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# Health, Safety & Security Review

VOLUME 5 | ISSUE 4 2019

## Middle East

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Working at height

Safety clothing

Mitigating human error  
in the workplace

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## editor's note

OUR DUBAI HEALTH, Safety & Environment Forum, now in its fifth year, has gone from strength to strength, and this year's event has attracted a stellar cast of expert speakers. As always, it will offer a platform to discuss critical HSE issues and how the latest best practices and technologies can advance occupational health and safety. Don't miss it! (P11). We offer advice for selecting protective clothing (p23), improving hydrocarbon process safety (p16) and creating a stronger fall protection chain (p24). See also our show previews for ADIPEC and A+A, where exciting new products will be launched.

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## Dubai signs air quality declaration

### AIR QUALITY

As part of the UAE's 2021 Sustainability Agenda and Dubai's commitment to join the global battle against climate change, the emirate has signed the Air Quality Declaration alongside 34 leading global cities at the C40 World Mayors Summit 2019.

Abdulla Mohammed Al Basti, secretary-general of the Executive Council of Dubai and vice-president of the Asian and East Asian cities in the C40 Steering Committee, said, "Improving air quality for the Emirate's residents and visitors is at the top of our environmental health priorities, and we are confident this signing will contribute to furthering our sustainability agenda, and to a healthier environment for all."

Humaid Mohammed Al Qatami, director general of Dubai Health Authority, said, "Climate change is one of the most pressing issues affecting the global community today, and taking part in the Air Quality Declaration is a significant step towards unifying global efforts in reducing climate change's effects



Dubai is set to achieve its 90 per cent clean air target by 2021.

Image Credit: Adobe Stock

on the environment."

The C40 Summit provides a platform for cities to establish strategic partnerships and discuss challenges of climate change, as well as come up with effective solutions to tackle it.

"We've implemented a number of strategic projects in coordination with the General Secretariat of the Executive Council, including the Air Quality Strategy 2017-2021, which we launched in 2017. Our city will achieve the national target of 90 per cent clean air by 2021," said Dawood Al Hajri, director-general of Dubai

Municipality.

The Air Quality Improvement Declaration obliges cities to set ambitious targets to reduce pollution; implement policies to raise air quality by 2030; and publish periodic reports on progress. They have agreed on a range of policies and programmes to achieve that goal, including: encouraging public transport; low or zero-carbon emissions; encouraging alternative modes of transportation such as walking and cycling; and motivating the involvement of private and public entities to create a better future.

## Middle East companies awarded SAFETY AWARDS

A number of Middle East organisations rank in the British Safety Council's 2019 Sword of Honour and Globe of Honour awards, which recognise the exemplary management of health, safety and environmental risks by businesses around the world.

Dubai Electricity and Water Authority, Dubai Aviation Engineering Projects (DAEP) and TECOM Group, all from the UAE, are among the seven organisations that won both the Sword of Honour and the Globe of Honour Awards.

Mike Robinson, chief executive of the British Safety Council, said, "The results of the 2019 Awards demonstrate that there is a growing worldwide commitment to keeping workplaces healthy and safe and minimising risks to the environment from companies' day-to-day activities."

See the full list of winners at: <https://www.britsafe.org/awards-and-events/awards/sword-and-globe-of-honour/winners-list-2019/>.

## Intertek participates in inaugural Saudi workplace safety conference

### ROAD SAFETY

Intertek participated in the inaugural conference for Saudi Workplace, Safety, Health, Environment and Wellbeing, held under the auspices of the Institution of Occupational Safety and Health (IOSH), which took place in Dammam, Saudi Arabia in October. It is the first event of its kind in Saudi Arabia and supports the commitments set by Saudi Vision 2030.

Deemah Saleh Alswat, training supervisor

in Business Assurance at Intertek Gulf region, presented on road traffic safety management, shedding light on how organisations can play a major role when it comes to improving road safety conditions – not just for the organisation itself, but also for the wider society. Saudi Arabia has set a target to reduce road-related fatalities as part of the government's Vision 2030. The introduction of the Saher traffic monitoring system has reduced mortality rates by 37.8 per cent, and

the severity of traffic accident injuries has dropped by 20 per cent.

The presentation provided an overview of the ISO 39001:2012 Road Traffic Safety Management Systems standard, which enables organisations that work with road traffic systems in the transport, storage and logistics industries to reduce serious injuries and fatalities caused by road traffic accidents, both on the road network and on occupational sites.



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## Emergency response plans critical factor in recovery from drone attacks

### EMERGENCY RESPONSE

Saudi Aramco's well-trained personnel and robust emergency response and business continuity plans were critical factors in minimising damage and disruption and restoring production following the September drone attacks on two of its major facilities, said Amin H. Nasser, the company's president and CEO at the Oil & Money conference in London.

Giving a keynote speech at the conference on 9 October, Nasser said that Saudi Aramco is on course to regain maximum sustained capacity of 12 mn bpd by November, thanks to the accelerated completion of restoration work following the September drone attacks on Khurais and Abqaiq, which knocked out 5.7 mn bpd of production.

The localisation of service and supply chains, flexibility and redundancy built into its facilities and fast production network also proved instrumental in accelerating the restoration work, he said. As a result, Aramco was able to exceed by one week its own target of reaching pre-attack production levels.

"Everyone knows what they are supposed to do in an emergency, with drills and scenarios to handle certain things, although not to that scale, where we had 10 major fires and six fires in one plant. Even at 3.30 in the morning, with no managers present, our people were able to depressurise the system



*Amin H. Nasser, president and CEO, Saudi Aramco*

and cut the feed to both these plants within minutes, our fire hydrants and firefighters were assembled, and all available firefighters were brought in. The fires at Khurais were put out within five hours and those at Abqaiq in seven hours." Production at Khurais resumed in 24 hours, and production at Abqaiq in around 48 hours, he said.

Nasser stressed the need to take emergency response and drills very seriously, and make sure all personnel, not just the firefighters, have the right training and skills to respond to an emergency and are able to work as a team, pointing out that the first responders to the fires had been the operators and craftsmen.

He said that the company has detailed

business continuity plans dealing with anything from the breakdown of an individual piece of equipment such as a compressor or motor to the shutdown of a complete plant.

"All the resources required and all contractors in the kingdom were made available. At Abqaiq, 2,000 contractors mobilised within 24 hours knowing what they were required to do. Within 48 hours, we had materials we were short of. Everything worked like clockwork. It took ten days to finish the works and restore the facilities back to target capacity of 11.3. bn bpd.

"We need to be prepared, and we always drill based on that. We never expected anything of this magnitude, with attacks on two major facilities at the same time and the need to respond to them at the same time.

"None of our international customers' shipments were interrupted, even during the attacks. It is a testament to the strength of the company that we were able to bring facility back with no impact to our international customers and no reduction in our revenue."

Nasser stressed that the attacks "not only target Saudi Aramco and Saudi Arabia, these attacks target the global economy and the global community." He expressed the fear that "the absence of international resolve to take concrete action might embolden the attackers and put the world's energy security at risk.

## DJI partners with Dubai Police to deploy drone technology

### DRONES

DJI, civilian drones and aerial imaging technology company, has announced a solution development partnership with Dubai Police to test and deploy DJI drone technology as a tool to aid its public safety professionals.

The agreement marks DJI's first partnership with a police agency in the UAE and will provide the Dubai Police with access to new drone technologies, training and support to promote safety and security.

Romeo Durscher, director of Public Safety Integration at DJI, said, "We are pleased to partner with Dubai Police to help them take advantage of DJI's industry-leading drone technology, such as the Mavic 2 Enterprise Dual which is purpose-built for the public safety sector."

Under the agreement, Dubai Police will have custom access to DJI's lineup of hardware and software solutions including DJI drones, the DJI Flight Simulator for pilot

training, DJI FlightHub for drone fleet management and mission planning, as well as DJI AeroScope to help aid in the identification and remediation of unauthorised drone activity.

Abdullah Khalifa Al Marri, commander in chief of Dubai Police, commented, "This partnership is set to boost cooperation, exchange experiences, share information and knowledge between both sides in the field of unmanned aerial systems."



## → events calendar 2019-2020

November 2019			
5-8	<b>A+A</b>	DÜSSELDORF	www.aplusa-online.com
11-14	<b>ADIPEC</b>	ABU DHABI	www.adipec.com
24-25	<b>Dubai HSE Forum</b>	DUBAI	www.hse-forum.com/dubai
December 2019			
3-4	<b>International Security Expo</b>	LONDON	www.internationalsecurityexpo.com
January 2020			
19-21	<b>Intersec</b>	DUBAI	www.intersecexpo.com
February 2020			
2-4	<b>Kuwait HSE Forum</b>	KUWAIT	www.hse-forum.com
22-26	<b>Oman HSE Forum</b>	MUSCAT	www.hse-forum.com

*Readers should verify dates and location with sponsoring organisations, as this information is sometimes subject to change.*

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## A+A 2019 - People Matter

### OCCUPATIONAL HEALTH & SAFETY

The working world is characterised by fundamental change, with digital transformation and demographic change in full swing.

A+A 2019 in Düsseldorf from 5-8 November will show how the working world can best prepare for safe and healthy workplaces. With 2,100 exhibitors from 64 countries, the event will once again be the largest international trade forum for safety, security and health at work.

The latest products and services for personal protective equipment and the implementation of health-maintaining, safe processes will be on display, ranging from corporate fashion and ergonomic office furniture, through protective equipment and software to corporate environmental protection measures such as fire protection and emergency management.

The 36th International Congress for Occupational Health and Occupational Medicine will cover such issues such as Work

4.0, the future of work in Europe and worldwide as well as the new format "Praxis Interaktiv".

Sustainability will be a focus, with panel discussions on how apparel can be manufactured under good, safe conditions, and fairness in global supply chains.

A new feature is the A+A start-up zone in Hall 10 which will see 15 international newcomers present their products, from web-based software for safety at work to VR applications in fire protection, as well as a digital sourcing and supply platform for personal protective equipment.

