giving a better learning experience. These devices are most suitable for workforce training as they give better visualisation, allowing users to identify potential hazards more easily. The system helps create a virtual environment similar to that of a workplace, and offers workers a controlled environment to understand safety concerns and find the most efficient measures for the same.

“Workplace injuries can be substantially reduced by employing immersive training solutions.”

The virtual reality-based e-learning market is estimated to reach nearly US\$339mn by the end of 2023, increasing at a CAGR of 42 per

cent, according to Market Research Future’s report *E-Learning Virtual Reality Market Research Report- Global Forecast 2023*.

Munfarid is working dedicatedly to enhance and improve the immersive learning environment. The institute is innovating augmented reality, virtual reality, and Artificial Intelligence programmes to match the needs of the Industrial Revolution 4.0, which is led by GenZ. Will Mason, co-founder & editor in chief, UploadVR states, “VR won’t supplant all traditional education methods but it will augment them, just like the Internet did.” These programmes are steadfast in changing the way we live, work, and communicate.

To foster such an immersive environment, the VR/AR Association (VRARA) gathers over 50,000 members around the world, focusing on improving practices and promoting immersive technologies through research. As Oladimeji Obimakinde – VRAR Association member, Nigeria says, “We are all students of life, and we are learning and making continuous efforts to implement that learning in setting up an ecosystem nurturing innovation and creativity.”

Everyone in this world should work collaboratively to inspire ideas and innovate technologies to ensure a safer, healthier and a better future for all humankind. ❖

Aiming for zero injuries to hands and feet

Swedish premium PPE company
Ejendals welcomes new health and
safety standards in the region.



Image Credit: Ejendals

“A good safety glove should feel like a second skin and be as protective as plate armour.”

ABOVE: An example from the Tegera Infinity range of safety gloves.

In Dubai and across the Middle East, safety standards are becoming increasingly regulated in order to protect the workers. This is something welcomed by Swedish premium PPE company Ejendals, which is uniquely positioned to meet these strict regulations with its carefully designed and certified safety gloves and shoes.

“Investing in safer workplaces makes companies perform better and strengthens trust and confidence within the organisation. It’s a sign that you as a company put workers’ safety first. This is in our DNA and our presence in the region is also in response to the quickly growing demand for high-quality products. Being a nimble and an asset-light organisation, we are responsive to the market’s

changing regulations and welcome collaboration with key customers,” says Amit Upadhye, regional sales director, Middle East and Africa, Ejendals.

A key product in Ejendals’ Middle East venture is the Tegera Infinity range of safety gloves. A good safety glove should feel like a second skin and be as protective as plate armour. Ejendals is proud to offer safety gloves that satisfy workers’ demands on comfort and flexibility, while also providing unparalleled protection against fluids, heat and sharp materials thanks to its unique coating.

Ejendals’ products are always tested in very tough conditions so that they never underperform in real situations where maximum protection is required. The Tegera Infinity glove is perfect for work

in oil and gas, petrochemicals, manufacturing and mining.

“Each glove in the Tegera Infinity series has been engineered with a specific work environment or application in mind. That is how we achieve such a high level of protection without sacrificing comfort and dexterity for the user. The common denominator for all the Infinity series gloves is the excellent fit, which is something that our development team has worked hard to achieve,” continues Upadhye.

Ejendals is a family-owned company based in Leksand, Sweden, which has produced premium quality PPE products for more than 70 years, spanning three generations of the family. Ejendal has a vision of zero injuries to hands and feet. ♦

Boosting business in the booming security market

The 22nd edition of Intersec will take place at the Dubai International Convention and Exhibition Centre from 19-21 January.

“The Middle East’s commercial security market will be worth US\$8.4bn by 2025.”



Image Credit: Messe Frankfurt

The leading trade fair for security, safety and fire protection will feature more than 1,300 exhibitors from 54 countries and is expected to attract more than 34,000 visitors from 128 countries. It spans seven show sections of Commercial Security, Fire & Rescue, Safety & Health, Homeland Security & Policing, Perimeter & Physical Security, Cyber & Information Security, and Smart Home & Building Automation.

The Middle East’s commercial security market will be worth

US\$8.4bn by 2025, registering a 16 per cent compound annual growth rate (CAGR) over the next two and a half decades, according to new research.

The forecast comes in a report by 6W Research, which says that growth is being driven by increasing infrastructure development and stringent regulatory policies, and is fuelling demand for super-smart hi-tech surveillance, access control and intrusion detection solutions.

The research shows the bulk of demand is coming from Saudi Arabia (29.9 per cent) followed

by the UAE (24.7 per cent), Qatar (10.2 per cent) and Kuwait (7.2 per cent).

Video surveillance

Headlining current demand are video surveillance systems, with research pointing to huge potential for advanced technology solutions.

“The segment is expected to continue its dominance as governments in the region are putting special focus on the installation of video surveillance systems across the Middle East,” says the report. “Increasing

Intersec 2020 will feature more than 1,300 exhibitors.

adoption of IP surveillance, video analytics, and smart storage would further push the segment growth in the coming years.”

