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VOLUME 2 | ISSUE 6 2016

## Middle East

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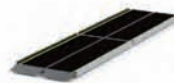


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## editor's letter

IN OUR ADIPEC issue, we focus on safety and security in the oil and gas sector. ADIPEC has responded to the growing need to address both the physical and virtual threats to critical infrastructure with the launch of its 'Security in Energy' exhibition and conference – see our preview on p16. We also look at fire safety management for oil and gas (p32) tackling the cyber risk (p23) and the importance of process safety (p25). Other areas covered in this issue include the focus on tightening up construction health and safety regulations in the UAE (p12), and trends in PPE (p18).

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## ORYX GTL wins GSF Safety Award 2016

### SAFETY AWARDS

ORYX GTL, Qatar's ultra-clean fuels manufacturer, has won the Gulf Safety Forum (GSF) Safety Award 2016, which was awarded for the first time in the region, and is given for overall achievements in the field of health, safety and the environment during the last two years.

The Forum was held under the patronage of HH Sheikh Abdullah bin Nasser bin Khalifa Al Thani, Prime Minister and Minister of Interior of the State of Qatar, and in presence of HH Dr Mohamed bin Saleh al-Sada, Minister of Energy and Industry, on 30-31 October 2016 at the Hilton Hotel, Doha.

During his speech at the Forum, Mohamed Sharif Al-Mushiri, chief commercial officer at ORYX GTL, praised the work of the company staff, which had a fundamental role in achieving the milestone of zero total recordable incident rate (TRIR) for the fifth consecutive year.

According to ORYX GTL, the award is a triumph of teamwork and diligence over several years,



Martin Murray, head of safety at ORYX GTL, speaks at GSF 2016. (Photo: ORYX GTL)

and is something that all ORYX GTL employees can be justifiably proud of. "Not only does it reflect the company's absolute commitment to achieving zero harm in the health, safety and environmental field – underscored by industry-leading benchmarks zero TRIR – but it also adds further kudos to ORYX GTL's reputation as a global GTL trailblazer."

Speaking at the Forum on 'Integrating Behavioral Safety at ORYX GTL', Martin Murray, head of safety at ORYX GTL, said, "Our current success in built on the dedication, commitment and contribution from our workforce, including the contractors who undertake work activities at ORYX GTL.

"We also believe the implementation of our 'ZERO Harm' initiatives have also ensured that ORYX GTL's HSE vision remains the forefront in everything we do at work and in our lives outside of work."

The GSF brought together key industry players from across the Middle East to discuss strategies for continuous improvement of safety procedures as well as share successful case studies and roadmaps towards achieving the goal of zero accidents. International safety experts and providers of safety tools and technologies also presented the latest methodologies, which can assist companies to achieve these goals.

## British Safety Council announces award winners

### SAFETY AWARDS

The British Safety Council has announced the winners of this year's Sword of Honour and Globe of Honour awards for the exemplary management of health, safety and environmental risks by businesses around the world. The winning organisations came from a wide range of industry sectors in the UK, mainland Europe, India and the Middle East. Award winners in the Middle East included Dubai Electricity & Water Authority (DEWA), Qatargas Operating Company - Commercial and Shipping Group, Bahrain Petroleum Company (BAPCO) and RasGas - Shipping Department.

Mike Robinson, chief executive of the British Safety Council, said, "I would like to congratulate those winning organisations and their staff for their huge commitment to keeping their workplaces safe and healthy and minimising risks to the environment from their organisations' day-to-day activities."

## Delivering digital asset solutions in hazardous environments

### DIGITAL SOLUTIONS

AVEVA recently announced a technical partnership with AEGEX Technologies to deliver "LFM Netview" laser scan visualisation and "AVEVA NET" information management solutions on the AEGEX10 Intrinsically Safe Tablet.

Bringing together AVEVA's portfolio of visualisation and information management solutions with the AEGEX mobile platform helps enterprises operating in hazardous

locations to better and more safely manage their people and assets.

"AVEVA has long been an advocate of the digital asset approach," said Rick Standish, VP Solution Strategy, AVEVA. "At every decision point throughout your asset's life cycle, accurate, relevant information is essential. Our technical partnership with AEGEX will transform how field personnel in hazardous environments access high-integrity information and associated engineering data

to maintain safety and improve efficiency."

These mobile solutions are designed for the specific needs of owner operators to provide increased efficiency and information accuracy for brownfield capital project execution and asset operations in UL Class I Division 1 and ATEX/IECEX Zone 1 environments, where combustible atmospheres require specially certified "intrinsically safe" devices that are designed to be incapable of causing a spark that could ignite an explosion.



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# Why do accidents happen?

## ACCIDENTS

Learning from failures and incidents is essential, and is often a fundamental regulatory requirement. DNV GL has investigated over 2,000 incidents and failures globally while also working on identifying trends among the data. As the oil and gas industry strives for cost effective execution in projects and operations while maintaining a high focus on safety and environmental footprint, innovative and smart solutions are needed more than ever. By extracting data and knowledge from all the detailed incident investigations performed over the years, solutions might be just around the corner.

DNV GL has opened a new laboratory in Bergen to further strengthen its capabilities for failure investigation, which includes one of the world's largest tensile testing machines. The company is also now inviting industry partners to join an industry project (JIP) to identify and have access to updated trends based on a broad range of data, including



*JIP participants can use the knowledge as decision support in early phase developments, and risk based inspection. (Photo: DNV GL)*

failure mechanisms, root causes, materials and equipment.

The benefit for the industry will be a systematic approach to capturing and sharing learnings from past failures and for the JIP partners to exchange experiences. Elisabeth Tørstad, CEO, DNV GL – Oil & Gas, says, “DNV GL has conducted many of the major failure and root cause analyses both on the Norwegian Continental Shelf (NCS) and globally, including the forensic examination of Deepwater Horizon Blowout Preventer in 2011.

“Our laboratories are key assets for DNV GL together with acknowledged experts

within key disciplines for the oil and gas industry.

“Supporting our global laboratory network, the DNV GL technology centre for materials, corrosions, coatings, offshore mooring and lifting in Bergen has new laboratory premises so that our customers can have standard or tailored tests to suit their needs and get test results faster. This will further strengthen our position within offshore mooring and lifting and materials and corrosion technology. The most powerful test rig will have a capacity of 2,900 tonnes which places DNV GL's Bergen lab among the top test sites in the world,” adds Tørstad.

# Tasneef launches quality certification company

## BUSINESS

Emirates Classification Society, Tasneef, has announced the official launch of ‘Tasneef Business Assurance’ which will offer training and certification for public and private sectors, with a special focus on performance, management, and quality standards.

Tasneef Business Assurance will also help businesses apply government standards and improve management techniques to leverage their capabilities against international competition.

Rashed Al Hebsi, CEO of Tasneef, said, “Our business assurance services for government and private establishments will not only increase their global competitive edge, but will also bring more international trading bodies to work in this region, confident and knowing that our government sets quality standards that are aligned with our economic environment and development.”

# Axis, Canon change global sales and marketing framework

## INDUSTRY

Axis Communications and Canon Inc. recently announced an agreement under which the two companies would change their sales and marketing efforts in major regional markets worldwide. In Europe, the Middle East and Africa (EMEA) and North America, Axis is assuming responsibility for the marketing and sales of Canon's entire network video product portfolio.

“The network video surveillance market continues to show great potential. As a leader

in the industry, Axis is in an excellent position to include the sales of Canon network video products to our broad portfolio of products and solutions in EMEA and North America. These changes show Canon's strong commitment to build a long term presence for Axis on the market,” says Ray Mauritsson, president of Axis Communications.

Since Axis became a part of the Canon Group in 2015, both companies have discussed various options for leveraging their network video product and solution offerings.

This new sales and marketing framework provides an effective means of maximising the synergies of the Canon-Axis combination.

In the Japanese market Canon (Canon Marketing Japan) will continue to sell Canon's network video product portfolio and will in addition become a partner for Axis to sell the Axis product portfolio. This will be in addition to Axis' existing partner network. As for the rest of the APAC region, Canon's network video product handling options and solutions portfolio are still being explored.





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## → events calendar 2016-2017

November 2016			
6-9	<b>Exhibition of SABIC Technical Conference</b>	JUBAIL	<a href="http://www.exhibitionofstc12.com">www.exhibitionofstc12.com</a>
7-9	<b>ExpoProtection</b>	PARIS	<a href="http://www.expoprotection.com">www.expoprotection.com</a>
7-10	<b>ADIPEC</b>	ABU DHABI	<a href="http://www.adipec.com">www.adipec.com</a>
16	<b>OSCC Conference</b>	KUALA LUMPUR	<a href="http://www.opito.com/oscc-conference">www.opito.com/oscc-conference</a>
21-22	<b>Future Police Technology</b>	ABU DHABI	<a href="http://www.futurepolicetechuae.com">www.futurepolicetechuae.com</a>
21-24	<b>Big 5 Dubai</b>	DUBAI	<a href="http://www.thebig5.ae">www.thebig5.ae</a>
December 2016			
3-4	<b>3rd CCPS Global Summit for Process Safety</b>	JUBAIL	<a href="http://www.aiche.org">www.aiche.org</a>
5-7	<b>OpEx MENA</b>	ABU DHABI	<a href="http://www.opex.biz">www.opex.biz</a>
11-13	<b>MEFSEC</b>	CAIRO	<a href="http://www.mefsec.com">www.mefsec.com</a>
January 2017			
22-24	<b>Intersec</b>	DUBAI	<a href="http://www.intersecexpo.com">www.intersecexpo.com</a>
May 2017			
2-4	<b>Intersec Saudi Arabia</b>	JEDDAH	<a href="http://www.intersec-ksa.com">www.intersec-ksa.com</a>

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

## Tank Storage Germany

### STORAGE MARKET

Health, safety and environmental regulations are set to play a role at Tank Storage Germany 2016. The leading tank storage event for the German market returns to The Hamburg Messe on 16 & 17 November, with much of the conference programme touching on HSE and a large number of exhibitors unveiling new products specially designed to meet local safety and environmental regulations.

Nick Powell, StocExpo & Tank Storage Portfolio event director comments, "Germany is the largest consumer and importer of oil in Western Europe, home to over 107 tank terminals. It is a country with some of the most rigorous national and regional environmental regulations, so it is fitting that we are including HSE as a focus at this year's show."

Stricter environmental rules and regulations within the German storage market are placing

greater pressure on storage professionals to ensure correct operations are in place whilst maintaining cost effective business. Sven Eric Utsch, managing partner at Utsch & Partners, will explore the wider regulatory environment within which companies must operate, while Oliver Stanelle, general manager Central Engineering at Oiltanking, will provide insight into the importance of certification for operators on terminals and the application of EEMUA as a guideline for repair and maintenance.