The A+A highlight route on the future of work will feature smart solutions for personal protection such as apps for hazardous substance management, interactive workwear, digital assembly and maintenance documentation of fall protection systems, connected gas measuring techniques or VR training applications.

"A+A live" will feature forums, theme parks and special shows which will present best

practices; Theme Park Company Fire Protection and Emergency Management in Hall 6, for example, will demonstrate measures to be undertaken to prevent accidents and major disasters, and to execute rescue activities safely.

Trends in, and drivers of, PPE distribution will be discussed against the backdrop of digital transformation at the fourth International PPE Conference on 6 November.

The A+A supporting programme is rounded off by the new expert conferences for rescue forces on Respiratory Protection and Occupational Hygiene which create a new forum for fire and rescue services, leaders of professional and voluntary fire brigades, as well as safety officers from industry. The programme will include the 5th Global Seminar on Occupational Cancer among Firefighters.

*For further information see [www.aplusonline.com](http://www.aplusonline.com).*

## Disruptive technologies in focus at ADIPEC

### OIL & GAS

ADIPEC 2019, which takes place from 11-14 November at the Abu Dhabi National Exhibition Centre, is set to attract more than 2,200 exhibiting companies and 145,000 visitors from 135 countries, featuring 29 international country pavilions and 43 NOCs and IOCs.

World class industry experts will share their insights through more than 160 conference sessions, industry panel sessions, ministerial sessions and global business leaders sessions involving more than 1,000 speakers.

Digitalisation will be at the forefront of ADIPEC 2019. Oil & Gas 4.0, an agenda developed by ADNOC and ADIPEC, will address the most critical topics shaping the oil and gas industry as it prepares to navigate and embrace the opportunities enabled by the Fourth Industrial Revolution. Enhanced

digital technologies, agile business models and new partnership eco-systems will be a core part of the agenda.

From digital innovation and its transformative impact across the oil and gas value chain to how the industry attracts new millennials, implements management solutions and creates new strategic partnerships, ADIPEC 2019 Conferences and Oil & Gas 4.0 will provide the fundamental knowledge blocks for a new nexus between oil and gas and technology.

Speakers at the Oil & Gas 4.0 conference include HE Dr Sultan Ahmed Al Jaber, Minister of State, UAE and CEO of ADNOC Group; HE Dr Sultan Al Mazrouei, Minister of Energy & Industry, UAE; energy ministers from Egypt, Jordan and Oman; HE Mohammed Barkindo, secretary general of OPEC; Patrick Pouyanné, chairman and CEO

Total; Bob Dudley group chief executive, BP; Condoleezza Rice, Secretary of State 2005-2009, USA; and Sebastian Thrun, CEO of the Kitty Hawk Corporation, chairman and cofounder of Udacity and formerly VP of Google; and Greg Cross, AI pioneer, Serial Entrepreneur co-founder and chief business officer, Soul Machines.

ADIPEC 2019 sees the return of features such as the Offshore & Marine Exhibition and Conference; Heavy Industry Zone; Digitalisation in Energy Zone; Inclusion and Diversity in Energy Conference; C-Suite dialogues; Downstream Technical Conference; Young ADIPEC; and the Middle East Petroleum Club, an exclusive knowledge-sharing platform for top decision makers and influencers.

*For further information visit the website at [www.adipec.com](http://www.adipec.com)*



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# Showcasing the best in safety, security and fire safety

Intersec, the world's leading trade fair for security, safety, and fire protection, returns to Dubai from 19-21 January 2020.

**“The Arena will offer insights into new technologies that address cross-sector industry-specific challenges.”**



Image Credit: Messe Frankfurt

The 22nd edition of Intersec will take place at the Dubai International Convention and Exhibition Centre, featuring more than 1,300 exhibitors from 54 countries, and attracting 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.

A feature debuting for 2020 is the Intersec Arena, an interactive theatre style setting that connects solution seekers with developers of game-changing innovations. The Arena will offer insights into new technologies that address cross-sector industry specific challenges, while educating end users on the key considerations when purchasing specific product categories.

Other new features include the Intersec Government Summits, a series of roundtable

discussions led by key government authorities; the Intersec Energy Industry Focus Day that analyses new approaches to safety, security and fire protection in the oil and gas industry; and a series of workshops and certification courses in the Intersec Academy. The Intersec Future Security Summit returns for its second year focusing on disruptive technologies integrating digital and physical security.

Returning highlights include include a Drones Pavilion and an indoor Drone Zone, a Safety Design in Buildings Pavilion in the Fire & Rescue section, as well as an Outdoor Demonstration Zone of the latest fire rescue applications in action.

Intersec 2020 is held under the patronage of His Highness Sheikh Mansoor bin Mohammed bin Rashid Al Maktoum, and supported by the Dubai Police, Dubai Civil Defence, the Dubai Police Academy, SIRA, and the Dubai Municipality. ❖

More information is available at [www.intersecexpo.com](http://www.intersecexpo.com).

Discussions at the 2019 event.



# Groundswell of support for Dubai HSE Forum

The highly acclaimed Dubai Health, Safety & Environment Forum returns to Dubai from 24-25 November 2019, with a stellar line-up of speakers from the Ministry of Health & Prevention, UAE, Dubai Municipality, ADNOC, DEWA and Emirates Global Aluminium, as well as senior executives from leading international and regional companies.

“Despite a regulatory push for better safety measures at work with the support of all stakeholders, workplace accidents do occur.”



Image Credit: Alain Charles Publishing

The UAE has grown phenomenally as a major business centre, with a plethora of profitable industries. As it continues to deliver multi-billion dollar projects, the health and safety regulations in the country are becoming increasingly stringent.

The UAE's fire and rescue sector is expected to reach US\$699mn by 2021. This is due to improvements in the enforcement of fire codes in the construction sector and constant

need for fire protection and life safety. There is an increased investment in more health and safety products such as jackets, shoes, helmets, and services to help ensure safety at work. Increasingly, technologies such as wearable sensors, protective exoskeleton suits and robots are finding favour in the construction industry.

Protecting the health and safety of an ever-increasing workforce is a priority for all. Despite a regulatory push for better safety

measures at work with the support of all stakeholders, workplace accidents do occur.

In this context, the Dubai Health, Safety & Environment Forum 2019 will present the latest innovations and best practices to help businesses deal with challenges related to occupational health and safety.

On the agenda for this year's forum are topical issues across the spectrum of health, safety and environment. With a raft of infrastructure and construction

*The Dubai HSE Forum 2019 is the fifth edition in the successful event series.*



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developments underway in the UAE in the run up to Expo 2020, safety and sustainability issues will be highlighted by speakers and delegates.

Taking place from 24-25 November 2019 at Habtoor Grand Resort, Autograph Collection Dubai, the Dubai Health, Safety & Environment Forum, now in its fifth year, brings together industry experts from across the region, including health and safety professionals, government regulators, policy makers and solution vendors.

Advisory panellists include Raed Marzooqi, head of HSE, Dubai Municipality; Dr Rehab Al Ameri, director of National Accreditation System, Emirates Authority for Standardisation and Metrology; Salman Dawood Abdulla, executive vice-president of HSSEQ, Emirates Global Aluminium; Professor Janvier Gasana, chair of department of Occupational Health, Kuwait University; Nasser Al-Buhairi, head of Emergency Unit, Kuwait Oil Company; and Dr. Ola Mira,



The latest technologies will be showcased at the Forum.

accredited physician, International Coach Federation.

### Eminent speakers

Confirmed speakers include Dr. Maisoon Ali Alshaali, head of Environmental Section, Ministry of Health; Salman Dawood Abdulla, executive vice president – HSSEQ, Emirates Global Aluminium; Faaeza Al Katheeri, geoscience manager, ADNOC - Al Dhafra Petroleum;

Dr. Mohammed Aref, QHSE expert, Ministry of Human Resources & Emiratisation; Dr. Taufiq Omeish, senior manager HSE, Dubai Electricity & Water Authority; and Joyveer Dutt, regional manager QHSE, Al Futtaim Engineering.

Topics to be discussed include wellness and prevention management; challenges to occupational health and safety; changing the construction

industry safety mindset in the Industry 4.0 era; human factors vs process safety; the impact of digital transformation on workplace health and safety; mitigating work-related risks using artificial intelligence (AI); and monitoring hazardous environments with IoT (Internet of Things).

These topics are crucial for major sectors such as oil and gas, construction, utilities, logistics and transportation, manufacturing, and food and beverage. The Forum presents an opportunity for the attendees to gain deep insights on policy, strategies and technical expertise.

Held in association with Vin Technology, Lloyds Register, Clyde & Co, Ideagen, Board of Certified Safety Professionals, JLG, Universal Site Monitoring, and Arasca, the Dubai HSE Forum builds on the success of the highly acclaimed inaugural event that was held in 2015.

Soumen Chakraborty, event producer, Dubai HSE Forum 2019 commented, "While the UAE's vision and ambition is showcased in world-class events such as Expo 2020, there is a need



The Forum will offer plenty of opportunities for networking.



to significantly strengthen the workforce by providing appropriate training in issues related to occupational health, safety and environment. The Dubai Health, Safety and Environment Forum is the perfect platform for safety professionals to explore how new technology such as AI and IoT is transforming their profession. We look forward to delivering an informative, enriching and vibrant fifth edition of the Dubai HSE Forum."