6W Research findings are borne out by exhibitors signed up for Intersec

The Greek integrated IT solutions provider Terracom S.A. says cloud computing, artificial intelligence and smart technology will be key influencers for the sector. It will be at Intersec with its ground-breaking QR-Patrol cloud/mobile platform which facilitates real time management for patrol guards.

“It allows companies to monitor their premises and equipment and safeguard their lone workers,” explained Dimitrios Zacharakis, Terracom’s CEO.

“QR-Patrol’s design and functionality is based on Terracom’s long experience in security software and adopts the business logic of a Central Monitoring Station. It’s the first application worldwide to incorporate in its arsenal Internet-of-Things technologies such as beacons and wearables.”

Massive overhaul

Zacharakis believes the commercial security sector is on the verge of a massive overhaul with conventional solutions being relegated to the past. “Up to now most companies have turned to traditional systems for their security needs, entailing numerous limitations such as the lack of real-time control and instant crisis management. This offers us a great opportunity to penetrate the market using a smart real-time solution that can cover the industry’s needs.”

Also planning a regional push at Intersec is Dutch IOT platform AlarmSecur.com which integrates



Fire & Rescue will be the biggest segment at Intersec 2020, with more than 430 exhibitors.

sensor triggered devices with CCTV to issue push alerts to phones seconds before the sensors are triggered. At Intersec, the company will launch into the region the smallest 4GG videophone which features facial recognition.

“Cloud computing, artificial intelligence and smart technology will be key influencers for the sector.”

AlarmSecur.com’s CEO Roderik van der Touw says the sector’s future will be dominated by super-smart solutions. “This will be a growth in device integration with video and more video analytics and AI, like facial recognition,” he explained. “There is simply more demand for reliable, and high-resolution video security.”

Dubai’s own video management software provider

Digifort says the commercial security sector is already experiencing total transformation. “Far beyond traditional video security, the new wave of artificial intelligence and application solutions based on deep learning, are helping us to make better sense of the skyrocketing data we are faced with today. This new level of proactive response is set to help change the future of video surveillance operations,” explained Tooma Chong, director of Digifort Pty Ltd.

At Intersec, Digifort will demo its latest 7.3 VMS technology as well as facial recognition, video analytics and audio solutions.

Technology convergence for future security needs will be high on the agenda at the Intersec Intelligence Forums 2020 which features conferences, workshops, roundtables and live demos.

“The Intersec Future Security Summit will track the sector’s transformation when experts analyse critical security threats, examine security loopholes in

business ecosystems and discuss how cutting-edge technologies can be tailored to meet evolving security requirements,” said Andreas Rex, show director at Messe Frankfurt Middle East. “As the first Intersec of the new decade, it’s appropriate to dig deep into the dynamics of the smart technology, including AI and ICT, which will inform how we are all kept safe in the workplace of the future.”

Commercial Security will be the second largest segment represented by exhibitors at Intersec, hosting an expected 375 out of the 1,200 organisations on the show floor. Fire & Rescue will form the largest section with more than 430 exhibitors, followed by Safety & Health (140 exhibitors), Information Security (120 exhibitors), Homeland Security & Policing (90 exhibitors), and Physical & Perimeter Security (50 exhibitors). ♦

More information is available at: www.intersecexpo.com.

New styles for structural firefighting

Safety clothing

Bristol Uniforms has launched its first-ever selection of stock styles for structural firefighting, which will be on display for the first time at Intersec.

A choice of two styles is currently available, both conforming to the European CEN standard EN469 Level 2.

The Ergotech Action stock design includes an anti-wicking barrier on the cuffs and hems, underarm gussets and pleated back panel for improved ergonomics, knee reinforcement, and numerous pockets, loops, and rings for equipment. The kit is made up of a navy TITAN1220 outer, Gore Crosstech Fireblocker moisture barrier and a quilted aramid felt and viscose inner lining.

The XFlex stock design features elbow reinforcement, ergonomic 3D knee pads with reinforcement to make kneeling more comfortable, plus an adjustable waistband, a removable braces system and a knife pouch in the trouser. It is made up of a gold PBI Max outer, Gore Crosstech Airlock moisture barrier and an aramid viscose inner lining.



Image Credit: Bristol Uniforms

Bristol Uniforms will be displaying new styles at Intersec.

Bristol will soon be unveiling an additional Ergotech Action stock style which conforms to the NFPA standard 1971:2018 for protective ensembles for structural fire fighting and proximity fire fighting.

Similar to the CEN certified version, it features a Gore Crosstech moisture barrier and Hainsworth TITAN outer layer, but this time in desert tan. There

are also distinguishable lined box bellow pockets on both the coat and trouser, and thumbholes on the cuff to prevent exposure around the wrists.

Roger Startin, Bristol Uniforms' joint managing director, said, "These new styles provide our customers with the option to purchase a kit that is cost-effective and immediately available, without compromising on quality."

Bosch to showcase latest products

Security cameras

Bosch Building Technologies will showcase its latest security, safety and communications products at Intersec 2020. These include the new range of IP 3000i cameras with built-in essential video analytics as standard, which will be available in micro dome, mini dome, bullet and turret options with resolutions of up to 5 MP for both indoor and outdoor use.