Turning the focus towards safety will be Thomas Geier, CEO at FSP-Tech, who will be taking to the stage to share his insight into how tank showers deliver both safety and cost saving methods.

Geier says, "Safety showers with integrated water storage tanks have proven their worth at jetties and tank farms around the world. The danger of accidents will always be present as



*A stand discussion at last year's event*

long as human beings are involved. Tank safety showers help to mitigate the risks to health, which occur when the operators working in the field come into contact with acids and alkaline solutions, flammable materials, hot surfaces, steam and extreme dirt.

Running alongside the conference programme will be a packed exhibition hall, featuring over 90 leading suppliers. **For more information, please visit [www.tankstoragegermany.com](http://www.tankstoragegermany.com)**



## Middle East Fire, Security & Safety Exhibition and Conference (MEFSEC)

### SECURITY

Now in its 17th edition, the Middle East Fire, Security & Safety Exhibition and Conference (MEFSEC) is one of Egypt's leading exhibitions dedicated to the innovation and growth of the security sector.

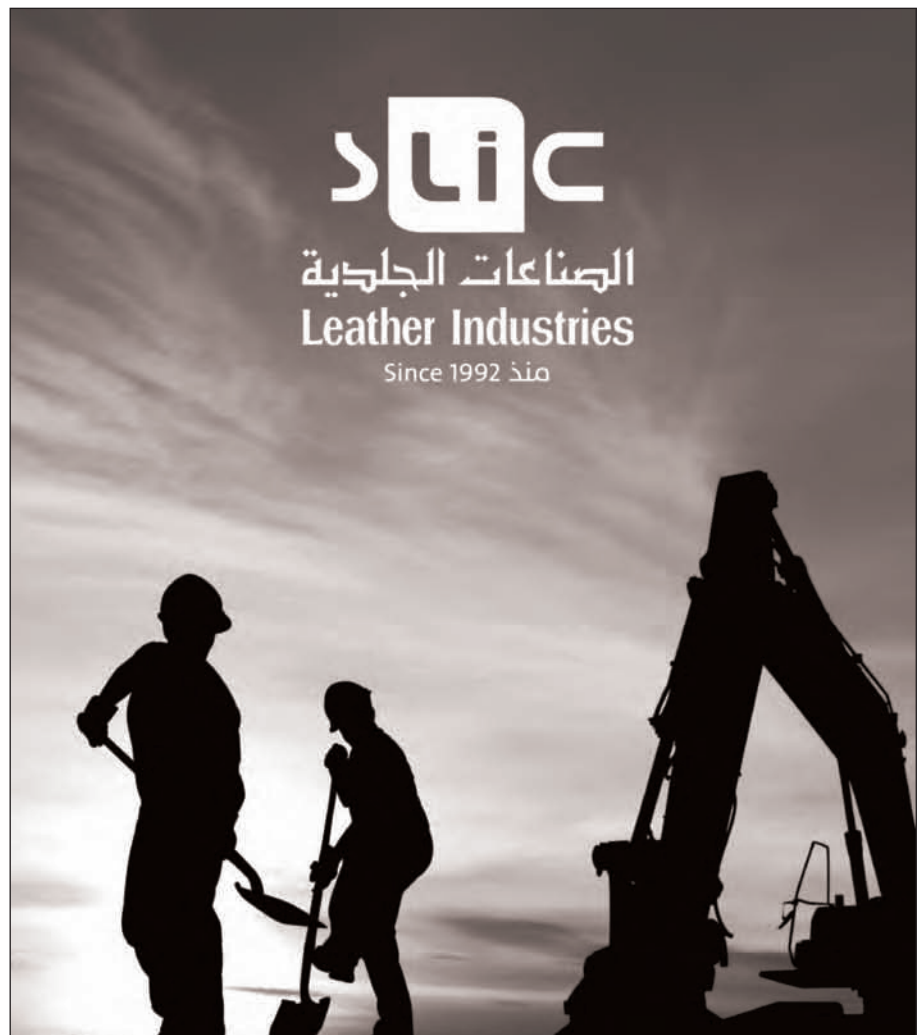
Taking place from 11-13 December 2016 in Cairo's International Exhibition & Conference Centre, this three day event allows industry professionals to source new technologies, equipment and services from local and international manufacturers, suppliers and regional distributors, creating a platform for some of the industry's biggest players to come together and discuss the latest trends and advancements.

Based on data compiled from Securitas & Freedonia, Egypt's addressable security market is estimated at around US\$1.6 bn, representing around 0.5 per cent of total GDP and equivalent to around 10 per cent of the MENA region's addressable security market. Egypt's security market is anticipated to grow at rates nearing 10 per cent per annum.

In terms of market segmentation, outsourced guarding and patrol services account for the largest share with circa 68 per cent, followed by security equipment and services with 25 per cent and investigation services with six per cent. In terms of growth, the equipment and services segment is progressing at the fastest rates of seven to nine per cent per annum.


The 2016 edition of MEFSEC will focus on airport security, with a dedicated arena for related products, technologies and services. Key themes of the conference for security professionals are airport and port security, counter-terror and riot control, firefighting and fire protection, and import rules and regulations in Egypt.

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# Rising to the challenge

Industry responds as UAE officials tighten the construction health and safety net. Martin Clark reports.

**“Large construction sector employers that hire 500 staff or more will require a UAE national health and safety officer from 2017 onwards.”**

**Raed Al Marzouqi, head of occupational health and safety, Dubai Municipality**

ABOVE: A construction boom is underway in the Gulf.  
(Photo: Korawee/Shutterstock)

**T**he rough and tumble of the UAE’s housing and construction market over the past decade or so, with many projects scrapped or delayed in the wake of the global financial crisis and now low oil prices, should not mask what remains a very positive picture of growth.

Some estimates put the value of construction projects planned for the entire Gulf region at US\$2 trillion, with the UAE and Saudi Arabia taking the lion’s share of the spending.

It’s true that the region’s flagship international sporting project, the FIFA World Cup, will take place in Qatar in 2022, but the anticipated spillover into other regional markets – especially Dubai and the UAE – means there is a squeezing of demand for materials and services generally.

And, in the run-up to this soccer tournament, where the spotlight has been thrown on

working conditions, there is an ever sharper focus on health and safety in the region.

Officials across the Gulf are under scrutiny and are keen to apply pressure to firms to make sure they look after their labourers better, from supplying the right clothing and equipment, to providing basic training.

Not wanting to be outdone, Dubai is gearing up for its own massive international showcase with Expo 2020, another focal point that will bring visitors from all over the world – it is expected to attract 20mn tourists – further driving construction demand.

On a wider GCC level, some estimates suggest that more than 500 new hotels are already under construction right now to cater for the anticipated influx of visitors in the coming years, while the region’s entertainment theme parks are booming.

It all equates to more demand for services and materials,

including cheap labour to work on these multi million dollar schemes that will underpin the region’s long-term future.

### New legislation

Contractors and manufacturers face a test in the months and years ahead not only in readying the infrastructure required, but also doing so in a way that ticks all the boxes of fresh legislation.

This includes the implementation of the new Dubai Civil Defence laws governing the health and safety of construction materials.

And the authorities are getting visibly tougher. At a worker health protection conference in September, Raed Al Marzouqi, head of occupational health and safety at Dubai Municipality, didn’t mince his words, stating that nearly all construction accidents are the fault of employers.

He said the UAE had a responsibility to the people it



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brought in for labour on its building projects, and this meant construction firms needed to take greater responsibility for their welfare.

In the summer, the government announced that large construction sector employers that hire 500 staff or more will require an Emirati health and safety officer from 2017 onwards.

The Ministry of Human Resources and Emiritisation estimates that it will affect around 400 industry players.

Without at least one Emirati national health and safety officer, firms will not be granted their work permits, says Minister for Human Resources and Emiritisation, Saqr Ghobash.

He says the decision came following a strategic plan to promote employment opportunities for locals in the private sector, as well as concern for labour conditions.

"The ministry targeted localisation of the profession of occupational health and safety officer after careful consideration of the sectors of construction, industry and major industrial enterprises," the minister said at the time of the announcement in July. A compliance team will check to ensure that companies are adhering to the new rules.

## Health and safety

But there are broader repercussions too, with manufacturers and industry suppliers keen to showcase new safety-orientated solutions across the construction market.

This was evident at a recent windows, doors and facades exhibition, where there was a clear focus on safety measures, as well as the level of energy consumption of buildings.

The move to greater energy efficiency is another important pillar in the country's strategic UAE Vision 2021. Government is targeting a reduction in the consumption of electricity and carbon dioxide emissions by 20 per cent within the next five years, a move that affects all builders and materials suppliers.

And companies are responding. One of the participants at the September trade exhibition was Technoform Middle East, which has been prioritising higher levels of building insulation for its products.

"This is of particular importance in the hot climate of the UAE where high-rise towers with glass glazing pose tremendous challenges in terms of energy management," said Cristian David, the firm's technical sales manager.

"Only advanced thermal insulation with efficient air-conditioning management can prevent cool air leaks."

Other areas covered at the show included building fire safety, cooling issues, sound optimisation, and 'green' design principles.

## New fire measures

Fortunately, many local players are embracing the various rule changes as they seek to capitalise on these new health and safety inspired initiatives to grow their own business.

Prime Certification and Inspection has enjoyed steady growth in recent years on the back of the UAE's buoyant construction and infrastructure sector. The laboratory and compliance solutions provider saw 15 per cent revenue growth last year, almost two thirds of it

derived from the construction industry, including projects linked to Expo 2020.

Mary Jane Alvero Al Mahdi, chief executive of Prime and Geoscience Laboratory, says the UAE now places high importance for all players to adhere to the strictest safety standards.

"Currently, we view that the biggest emphasis is on fire safety codes," she says. "The authorities are working on a revised UAE Fire and Life Safety Code that will include strict regulations and standards for construction consultants for new buildings, to further prevent incidence of fire."

It has been reported that the new code will require installation of a fire insulation layer in every two floors of the buildings to stop fires from spreading to the higher or lower floors.

## Buoyant market

Indeed, the sustained growth of the UAE's construction sector is mirrored by the increasing number of testing projects, which has benefited niche providers such as Prime.

For instance, the company has registered what it says is a "substantial increase" in soil testing frequency which reflects a buoyant market, according to Al Mahdi. The increase indicates a high number of projects either in the planning stage or on the verge

**"Currently, we view that the biggest emphasis is on fire safety codes."**

**Mary Jane Alvero Al Mahdi,  
chief executive, Prime and  
Geoscience Laboratory**

of being developed.