The Dubai Health, Safety & Environment Forum is researched and developed by Health, Safety & Security

Review Middle East, the region's specialist magazine for the health, safety, security and fire protection sectors. It is the latest in the highly acclaimed event series, now in its fifth year, designed to highlight best practices, process improvements, technology advancements and innovative applications for the enhancement of HSE performance in the GCC. Future Forums will take place in Kuwait (2-4 February 2020), Oman (25-26 February 2020) and Bahrain (15-16 June 2020). ✦

For further information see the website at [www.hse-forum.com](http://www.hse-forum.com)

*"The Forum gives a chance to step out of the daily routine and to think and reflect about the subjects that have been spoken about – to relate experiences to what is going on. It gives the visitors a platform to connect and network."*

Andrew Barker, general manager – Group Health and Safety, Rezayat Group

*"For me, the Forum generated a lot of ideas about how to continue to expand my communication and interaction with various parties involved in OHS. It provided an opportunity for participants to meet the broad spectrum of those involved in the field. Well organised forum, thank you for your thoughtful and effective organisation."*

Dr. Ola Ahmed Mira, specialist physician, Association for Neuro-Linguistic Programming (NLP), and accredited physician, International Coach Federation, formerly director - OHS & Head, Radiation Protection Center, Ministry of Health & Prevention UAE

*"This event is a good opportunity and platform to discuss updated regulations. I do believe that this is one of the key HSE events in the UAE and I am looking forward to seeing this event run more and more and get a wider range of audience from all sectors."*

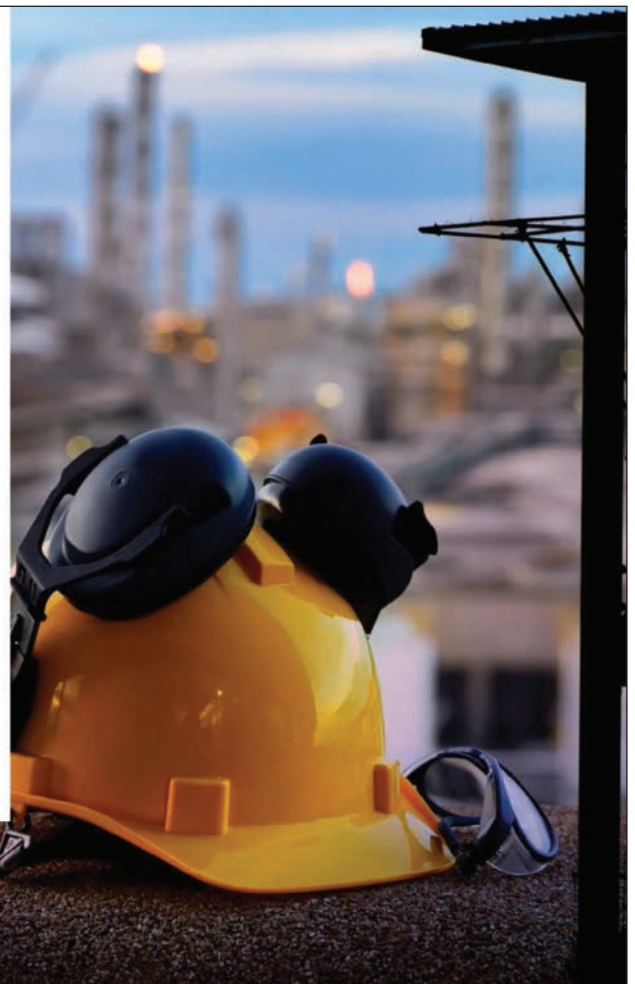
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# Advancing hydrocarbon process safety

Matt Powell-Howard, NEBOSH head of strategy, looks at five steps that organisations can take to improve hydrocarbon process safety, with inputs from safety professionals in the Middle East.

**“It is crucial to have leaders raising the flag for safety and telling everyone to go in the right direction.”**

**W**hen you think about ‘safety’ it is easy to think of simple steps that can be taken to prevent a reasonably foreseeable accident. For example, placing a guard on a machine to protect its operator or having a clear separation of pedestrians from vehicle traffic. However, hydrocarbon process safety tends to be more complicated because of the potential for major catastrophic incidents.

So, developing a series of simple hydrocarbon safety steps is not straightforward. To help organisations make improvements I spoke to three qualified process safety practitioners from the oil and gas industries about what they believe are the key steps, in the broadest sense, in achieving better process safety management.

## Step 1: Leadership

Jassim Darwish is safety, security, health and environment manager at Bahrain’s Gulf Petrochemical Industries Company (GPIC), which contributes almost

US\$300mn to the Kingdom’s economy every year.

He said, “Leadership draws a path for the group; where to go, and how to do it. So it is crucial to have leaders raising the flag for safety and telling everyone to go in the right direction.

“At the very top of GPIC we have the strongest advocate for safety,” Jassim added. “Our president, Dr Abdulrahman Jawaheryall, is a global ambassador for NEBOSH, and he has greatly influenced our approach here. This has led to the achievement of international standards and more recently a chemical industry sector award from RoSPA for outstanding performance in health and safety. This, of course, inspires high level commitment to process safety and operational excellence from top management, positively influencing overall culture through engagement, stewardship and of course, accountability.”

A significant aspect of leadership is ensuring that process safety is adequately resourced from a human, financial and physical

perspective. In other words, having the right people with the right skills and experience, suitable budgets and the correct equipment, infrastructure and facilities. While no operation can run on an unlimited level of resources, the financial consequences of hydrocarbon process safety failures must be considered.

## Step 2: Competence

Darwish went on to highlight the importance of a commitment to safety at all levels.

“Setting the safety culture is not limited to top management,” he explained. “It’s important to build trust and empower employees and contractors to share in and drive sustainable day-to-day behaviour and attitudes towards safety.”

Often this boils down to competence. Competence is a combination of practical and thinking skills, experience and knowledge. It results in a workforce that is able to take on responsibilities and carry out activities to a recognised standard. What is key here is

ABOVE: Oil and gas operations are by their nature hazardous.

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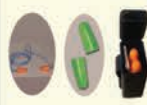
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Continuous inspection and maintenance programmes are vital to prevent incidents.



Image Credit: Adobe Stock

defining the process safety critical tasks which need to be performed that are routine, non-routine and emergency in nature. Examining these tasks, including the potential for human error, and then looking at the required capabilities, should help to develop a competence management system for process safety.

“Establishing a competence management system supports recruitment, the identification of skills-gaps, training needs, overall ownership in emergency situations and of course, continuous improvement,” said Darwish..

### Step 3: Management of change

Rustam Sadykov is health, safety, security and environmental (HSSE) lead with Shell in Qatar. Originally from Ufa in Russia, he holds a NEBOSH National Diploma in Occupational Health and Safety and has worked in process safety within the oil industry throughout Europe and

the Middle East for more than 15 years. Rustam highlights that management of change is a critical aspect of hydrocarbon process safety.

“There have been several examples in our industry where not applying a management of change process has led to catastrophic events,” he said. “It may sound simple, but to manage change properly, it is important to realise there has been a change. Changes in process include changes to equipment, hardware, process control and process conditions. So, mechanical changes to the plant, its equipment or configuration materials, software systems, firefighting facilities and so on.

“The next step is ensuring all pertinent company personnel have been notified of any proposed change. Then it is a matter of validating and completing the change process documentation, identifying design flaws, health, safety, or

environmental risks, business risks, consequences of the proposed change, specifics of documentation, communication and training requirements.

“There then needs to be a checkpoint for senior management to approve, stop or recycle the proposed change and only then can the change be implemented through documented sign-off of both the change itself and the established controls.”

### Step 4: Risk management techniques

There are a range of techniques available for managing process risk, from the Health and Safety Executive’s (HSE) simple qualitative ‘five steps’ approach to the more technical HAZOP based approach; an advanced risk assessment first used by ICI in the 1960s.

HAZOP involves a multi-disciplinary team of designers, engineers, safety professionals, operators and other specialists

chaired by a HAZOP leader. It would be wrong to be prescriptive and say one technique e.g. bowtie risk assessment is better than another. Indeed, a mix of techniques is often adopted, depending on the type of process involved, its complexity and any number of other relevant factors.

Muhammed Nasim is a senior process safety engineer with global oil and gas consultancy and support services provider Applus+ Velosi (Velosi Asset Integrity division), based in Abu Dhabi, UAE. He is one of the most highly qualified and recognised process safety engineers in the region and was also among the first to take the NEBOSH HSE Certificate in Process Safety Management, launched in 2018.

He told us, “I always recommend hierarchical risk management techniques where layers of protections are arranged in order of priorities.



“For example, I would start with prevention as top priority, to either completely remove the hazard or substitute it with something less hazardous.

“The next priority layer could be detection – using hydrocarbon detectors, for example.

“Thirdly, I would focus on control, such as using engineering controls – emergency shutdown valves are a good example here – or administrative controls such as the Permit to Work system.

“Fourth level priority would be mitigation, which could mean using active and passive fire protection devices. Then finally, emergency escape processes. This kind of hierarchical risk

management technique ensures that hazards are well-managed, in my view.”

Being well-versed in a variety of risk management techniques is a crucial part of overall competence and is a significant area of study in its own right, he added.

#### Step 5: Asset management and maintenance

The final key step to improving hydrocarbon safety is all about equipment, plant and systems. Everything should be fit for purpose, which means considering design standards, technical information and legal requirements. Continuous inspection and maintenance programmes are vital to prevent

incidents arising from damaged, worn or defective equipment.

Darwish commented, “Asset management and maintenance work hand-in-hand for effective process safety. Within maintenance, there are many programmes and initiatives to ensure reliability and safety. The main approach is to ensure jobs and repairs are carried out with reference to the OEM (Original Equipment Manufacturer) and to standards. Maintenance programmes like PM (Preventive Maintenance), CM (Condition Monitoring), PdM (Predictive Maintenance), RCM (Reliability Centred Maintenance) and others help to optimise maintenance cost and effectiveness.

“Housekeeping is another crucial factor for early identification of hazards. Inspection regimes and RBI (Risk Based Inspection) programmes are important inputs for life assessment and reliability and need to be taken seriously.”

Hydrocarbon process safety is a comprehensive subject. In truth, it is impossible to tackle it in just a few stages, but following these five key steps is a great starting point. The NEBOSH HSE Certificate in Process Safety Management covers the issues discussed in greater detail and more, and is designed not just for health and safety personnel, but for anyone working in the process industries. ♦

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# Finding the error in their ways

James Tehrani, Sphera, discusses approaches to mitigate human error.