Bosch will also showcase the MIC IP family of rugged moving cameras that are built to perform in practically any environment. The housing of the new 7100i has been enhanced with a ruggedised, corrosion-resistant design that makes it suited for challenging applications and extreme conditions.

Hakn Ozyigit, regional director of Security Systems & Building Technologies, Robert Bosch Middle East FZE commented, "It is important for innovation to leap forward and diversify within technology and service offering to successfully meet the demands of the ever-evolving security and functional needs of buildings."

France to show a strong presence at Intersec

French pavilion

Business France, the national agency supporting the international development of the French economy, will be organising the French presence at Intersec 2020. There will be two French pavilions specialised in Fire & Rescue (Hall 4) and Commercial Security, Information Security, Perimeter & Physical Security (Sheikh Saeed 1).

French companies will showcase solutions at the cutting edge of innovation in sectors

such as fire prevention and fire fighting, PPE, infrastructure protection and safety.

Frederic Szabo, managing director, Business France Middle East stated: "The Middle East region represents a particularly attractive market for the safety and security sector, being expected to grow by about 10 per cent per year by 2022. Increasing the capabilities of infrastructures, securing power plants and oil complexes, protecting sites and people at major events to come in the region, are all

excellent reasons for French experts to extend their presence in the region and attend the Intersec trade show".

France offers strong leadership in skills such as mathematics, algorithms, imaging software, identification and cybersecurity. Another French asset is research and innovation capabilities through its extensive network of state-of-the-art laboratories. France is also strong in defense and digital technology industries (biometrics, smart cards, etc.)

The latest advances in gas detection

Technology is driving safety improvements in gas detection, delivering greater connectivity, portability and accuracy.

“Much of the innovation in recent times has focused on improving safety for operatives, while also delivering high-accuracy data.”



Gas detection has always been fundamental to safety across the energy field. This is no different today, though technology has made it easier with the arrival of portable, internet-enabled and other devices.

Major players in the global wireless gas detection space include the likes of Siemens, Honeywell and Thales. Much of the innovation in recent times has focused on improving safety for operatives, while also delivering high-accuracy data.

Agilent Technologies recently introduced its new micro gas chromatograph – the Agilent 990 Micro GC system – intended to

monitor the safe distribution, calorific valuation, and odourant level in natural gas. With double the battery life of previous models, the portable system provides over eight hours of remote operation for many applications. An optional mobile browser interface allows remote connectivity with other devices such as laptops or tablets, and allows hands-free, unattended operation in places that are more difficult, or potentially less safe, for humans to access.

Compact and rugged, it delivers laboratory-quality data whenever and wherever it is needed, according to Agilent’s

Eric Denoyer. “This not only improves scientific and business outcomes for our customers but also helps improve the quality of life in the communities we serve.”

Customisable gas detection controllers

UK-based Crowcon, a part of the Halma group, recently released a new series of customisable gas detection controllers which, it says, offer great versatility. The modular design of the new GM series controllers means each can be built to the user’s specification, Crowcon said in a statement.

“This includes the choice of input and output types and

Technological advances are revolutionising worker safety,

channel quantity, as well as mounting type and power supply options. The controllers can also be upgraded by adding additional functionality at any time after the initial installation.”

There are three models in the new range: the GM16 provides up to 16 channels, GM64 has 64-channel capacity and the GM128 offers up to 128 channels.

“With the GM controller series targeting hazardous gas monitoring applications, the easy-to-use navigation and configuration features improve safety by minimising the time users need to spend in potentially hazardous locations,” Crowcon said.

The controllers can be specified for traditional 4-20mA analogue communications if that is what the user already works with. However, they can also be supplied with digital addressable communications, which allows multiple fixed detectors to be linked together on a single communication loop. “This drastically reduces the cabling and labour costs, as well as the time taken to complete the overall system installation.”

It added: “Furthermore, the ability to view data and configure the controller remotely improves safety even further. All data and functions can be accessed from the controller front panel or the information can be fed to a remote fixed computer screen or mobile device with internet capability.”

Enhanced gas detection offering

Honeywell has enhanced its gas detection offering with the acquisition of Rebellion Photonics, a Houston-based provider of innovative, intelligent, visual gas monitoring solutions with an aim to

maximise safety, operational performance, emissions mitigation and compliance in the oil and gas, petrochemical and power industries.

Rebellion offers a real-time monitoring platform that visually identifies and quantifies gas releases to quickly detect and analyse leaks and keep workers safe. The intelligent monitoring system incorporates a sophisticated AI-driven software platform that automatically alerts plant operators if a gas leak, fire or security issue is detected and provides detailed analytics.

Rebellion’s technology offers a cost-effective monitoring solution by reducing the need to install, maintain and calibrate sensors throughout a site. Its customers include some of the world’s largest oil and gas, petrochemical and power companies, and its solutions are deployed at refineries, oil rigs, offshore platforms, pipelines and power plants.