"Soil investigation is the first part of construction as it sets up the platform for the design of a project. A company needs to know the strata of the soil and thereafter it can design the load bearing capacity of the structure."

Prime currently has around 200 projects in its construction division, a figure that is projected to increase on the back of proposals and new work orders across Dubai and Abu Dhabi.

As well as soil testing, Al Mahdi highlights a number of other key areas that have driven recent business. She says Prime has also seen a number of contractors requesting regular tests to measure air pollution at their sites. The test results inform clients of the air quality, thus giving them time to take proactive measures to control pollution.

"Similarly, we do water quality testing for lakes and fountains within master communities for a number of major developers in the UAE. These tests are done to know if there is any water contamination and allow the companies to initiate measures to control it."

It has likewise been conducting testing of aggregates, rock, concrete, steel and steel products, asphalt, cement, water, and geosynthetics to ensure that high quality construction materials standards are maintained.

With most projections for the UAE construction market showing strong and steady growth ahead, those companies that want to succeed will need to show a willingness to embrace any new guidelines or directives concerning health and safety. Ultimately, it will be a good thing for all concerned. ❖





# Stronger HSE values

The two-day event, organised by *Health, Safety & Security Review Middle East* magazine, focused on health and safety concerns related to construction, fire prevention and oil and gas industries in the Middle East.

**“This is a very nice and well-attended Forum by safety practitioners. We hope to see more business leaders here in the future.”**

**Dr Waddah S. Ghanem,**  
ENOC's executive director,  
EHSSQ & Corporate Affairs

ABOVE: The mock fire drill led by Dubai Civil Defence at Le Meridien Dubai Hotel & Conference Centre.

The 2nd Annual Health, Safety & Security Forum, organised by *Health, Safety & Security Review Middle East* magazine, took place at Le Meridien Dubai Hotel & Conference Centre on 23-24 October 2016.

The conference opened with the keynote speech by the head of occupational health and safety at Dubai Municipality Raed Al Marzouqi, on heat stress management at workplace.

“Winter is coming, but the importance of heat stress management does not diminish,” Mr Marzouqi noted. He said that it is important to understand the impact of heat stress at work. He also underlined the factors affecting illnesses induced by heat and steps to overcome them.

Preventing heat stress is necessary but so is incident reporting in case of an accident. Dr Huda Al Salmi, who is the head and section head at Abu Dhabi Municipality (ADM), spoke about the rise in cases of incident reporting in the emirate and the launch of ALDAA software with Abu Dhabi Occupational Safety and Health Center (OSHAD) for the ease of reporting the incidents online. The ADM is also working

with Abu Dhabi Police and hospitals to better collect and manage incident reporting.

Besides speaker presentations, the Forum also hosted the region's first-of-its kind mock court trial illustrating the workings of the justice system after a serious accident at the workplace. Abu Dhabi-based Al Tamimi & Co's head of litigation Mohamed Al Marzouqi and senior associate litigation Omar Khodeir demonstrated how parties are held responsible in cases of accidents onsite.

Day One's panel discussion revolved around the topic Tourism Growth Questions Enhancement of Safety Culture and Crowd Management. With one million tourists expected for Expo 2020 Dubai, questions on how to tackle crowd management were touched upon. According to Cayongcat, the first step, as mandated by Dubai Municipality, is emergency planning in the workplace and arranging an emergency response team. Ghaleb Abbasa stressed the importance of appropriate building designs that aid faster evacuation.

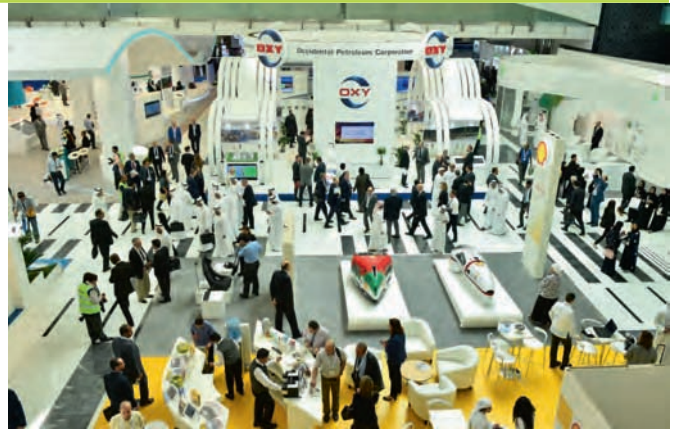
Speaking about evacuation, Gary Hicks, general manager, Emergency Management Consultant at Evac+Chair, said that knowing

evacuation processes goes a long way in saving lives. He provided details on how good evacuation processes helped saved lives during the 9/11 incident. ENOC's executive director, EHSSQ & Corporate Affairs Dr Waddah S. Ghanem and IOSH vice-chair Rob Cooling spoke about how to develop EHS practitioners into executive business leaders.

However, the highlight of the Forum was the mock fire drill, organised and carried out by Dubai Civil Defence (DCD), which demonstrated the DCD's efficiency in responding to fire incidents in the emirate. According to Terry Johnson, senior fire service advisor – operations department at the DCD, the aim of the DCD is to make Dubai one of the safest cities to live in. He also spoke about the soon-to-be-released 2016 Fire & Life Safety Code, adding that the new code will be more descriptive, stricter for developers and favourable for building dwellers.

The event was endorsed by Dubai Municipality, Abu Dhabi Civil Defence and Abu Dhabi Municipality and sponsored by ATG Lanka, Leader Healthcare, Evac+Chair, Al Hoty-Stanger Laboratories, Safe Mobility and ARASCA. ❖

# ‘Coordinated and streamlined’ approach to security



Abu Dhabi International Petroleum Exhibition & Conference (ADIPEC) responds to the growing need for virtual and physical asset protection with its inaugural ‘Security in Energy’ exhibition & conference.

“‘Security in Energy’ will address both the physical and virtual threats to critical infrastructure.”

**U**AE and international experts have urged organisations in the oil and gas industry to adapt to an increasingly interconnected energy landscape by taking a streamlined and coordinated approach to security. The promise of emerging technology brings with it a growing concern of data and infrastructure protection within the industry, which has proven to be a persistent challenge that needs to be immediately addressed in the region and across the world.

ADIPEC will launch its inaugural edition of ‘Security in Energy’ in support of regional and global efforts to protect the industry from threats posed by compromised information technology and today’s rapidly changing global environment, the event organisers said.

The programme, which is supported by the UAE Telecommunications Regulatory Authority (TRA) and the Critical Infrastructure and Coastal Protection Authority (CICPA), will feature a dedicated exhibition and conference, providing valuable insights on the growing need for worldwide industry security across the energy landscape.

“Global advances in technology have allowed us to

connect with others in a way we never have before. In the energy sector, it has propelled stakeholder collaboration and the sharing of knowledge and information, enabling real-time interaction between experts, professionals and those working on the field,” said Hamad Obaid Al Mansoori, director general of the UAE Telecommunications Regulatory Authority (TRA).

“However, with greater interconnectivity comes greater challenges within information security, making it crucial that we are always one step ahead when it comes to protecting sensitive data. This means organisations need to develop a consolidated, multi-layered strategy for safeguarding critical industry information. The inaugural ‘Security in Energy’ exhibition and conference at ADIPEC will address those very concerns, inviting the best and brightest minds under one roof to discuss how the industry can shield itself from the very real threats posed by information technology,” Al Mansoori added.

Set to be the annual meeting platform for key regional and international stakeholders engaged in ensuring the safety of the industry, ‘Security in Energy’ will address both the physical and virtual threats to critical infrastructure.

The conference agenda includes a keynote presentation by British army officer and former NATO Deputy Supreme Allied Commander for Europe, General Sir Richard Shirreff. Conference speakers will also include senior-level representation from industry leading companies, to include the TRA, Saudi Aramco, and the National Emergency and Crisis and Disasters Management Authority (NCEMA).

The programme will feature keynote presentations, technical sessions, and panel discussions on energy-specific topics ranging from disaster prevention, emergency readiness, and event recovery, to innovative security solutions and risk mitigation.

“Today, we are witnessing the digitisation of the oil and gas industry, characterised by the increased application of information technology,” said Christopher Hudson, president – dmg events, Global Energy. “Maintaining the protection and integrity of vital assets in today’s dynamic and increasingly globalised business environment is crucial for sustainable progress in the energy sector. ‘Security in Energy’ at ADIPEC 2016 will offer innovative solutions that organisations can deploy for effective critical infrastructure protection.” ❖

ABOVE: ADIPEC will be held from 7-10 November 2016 at the Abu Dhabi National Exhibition Centre (ADNEC). (Photo: ADIPEC)





# Focus on worker health protection

Intersec's Safety & Health section will showcase the latest in technical textiles and Personal Protection Equipment.

**“If you do not provide the right training, right tools and right protection for the workers, you will be held responsible.”**

**Raed Al Marzouqi, head of Occupational Health & Safety, Dubai Municipality**

ABOVE: Intersec will feature more than 1,300 exhibitors from 54 countries.

The declaration from a Dubai Government official that worker lives are being put at risk due to firms failing to properly clothe and protect them has garnered the attention of global health and safety companies and manufacturers of Personal Protection Equipment (PPE).

Raed Al Marzouqi, head of Occupational Health and Safety at Dubai Municipality, told delegates at the recently concluded BOHS Worker Health Protection Conference in Abu Dhabi, that 99 per cent of work-related accidents in the UAE are the fault of the employer.

Al Marzouqi said companies operating in high-risk environments that fail to provide basic requirements to protect their employees will be penalised: “If you bypass the system and rules, authorities will take disciplinary action, if you do not provide the right training, right tools and right protection for the workers you will be held responsible,” he said. “In a country like the UAE, we have a diversity of workers and when we take them in, we have an obligation towards them, like they do towards us.”

The BOHS Worker Health Protection Conference was told of instances in which workers have suffocated due to a lack of protection to harmful materials, while others have died in falls from buildings because they were not wearing harnesses. Basic training in the construction industry is also often not being delivered properly, it was claimed.

In response, international companies specialising in safety and health at work are rolling out a series of training programmes along with new technical textiles and PPE at the upcoming Intersec trade show, which takes place from 22-24 January 2017 Dubai International Convention and Exhibition Centre.

Now in its 19th edition, Intersec is the world's leading trade fair for security, safety, and fire protection, and will feature more than 1,300 exhibitors from 54 countries. Safety & Health is one of seven sections at the annual showcase, and has witnessed rapid growth over the last five years, further underlining the importance of Middle East worker health protection. 220 companies will be showcasing their products and technologies in this section of Intersec.