Image Credit: Abbe Stock

**“Companies must be proactive about mitigating the risks from those mistakes.”**

*Between 70 to 96 per cent of workplace mistakes can be attributed to human error.*

**P**eople get overly tired. They get distracted, they get stressed and make poor decisions. People multitask when they should not. People lack training at times.

Our brains and bodies are machines, but they are imperfect ones at that. Even the most thorough and careful person can make mistakes. The negative results of human errors in the workplace can also be

compounded by what occurs in the limbic system of our brains. Experts refer to this as the “lizard brain” area of the mind, which is where feelings of fear and freezing up emerge under certain circumstances.

Human mistakes are inevitable. And any incident caused by a worker’s mistake can and should be considered an operational risk to the organisation.

Knowing that, companies must

be proactive about mitigating the risk from those mistakes.

Software, including mobile apps, allows workers to be able to track incidents and near misses more easily as part of an Integrated Risk Management system that can help eradicate errors.

In the recent Sphera webinar titled “*Understanding Human Error and Behaviours*,” it was explained that between 70 and 96 per cent of workplace mistakes



can be attributed to human error, which is a big problem for Environment, Health & Safety.

As it was stated during the webinar, what many companies do after incidents is examine simple root causes or simple corrective actions.

### Three common responses to incidents

Typically, there are three common responses to incident investigations:

- 1) Training and retraining staff
- 2) Disciplining workers
- 3) Writing, rewriting or updating procedures

Yet, repeat incidents continue to happen. But why?

Simply put, it is because people are....people. Companies might have to change their thought processes to focus on predictions of behaviour rather than reactions to it.

### Error eradication

As the webinar explained, by being able to predict human errors, companies can better prevent incidents or recurrences of incidents to help mitigate risk.

For example, some human errors can be attributed to what's known as "auto-sequencing". The webinar referenced a task that you do every day like driving home from work. The route is essentially programmed into your brain, and if you have ever experienced a time when you were driving and you couldn't quite recall how you got so far along in your journey, it is because your brain was basically working on auto-pilot. But what if, before you leave work for the day, your spouse calls and asks you to pick up milk along the way? Once you've initiated your daily driving pattern, it can be



Image Credit: Adobe Stock

*A picture of a safety glove will register more quickly than a written sign.*

challenging to deviate from it. It's very possible you could come home empty-handed.

How could the error have been avoided? Instead of travelling the same route, you could have switched things up and gone a different way or even bought the milk first. Changing the script helps keep the mind focused on the task at hand and helps prevent the error. In the working world, it could translate to switching up tasks so that auto-sequencing doesn't kick in and lead to errors caused essentially from monotony.

You've heard the cliché about "your mind playing tricks on you". That can happen from repetition. As was stated during the webinar, even an experienced operator who knows which valve to turn and when can still experience that odd feeling that sometimes happens where doubt creeps in. "I'm sure I need to close this valve now, but ..."

So what happens after the "but"? Does the worker go with a

gut feeling and turn the valve, or does the worker double-check the sequence first? To help eliminate mistakes, training workers to always double-check when they're not sure – and empowering them to feel comfortable doing so – can help minimise mistakes.

Additionally, companies can help workers' brains process information quicker by remembering that the brain likes to see numbers broken up into three or four digits. It's a lot easier for the brain to process when a number is written as 314-1592-6535-8979-3238 than 3141592653589793238. So if a valve has a long number attached to it, by breaking up the number into groups of three or four as you would a telephone number, it will help with recognition. Also, the mind recognises symbols quicker than words, so a picture of a safety glove, for example, will register quicker than a sign that says, "Wear your safety gloves in this area."

So-called "attention activators" such as these can help reduce risk, according to the webinar.

### Healthy doses

In another example, a medical facility was seeing a big jump in the number of prescription mis-dosings, which could make a patient sicker or even kill a person, which would open the hospital up to enormous legal exposure.

The knee-jerk reaction from the health care facility was that it needed to retrain its nurses, but this did not help. The next step was to review all dosing procedures. Again, nothing changed. Finally, the hospital decided it was time to discipline nurses who made dosing mistakes. Still, the mis-dosings continued.

An investigation revealed that the mistakes were being made because of doctors interrupting nurses during dosing sessions, when busy nurses would lose track of if they had already administered the proper dosage to the patient or sometimes even which patient should be getting the medication. To combat the problem, a system was put into place where an indicator would let doctors know that a patient was getting medication and that the nurse should not be interrupted. With that process in place, the number of mis-dosings decreased.

Eliminating human errors is a challenge, but it can be done through a behavioural safety approach. By learning more about human errors, companies can create concrete plans to help mitigate them. Make no mistake about that. ❖

*For more on this topic, see the website at [www.sphera.com](http://www.sphera.com).*

# Targetting the Middle East

Sweden-based PPE company Ejendals is bringing its offering to the Middle East, with the opening of a new office in Dubai.



Image Credit: Ejendals

**“We know from experience that safety standards and demands are high in Dubai. And our Nordic view on safety and functionality will fit perfectly into that way of thinking.”**

ABOVE: Ejendals specialises in high quality safety gloves and footwear.

**W**ith the vision “zero injuries to hands and feet”, Sweden-based PPE company Ejendals has successfully served the Nordic and European markets with high quality safety gloves and footwear for more than 70 years.

Now Ejendals is bringing its offering to the Middle East, opening its first office in the region in August 2019 in Dubai. This enables the company to better serve local companies and existing customers in the region. And as always with Ejendals, it’s about offering the best possible protection and functionality, no matter what the job entails.

Ejendals is a third-generation family-owned business focusing on strong innovation and high-

quality products. This has led to a market leader position in the Nordics and a strong presence all over Europe, with Tegera safety gloves and Jalas safety footwear. Ejendals offers protection and functionality for every type of work situation in any type of industry, whether it is ice cold or desert hot – or anything in between.

“We know from experience that safety standards and demands are high in Dubai. And our Nordic view on safety and functionality will fit perfectly into that way of thinking,” says Barry van den Hoven, chief commercial officer at Ejendals.

Looking at non-fatal injuries at workplaces, it is a well-known fact that most of these are injuries to either hands or feet.

Whether it is cuts, bruises, strains or sprains, it often leads to absence from work. Absence that in many cases easily could be avoided through the right protective gear.

“This is both a question of unnecessary suffering for those who are injured and pure economics. These situations are often easily avoided with the right knowledge and equipment. An increasing amount of companies are coming to this realisation, especially in the Middle East region,” concludes van den Hoven.

The Ejendals Dubai office is off to a running start. The first larger clients are already signed up and a six-figure turnover is the goal for the coming years. ❖





# Stay safe with protective clothing

ULTITEC provides advice on selecting appropriate protective clothing.

**Harmful particles, liquids and gases may contact the skin through different methods, such as jet, spray, splash or soaking.**

**D**ue to the growing focus on the importance of workplace safety, occupational health and safety experts are recommending a shift away from reward and recognition programmes (that focus on finding risks) to a more preventive approach (that emphasises education, training and identifying issues before someone gets hurt). Appropriate clothing will protect you from hazardous environments and provide optimal comfort. On the contrary, inappropriate PPE may be the cause of industrial accidents and injuries.

To choose appropriate protective clothing, you must first identify potential hazards in workplace. When there are multiple hazards, assess the protection level required so that

protective clothing can keep you safe effectively. Harmful particles, liquids and gases may reach the skin through different methods, such as jet, spray, splash or soaking. When there is, for example, toxic liquid in the workplace, frontline operators need to wear Type 3 or Type 4 protective clothing to protect themselves from getting hurt.

Do remember that no protective clothing can provide absolute protection against all chemical exposures in all conditions, but a higher protection level is relatively more appropriate in managing uncertainty in the workplace.

ULTITEC has been focusing on both education and training in selecting appropriate protective clothing since it first launched in the year 2008. Fine-tuned over decades of experience, ULTITEC

offers comprehensive protection from particulates, liquid, flame and chemicals, characterised by its “*Act without fear!*” brand slogan. We conduct a series of product training to help clients in protective clothing selection, and educate proper donning and doffing to ensure frontline operators go home safely after work.

Targeting the Asian and Middle Eastern markets, ULTITEC merged DEREKDUCK’s 26 years manufacturing technology and experiences. To date, ULTITEC has been launched in over 40 countries and regions worldwide.

ULTITEC protective clothing has been tested and passed (EU) Regulation 2016/425. ✦

*Please contact our professional team, [derekduck@derekduck.com](mailto:derekduck@derekduck.com) for further information.*

ABOVE: The ULTITEC 2000 series.



# Creating a stronger fall protection chain

Nicolas Abery, sales leader – Fall Protection Systems and Solutions MEAIRR at MSA Safety, explains how and why each link in the fall protection safety chain has a responsibility to minimise risk and help ensure people go home safely.

**“Any weak link in this chain can compromise safety and potentially cost lives.”**

**T**here’s no escaping the fact that working at height can carry significant risk.

Despite the best planning and precautions to mitigate danger, the possibility of a fall is ever-present. Should the unthinkable happen, workers’ lives are at stake. That’s why, whether you’re a specifier, contractor, system installer or end-user, you have a professional, legal and moral obligation to deliver the safest work at height solution possible.

Together, these stakeholders form what MSA refers to as the

“working at height safety chain”. Any weak link in this chain can compromise safety and potentially cost lives. If you’re a specifier, specify the very best fall protection equipment and insist that it’s adhered to. If you’re a contractor, don’t change the specification in favour of an inferior product and always commission competent, experienced systems installers. And, if you’re an end-user, insist on using the highest quality, safest equipment and receiving the very best training. Don’t settle

for anything less than the best. Your life may depend on it.

## Accident prevention: regional trends

The construction sector in the Middle East region, with a never-ending stream of construction projects, has historically accounted for a relatively high proportion of workplace accidents. In Bahrain for instance, according to Ministry of Labour statistics, the construction sector accounted for 188 reported accidents in 2018, more than any

ABOVE: Working at height carries significant risks.



other sector, and 13 out of 20 deaths in the construction industry in 2017 were due to falls from height. Limited awareness is a significant contributor.