“To rapidly respond to a gas leak and keep their facilities safe, oil and gas, petrochemical and power companies are deploying Rebellion Photonics’ next-generation visual monitoring technology powered by machine learning,” said John Waldron, president and CEO of Honeywell Safety and Productivity Solutions.

Robert Kester, CEO of Rebellion Photonics, said, “Automated visual monitoring is the future of gas leak detection. Combining our products with Honeywell’s platform will make this the new industry standard for safety and environmental monitoring globally.”

Rebellion provides a patented gas cloud imaging system that incorporates cameras and proprietary hyperspectral

“Today’s advanced, portable gas detectors also gather and store invaluable data.”

imaging technology to pinpoint the source of a leak and measure the volume and concentration of gases. The company also provides real-time fire detection and intrusion and surveillance monitoring solutions to keep plants and facilities safe.

Ensuring compliance

Another major player in the gas detection field is MSA, whose Safety io division was created to pioneer technology advancements. It has developed Safety io Grid Fleet Manager, a cloud-based platform for managing the health of fixed and portable gas detection devices.

“One of the major goals was to ensure that information delivery was carefully prioritised: that customers received the critical information they needed when most relevant,” the company says. “It’s also about recognising when data is useful; whilst gas levels in an area may not reach compliance thresholds, the detection of a low-level anomaly can indicate whether investigative work may be warranted.”

Safety io’s Grid Fleet Manager – software service for managing fleets of portable gas detectors – facilitates the monitoring of the maintenance, calibration and testing of gas detector fleets, ensuring they are available, functioning correctly, ready for use and compliant. It simplifies the management of the fleet of portable gas detection, by gathering and compiling data automatically, as devices are

returned and docked after use and bump tested or calibrated before use. It focuses on prioritising the most important information, prominently highlighting when and where urgent action is required. An intuitive fleet dashboard shows top-level, prioritised metrics and alerts, each of which can be expanded to reveal granular-level detail on any device or event. Fleet Manager provides alerts on sensors that require attention so that the equipment at risk can either be maintained or replaced before it fails.

Safety managers are able to see when, where and by whom a device was last used, when it was last tested or checked, and whether any further tests are needed.

As well as providing vital early warnings about leaks, today’s advanced, portable gas detectors also gather and store invaluable data – recording critical information both about incidents and also the working practices of operatives. This information, held locally on each device, can be downloaded when the device is docked and – ideally – properly analysed for insights. By constantly pulling and storing data from all devices, Fleet Manager provides valuable insights to safety managers on non-safe behaviours.

The system can also help to achieve compliant operational practices. Whenever a gas detector issues an alarm, operatives must follow strict Standard Operating Procedures. If these are ignored, these occurrences are recorded and highlighted, allowing safety managers to identify those posing a risk, and swiftly move to re-educate or retrain them. ♦

Protecting the workforce and meeting standards

Hughes Safety advises how to ensure your emergency safety shower provides tepid water, whatever the climate.

The ANSI Z358.1-2014 international standard stipulates that emergency safety showers must deliver 15 minutes of tepid water to treat a casualty in the event of accidental exposure to contaminants. Tepid water, between 16-38°C, offers the optimum temperature range to enable a casualty to remain under a safety shower for at least 15 minutes to ensure a thorough decontamination. At temperatures above 38°C (100°F) there is the added danger of scalding and increased absorption of harmful chemicals into the skin.

In extreme hot climates, such as the Middle East, this can be challenging due to solar radiation heating the water within the pipes or tank of the safety shower to dangerous levels. So, what are the options in such environments to ensure the provision of tepid water?

Emergency tank showers can be fitted with a chiller or cooling system to maintain the water in the tank at temperatures within the ANSI compliant range. Tank showers are perfect in environments where a constant supply of water cannot be guaranteed, equally if there is insufficient water pressure or inadequate flow rates these models are essential.

Hughes provides a range of



Image Credit: Hughes Safety

“Tank showers are perfect in environments where a constant supply of water cannot be guaranteed.”

cooling options suitable for both hazardous and non-hazardous environments. However, in many remote regions it can be difficult to provide a reliable power source for the chiller units. With the latest innovation, the Hughes Zero Power Cooler, this is no longer a problem. The system works in two phases: It reduces the impact of high ambient temperatures in the daytime and cools the water in the tank during the night, ensuring the delivery of safe and tepid water without the need for power and with zero maintenance or running costs.

Alternatively, where there is a constant water supply, self-draining safety showers should be specified for hot climates. The

design of these showers allows the standpipe to only fill with water when the shower is activated and drain when the valve is closed to prevent stagnant water in the standpipe overheating from solar radiation, thus removing the risk of further injury to the operator. ♦

To learn more about the Hughes Zero Power Cooler visit:

www.hughes-safety.com/zpc.

To discuss tepid water solutions for your environment contact Hughes today. We can develop a customised solution for your site, whatever the challenge.

T: +44 (0)161 430 6618

E: sales@hughes-safety.com

W: www.hughes-safety.com

ABOVE: The Emergency Tank Shower in action.