“With governments and regional industries increasingly prioritising worker safety and wellbeing, the importance of using the right protective clothing and safety equipment to ensure workplace safety becomes paramount,” said Ahmed Pauwels, CEO of Messe Frankfurt Middle East, the event organisers.

“Intersec's Safety & Health section offers regional trade buyers, contractors, engineers, labour suppliers and developers a unique opportunity to meet with key global suppliers and manufacturers of the entire spectrum of PPE and technical textiles.”

A Techtexil Pavilion in the Safety & Health section will present the entire spectrum of technical textiles and nonwovens for professional and protective clothing, as well as the latest laminating technologies for coating, printing, finishing and other products and services.

Intersec's other core sections include Commercial Security, Fire & Rescue, Homeland Security & Policing, Information Security, Smart Home and Physical & Perimeter Security. ❖ **More information is available at: [www.intersecexpo.com](http://www.intersecexpo.com).**

# Safety begins with oneself

PPE today forms an important part of workplace safety. It is imperative that companies dealing in hazardous jobs ensure that worker safety is put first with the use of effective equipment.

**Making the workplace safe includes providing instructions, procedures, training and supervision to encourage people to work safely and responsibly.**

ABOVE: When selecting the right harness, wearers must choose one that is designed for a specific application. (Photo: Detchart Sukchit/Shutterstock)

**B**y definition, personal protective equipment (PPE) are products that a user wears or holds to protect themselves against hazards either at home or at work. PPE is integral to worker safety, especially in construction and oil and gas industries. The Middle East region is the hub for both these sectors, which is why good PPE equipment is not only necessary but also life-saving.

According to a published study conducted in 2012 by Shibani et al. under the title *Health and Safety influence on the construction project performance in United Arab Emirates (UAE)*, 69 per cent of the participants had a serious lack of understanding of health and safety policy importance, 71 per cent had no training of workers and 74 per cent believed that such training, when existent, is outdated. In addition, 87 per cent strongly agreed that there exist cultural barriers to adhesion to safety procedures, although 91 per cent said they were not made aware of such barriers, 86 per cent of the respondents admitted that they did not adhere to accident reporting procedures and 83 per cent admitted not recording accidents.

Therefore, is there any importance given to PPE regulations in practice?

Globally, the construction and manufacturing segment dominated the PPE market with 27.1 per cent of the global market share in 2014, in terms of value. The increasing demand to work in risky environments such as erection, repair, demolition, structural or routine maintenance, painting, land clearing, and earth moving, trenching, digging, boring, drilling, blasting, and concreting demands the use of PPE.

According to Grand View Research, the GCC construction sector is currently worth US\$6.7bn, and the rampant construction activity has led to a rise in the PPE market with the current value at US\$1bn, according to Udaya Bhanu T.K., president marketing at Karam Safety, leading PPE manufacturers in India and also based in Dubai.

Manufacturer of intelligent gloves solutions ATG Gloves' country manager Middle East and Asia Sofian Hamila also agrees that the PPE market is evolving at a good pace in the Middle East. "Even with companies becoming a bit more

price-conscious due to the current market situation, they are not compromising on quality and standards, which is a healthy sign," he adds.

However, as the PPE sector progresses, there is a growing concern about the rise of counterfeit products. Affected by low oil prices, many construction companies want to adhere to the safety rules without affecting their budget for PPE.

Dr. Uday says that even as many brands come in with cheap products in the market, Karam Safety ensures that as a local and responsible brand in the UAE, they go by the government safety standards as prescribed by the UAE Ministry of Labour.

Talking about the new PPE Regulation (EU) 2016/425 that will come into effect in 2018, Dr. Uday adds that this way, only good manufacturers will survive and the counterfeit ones will run out of business. "Ultimately, the wearers will be benefitted. Right now, we still find fake products in the market and even with legislation in place, it has been witnessed that construction and oil and gas workers are injured in work sites because of cheap materials."

Meanwhile, Sofian notes that the new regulations are just an





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adjustment of what is already in place, and, therefore, it would not affect the market much. “PPE manufacturers and importers will just update their certifications and keep working with the same product range,” the ATG Gloves country head says.

According to Frank Samadani, senior manager, marketing & business development, emerging markets EMEA at Ansell who are a global leader in protection solutions, namely gloves and overalls, the new EN388 standard represents the most favourable revision to this fundamental mechanical hand protection benchmark in over 20 years. He also adds that Ansell has taken the lead by developing a range of tools to make the new regulations simple to understand and easy to adopt.

The changes that can be witnessed with regards to Ansell products include:

- A new more reliable and consistent abrasive paper defined for the abrasion test
- A new EN ISO cut test has been introduced specifically for use with cut resistant materials that show a dulling effect on the blades used in the Coupe test.
- An impact test has been introduced for gloves that claimed to provide impact protection.
- The EN 388 pictogram now reports five or six performance levels instead of four.

**Role of the wearer**

For a PPE to be effective, the role of the wearer to understand the product is equally important.

According to Bhanu, this is taken care of at Karam Safety.

“We educate and train end-users/wearers about our safety harnesses – how to use and store them. Once the users understand the product, they become aware of the difference between a good and a bad product.”

Manufacturers and sellers of Category 3 (life-saving) equipment, Karam Safety’s safety managers specifically give complimentary training to users.

“Of course the wearer is the key: if the PPE is not worn properly it can be useless even with the highest standards and specifications. For example, even if the best of helmets is being worn without being tightened on the back of the head, it can easily fall off, thereby proving fatal,” Sofian stresses.

He adds on to say that there are some new certifications coming up in the region that might make massive changes in the way certifications are done.

Samadani reiterates that Ansell strongly believes that it is their responsibility to educate the workers about the importance of hand safety in the workplace.

“Studies show that adequate use of PPE – including hand protection – enables workers to do their work with more confidence, reduces the risk of injuries and increases productivity.”

This is why Ansell has launched its ‘Feel Equipped’ campaign in Middle East to provide insight on how workers can be protected in hazardous chemical environments. “Ansell has what it takes to select and supply the right chemical protection for workers and through this can offer ‘peace of mind’ that workers are well protected from hazardous chemicals.”

**It’s all in the HSE rule book**

On ensuring better health and safety standards and overseeing cheap prices, Dr. Uday maintains, “Short-term benefit is outdated. Saving lives means better business and the key to better business is better HSE policies in a company.” Talking about the UAE, he adds that safety is at the forefront in a market like the UAE.

But a big market sector like PPE is not without challenges in the Middle East. Dr. Uday mentions that there is a dearth of proper testing procedures in the region. “Companies need to ensure that the purchased PPE go through correct testing procedures – either European, USA or International. Also, many suppliers of PPE do not use genuine products with no regular check ups on them.”

But the UAE is a more sophisticated market than the rest of the region, with the government ensuring that HSE is not compromised. “Which is why we get lab numbers inscribed on PPE products and it can be verified by Dubai Municipality, in the case of

building in the emirate, and Abu Dhabi Municipality.”

According to Samadani, one of the biggest challenges that the companies are facing in the emerging markets like the Middle East is the lack of regulatory enforcement around the PPE usage. But Ansell is slowly overcoming this by working closely with a number of governmental and non-governmental organisations to introduce the concept of PPE requirements in the workplace. “A successful example of this is the hand protection guide published and distributed by the Dubai Municipality a few years ago.” He also puts forth the Risk Prevention campaign by Ansell and supported by Dubai Municipality, which is another initiative with the objective to educate key decision makers and end users in markets like the Middle East regarding the importance of hand protection.

Sofian also reiterates that there are some new certifications coming up in the region that might make massive changes in the certification process. ❖

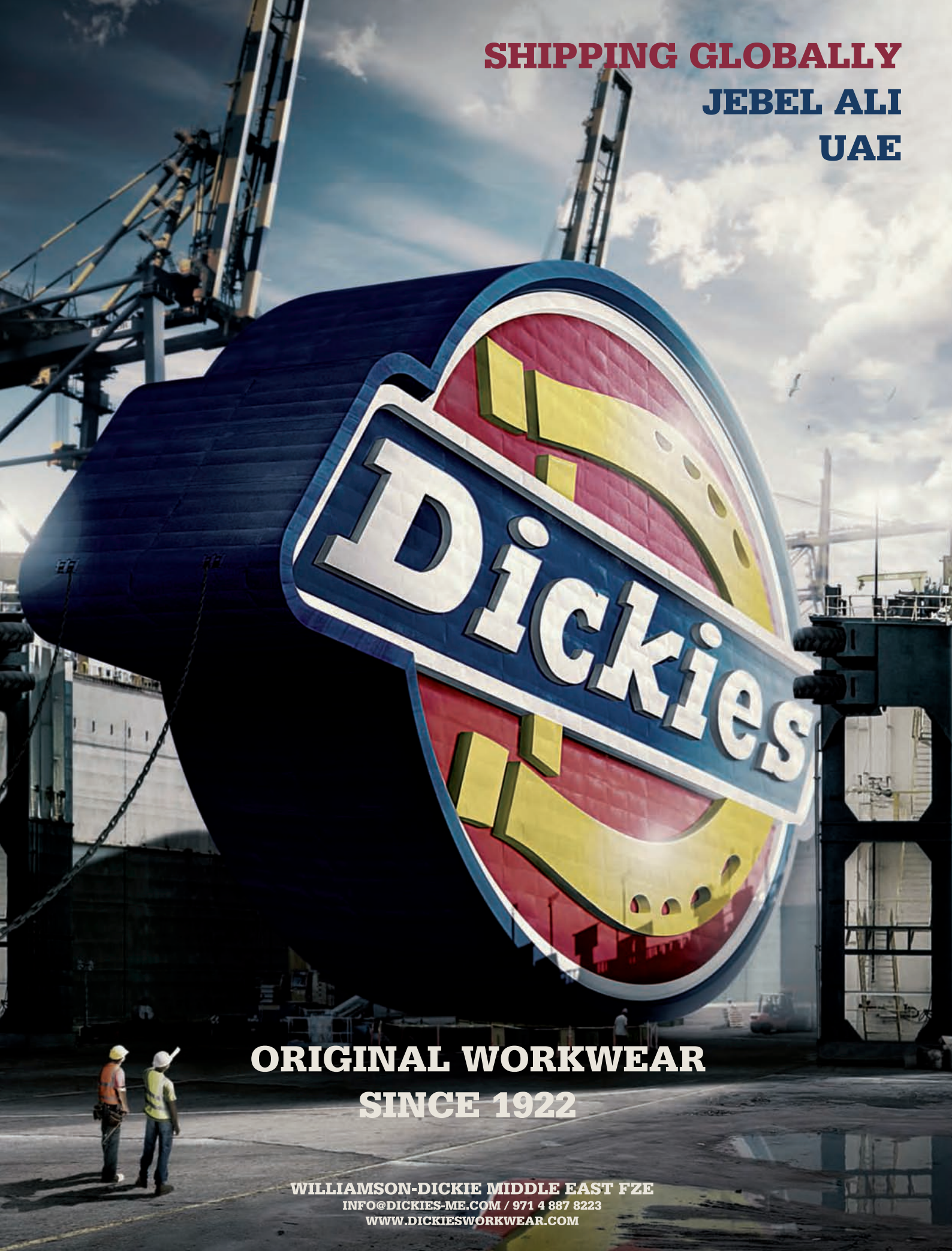
**The main changes in the new EU PPE Regulation**

The Regulation text has been adopted on the 12 February 2016, published on 31 March 2016 and listed in the Official Journal 21 April 2016. This starts the two year transition period for Member States and Notified Bodies to prepare for the introduction of the new Regulation. There are a number of changes that are being proposed taking place including:

- Moving hearing protection from Category II to Category III PPE
- Moving life jackets from Category II to Category III PPE
- Issuing a Declaration of Conformity with each PPE or at least a link to where it can be obtained
- A compulsory maximum five-year certificate validity
- Responsibilities outlined for importers and distributors



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# Next gen protective wear for oil and gas workers

W L Gore & Associates has launched GORE® FR Apparel products featuring GORE-Tex® Pyrad® fabric – flame-resistant (FR), foul-weather outerwear designed for oil and gas industrial workers.