By and large, Health and Safety legislation and safe working practices in the Middle East are now well established and comprehensive, mirroring standards adopted in the UK and Europe. Since the implementation of the 2009 'Code of Construction Safety Practice', Dubai Municipality's Environment and Safety Department reports that construction fatalities have declined.

That said, fall protection still remains a relatively new safety discipline within the region, and awareness of different fall protection systems and Personal Protection Equipment (PPE) can vary widely. The result is a general lack of knowledge in the market around the importance of specifying suitable products for different working at height scenarios. Whilst adopting a 'one size fits all' or 'tick the box' approach to equipment may be simple and attractive for some, it is not an effective way to mitigate risk. So, let's look at the responsibilities and expectations of each stakeholder in the working at height safety chain.

### Starting the safety chain: specifiers

One of the most important links in the working at height safety chain is defining the appropriate fall protection system specification for a building or structure at the outset. Parties controlling this specification may be independent, for example architects, consultants or engineers, or safety system

industry professionals, such as professional installers. Any fully considered specification will have assessed the unique risks posed by the structure and considered the specific requirements needed for safe access and works. It will also ensure full compliance with all local and national health and safety and regulatory conditions.

Crucially, specifiers will identify those partners and manufacturers offering the most suitable systems and equipment for the application. In many cases, they will refer directly to manufacturers for technical clarification, and can therefore verify the quality, safety features and performance. For the Middle East region, adopting this specification regime is especially important for PPE. PPE should never be viewed by contractors merely as a commodity purchase. Thought must be given to the widely different quality, durability, wearability and safety performance characteristics between budget and more premium brands.

### Second in line: contractors

Contractors are arguably the most influential players in reducing (or instead increasing) fall protection risks. Why so? Because currently they have the power to execute the designated safety equipment specification or, should they so wish, elect to amend or reduce it. This so-called 'specification switching' is driven by two factors. Firstly, short-term commercial pressure (reducing cost to maintain margin); and secondly, lack of understanding regarding the implications of what they believe is simply a product or system substitution.

The ramifications are wide-

ranging. Advanced engineering and rigorous testing set high-quality equipment apart. They guarantee optimum performance and full regulatory compliance spanning many years. Respected brands offer proven functionality, with robust solutions that maximise ease of use and reduce the risk of user error or equipment failure. In addition, inferior quality products typically wear, degrade or fail more quickly, requiring premature replacement and increasing Total Cost of Ownership. The moment a contractor switches a specification, it has the potential to place lives in jeopardy.

### Making it happen: Installers

Whether it's a new build or a retrofit project, the safety of fall protection equipment is only as robust as the quality of the installation. Quality installers will likely possess the experience and expertise to overcome any challenge they're faced with. Installing equipment on new builds is typically more straightforward to plan and manage. If a specification has been prepared and is executed without change, any proposed equipment will already be fully compatible with variables such as the building's design, construction materials, fixing points and load requirements. Installers are fully familiar with the manufacturer systems and will have undergone specialist training to ensure compliant practice through to sign-off.

Retrofit installations demand detailed preparatory investigation. Quality installers will conduct a thorough site survey before any work commences and share any unforeseen risks or findings that

impact the choice or deployment of fall protection systems in a written report. Once equipment is installed, the installer will be responsible for commissioning, testing and ongoing maintenance and, in some cases, arranging user training.

### The last, most precious link: end users

Fall protection is installed for a reason: if working at height is to be safe, it has to be used. Quality training for end-users, preferably from an accredited provider, is as important as the equipment itself. What are the risks? Why has this particular equipment been chosen? How should the system be used? What happens if a rescue is needed? By law, businesses, in accordance with Abu Dhabi's Health Authority, need to have rescue plans in place for those working at height so that they are not solely reliant on the help of fire and rescue services in an emergency. The goal is creating users who understand working at height hazards and are confident (and willing) to use the systems and PPE provided.

### Only one chance

Working at height demands a holistic approach to safety – an approach that sees each party in the chain playing their part. The more informed, educated and pro-active we all become about the choices and challenges facing the sector – from deterring ill-informed specification-switching to improving user competence with professional instruction and training – the more we reduce the risk of serious injury or even death from falls. Choose your fall protection partners and equipment carefully. ❖

# Ensuring patient and staff safety, security, and satisfaction

Pelco outlines its video surveillance solutions for healthcare environments.

**“Healthcare security decision makers must adopt surveillance solutions that can adapt to growing patient populations.”**

**A**s global access to healthcare rises and worldwide populations over 60 are expected to double by 2050, healthcare security decision makers must adopt surveillance solutions that can readily adapt to growing patient populations.

In hospitals, for example, security teams are tasked with monitoring multiple areas, each of which adds a layer of complexity in terms of varied lighting conditions, levels of security, and blind spots security personnel need to navigate.

Physicians’ offices, pharmacies, and laboratories also have unique security needs that require a versatile, scalable, and reliable system. Above all, providing a safe and comfortable experience for patients and staff is paramount for security teams.

Pelco provides end-to-end video surveillance solutions with healthcare environments in mind:

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Corner Mount camera, which offers live video and two-way communication to ensure their safety and comfort in areas such as intensive care units. You can also use VideoXpert analytics, which partners with the HSCM camera to provide motion and sabotage detection that can automatically alert personnel when a patient falls or needs assistance.

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Whether you’re tracking arriving emergency vehicles or addressing vehicle crowding in the visitor parking lot, security managers can use our automatic license plate recognition (ALPR) software, VideoXpert Plates, to control the flow of traffic around healthcare environments.

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In lobbies, waiting rooms, and other public areas, security professionals can benefit from our mini-dome cameras and Special Modification Requests (SMR) programme, which allows for custom solutions that seamlessly blend in with the aesthetic design

aspects of the property for discreet, yet secure operations.

**Experience sharp views and expansive coverage**

Since healthcare environments are largely patient centred, security managers need cameras that can identify persons of interest with accuracy. With eye-level views and superior panoramic stitching capabilities, our Evolution 180 fisheye camera offers sharp detail and expansive coverage.

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When it comes to conducting after-hours monitoring in areas where lighting is either scarce or unavailable, the risk of undetected security breaches can rise if healthcare security teams don’t adopt suitable cameras. Our Sarix Professional 3 cameras have an IR illuminator that can detect objects and people with detail in zero light so even the darkest areas can be effectively secured. ♦

Learn more at [www.pelco.com/healthcare](http://www.pelco.com/healthcare).

ABOVE: There is a growing need for surveillance solutions in healthcare facilities.



## Carrington to launch eco-friendly fabric range at A+A

### WORKWEAR FABRICS

Carrington Textiles is set to demonstrate its commitment to achieving sustainability in workwear with the launch of its Balance Range at this year's A+A, which which takes place from 5-8 November in Düsseldorf, Germany.

The eco-friendly range, which is made up of eight fabrics with a variety of different properties, has been manufactured using four sustainable technologies including recycled polyester, REMO cotton, TENCEL fibres, and VORTEX-spun yarn (MVS), with materials sourced in compliance with the Better Cotton Initiative (BCI). Each of these methods minimises the



environmental impact at different stages – including in the fabric's production, during usage and at end-of-life.

Sales director Paul Farrell said, "While the world will always need

workwear, the planet we all share needs to be cared for and respected if we are to have a future. To achieve equilibrium, Carrington has produced the innovative Balance Range.

"These products provide a choice of eco-friendly fabrics that have been manufactured with four greener, more advanced technologies using recycled or sustainably sourced materials. This is delivering both what's best for work, and what's best for the world."

As well as its new eco-friendly range, Carrington will be launching its new lightweight Kara fabric as an addition to its workwear range and exhibiting its hi-vis orange Flameban Max 260, which has an inherently flame retardant construction and excellent electric arc performance.

*Carrington will be exhibiting in Hall 3, Stand C53.*

## JSP to showcase new products at A+A

### PPE

JSP, a leader in 'above the neck' PPE, will be showing its latest ranges of innovative safety products and solutions at A + A 2019. These include:

**EVO VISTA safety helmets** integrate fully retractable Optical Class 1 protective eyewear – EVO VISTAshield incorporates a faceshield and EVOVISTA lens incorporates an overspec. Fully adjustable pivot arms allow the shield and lens to be deployed outwards and over prescription spectacles. Tackles any compatibility issues or lost eyewear on site.

**EVO VISTA Dualswitch safety helmets** are the first helmets to incorporate eye protection in the form of a shield and lens (as above) and provide protection performance to both EN397 and EN12492 on one certificate. Flicking the switch changes the retention strength of the helmet's fully adjustable 4-point chinstrap to give conformity to either the Construction Helmet EN397 standard or



Image Credit: JSP

*JSP will be showcasing its latest above the neck PPE products at A + A.*

the Climbing Helmet EN12492 standard for working at height.

**JSP-GO retail range** – New retail range of head, eye, hearing and respiratory protection using an icon based communication tool via QR code that links to JSP-GuidesOnline – a multi-language platform filled with informative tables and demonstration videos

to provide everything needed to aid the correct selection of PPE for individuals worldwide.

**PressToCheck compact filters** – New low profile filters offer very low breathing resistance and excellent compatibility when worn with other PPE. The ultra-lightweight design still offers the award winning PressToCheck technology to check a safe face fit.

**EVOGuard range** – New advanced range of Optical Class 1 industrial visors and an extensive range of forestry visors designed using the latest technology for improved light transmission and protection.

**SWISS ONE safety RX eyewear** – a specialist range of eyewear with the highest standards of design and precision engineering – a range both attractive and comfortable to wear, using a unique technology to enable RX prescription by taking a 'selfie'.

# OPITO works with industry to support drilling safety

## DRILLING SAFETY

OPITO, the global, not-for-profit skills organisation for the energy industry, has collaborated with drilling employers to develop an online assessment to reinforce the competency of roustabouts.