Improving health and safety with temporary works

Paul Williams, divisional managing director for the Middle East at RMD Kwikform, discusses the findings from respondents in the region to its survey on the impact of temporary works on health and safety, and what contractors can learn.

ABOVE: RMD Kwikform's Ascent 200 safety screen system is designed to provide complete protection for workers and public on high rise construction projects.

Recent research undertaken by RMD Kwikform, which surveyed a range of leading general and specialist contractors in the construction industry, as well as engineering consultants, looked into areas where temporary works can have a significant impact on improving health and safety for site operatives.

Health and safety should be a top priority for contractors and workers in the construction industry. Nevertheless, 56 per cent

of the total respondents taking part in RMD Kwikform's recent research said individuals on site needed to take more responsibility for their own health and safety.

While half of those surveyed said contractors need to work harder to improve site conditions, it was surprising to find more felt it was the role of the individual to ensure they were meeting the right health and safety standards, having undertaken the appropriate preventative

measures. This tension between individuals on site taking personal responsibility for health and safety, and many believing that the onus is on contractors themselves to improve conditions, is key to addressing this issue. Personal responsibility is important, but an employer's role in providing a safe working environment – and all that entails in terms of equipment and training etc. – is paramount.

Indeed, when asked whether



Image Credit: RMD Kwikform

current health and safety regulations were already adequate, it was respondents in the MENA region that were least convinced of this. Only 15 per cent felt current regulations are sufficient. However, even in Europe – a highly regulated market when it comes to health and safety – only 18 per cent believed regulations were satisfactory.

Prioritising health and safety features

It has become clear that there is a widespread need for safer methods of construction to be introduced. Many modern formwork and falsework systems used for commercial building

projects often have integrated safety features – such as working platforms that are protected and sealed off during lifting – but features like this are generally not prioritised. Indeed, it is often the speed of erection, ease of installation and the total labour hours required that are ranked as more important. Contractors would clearly benefit from prioritising health and safety features of equipment, however.

For those involved in commercial building projects using formwork and falsework systems, multi-level safety screens – which give access to the building façade below the wet deck level – are seen as playing a key role in

improving construction safety. Forty-nine per cent agreed that they offer productivity gains, while also improving health and safety. Thirty-five per cent, the second highest ranked finding, said that multi-level safety systems also help speed up working cycles on the façades.

Indeed, when it comes to the issue of debris protection, safety screen systems are the most popular solution, with debris skirts and standard edge protection systems with toe boards considered the next most important preventative measures.

Safety screen innovations

For those seeking an assured debris protection solution, the latest safety screen innovations can help dramatically improve health and safety for those on site. Ascent 200 – RMD Kwikform's new safety screen solution – was developed after extensive market and customer research, and addresses key challenges surrounding health, safety and debris containment.

One feature is the use of slab jaw brackets that, once opened, allow screens to be removed without having to lift the system up the building. This not only reduces the crane height required but also helps minimise the use of cranes altogether for this job, further increasing on-site safety.

As part of its research, RMD Kwikform looked into the regulations and attitudes towards the 'flying' of equipment on sites, via cranes. What contractors are permitted to do around 'flying' equipment is largely dependent on specific site conditions, such as the proximity of neighbouring buildings. While 'flying' equipment using cranes is standard practice in the Middle East, measures that

can help limit the use of cranes should be encouraged to improve health and safety.

Ascent 200 has also been designed to accommodate complex building geometries, which is why its multiple screen options were developed. Each option offers the highest levels of protection and sealing, while offering customers a choice based on the project specification and shape of the building.

Finally, slip form solutions have an increasing role to play in commercial building projects, and have become popular because of how they can help speed up project delivery times. Nevertheless, these systems have safety implications because they are constantly moving and are therefore not always viable for projects in busy city centres. It is important for contractors to bear this in mind.

Ultimately, both contractors and individuals need to work together to ensure health and safety risks are managed and prevented, while upholding best practice at all times. Contractors should empower individuals to ensure on-site health and safety is consistently championed, while individuals should take responsibility of making sure rules and regulations are adhered to. By considering some of the latest health and safety features available for temporary works systems, a safe site can be assured. ❖

To download the new report from RMD Kwikform, 'High-rise Construction: Driving Safety & Productivity', please visit www.rmdkwikform.com/ae/systems/commercial_building. For more information on RMD Kwikform, please visit www.rmdkwikform.com/ae.

Training - the driving force for the best HSE performance

Investing in staff training is mission-critical for workplace safety, says His Excellency Saif Humaid Al Falasi, Group CEO, ENOC.

“The most crucial aspect is in addressing the challenges under ‘human factors’.”



Image Credit: ENOC

An in-depth study on work-related incidents in the oil and gas sector, published in *Energy and Environment Research*, highlights that human factors had the most significant impact on workplace safety and that a hazardous working environment was the cause for more than half of the Occupational Work Related Incidents (OWRIs).

These findings present two important perspectives that are key to building an organisational Health, Safety & Environment (HSE) culture. The first is the need to continuously upskill the team to ensure that the impact of human factors on OWRIs can be

minimised. The second is the strategic imperative of having an overarching Health and Safety policy that focuses on the safety and security of all personnel and premises.