**“The new line of products are waterproof, windproof, breathable and provide optimum protection against flash fire, petroleum and oil-based hazards.”**

**G**ORE FR Apparel is a new line of FR foul weather outerwear products designed to meet the demanding needs of oil and gas workers. Comprising a jacket, bib, and detachable hood combination, it offers protection from incidental flame exposure and weather protection across a wide range of environmental conditions, while offering moisture management to improve comfort and safety.

The new line of products are waterproof, windproof, breathable and provide optimum protection against flash fire, petroleum and oil-based hazards. According to the company, the durable, lightweight two-layer ePTFE membrane construction helps protect workers from exposure to hot liquids, steam common oilfield contaminants, and allows for easy care and cleaning.

According to Gore, FR Apparel ensures worker comfort by increasing range of motion, minimising bulk and reducing the effects of moisture build-up across a wide range of environmental conditions and varying work rates. It is designed

to enhance worker safety by reducing risk of injury from a broad range of industrial threats and hazardous conditions.

The FR Apparel uses the same technology as Gore's proprietary PYRAD Fabric Technology and adds retro-reflective properties that meet or exceed government regulations.

“Simply put, GORE FR Apparel is a best-in-class line of foul-weather outerwear products that will deliver an unprecedented performance-to-value solution for our customers in the oil and gas markets,” said Gore market development champion Sean McDearmon. “A new performance benchmark has been established.”

Well known for the waterproof, windproof, and breathable Gore-Tex fabric, the company's portfolio includes everything from high-performance fabrics and implantable medical devices



to industrial manufacturing components and aerospace electronics. With its latest offering the company hopes that it can establish a new industry watermark for comfort and protection for oil and gas industrial workers. ❖

ABOVE: Gore FR Apparel is rated ASTM F1891 for dual hazard protection. (Photo: Gore)



# Addressing the cyber threat

Addressing cyber risks in the energy sector is critical not only to energy security, but is also vital for a resilient state and economy, finds a new World Energy Council report.

**“The energy sector must take a systematic approach and assess cyber risks across the entire supply chain.”**

The report, entitled *The road to resilience: managing and financing cyber risks*, published by the Council in collaboration with Swiss Re Corporate Solutions and Marsh & McLennan Companies, investigates how cyber risks can be managed, taking into account the changing nature of the energy industry and energy infrastructure.

The report highlights that energy companies have seen a massive increase in the number of successful cyber-attacks over the past year, and predicts that by 2018 the oil and gas industries could be spending US\$1.87bn each year on cyber security.

Increasing interconnection and digitisation of the energy sector (including smart grids, smart devices and the growing internet of things) and its critical role in the functioning of a modern economy make the energy sector a highly attractive target for cyber-attacks aimed at disrupting operations. Although digitisation increases operational efficiency in the industry, offering operators the opportunity to improve pipeline management and exploration and production for example, growing interconnection also raises the complexity of cyber

risk management. In a worst case scenario cyber attacks can result in infrastructure shut down, triggering economic and financial disruptions or even loss of life and massive environmental damage.

Christoph Frei, secretary general, World Energy Council, said, “Cyber threats are among top issues keeping energy leaders awake at night. Over the past three years, we have seen a rapid change from zero awareness to headline presence. As a result, more than 30 countries have put in place ambitious cyber plans and strategies, considering cyber threats as a persistent risk to their economy.

“What makes cyber threats so dangerous is that they can go unnoticed until the real damage is clear, from stolen data over power outages to destruction of physical assets and great financial loss. Over the coming years we expect cyber risks to increase further and change the way we think about integrated infrastructure and supply chain management.”

The report illustrates the rapid growth of cyber risks, highlighting past attacks and potential cyber incident scenarios plus insurance claims implications. Effectively

addressing cyber risk demands much higher public awareness, in governments and utilities.

Cyber risk must not be considered purely as an IT risk but should be addressed as an enterprise-wide concern and as a key operational risk that requires effective and comprehensive risk management, including governance and oversight from the board of directors and executive team, the report highlights. Companies need to implement both technical measures of resilience (security measures for software and hardware, measures governing physical structures, such as limiting access to data centres, and clear instructions for using external hard drives), and human resilience measures built on developing a robust cyber awareness culture within and beyond organisations.

The energy sector must take a systematic approach and assess cyber risks across the entire supply chain, to improve the protection of energy systems and limit any possible domino effects that might be caused by a failure in one area of the value chain. However, measures that require supply chain compliance or cross-border cooperation are

more difficult to implement, and require increased cooperation across sectors. Disseminating information about incidents, sharing best practices and introducing international cyber security standards are key elements for addressing the challenge.

## Key recommendations of the report include:

- **Industry:** Energy utilities must view cyber as core business risk, assess and understand company-specific cyber risks and build strong technical and human cyber resilience strategies. Adopting a common cross-sector cyber security framework for example can help locating key areas of cyber risk management and identify those systems that need to be protected at all costs.
- **Technology companies** serving the energy sector can play an innovative role. They must monitor the nature of cyber-attacks and embed security features into the products they are developing and delivering. Without doing so, ICS and supervisory control and data acquisition (SCADA) controls can compound cyber risks, and increase the vulnerability of energy operations to attack.
- **Governments:** Policymakers must stimulate the introduction of standards, regulation and support information sharing, and in doing so support strong

responses from companies to cyber risks. A cyber security talent pool is vital given the demand for skilled workers exceeds the supply with a growth rate that is more than two times faster than all other IT jobs. Governments must support information sharing across countries, sectors and within the industry, and improve international cooperation on cyber security frameworks.

- **Insurance and finance:** The insurance sector must monitor cyber risks and focus on managing newly arising and changing risks. They need to develop appropriate cyber insurance products and better understand how their existing portfolios are impacted by cyber incidents. In analysing energy sector information in detail, they must help companies to better quantify their cyber risks.

Energy companies must get used to the fact that cyber now poses the same kind of risk to large infrastructures as a flood or a fire. The nature and changing risk profile of the cyber threat, from economic espionage to disruption of production, demands a cross-sector based risk approach from businesses and governments around the world. ♦

*The publication is available to download from the following link:*  
<https://www.worldenergy.org/publications/2016/the-road-to-resilience-managing-cyber-risks/>

## Joining forces to fight cyber crime

Cyber crimes cost energy and utilities companies an average of US\$12.8mn each year in lost business and damaged equipment, according to research from the Ponemon Institute. Cyber security is a growing issue in the oil and gas sector since critical network segments in production sites, which used to be kept isolated, are now connected to networks. The trend is towards remote operations, remote maintenance and tighter inter-operability with centralised process data and plant information. Old and outdated installations are at particular risk and require risk mitigation actions.

To address these challenges, DNV GL has established a Joint Industry Project (JIP) together with Shell, Statoil, Lundin, Siemens, Honeywell, ABB, Emerson and Kongsberg Maritime. The JIP will produce a guideline for protecting oil and gas installations against cyber security threats. The IEC 62443 standard will be used, but will be tailored to the oil and gas industry. The standard defines what to do, while the guideline will describe how. The JIP will result in:

- Reduced risk of cyber security incidents
- Cost savings for operators by reducing the resources needed to define requirements and follow up
- Cost savings for contractors and vendors based on identical requirements from operators
- Simplified audits for authorities and auditors due to common requirements and common conformance claims.

“Dealing with cyber security challenges has become a key focus area for the oil and gas sector. Attacks are becoming increasingly costly and harder for companies to recover from. This JIP will lower the risk of cyber-security incidents and trim costs for operators, contractors and vendors by reducing the resources needed to define requirements and by driving a standardised approach,” says Pål Børre Kristoffersen, principal consultant, DNV GL – Oil & Gas.

“By collaborating with others in the industry, we can ensure that we end up with one globally applicable regulation that is suitable for the oil and gas sector,” says Rune Wærstad, control & automation engineer, Shell.

The scope of the JIP is to produce cyber security guidelines to simplify and clarify the use of IEC 62443 for the FEED, projects and operations. Good practice and reusable patterns are to be produced. The JIP will result in a Recommended Practice (RP) for Industrial Automation and Control Systems in 12 months' time.



# Process safety for oil and gas

Process safety is the key to a sustainable business, say Colin Chapman (president) and Ekaterina Kalinenko (project manager), Euro Petroleum Consultants DMCC.

**“Asset integrity is critical to increased plant performance, reduction in operational costs, and mitigation of related risks.”**

*Above: Asset management is critical for improved plant performance. (Photo: Golf\_chalermchai/Shutterstock)*

The significance of process safety for industry enterprises and their sustainable development cannot be overstated. The increased rate of incidents leading to multiple fatalities, as well as significant financial losses resulting from inadequate process safety, are a prime illustration of this. Companies run the risk of repeated accidents unless thorough investigation and analysis are conducted to fully understand the root cause of such incidents. They need to do their utmost to learn from such accidents to ensure that they are never repeated.

A focus on safety is becoming an ever more vital driver of financial value in a dynamic and fast-paced business environment. Maximising uptime and reducing the disruption associated with incidents directly impact the bottom line. Improving the safety

culture within organisations must be a key priority for a sustainable business model.