Developed as part of the OPITO Skills Screening online tool, a comprehensive question bank has been created by the International Association of Drilling Contractors (IADC) with input from IADC members Awilco (UK) Ltd, Transocean, Valaris, COSL Drilling Europe,

and Diamond Offshore.

OPITO's Skills Screening tool provides an accessible online solution for organisations looking to assess the knowledge and understanding of current and potential employees across a wide range of disciplines and roles, including banksman slinger, pipefitter, process technician and rigger, with a floorman assessment due to be developed in the coming months. Users have the flexibility to conduct assessments on and offshore, and results are instantly available.



Image Credit: OPITO

The new Roustabout assessment contains a variety of role specific questions that have been reviewed and tested with the current offshore workforce to ensure the language and content

is fit for purpose.

Derek Hart, regional director at IADC said, "This initiative will assist drilling contractors and others with their selection process when hiring roustabouts."

An advertisement for Nal Hon Industrial Co., Ltd. featuring various explosion-proof smartphone accessories. The main image shows a black smartphone with a large orange protective case and a black steering wheel-like controller. Below it are several black and orange protective cases. The background is a dark, textured surface. Text includes "www.hooks.com.tw" at the top, "NH" logo, a QR code, "TAIWAN" with a map of Taiwan, and "YOUR BEST CHOICE A FRIEND OF PPE MANUFACTURERS". At the bottom, it says "NAL HON INDUSTRIAL CO., LTD." and provides contact information: "No. 418 Hsi-Hu Rd. Ta-Li Dist, Taichung City, Taiwan 41263" and "E-mail: info@nalhon.com.tw E-mail: nalhon@ms19.hinet.net".

## New explosion-proof smartphone

### COMMUNICATIONS

The Pepperl+Fuchs brand ecom has introduced the new generation of its intrinsically safe 4G/LTE Android smartphone Smart-Ex 02 for hazardous areas. With a large 12.7 cm (5") display and powerful features, good ergonomics and an optimised accessory concept, the company claims that the Smart-Ex 02 is the most advanced explosion-proof smartphone for Zone 1/21 and Div. 1.

Equipped with the latest Android 9 operating system, the smartphone simplifies communication between employees, the control centre and backend systems. The Smart-Ex 02 supports 21 different LTE frequency bands and is delivered simlock-free. Global Ex and approval certifications enable worldwide use and global rollouts.

Designed for an extended temperature range from -20 to +60°C, the Smart-Ex 02 can be operated under extreme conditions. For maximum durability, its display is protected by extremely shock- and scratch-resistant Gorilla Glass. Even in direct light, the user can easily read the display, forward data and share it in the corporate network.

Breakdowns during work in extensive industrial plants are prevented by a strong, easily replaceable battery with exceptional 4400 mAH power for 24-hour operation. A magnetic USB port protects against wear and tear, and damage to PINs and unsecure USB connections.

The smartphone can be supplemented by other peripheral devices and the new digital products and services product line enables staging, management and real-time monitoring of the Smart-Ex 02 and other mobile devices from ecom. It combines automated staging in device manufacturing, mobile device management and device analytics. The solution can be used as a fully-fledged enterprise mobility management system, if desired.



# Personal Protective Equipment Buyers' Guide 2019

The Middle East's annual where-to-buy guide

Section One: Listings by category

Section Two: International and regional suppliers

Section Three: Contact details of Middle East agents & subsidiaries listed by country

## Categories

### Breathing Equipment/ Protection/Respirators

Ansell Healthcare-Middle East  
Bauer Kompressoren GCC FZE  
BBF SAFETY GROUP (PTY) LTD  
Karam Safety DMCC

### Chemical Protection Suits

Ansell Healthcare-Middle East  
Dereckduck Industries Corp.

### Disposable Clothing

Ansell Healthcare-Middle East

### Ear Protection

Karam Safety DMCC

### Fall Protection

BBF SAFETY GROUP (PTY) LTD  
Karam Safety DMCC  
SINGING ROCK S.r.o.

### Foot Protection/Safety Footwear

BBF SAFETY GROUP (PTY) LTD  
Ejendals AB  
Karam Safety DMCC  
Saudi Leather Industries  
Company Ltd

### Hand & Arm Protection

Ansell Healthcare-Middle East  
Ejendals AB

### Head Protection/Helmets

BBF SAFETY GROUP (PTY) LTD  
Karam Safety DMCC  
Nightstick  
SINGING ROCK S.r.o.  
SCHUBERTH GmbH

### Heat & Fire Resistant Clothes & Garments

KERMEL  
Nightstick

### Protective Clothing

BBF SAFETY GROUP (PTY) LTD  
KERMEL

### Protective Clothing for Fire Brigades

KERMEL

### Protective Eyewear/Safety Glasses

Karam Safety DMCC

### Protective Gloves

Ansell Healthcare-Middle East  
Ejendals AB  
KERMEL

### Uniforms

Charnaud  
Nightstick

## Suppliers



### Al Garawi Group

PO Box 41122  
Al Orouba-King Fahad Highway  
Junction Olaya  
Riyadh  
11521  
Saudi Arabia  
Tel: +966 14 196096/195058  
Fax: +966 14 196101  
Web: www.algarawigroup.sa  
E-mail: ashrafali@algarawigroup.sa

Caterpillar is a powerhouse brand built on bold and innovative moves. Their revolutionary equipment and world-changing technologies don't just shape our cities, they pave the roads that connect them. In every corner of the world, Caterpillar is a symbol of power. Risk-taking, history-making, earth shaking power.



### Ansell Healthcare-Middle East

1-Lake Plaza Tower  
Jumeireh Lake Towers  
22nd Floor  
2202  
United Arab Emirates  
Tel: +971 4 4523232  
Web: www.ansell.com  
E-mail: syedfarrukh.ali@ansell.com

Ansell is a world leader in providing superior health and safety protection solutions that enhance human well-being. The world's need for better protection never stops, so Ansell is constantly researching, developing and investing to manufacture and distribute cutting edge product innovation and technology, marketed under well-known brands that

customers trust. Operating in two main business segments, Industrial and Healthcare, Ansell is the market leader that continues to grow, employing 13,000 people worldwide. With operations in North America, Latin America/Caribbean, EMEA and Asia Pacific, customers in more than 100 countries around the world trust Ansell and its protection solutions. Ansell Industrial business unit provides workers with gloves that maximize protection, dexterity, comfort and grip across a wide range of industrial applications. Whether the job requires the handling of sharp edges, the manipulation of small parts, the operation of heavy machinery, the use of chemicals or food preparation, Ansell's work gloves deliver improved safety, efficiency and performance, which results in greater workplace productivity and reduced safety costs. Information on Ansell and its products can be found at www.ansell.com.

### ATG Glove Solutions

PO Box 211404  
Dubai  
United Arab Emirates  
Tel: +971551014064  
Fax: +971 4 4019257  
Web: www.atg-glovesolutions.com  
E-mail: Sofianh@atg-glovesolutions.com

### Bauer Kompressoren GCC FZE

AF07  
South Zone1  
PO Box 261413  
Jebel Ali Free Zone  
Dubai  
United Arab Emirates  
Tel: +971 4 8860259  
Fax: +971 4 8860260  
Web: www.bauer-kompressoren.de  
E-mail: sales@bauer-kompressoren.de



## BBF SAFETY GROUP (PTY) LTD

40 Gillitts Road  
Pinetown 3610  
Kwa-Zulu Natal  
PO Box 121  
South Africa  
Tel: +27 0 87 057 7770  
Fax: +27 0 31 700 2607  
Web: [www.BBFSAFETY.COM](http://www.BBFSAFETY.COM)  
E-mail: [info@bbfsafety.com](mailto:info@bbfsafety.com)

BBF Safety Group is an integrated workplace safety solutions provider that helps customers create safe working environments. We offer a full portfolio of head-to-toe PPE and workplace safety advisory services that range from auditing and consulting to training. Our company employs more than 1400 people who operate from four ISO:9001 accredited manufacturing facilities throughout South Africa. Our mission is simple: To keep people safe at work by providing complete workplace safety solutions whilst delivering on industrialisation, transformation and development.

### Agents:

Saudi Arabia - Abdulshakoor  
Algarawi Group  
United Arab Emirates - NOUAGREEN  
GENERAL TRADING LLC

## Ceotronics AG

Adam-Opel-Strasse 6  
Rödermark  
63322  
Germany  
Tel: +49 607 487510  
Fax: +49 607 48751265  
Web: [www.ceotronics.com](http://www.ceotronics.com)  
E-mail: [sales@ceotronics.com](mailto:sales@ceotronics.com)

Ceotronics communication systems, including effective hearing protection and other protective functions, are far superior to simple hearing protectors because users can still communicate with each other. Whether working, for example, in noisy or dangerous environments or wearing personal protective equipment (PPE), Ceotronics systems offer more protection in the workplace, increasing productivity and efficiency.

## Charnaud

Baobab Business Park C4  
86 John Vorster Road  
Randpark Ridge  
2169  
South Africa  
Tel: +27 0 36 634 1534  
Web: [www.charnaud.net](http://www.charnaud.net)  
E-mail: [aj@charnaudi.co.za](mailto:aj@charnaudi.co.za)

### Agents:

United Arab Emirates - Saif & Jasser  
Trading Co. LLC



## Derekduck Industries Corp.

9F, No.70-1, Sec 1, Chengde Road,  
Taipei, 10351, Taiwan  
Tel: +886 2 25508856  
Fax: +886 2 25502236  
Web: [www.derekduck.com](http://www.derekduck.com)  
E-mail: [derekduck@derekduck.com](mailto:derekduck@derekduck.com)

ULTITEC 5000 is a Type 3 high-level chemical and liquid jet resistant protective clothing according to PPE Regulation (EU) 2016/425. It is designed for extremely hazardous conditions especially against wide range of toxic chemicals, including ammonia liquid and hydrofluoric acid. If you would like to know further on how long you are safe in ULTITEC against specific chemicals, ULTITEC 5000 APP is ready to assist in calculating actual safe time to "Act without fear!" in the workplace.