Promoting health and wellbeing is not just a commitment for companies; in fact, the UN Sustainable Development Goal SDG-3 with the objective to ‘Ensure healthy lives and promote wellbeing for all at all ages’ and SDG-8 with the objective to ‘Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all’ underpin the need for all stakeholders – not just in the energy sector – to

work towards ensuring the highest levels of safety and security at the workplace.

In driving a world-class HSE framework, the most crucial aspect is in addressing the challenges under ‘human factors’ – a term that describes the “interaction of individuals with each other, with facilities and equipment and with management systems.” PwC’s report on *Leadership Commitment for Transforming HSE Culture*, states that HSE considerations must be seen as a “core value inherent in all operations” for incident-free operations as well as for maintaining environmental sustainability.

ABOVE: HE Saif Humaid Al Falasi, Group CEO, ENOC.

Keeping pace

Over the years, the framework of HSE has also undergone significant change – and it is important for organisations to scale up their HSE policy to keep pace with the shifts. Organisations today follow an integrated approach to HSE management, taking into consideration several aspects such as organisational objectives and structure. The most important driver of such a professional HSE management system is the resolve of the leadership to set in place and ensure the implementation of policy and protocols.

It is crucial for companies and organisations to place considerable importance on ensuring that world-class HSE policies are underpinned by an efficient and robust compliance culture. Developing detailed guidelines can only enable an organisation to reach so far; the key is to ensure that the formulated policies and governance standards are adopted and practiced by all employees. This has been the focus of ENOC since our inception.

“We invest considerable effort in upskilling our team on HSE best practices.”

In addition to setting in place a robust HSE policy, which is updated regularly in tune with the emerging safety related technologies, we have a rigorous follow-through process to monitor the implementation and adoption of HSE best practices.

Today, we pride ourselves in upholding stringent HSE standards



Continuous training is essential to achieve the highest standards of health and safety.

and as a result, we achieved more than 40 million safe work hours without any fatality or serious injury last year. The overall Lost Time Injury Rate (LTIR) was reduced by 75 per cent compared to 2017, largely due to efforts geared towards increasing HSE training hours to 124,352 – twice our estimated target.

Continuous training

The driving force in achieving this outcome is continuous training of our staff. We invest considerable effort in upskilling our team on HSE best practices, which is underlined by a group of ten Emirati ENOC employees recently completing a four-week intensive training programme at the prestigious International Fire Training Centre in Darlington, UK. They participated in rigorous coaching on structural firefighting, oil & gas firefighting and hazardous material handling (HAZMAT). This prepared them

to take up the role of firefighters at the ENOC Fire Emergency Response Centre in Jebel Ali. We are the first energy company in the UAE to offer our employees such an opportunity, a move that highlights our commitment towards raising industry standards.

We have also further enhanced ‘wellbeing’ standards as our subsidiary Horizon Terminals Limited (HTL) partnered with DP World to provide accommodation at Jebel Ali Free Zone for our heavy-duty drivers to reduce stress and fatigue. We have more than 150 heavy duty tanker drivers making more than 250 trips per day to our different sites and operations, and this move has already shown positive results in reducing fatigue and improving their general ‘wellbeing’.

HTL has also teamed up with IRCA to provide a flexible, user-friendly, engaging and interactive training and testing package that fits the schedules of

all – from operators to the management team. Further, a Learning and Competency Management System is being implemented to serve as a one-stop-shop for all, which provides learners and their managers with the ability to know what learning is required, assign it, execute it and track progress.

ENOC cares for people and environment, and the strategic vision of our HSE programme is ‘No Harm to People & Environment’. Our goal for 2025 is achieving operational excellence, where we move from compliance to a generative culture that looks at environmental stewardship as a key pillar for a sustainable future. Everyone who works for ENOC or is involved in our business activities is a partner in this transformational journey and we all share a common goal, i.e. for each one of us go back home safely every day. ♦

متغيرات؛ مثل تصميم المبنى ومواد البناء ونقاط التثبيت ومتطلبات التحميل. إذ يتعين على عمال تركيب الأنظمة أن يكونوا على دراية تامة بأنظمة الشركة المصنعة وسيخضعون لتدريب متخصص لضمان ممارسة متوافقة بموجب الإداء بالتوقع. وتتطلب المنشآت التحديثية إجراء تحقيق تحضيري مفصل. وسيقوم القائمون على تثبيت الجودة بإجراء مسح شامل للموقع قبل بدء أي عمل ومشاركة أي مخاطر أو نتائج غير متوقعة تؤثر على اختيار أو نشر أنظمة الحماية من السقوط في تقرير مكتوب. وبمجرد تثبيت الجهاز، سيكون عامل التركيب مسؤولاً عن التشغيل والاختبار والصيانة المستمرة وفي بعض الحالات، عمل الترتيبات اللازمة لتدريب المستخدم.