The most important issues for continuous improvement that companies should consider can be grouped into main areas of activities in operation, maintenance, and HSE, and include

- Sustainability
- Energy consumption and efficiency
- Control of carbon emissions
- Increase in the share of renewables and clean fuels
- Options for changing the crudes mix for production; Opportunity crudes
- Cost monitoring and control within the current energy price framework
- Process lifecycle management (asset, equipment and process performance management)
- Overall pro-active safety approach
- Equipment maintenance,

reliability and process safety management

- Operator capability management
- Training of key personnel, especially new staff and workers with less experience
- Knowledge and change management, online, model-based decision support with instrumented/automated systems
- Collaboration and teamwork
- Reduction of technical support cost, and others.

Process safety is not just a trend that we have seen lately in oil and gas industry, but is a key area of improvement and a topic of great importance to governments, state-run and private companies and society in general. There are many aspects that are worth taking care of in order to ensure sustainable development (Figure.1), one of them being asset integrity.



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Asset integrity is critical to improved plant performance and margins, reduction in operational costs, and mitigation of related risks. None of the goals of the corporate programme mentioned above can be achieved unless a robust system of facility management is developed and implemented in the first place.

Asset integrity includes routine maintenance, non-routine maintenance, turnaround, and inspection. Maintenance activities must not be limited to firefighting mode with work priorities changing continuously throughout the day, but should aim for stable operations mode.

Studies conducted by independent consultants give a good insight into the gaps in asset integrity from current

performance to best practice. However, improving maintenance performance often needs review by independent external experts to highlight where changes are necessary, both for routine and non-routine events. Companies need to address a list of questions, including the following:

- Are the right computerised management systems in place?
- Is root cause analysis practiced to avoid repeat maintenance occurring?
- Are repairs to plants essential to the refinery's economic performance prioritised?
- Does the company practice preventative maintenance techniques, e.g. is standard vibration monitoring carried

out to determine when maintenance should be carried out before a possible failure?

The main activities needed to safeguard effective operations include the extension of the ageing assets lifecycle (a very topical one since in some countries that have been in refining and petrochemicals for decades, the rate of wear for assets exceeds 60 per cent and sometimes reaches the critical level of 85 per cent, meaning lower-quality products, increased maintenance costs, extreme risks of incidents, etc.); and optimising existing assets using modern techniques, state-of-the-art instrumentation and a lean approach to new facilities design

**“During operation, every asset integrity system element should be constantly maintained by operators and HSE managers, operational limits should be explored and change management procedures should be in place.”**

(this is particularly important for the Middle East region where a number of ambitious integration and expansion investment projects have been introduced in recent years).

During operation, every asset integrity system element should be constantly maintained by operators and HSE managers, operational limits should be explored and change management procedures should be in place and reviewed when operating conditions change and if an incident or near miss occurs.

Traditionally, methods used for asset integrity assurance also include gap analysis and benchmarking, inspections and audits, corrosion evaluation, review and maintenance, and

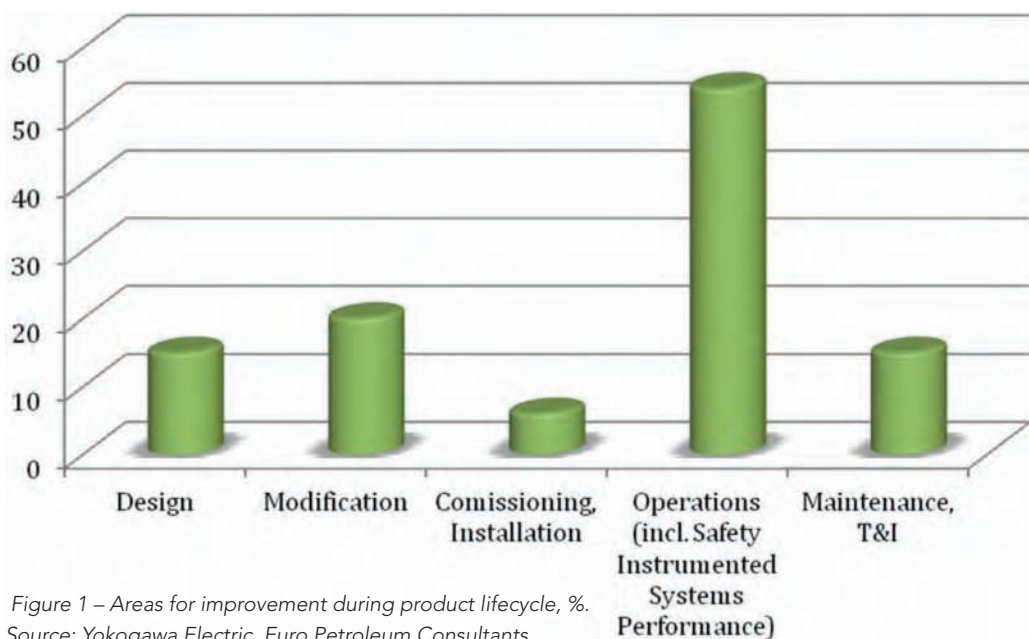


Figure 1 – Areas for improvement during product lifecycle, %.  
Source: Yokogawa Electric, Euro Petroleum Consultants



integration of processes with software tools. To maximise productivity a list of KPIs should be developed that incorporates HSE indicators, which are applicable to the asset integrity condition evaluation.

Another instrument that should be taken into account in order to assure safety levels is the HAZID and HAZOP combination. The HAZID (Hazard Identification) process should be ongoing to ensure existing hazards are known, and new hazards recognised prior to facility modification, organisational change, abnormal operations and troubleshooting and condition monitoring, and after an incident or near-miss. The HAZID approach should consider all operating modes of the facility, and all activities that are expected to occur, be dynamic to stay ahead of any changes in the facility, and integrate human and machine/system interfaces together with engineering issues.

The process of HAZID planning

and execution requires a number of steps, including preparation, defining the boundaries and providing system description, dividing plant into logical groups, reviewing P&IDs and analysing process schematics to ensure accuracy, and, of course, optimising.

HAZOP is mostly used for identifying hazards and operability problems and can be applied to operating process plants and to plants in various stages of design. The plant to be studied is defined at the beginning of the HAZOP, typically using the P&I diagrammes to clarify the battery limits and interfaces.

The team operates a question and answer approach using guidewords to search for deviations from design intent or failure modes of the plant. Each section is examined critically to understand the design intent of the facilities between nodes selected by the leader. At the end of the HAZOP, a list of recommendations should be provided. These need to be allocated

**“One of the main factors that ensures sustainable development of the oil and gas industry is safety in operations as well as non-core activities”**

*BELOW: Training is key to ensure HAZOP/HAZID results are successfully implemented. (Photo: Matva/Shutterstock)*

for review and implementation with a budget and timetable. The documentation of HAZOP analyses is often facilitated by utilising a template or a software package.

HAZOP studies should be carried out at the following stages of a plant's life: during the initial design phase, once the P&I's have been fully defined; during normal operations and start-up and shutdown procedures; and during any significant plant modifications. They should also be carried out on a routine basis – minimum every five years.

Training of staff is key to ensuring HAZID/HAZOP results are successfully implemented. Both managers and key specialists involved in production activities should be aware of process hazards and associated risks, tools and procedures to comply with requirements to pass this knowledge to all workers.

To summarise, one of the main factors that ensures sustainable development of the oil and gas industry is safety in operations as well as non-core activities. One of the main responsibilities of oil and gas players is to guarantee that processes operate safely for the employees, environment, local residents and other enterprises in the region. In a multicultural society such as in the Middle East, it is of utmost importance that all persons involved in the management and operations of refineries and petrochemicals complexes fully understand and follow all safety procedures and requirements. ❖



# Mitigating security threats

Firas Jadalla, regional director - Middle East and Africa, Genetec, discusses the increased demand in the Middle East for state-of-the-art security systems.

**“Municipalities and government entities are now investing in some of the most advanced security solutions to assess, investigate, manage and mitigate high-risk situations.”**

Firas Jadalla, regional director  
Middle East and Africa, Genetec

The move to keep our cities and communities secure is no longer the responsibility of law enforcement agencies and authorities alone. Today, everyone is tasked to do their bit in keeping the city safe – from public organisations, local businesses, architects and city planners to community-based groups and the public at large. The need to protect citizens and maintain public safety has become a top priority. Governments everywhere require advanced security solutions to effectively fight threats from organised crime, street gangs, terrorism and random acts of violence.

A recent report from Research and Markets<sup>1</sup> has thrown the spotlight on the continuing growth of the Middle East region's surveillance market and the key drivers that have influenced its upward trajectory – such as the growing construction industry, rising security concerns and increased security and IT spending. It highlights the UAE, Saudi Arabia and Qatar as lead countries in terms of adoption of IP technology-based surveillance



systems. Factors such as government regulations, declining prices, increasing consumer awareness, remote accessibility and video analytics are contributing to this growth. Across the industry, the IP video surveillance segment has shown aggressive growth over the analog video surveillance segment. Amongst all verticals, the government and transportation sector has accounted for the greatest expenditure in the overall video surveillance market in the region.

Among the key factors that are driving more growth for this segment are government initiatives which have seen the incorporation of newer technologies to maintain safety and security within the public sector. Municipalities and

government entities are now investing in some of the most advanced security solutions to proactively assess, investigate, manage and mitigate high-risk situations. Key efforts are now also being made to ensure public road safety – which includes assessment of accidents, monitoring of traffic and its flow across major roadways and intersections, identifying wanted vehicles, and developing ways on how to proactively detect safety threats on our roads. Initiatives are also underway to help curb, or totally avert, street level criminal activity and to provide assistance across counter-terrorism operations.

The industry is also witnessing the emergence of newer trends aligned with modern IP digital technologies. These innovations include higher megapixel video, built-in camera analytics, behaviour analysis and smart solutions like RFID, GIS etc.

Security professionals in the Middle East in particular, have expressed requirements for enhanced public safety with proactive detection and prevention; increased



information sharing and consolidation of real-time data; support for anti-gang and counter-terrorism investigations; improved response times with automated alarm notification; the ability to manage a growing number of analog, IP and LPR cameras; leveraging past access control and video hardware investments; enhanced operator productivity and decision-making, and a reduction in operational costs and total cost of ownership.

In order to address these requirements, the surveillance security segment has been working to innovate and bring to market new security solutions that can greatly help the advancement of the industry. We

are predicting fast paced growth for smart video analytics, taking note that customers today are always in search for a faster way of looking through hours of video to get evidential information.

There is also an increasing demand from companies and organisations, especially those from the security, retail, education, construction and transportation segments, for managed security services. This gives them the opportunity to outsource their IT hardware and management requirements while also removing the need for on-premises IT infrastructure and management, allowing companies to focus on security, parking and enforcement. Such

services also make use of the cloud to free end-users from on-premises storage, IT management and depreciation costs.