## D-S Safety AS

Menstrupvaenge 10  
Naestved, 4700, Denmark  
Tel: +45 55446644  
Web: [www.dsafety.com](http://www.dsafety.com)  
E-mail: [info@d-s.dk](mailto:info@d-s.dk)

Total personal protective equipment supplier.



## Ejendals AB

Limavagen 28, SE- 793 32  
Leksand, Sweden  
Tel: +971 551 3333 62  
Web: [www.ejendals.com](http://www.ejendals.com)

## Karam Safety DMCC

PO Box 27307  
2108, 1-Lake Plaza  
Jumeirah Lake Towers, Dubai  
United Arab Emirates  
Tel: +971 4 4315221  
Fax: +971 4 4315727  
Web: [www.karam.in](http://www.karam.in)  
E-mail: [dubai@karam.in](mailto:dubai@karam.in)

KARAM is a renowned and finest quality manufacturer of Personal Safety Equipment.

Marketing its presence with cutting-edge innovation, KARAM introduces Industry-specific and an exhaustive range of Fall Protection Solutions in the form of products like Specialized Oil Repellant Full body harnesses, Energy Absorbing connecting elements, and a wide range of tested and certified Anchorage Solutions.

KARAM range now has more than 365 tested and EN certified products, and an ever-growing numbers of more than 75 ANSI certified Fall Protection products.

By 2015 alone, KARAM has reached out to satisfied customers is more than 130 countries all across the world through trained Marketing personnel, and an extensive global distribution network.

## KERMEL

20 Rue Ampere  
Colmar Cedex  
68027, France  
Tel: +33 3 89204744  
Web: [www.kermel.com](http://www.kermel.com)  
E-mail: [com2@kermel.com](mailto:com2@kermel.com)

Kermel company develops, produces and markets aramid fibers Kermel® thanks to a unique technology issued from its own laboratories. Kermel fibers are used in heat and flame protective garments. Main end-users relying on Kermel's outstanding protection properties are fire-fighters, military, law enforcement professionals and industrial workers.

## MSA Middle East FZE

PO Box 54910, Dafza, Dubai  
United Arab Emirates  
Tel: +971 4 2996741  
Fax: +971 4 2996843  
Web: [www.msasafety.com](http://www.msasafety.com)  
E-mail: [info.ae@msasafety.com](mailto:info.ae@msasafety.com)

Our business is safety. We've been the world's leading manufacturer of high-quality safety products since 1914. MSA products may be simple to use and maintain, but they're also highly-

sophisticated devices and protective gear — the result of countless R&D hours, relentless testing and an unwavering commitment to quality that saves lives and protects millions of men and women each and everyday. Many of our most popular products integrate multiple combinations of electronics, mechanical systems and advanced materials to help ensure that users around the world remain protected in event the most hazardous of situations.

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

## Nightstick

640 S. Sanden Blvd  
Wylie  
TX  
75098  
USA  
Tel: +1 800 2332155  
Fax: +1 855 8187973  
Web: [www.nightstick.com](http://www.nightstick.com)  
E-mail: [webmaster@nightstick.com](mailto:webmaster@nightstick.com)

Nightstick is a global brand of professional lighting products, including flashlights, floodlights, headlamps and Intrinsically Safe lighting solutions that exceed industry standards in performance, quality, user-safety and value. Nightstick's line-up of LED lighting products delivers optimal performance in real-world applications with an unwavering commitment to quality and exceptional customer service.



## Packline Materials Handling

Unit28, Newtown Business Park  
Ringwood Road  
Poole  
BH12 3LL  
United Kingdom  
Tel: +44 (0)1202307700  
Fax: +44 (0)1202722066  
Web: [www.packline.co.uk](http://www.packline.co.uk)  
E-mail: [info@packline.co.uk](mailto:info@packline.co.uk)

Packline Materials Handling has been designing and manufacturing lifting and handling equipment since 1993, and with its 'compact' range of stainless steel reel, roll and drum handling equipment has established itself as the leading supplier of quality materials handling equipment for the food, drink, dairy, pharmaceutical and medical processing industries worldwide.



## Portwest

Portwest Middle East FZE  
T5- 113 & 114  
Sharjah Airport International Free Zone  
Sharjah  
PO Box 122014  
United Arab Emirates  
Tel: +971 6 5527765  
Web: www.portwest.com  
E-mail: orders@portwest.ae

## Saudi Leather Industries Company Ltd

PO Box 31691  
Dammam 2nd Industrial City  
Al Khobar  
31952  
Saudi Arabia  
Tel: +966 13 8121066  
Fax: +966 13 8122253/8468838  
Web: www.slicshoes.com  
E-mail: anas@slicshoes.com

SLIC is a Saudi company leading supplier of safety & work footwear in Saudi Arabia, Gulf, Middle East & Africa. Footwear are comfortable & tough. Footwear produced under latest technology featured with Quality, Flexibility & Performance. Meets EN & ASTM standards. Composite toe & ladies footwear are available, in addition new sporty & athletic safety styles are newly included in SLIC product range also new boot for O & G companies apart from guaranteed against manufacturing defects for 6 months.

### Agents:

Bahrain - Bahrain Workshop Company  
Jordan - Bashiti Hardware Stores  
Kuwait - S B Co.  
Oman - Altes- Al Alalan Trading  
United Arab Emirates - Bin Jabr Fire Fighting & Safety Equipments Co  
United Arab Emirates - Saleem Jacobson  
Yemen - MAK Corp

## SCHUBERTH GmbH

Stegelitzer Strasse 12  
Magdeburg  
39126  
Germany  
Tel: 0049 391 8106 0  
Fax: 0049 391 8106 444  
Web: www.schubertth.com  
E-mail: industrial-safety@schubertth.com



## Schefferville Trading LLC

PO Box 63934  
Office No.1, Sultan Building  
Industrial Area-3, GECO Dubai Road  
Sharjah, United Arab Emirates  
Tel: +971 6 5757860  
Fax: +971 6 5757890  
Web: www.eyevexsafety.com  
E-mail: scheffer@emirates.net.ae

We are an Organization that believes in sharing our expertise and providing right personal safety products and industrial equipment at the right price with integrity and honesty. Schefferville's range of products include the biggest names in the PPE field, like TAG-IT, FireWarrior, Hunk, ORYX, EYEVEX that are known and trusted by HSE professionals.

## Scilabub Limited

9 Huntingdon Court, Huntingdon Way  
Measham, Derbyshire, DE127NQ, UK  
Tel: +44 1530 279996  
Fax: +44 1530 270759  
Web: www.scilabub.com  
E-mail: sales@scilabub.com

Major Product Areas:  
UK manufactured Cryogenic clothing including Gloves, Aprons & Suits to protect against spills and splashes of Cryogenic materials including Liquid Nitrogen ( Boiling Point -195.8 C). Heat resistant gloves and gauntlets allowing great dexterity at high temperatures which does not melt or drip even at 370 C.

## SINGING ROCK S.r.o.

Ponikla 317, Ponikla, 51401  
Czech Republic  
Tel: +420 481 585007  
Fax: +420 481 540040  
Web: www.singingrock.com  
E-mail: info@singingrock.com

SINGING ROCK is one of the world leaders on the market of climbing equipment and professional protective equipment for work at heights, military and rescue. All our products are developed and produced in Czech republic and they are certified and fully comply with appropriate EU directives and standards.

### Agents:

United Arab Emirates - Global Climbing Trading LLC

## Agents & Subsidiaries

### Bahrain

#### Bahrain Workshop Company

404  
Tel: +973 17777800  
Fax: +973 17770994  
Web: www.bwcbah.com  
E-mail: office@bwcbah.com

### Jordan

#### Bashiti Hardware Stores

Amman  
Tel: +962 6 4784533  
Fax: 00962 6 4754558  
Web: www.bashitihardware.com  
E-mail: pbme@bashitihardware.com

### Kuwait

#### S B Co.

Tel: +965 249 23570  
Fax: +965 249 23572  
Web: www.cbkwt.com  
E-mail: haresh.j@sbkwt.com

### Oman

#### Altes

Mina Al Fahal  
Muscat  
116  
Tel: +968 245 71426  
Fax: +968 24571425  
Web: http://www.altesoman.com  
E-mail: samir@altesoman.com

### Saudi Arabia

#### Abdulshakoor Algarawi Group

Al- Khobar Dahrn St.  
Tel: +966 13 8945724  
Fax: +966 13 8947697  
Web: http://www.al-garawi.com  
E-mail: emad@al-garawi.com

#### Ansell Health Care Middle East (KSA)

Tel: +966-507-225483  
Web: http://www.ansell.com  
E-mail: faris.ishaque@ansell.com

### United Arab Emirates

#### Ansell Health Care Middle East (UAE)

PO Box 125299  
Lake Plaza Tower  
JLT  
Cluster T  
Tel: +971 55 1333368 / +971 4 452 3  
Web: http://www.ansell.com  
E-mail: SyedFarrukh.Ali@ansell.com

#### Bin Jabr Fire Fighting & Safety Equipments Co

Abu Dhabi  
46711  
Tel: +971 264 18284  
Fax: +971 264 15388  
Web: http://www.binjabr.com  
E-mail: bjfse@binjabr.com

#### Global Climbing Trading LLC

PO Box 474476  
Shed #1 Plot 598-1119  
Dubai Investment Park 1  
Dubai  
Tel: +971 4 8829361  
Fax: +971 4 8829362  
Web: www.globalclimbing.com  
E-mail: info@globalclimbing.com

#### NOUAGREEN GENERAL TRADING LLC

PO Box 7086  
Old Industrial  
Ajman  
Tel: + 971 674 08384  
Web: http://www.NOUAGREEN.AE  
E-mail: sanis@nouagreen.ae

#### Saif & Jasser Trading Co. LLC

Star of karama building  
Al Karama  
Dubai  
Tel: +971 50 6457883  
Fax: 04 3344287  
Web: http://www.saifandjasser.com  
E-mail: sajco@emirates.net.ae, sajco1@eim.ae

#### Saleem Jacobson

Dubai  
Tel: +971 4 3393400  
Fax: +971 4 3393932  
Web: www.saleemjacobson.com  
E-mail: alex@saleemjacobson.com

### Yemen

#### MAK Corp

Sanaa Republic of Yemen  
11695  
Tel: +967 1287723  
Fax: +967 1603767  
Web: http://www.makcorp.yemen.com  
E-mail: mak@makcorp.yemen.com

الاستعداد

- كن ملما بالتزاماتك: التحديثات التي تطرأ على التشريعات والمسؤوليات وقواعد الممارسة.
- عيّن مسؤولاً: حتى في الشركات الصغيرة.
- تقييم المخاطر: فكر في مجالك على وجه الخصوص.
- استراتيجية الإخلاء: جزء من الخطة الشاملة للتعافي من الكوارث.
- الممارسة: التدريب على الإخلاء وسيناريوهات الحرائق.
- كُن على أهبة الاستعداد: احرص على تلقي الأفراد التدريب اللازم.
- انتبه إلى ذوي الإعاقات الحركية: اتخذ الترتيبات اللازمة لإجلائهم في حالات الطوارئ.
- احصل على المعدات اللازمة.
- الاتصال.
- إجراء الصيانة للأجهزة.