نيكولاس أبري

عالية الجودة عن بعضها البعض، كما أنها تضمن الأداء الأمثل والتوافق التنظيمي الكامل طوال سنوات عديدة. فالعلامات التجارية، التي تحظى بالاحترام، تقدم وظائف أثبتت جدارتها، مع حلول قوية تعمل على زيادة سهولة الاستخدام إلى أقصى الحدود وتقليل مخاطر أخطاء المستخدم أو تعطل المعدات. وبالإضافة إلى ذلك، فإن المنتجات ذات الجودة المنخفضة عادة ما تبلى أو تتحلل أو تتعطل بسرعة أكبر، مما يتطلب الاستبدال قبل الأوان وزيادة التكلفة الإجمالية للملكية. وفي اللحظة التي يقوم فيها المقاول بتبديل مواصفات إحدى المعدات، فإنه يحتمل أن يعرض أرواح الأفراد للخطر.

تحقيق ما نصبو إليه: عمال تركيب الأنظمة

سواء أكان هذا المشروع يشمل مشروعاً جديداً أو مشروعاً تحديداً، فإن سلامة معدات الحماية من السقوط لا تقل قوة عن جودة التركيب. فمن المرجح أن يمتلك القائمون على تثبيت الجودة، الخبرة والدراية اللازمة للتغلب على أي تحديات يواجهونها، حيث يكون تثبيت الأجهزة على إصدارات جديدة عادة أكثر مباشرة للتخطيط والإدارة. وإذا أعدت مواصفات ونُفذت دون تغيير، فإن أي معدات مقترحة ستكون بالفعل متوافقة بالكامل مع

على سبيل المثال: المهندسون المعماريون أو الاستشاريون أو المهندسون أو المتخصصون في صناعة أنظمة الأمان، مثل عمال تركيب الأنظمة المحترفين. وستقيم أي مواصفات مدروسة بالكامل المخاطر الفريدة التي تشكلها البنية، وستأخذ بعين الاعتبار المتطلبات المحددة اللازمة للوصول والأعمال الآمنة، كما سيضمن الامتثال التام لجميع الشروط المتعلقة بالسلامة والصحة والشروط التنظيمية المحلية والوطنية. ومن الأهمية بمكان أن يحدد المتخصصون الشركاء والمصنعين الذين يقدمون الأنظمة والمعدات الأكثر ملاءمة للتطبيق. وفي كثير من الحالات، سيرجعون مباشرة إلى المصنعين للحصول على توضيح تقني، ومن ثم يمكنهم التحقق من الجودة وميزات السلامة والأداء. وبالنسبة لمنطقة الشرق الأوسط، فإن اعتماد نظام المواصفات هذا مهم بشكل خاص بالنسبة إلى معدات الوقاية الشخصية. ولا ينبغي للمقاولين النظر إلى معدات الحماية الشخصية على أنها مجرد شراء سلع، إذ يجب التفكير في خصائص الجودة والمتانة وإمكانية ارتدائها وأداء السلامة والأداء على نطاق واسع بين الميزانية والعلامات التجارية الأكثر تميزاً.

العنصر الثاني في السلسلة: المقاولون

يمكن القول بأن المقاولين هم اللاعبون الأكثر نفوذاً في الحد من مخاطر الحماية من السقوط (أو زيادتها). لما ذلك؛ لأنه في الوقت الحالي لديهم القدرة على تنفيذ مواصفات معدات السلامة المعينة أو، إذا رغبوا في هذا، اختيار تعديلها أو تقليلها. فهذا ما يسمى بمصطلح «تبديل المواصفات» والذي يقوم على عاملين اثنين: الضغط التجاري قصير الأجل (تقليل التكلفة للحفاظ على هامش الربح) هذا من ناحية، ومن ناحية أخرى، عدم فهم الآثار المترتبة على ما يعتقدون أنه مجرد استبدال للمنتج أو النظام. وقد أضحت التداعيات واسعة النطاق، فقد ساعدت الهندسة المتقدمة والاختبارات الصارمة على فصل المعدات

الرابط الأخير والأكثر أهمية: المستخدمون النهائيون

يُجرى تثبيت معدات الحماية من السقوط لسبب ما؛ إذا كان العمل على ارتفاع آمن، فيجب استخدامها. ويعتبر التدريب الجيد للمستخدمين النهائيين، والذي يفضل أن يكون من مقدم خدمة معتمد، على نفس القدر من الأهمية التي يتسم بها الجهاز نفسه. ما هي المخاطر؟ لماذا تم اختيار هذا الجهاز الخاص؟ كيف يجب استخدام النظام؟ ماذا يحدث إذا كانت هناك حاجة إلى الإنقاذ؟ يتمثل الهدف من ذلك في خلق المستخدمين الذين يفهمون مخاطر العمل على ارتفاع ويتقنون (وراعيون) في استخدام الأنظمة ومعدات الحماية الشخصية المتوفرة. ولا شك أن العمل في الأماكن المرتفعة يتطلب نهجاً شاملاً في التعامل مع السلامة، وهو النهج الذي يرى كل طرف في السلسلة يقوم بدوره، وكلما أصبحنا جميعاً أكثر اطلاعا وتعلماً ونشاطاً بشأن الخيارات والتحديات التي تواجه القطاع، من منع تبديل المواصفات على نحو غير مستنير إلى تحسين كفاءة المستخدم من خلال التعليم والتدريب المهنيين، قللنا من خطر الإصابات الخطيرة أو حتى حالات الوفاة جراء السقوط. ولذلك، ينبغي عليك أن تختار - بعناية شديدة - شركاء الحماية من السقوط وكذلك المعدات.