Lastly, a solution that is being hailed as a highly-advanced surveillance system is the Automatic Licence Plate Recognition (ALPR) solution, which has the key capability of capturing the image of vehicles and identifying their license number. ALPR systems are composed of high-speed cameras with IR filters, processors capable of performing optical character recognition (OCR), application software, user interface, and an alert capability to notify operators in case of a match. These systems can be offered as a standalone device, or can be used

with existing traffic enforcement cameras or closed-circuit televisions, and are used by police forces across the globe to prevent and detect crimes. They are also used for electronic toll collection on roads, monitoring traffic activities such as red light adherence and speed enforcement, and for identifying cars in a massive car park. Additionally, ALPR systems can assist in the detection of stolen vehicles. The ALPR technology varies from location to location, depending on the designs of number plates. ♦

*<http://www.businesswire.com/news/home/20151020005920/en/Research-Markets-Middle-East-Video-Surveillance-Market>*

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# Minimising FIRE RISK

Amalia Illgner discusses measures and practices for effective fire safety management in the oil and gas sector.

**“Fire safety will be increasingly controlled by smart, digital, fire and gas and smoke detection.”**

Steve Watkins, senior consultant, Falck Fire Academy

ABOVE: Fire and explosion are the number one cause of loss in the energy sector. (Photo: Isamare/Shutterstock)

**W**ith nearly two thirds of all global claims, fire and explosion is the leading cause of “business interruption”, according to the latest report by insurance giant Allianz. And it’s no surprise that it’s the same story in the energy sector with “fire and explosion” standing as the number one cause of loss - by both the number and the value of claims.

So what measures are the leading fire safety experts taking to reduce the risks and loss associated with fire, and what is the latest thinking in terms of best practice and innovation?

Steve Watkins, a senior consultant for Falck Fire Academy, the world’s leading provider of workplace-related safety courses and safety services, with a focus on the offshore and maritime sectors says: “Fire safety will be increasingly controlled by smart, digital, fire and gas and smoke detection”. He also predicts we will see more oil and gas process installations with high risks of gas release being equipped with “fully automatic fire extinguishing systems”.

Andy Gibbins, CEO and founder of the UAE-based firm GLAS, which provides high level consultancy to the oil, gas and

petrochemical sectors believes the key is to prevent ‘loss of containment’. “This means the prevention of flammable liquids and gases from being released from piping and equipment”. And Gibbins thinks this comes from good design and operational standards.

## Safety by design

Nikkii Ng, a principal consultant at Lloyds’ Register (LR), a global engineering, technical and business services organisation, providing risk and consultancy services, believes that best practice all starts from the right approach from the outset. She





management systems. “A positive safety culture is essential, particularly in an environment where you have long, demanding shifts, difficult working conditions and a very high potential for fatigue.”

Watkins, who is also a former UK fire officer with more than 20 years’ experience, believes major global incidents such as Deep Water Horizon has made firms re-think staff training. He says that previously there were only fire suppression systems installed to the regulation requirements. But now, he says, there is more emphasis on quality training to deal with credible scenarios. “A good example is the Management of Major Emergencies (MOME) training for the offshore installation managers (OIMs) on offshore installations.”

## The human element

But Ng says that understanding the “human element” is complex and she thinks “we are only beginning to recognise the influence of the workforce in efficient - and therefore safe - operation of offshore assets.” But, she says, there are clear trends emerging.

She says the best firms are re-thinking how they promote their positive safety culture. And this has resulted in innovative ways of approaching training. “The emphasis is shifting away from a reliance on the deployment of company ‘safety police’ in favour of employee engagement tools such as incentives, which give workers a stake in the process.”

**“We are already seeing increased incidents of ‘force majeure’ associated with safety issues.”**

**Andy Gibbins, CEO and founder, GLAS**

However, quality training is a significant investment and the drop in the crude oil price has affected profitability in all companies. Gibbins believes this is a “serious challenge” for the industry across the Middle East and Africa. “Companies have been forced to make budget cuts, which have impacted on staffing levels, investment and discretionary spending on things such as training.”

Gibbins also sees another worrying trend in the Middle East and Africa. “Across both regions, companies are reducing numbers of highly experienced expatriate staff. This means that a lot of knowledge is leaving companies. This coincides with cutbacks in training.” He is worried there is a real risk in falling standards. “We are already seeing increased incidents of ‘force majeure’ associated with safety issues, being reported by companies - indicating unforeseen loss of ability to supply to their customers.”

Watkins is equally concerned. He says that “training of personnel is sometimes seen as ‘lost money.’” But he is reminded of the saying “if you think training is expensive, try a real incident.” ❖

says, “The best time to apply the principles of inherent safety is during the early stages of a design.” She argues that firms need to step back and visualise offshore platforms for what they really are: “Floating cities that produce highly hazardous chemicals 24 hours a day.”

That’s why right now LR has launched a Joint Industry Project (JIP) to investigate how best to reduce the potential explosion and fire risks from hydrocarbon leaks in gas turbines. “Companies and universities across the world are collaborating in this new initiative to improve awareness on how to optimise safety

design.” Some of the collaborators on the project are: ConocoPhillips Skandinavia AS, Maersk Oil and Gas AS and Statoil AS, along with General Electric O&G.

But it’s not only design and infrastructure innovation that can be improved. Ng is clear that infrastructure assets are now generally safer by design and it is widely accepted by the modern safety expert that “at least 80-90 per cent of major incidents” are caused by human factors. She says that training and managing human factors aboard offshore installations is as crucial as the right infrastructure and

## Dallmeier presents 4K Ultra HD camera



### HD CAMERA

Dallmeier presents a 4K camera with ultra HD. Owing to the extremely high resolution the cameras of the Ultraline series provide even sharper images with even more details.

The DDF5400HD Ultraline camera series has been designed especially where very high are required resolution images in real time. The camera is available with an integrated lens in a vandal-resistant housing. It can be supplied with an external power supply unit or with Power over Ethernet.

The high resolution of the sensor and the sophisticated image processing enable real-time recordings with UHD resolution at a frame rate of up to 25/30 fps (2160p/30) with excellent quality. Thus, the camera is ideally suited when capturing the finest details in real time is required.

The camera is equipped with an ambient light sensor and a removable IR cut filter and can automatically switch between day and night mode. In addition, different day and night presets

for the exposure settings can be defined and adjusted.

The camera has a motor-driven megapixel varifocal lens that is perfectly tuned to the image sensor. The adjustment of zoom, focus and iris is made conveniently using a web browser. The manual lens setting directly at the installation site of the camera is not required.

The P-Iris control provides precise and automatic setting of the optimum aperture. Thus, the camera achieves a much better depth of field than with conventional DC auto iris lenses under almost any lighting conditions.

The camera is equipped with a RAM memory that is used by the EdgeStorage function for storing the video stream in case of a network failure. When the network is restored, the Smart Backfill function ensures a fast transmission to the SMAVIA recording system. This stores the video stream with high speed and then continues the recording of the live stream seamlessly.

## New NIR borescope

### TEMPERATURE MEASUREMENT

AMETEK Land, the leading industrial infrared non-contact temperature measurement specialist, has released the new Near Infrared Borescope (NIR-B) 3XR for industrial gas applications.

The NIR-B 3XR delivers continuous reformer tube wall temperature (TWT) measurement and furnace optimisation and monitoring, allowing highly accurate temperature point data to be measured, stored and trended over the lifetime of the furnace.

Thomas Fortinberry, business development manager Industrial Gas for AMETEK Land, said, "This is a major development in temperature measurement for industrial gas applications. The NIR-B 3XR helps to optimise efficiency and improve monitoring significantly.

"The result is increased productivity, greater asset protection and enhanced tube life."

## Tyco launches GS700 gas detector with natural gas discrimination

### GAS DETECTION

Through its natural gas discrimination application, the GS700 quickly determines if the source of gas leaks is from a utility pipeline, saving valuable time and reducing excavation costs. The GS700 also ensures compliance through intelligent data-logging and GPS mapping, simplifying data collection and allowing managers to make better decisions from tracking data reports. The portable functionality of the GS700, at only 1.4kg (3lbs), combined with its notable

durability, enables workers to manoeuvre the device in demanding environments and harsh conditions.

The GS700 promises flexible configuration as it can be customised to meet specific application and user requirements and can cater to multiple detection needs, without alienating performance. Application modes include: Gas Leak Outdoors, Gas Leak Indoors, Purge, Search, Barhole and Confined Space. Each application mode provides fast and accurate measurements and allows gas

leaks to be located quickly, ensuring gas utilities are best equipped to protect life and safeguard property.

Tyco Gas and Flame Detection is comprised of former IST companies, Detcon, Oldham, Gas Measurement Instruments (GMI) and Simtronics, along with the gas and flame business of Scott Safety. The five legacy companies have formed one unified company to provide the most comprehensive portfolio of gas and flame detection products in the many industries it serves.



## Axis introduces laser tech in cameras



### NETWORK VIDEO

Axis Communications, the market leader in network video, introduces AXIS Q6155-E PTZ Dome Network Camera with laser focus, offering much faster and more accurate autofocus even in the most challenging lighting conditions. The new laser focus technology combined with the high image quality that AXIS Q6155-E offers, is valuable in situations when people or objects need to be identified quickly and precisely.

“Autofocus is one of the biggest challenges for conventional PTZ cameras today. When the lighting

conditions are difficult - such as for example at dusk or dawn - the camera takes longer to autofocus,” says Kent Fransson, Global Product Manager, Axis Communications. “Our new laser focus technology allows the camera to measure the distance to objects no matter what the lighting conditions are. This measurement is also much more exact and it is taken in an instant. This means the camera is always focusing optimally, providing clear images at all times.”

AXIS Q6155-E features Sharpdome, a technology which allows for monitoring of objects

as much as 20° above the camera horizon. The camera offers HDTV 1080p resolution and 30x optical zoom. This high-end camera brings sharp images even when weather or lighting conditions are challenging thanks to its laser focus, a new and improved sensor, Axis’ Lightfinder technology and Axis’ Speed Dry function.

AXIS Q6155-E is ideal for city and perimeter surveillance, critical infrastructure, transportation, education, industrial and government installations. Its sleek design, compact size and re-paintable casing allows the camera to blend in with its surroundings. It offers quick and precise pan-tilt-zoom (PTZ) and high scene fidelity at all angles of view.

Axis’ Zipstream technology lowers bandwidth and storage requirements while keeping necessary forensic details.

AXIS Q6155-E is supported through the Axis Application Development Partner Program and AXIS Camera Application Platform for third party use.