«استخدم الأجهزة والمعدات الصحيحة، وقم بإجراء التدريب أكبر عدد ممكن من المرات، وخطط لإجراءات التشغيل القياسية وكن ملما بها لضمان جاهزيتك التامة حال وقوع أي حادث يستلزم إخلاء الأفراد الذين يشغلون المبنى سواء الموظفين أو الزائرين إلى مكان آخر يحظون فيه بالأمان التام.

«تعتبر إدارة المبنى أمراً في غاية الأهمية. يمكننا الحصول على أفضل الأنظمة في العالم، غير أنها تتطلب التدخل البشري. يجب علينا تدريب و تثقيف الجميع حتى يدركوا متطلبات هذه المدن الرائعة ذات المباني الشاهقة، وإجراءات التشغيل القياسية، ويقفون على آلية عمل مبانيهم وأوجه تفاعلها، حتى يمكننا، إذا اقتضت الضرورة، تقديم النصائح المناسبة للأفراد في مبانينا، وتوضيح واجب الرعاية لهم لنقلهم إلى مكان ينعمون فيه بالأمان التام.»

جاري هيكس، مدير شركة Evac + Chair الدولية - الشرق الأوسط، أثناء كلمته في منتدى البحرين للبيئة والصحة والسلامة.



• تضمين أفضل الممارسات: يجب على فرق الصحة والسلامة إعادة صياغة ثقافة الشركة بحيث تؤكد على مزايا التخطيط الفعال الممكنة على سُمعة الشركة داخليا وخارجيا.

• المحافظة على التوافق: يجب على الشركات، التي لها مواقع عديدة، ضمان تطبيق أفضل الممارسات بشكل متوافق في جميع المواقع.

• التواصل بوضوح: يمكن أن تساعد الإشارات البصرية في تحسين التواصل وتحديد أية مشكلات، مع تبسيط الإجراءات المتبعة في حالات الطوارئ حتى يسهل فهمها وتطبيقها بشكل فعال.

الإخلاء في حالات الطوارئ حسب أفضل الممارسات يجب أن يُعيّن كل مبنى أو شركة أو مؤسسة شخصاً يتحمل - بشكل رسمي - مسؤولية ضمان إخلاء المبنى على نحو آمن وسلس. ومع طبيعة المخاطر الآخذة في التغير، يجدر بهذا الشخص المسؤول المحافظة على حداثة جميع السياسات والإجراءات من أجل القدرة على مجابهة التهديدات الجديدة والمتغيرة.

للحصول على المزيد من المعلومات حول الطبيعة المتغيرة للمخاطر، يُرجى زيارة الموقع الإلكتروني [www.evacchair.ae](http://www.evacchair.ae) أو الاتصال برقم + 97144307722 .

تعمل على تغيير طبيعة المخاطر. فالتقدم التكنولوجي يتيح قدراً أكبر من المرونة، وممارسة المزيد من الأعمال عن بُعد، غير أن ذلك ينطوي على قيود. فمع عمل عدد أكبر من الأفراد عن بُعد، ولجوء بعض الملاك إلى تأجير المكاتب باليوم، قد يُصعب الحصول على عدد الأفراد المتواجدين بدقة خلال فترة معينة. وقد يساعد استخدام أنظمة التحكم أو التوقيع على البروتوكولات في المحافظة على عدد الأفراد المتواجدين بداخل المبنى بدقة، غير أنه يتعين على المسؤولين عن سلامة المبنى إخضاع هذه الأنظمة والبروتوكولات للاختبار والمراقبة لضمان فعاليتها.

خطر الإرهاب

تواجه المباني خطر الإرهاب بدرجات متفاوتة. ويمكن للمسؤولين عن المباني المعرضة لمثل هذه المخاطر على وجه التحديد، التكيف مع المخاطر التي يواجهونها عبر تطبيق تقييمات المخاطر لكل مبنى. ويجب التعامل مع إجراءات التخطيط لحالات الطوارئ الخاصة بالتهديدات الأمنية على نحو مختلف عن خطط الاستعداد للإخلاء حال اندلاع الحرائق.

فعلى سبيل المثال، قد لا تكون بروتوكولات إخلاء شاغلي المبنى لأقرب نقطة إخلاء محددة بشكل واضح ملائمة لنوع التهديدات الأمنية. لأنه في هذا السيناريو، قد يتعين إخلاء الأفراد إلى موقع بديل آمن بعيداً عن المبنى. والحقيقة أنه ليس هناك منهج واحد مناسب لكل الحالات. إذ ينبغي تخصيص عملية إخلاء المبنى حسب تصميمه واحتياجات شاغليه.

كيف يمكنك تحسين سلامة مبنائك؟

عند إعداد خطط الإخلاء في حالات الطوارئ، يتعين أخذ عدة أمور مختلفة في الاعتبار حتى تكون هذه الخطط على أعلى مستوى ممكن من الكفاءة:

- يجب إيلاء عناية بالغة بالأفراد في كل الخطط: إذ يجب أن تقدم خطتك حلاً مخصصاً يلبي الاحتياجات الفردية للأفراد الذين توفر الحماية لهم، لا سيما ذوي الإعاقات الحركية أو البصرية أو السمعية.

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في حالة المباني الشاهقة الارتفاع يجب التخطيط والاستعداد لضمان سلامة الإخلاء

## إدارة مخاطر إخلاء المباني

في هذا المقال، تناقش شركة «إيفك آند تشير»، الشركة الرائدة عالمياً في توريد وتصنيع مقاعد الإخلاء، كيفية إدارة الطبيعة المتغيرة للمخاطر التي تؤثر على السلامة في المباني والإخلاء في حالات الطوارئ. فالعوامل المؤثرة على المخاطر، التي تهدد السلامة في أي مبنى، تشهد حالياً - تزايداً هائلاً عن ذي قبل. فبخلاف الحرائق والفيضانات، تحدث الآن تغييرات غير ملحوظة.

163 طابقاً تضم آلاف الشقق السكنية، هذا إلى جانب تسعة فنادق ومركز تسوق. ومن بين أعلى المباني الأخرى في دبي، برج دبي الشعلة الذي كان أعلى برج سكني في العالم، ويتكون من 86 طابقاً. وكان برج دبي الشعلة قد تعرض لحريق مُروع في عام 2017 دفع إمارة دبي إلى تقديم التدريب الإلزامي على الإخلاء لضمان استعداد شاغلي المبنى لحالات الطوارئ بشكل أفضل. ويعد هذا النوع من التدريب ضرورياً للغاية لضمان فهم كل عضو بالفريق المسؤول في المبنى أو الشركة، الدور المنوط به في حالات الطوارئ.

### التكنولوجيا المتطورة

تعتبر التكنولوجيا أحد العوامل المؤثرة الأخرى التي

المباني، يعمل على تعزيز أماكن العمل والسكن القادرة على استيعاب الأفراد على اختلاف قدراتهم. وهذا يعني منح ذوي الإعاقات الحركية فرصاً أفضل للوصول إلى المباني، وتوسيع نطاق التخطيط لإجلاء الأفراد في حالات الطوارئ، وتوفير المتطلبات المتعلقة بذلك.

ففي المباني الشاهقة، أو حتى المدن العمودية، يتعين إجراء المزيد من أعمال التخطيط والتجهيز لضمان الإجلاء الآمن لجميع شاغلي المباني غير المصممة لخروج شاغليها بسرعة وبأعداد ضخمة، مما قد ينجم عنه حدوث تدافع شديد في آبار السلام الضيقة.

ومنطقة الشرق الأوسط مشهورة بمبانيها الشاهقة، حيث يوجد في دبي أطول مبنى في العالم، وهو برج خليفة الذي يبلغ طوله 2717 قدماً أو 828 متراً، ويتكون من

هناك العديد من الأسباب التي تتنوع بين التطور الذي يطرأ على تصميم المباني وشمولية قوة العمل الكبيرة، والتي تُحتم على القائمين على كل مبنى مراجعة منهجهم المرتبط بمجابهة المخاطر، وذلك لضمان سلامة كل ساكن في كل مبنى. لأنه إذا فشل الإخلاء الآمن، ستكون أرواح الكثيرين عرضةً للمخاطر.

ولا شك أن توفير السلامة في مبنك أمرٌ متعلقٌ بتجاوز الإجابات المعهودة على الأسئلة المرتبطة بمكافحة المخاطر. إذ يجب أن تتطور الخطط والإجراءات المتبعة في حالات الطوارئ لتواكب التطور الذي تشهده المباني والتكنولوجيا والتهديدات لضمان فاعليتها وملاءمتها للغرض منها. فلا شك أن رفع مستوى الشمولية وتحسين قدرة ذوي الاحتياجات الخاصة على الوصول إلى المبنى عند تصميم

# في هذا العدد ...



## تحليلات

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