يناير/كانون الثاني

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الفعاليات





العمل على ارتفاع شاهق ينطوي على المخاطر

سلسلة أقوى للحماية من السقوط

في هذا المقال، يوضح نيكولاس أبري، رئيس قسم المبيعات، أنظمة الحماية من السقوط وحلولها MEAIRR في شركة ماين سيفتي أبلينانسيز (MSA Safety)، طرق وأسباب تحمل مسؤولية كل رابط في سلسلة أمان الحماية من السقوط، وذلك للعمل على تقليل المخاطر إلى أدنى حد والمساعدة في ضمان عودة الأفراد إلى منازلهم سالمين.

وإلى حد كبير، أصبحت تشريعات الصحة والسلامة وممارسات العمل الآمنة في الشرق الأوسط الآن راسخة وشاملة، وتعكس المعايير المعتمدة في المملكة المتحدة وأوروبا. ومع ذلك، لا تزال الحماية من السقوط تمثل مجالاً جديداً نسبياً للسلامة داخل المنطقة. ويمكن أن يختلف الوعي بأنظمة الحماية من السقوط ومعدات الحماية الشخصية (PPE) على نطاق واسع. وتكمن النتيجة في نقص عام في المعرفة في السوق حول أهمية تحديد المنتجات المناسبة لمختلف سيناريوهات العمل في الارتفاعات.

بداية سلسلة الأمان: المتخصصون

يعد تحديد مواصفات نظام الحماية المناسب من السقوط للمبنى أو الهيكل في البداية، أحد أهم الروابط في سلسلة الأمان المرتبطة بالعمل في الأماكن المرتفعة. في حين قد تكون الأطراف التي تتحكم في هذه المواصفات مستقلة،

ذي الخبرة والكفاءة. أما إذا كنت مستخدماً نهائياً، فعليك الإصرار على استخدام المعدات الأعلى جودة والأكثر أماناً وتلقي أفضل تدريب ولا ترضى بأي شيء أقل من الأفضل، فقد تعتمد حياتك على ذلك.

الوقاية من الحوادث: الاتجاهات الإقليمية

في الماضي، كان قطاع البناء في منطقة الشرق الأوسط، الذي يضم سلسلة من مشاريع البناء التي لا تنتهي، مسؤولاً عن نسبة عالية نسبياً من حوادث أماكن العمل. ففي البحرين على سبيل المثال، وفقاً لإحصائيات وزارة العمل، كان قطاع البناء مسؤولاً عن 188 حادثاً تم الإبلاغ عنها في عام 2018، أي أكثر من أي قطاع آخر. وكانت 13 حالة وفاة من بين 20 حالة وفاة في صناعة البناء والتشييد في عام 2017 بسبب حالات السقوط من الأماكن المرتفعة. فالوعي المحدود هو أحد المساهمين الرئيسيين في مثل هذه الحوادث.

لا يوجد مفر من حقيقة مفادها أن العمل على ارتفاع يمكن أن ينطوي على مخاطر كبيرة. فعلى الرغم من حسن التخطيط وتوفير الاحتياطات اللازمة لتخفيف الخطر، فإن احتمال السقوط موجود دائماً. وإذا حدث ما لا يمكن تصوره، فإن حياة العمال تصبح على المحك. ولهذا السبب، سواء كنت متخصصاً أو مقاولاً أو مثبت أنظمة أو مستخدماً نهائياً، فإنك ملتزمٌ - مهنيًا وقانونياً وأخلاقياً - بتوفير حلول العمل في الأماكن المرتفعة الأكثر أماناً على أعلى مستوى ممكن. وتشكل هذه الجهات المعنية - مجتمعة - ما تشير إليه شركة ماين سيفتي أبلينانسيز باعتباره «سلسلة أمان العمل في الأماكن المرتفعة». فمن شأن أي ارتباط ضعيف في هذه السلسلة أن يعرض السلامة للخطر وأن يؤدي إلى خسائر في الأرواح. فإذا كنت متخصصاً، فعليك تحديد أفضل معدات الحماية من السقوط، والإصرار على الالتزام بها. أما إذا كنت مقاولاً، فلا تقم بتغيير المواصفات لصالح منتج أقل جودة، وعليك دائماً تكليف عمال تركيب الأنظمة

في هذا العدد ...



تحليلات:

سلسلة أقوى للحماية من السقوط

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التطورات: تطورات السوق.

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| Company | Page |
|--|------|
| Al Garawi Group | 8 |
| Ejendals AB | 2 |
| Hughes Safety Showers Ltd | 5 |
| Safety Technology International Ltd..... | 7 |

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