## New Peli 3325Z0

### LED TORCH

PeliProducts has introduced the new ATEX safety-certified 3325Z0 LED torch. Stephan Corti, President of Peli Products’ Commercial and Government division said that “By continuing to develop best-in-class products, we are providing the features that matter most to end users at an Inbeatable value.” Ideal for Oil & Gas, Fire & Rescue and other hazmat Industries, the new Peli 3325Z0 combines three important features that makes it a multi-talented torch: compact, ATEX Zone 0 certified and with a button back switch for one hand activation. It uses 3AA alkaline batteries, produces 155 lumens of powerful light, weighs only 173 gr. Being certified to ATEX Zone 0 (Cat. 1) means that it can be used in the most hazardous work environments. The back mounted switch makes a perfect match for any helmet mounted applications. The photoluminescent shroud ensures you’ll be able to locate your light even in the darkest of conditions.

## Full E2S family offshore and marine warning system launch at ADIPEC

### WARNING DEVICES

E2S Warning Signals is launching STEx, its latest family of explosion proof audible and visual warning devices, on Stand 8230 at ADIPEC. Optimised for use in fire and gas warning systems in offshore and marine safety systems, STEx is manufactured in 316L and 316 grade stainless steel to give enhanced corrosion resistance and extended operational life in hostile environments. The latest transducer technology in both the sounders and beacons ensures high sound and light

outputs with low current draw, reducing the host system’s power requirements and potentially lowering the size of the UPS back-up capacity. All STEx products are competitively priced, and the design features large installer-friendly termination areas, reducing on-site time and thereby lowering the total installed cost. The family includes high output 117 and 123 dB(A) alarm horn sounders, and either flared or omnidirectional radial horns, 15 and 25 Watt PA loudspeakers, 21, 15 and 10 Joule Xenon

strobe beacons, LED beacons with user-selectable flash patterns, rotating halogen beacons and combined sounder beacon assemblies. The 21 Joule Xenon beacons produce an output in excess of 900 Cd, a very bright flash for efficient signalling in environments with elevated levels of ambient light. STEx warning devices are sealed to IP66 and are approved by leading certification bodies such as ATEX and IEC IECEx for use in extended temperature ranges in Zone 1, 2, 21 and 22 environments.



# Enhancing power PLANT SAFETY

A new integrated fire and gas system implemented by Honeywell Fire and Gas Solutions at a power plant in Turkey has not just enhanced the plant's safety, but also made a significant contribution to plant profitability.

**“The result is a much higher standard of safety that also meets all relevant national and international standards.”**

ABOVE: The Ambarli power plant is located on the Marmara coast of Istanbul. (Photo: Druid007/Shutterstock)

**T**he Ambarli combined cycle gas power plant on the Marmara Coast of Istanbul is among the largest in Turkey. Commissioned in 1991, the nine units have a design capacity of 1351 MWe. The plant is operated by Elektrik Üretim AŞ (EÜAŞ), the largest electric power company in Turkey, and the country's third biggest businesses by revenue.

EÜAŞ required a complete fire detection and alarm system upgrade. The existing fire detection systems suffered from obsolescence, as well as repeated false alarms. There were also a number of areas in the facility – both process and non-process – not covered by the old system. Effective mitigation depended heavily on manual responses, leaving significant scope for human error.

EÜAŞ awarded Honeywell the project to replace the fire detection and alarm system with a modern solution that would address these weaknesses. It also needed to comply with all Turkish safety regulations and relevant international codes and standards, specifically EN54 and NFPA.

As an operating power plant, all installation and implementation work would have to be completed with production online.

## Solution

Leveraging a local presence through an affiliate, Honeywell was able to deploy expert engineers and project management with a strong understanding of local standards. At the same time, the project followed its high quality global

implementation model. Honeywell delivered a comprehensive solution using a wide range of its technologies:

- Safety Manager, the safety solution that integrates process safety data, applications, system diagnostics and critical control strategies to detect and prevent dangerous conditions. Providing automatic, safe shutdown to protect the operation, the solution also offers root-cause analysis to drive improved system performance.
- Universal Safety I/O simplify installation and maintenance of safety devices. Each of their 32 channels can be configured individually to a different I/O type, and up to 28 redundant modules can be connected to a Safety Manager using the





Together they tailored a solution that precisely fitted the plant's requirements.

The solution provides a modern, comprehensive fire and gas safety system with control and monitoring of the entire facility from the central control room. Additionally, local fire alarm panels and sounders warn of any detected abnormal situation.

With automated alarms and responses and tight integration of the safety, process and security systems, the site has significantly reduced response times and dependence on operator actions. The result is a much higher standard of safety that also meets all relevant national and international standards.

During the project, the Honeywell Universal Safety I/O dramatically reduced site work and cabling and simplified integration of fire & gas system controllers with the automation control system. Soft marshaling enabled the I/O modules to be mounted close to the process unit, eliminating the need for marshaling panels, homerun cables and field auxiliary rooms.

In the longer term, Universal I/O will bring EÜAŞ benefits in terms of lower maintenance costs and simpler additions in terms of future fire suppression systems. With configurable I/O channels it will be easy to implement logic and configure input/output signals to other systems such as trip signals to the automation system and initiate signals to suppression systems.

Finally, a fully integrated solution from a single supplier helped EÜAŞ reduce time taken on engineering, testing, commissioning and startup.

### Results

Without interruption to operations, as a single supplier Honeywell implemented a fully integrated fire and gas solution within the tight project schedule of just 10 months.

Covering all process and non-process areas, the system provides continuous monitoring and automated systems for alarms and responses. Eliminating false alarms, it enables safe, smooth, continuous production. EÜAŞ Ambarlı continues to rely on Honeywell for support in maintaining and improving the system.

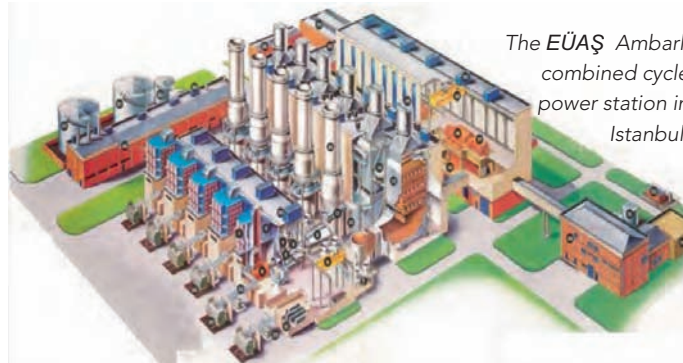
The new integrated fire and gas system has not just enhanced the plant's safety; it has made a significant contribution to plant profitability. The project design, planning and implementation have been flawless. ❖

- SIL 3-certified communication network.
- The XLS80 Fire Alarm Control Panel with advanced intelligent, flexible analogue addressable design and functionality along with user friendliness to ensure highest safety standards and reliability.
- FAAST Fire Alarm Aspiration Sensing Technology provides very early warning smoke detection in harsh and difficult environments while maintaining a high level of immunity to non-smoke particulate.
- Sensors and devices including smoke, heat, gas and flame detectors, as well as manual call points, horns and strobes, to minimize hazardous conditions and improve safety.
- Experion® Industrial Security

server and workstations to provide a wide range of physical security options tightly integrated with the plant control systems.

### Benefits

Operating with a strong local team, EÜAŞ and Honeywell worked together to select fire, gas and flame detectors, aspiration systems, safety systems, fire panels, and human interfaces.



The EÜAŞ Ambarlı combined cycle power station in Istanbul.

## التخطيط الأمثل

كما يوضح استفتاء Oil & Gas IQ، فإن تنفيذ مهام وقف التشغيل والإنتاج وإعادة التشغيل وانقطاع الخدمة على نحو أقرب إلى «المستوى الأمثل» في نهاية المقياس، يبدأ في مرحلة التخطيط التي تستغرق ثمانية عشر شهراً. ويجب أن يستهدف التخطيط لأعمال وقف التشغيل والإنتاج وإعادة التشغيل وانقطاع الخدمة ما يلي:

- تبسيط التعقيد الذي يشوب بيئة إعادة التشغيل.
- ترتيب الأولويات القائم على المخاطر عند التخطيط وتنفيذ الأعمال.
- رفع مستوى التوعية الموحدة بالمخاطر وتطبيق ممارسات تقييم المخاطر.
- التأكد من إدماج السياسات والأدوار وممارسات العمل الآمنة وتنظيمها عبر عمليات إعادة التشغيل.
- تحسين التعاون بين الوظائف خلال عملية إعادة التشغيل.
- الحرص على وجود مخصصات للطوارئ للتعامل مع الأعمال الطارئة غير المتوقعة، وهي أعمال تم إغفالها أو نسيانها في الغالب.

أوجد الحل وسوف يطرأ التحسُّن على التنفيذ والنتائج.

لاشك أن اعتبار التخطيط كإنشاء دليل تفصيلي يسير على نهجه جميع الموظفين والمقاولين، أمرٌ مُعَرَّ. غير أن المشكلة هنا تكمن في اعتباره أكثر من مجرد لائحة مهام حيوية تسعى بجهد دؤوب لتحقيق النتائج المرجوة السابقة، بصرف النظر عن كم التفاصيل التي يتضمنها الدليل. فهو لا يراعي العدد الضخم من العلاقات البيئية التي تربط الموظفين عند إدراج ٤٠ ألف مهمة منفصلة وربما خطيرة في جدول الأعمال. وبحسب التعريف، لا يمكن لهذا الدليل التنبؤ بجميع النتائج المتوقعة، والأحداث العرضية، وحالات التأخير غير المخطط لها. ولهذا لا يمكنه توفير التوجيهات حول أفضل الطرق الواجب اتباعها للتعامل مع التداعيات البالغة التي تتوالى عبر جدول الأعمال.

المُشغلين بعد النظر لتحسين الخطط قبل مرحلة التنفيذ وخلالها، وذلك من خلال تعديل الجداول بشكل استباقي لإعادة ترتيب أولويات العمل مع تغير الظروف والمخاطر المرتبطة بها. فما هي نتيجة ذلك؟ لائحة مهام حيوية من شأنها تقليل المخاطر وإمكانية تجاوز الجداول المقررة.

هذه الأنواع من الأدوات تساعد أيضاً في التغلب على أكبر التحديات التي تواجه التخطيط لأية مشاريع متعددة التخصصات، وهي تحقيق الوساطة بين المجالات ذات الأولوية.

فخلال الفترة الزمنية التي تستغرق ١٨ شهراً يجتمع بالطبع ممثلون عن الأقسام المختلفة، وجميعهم يشعرون بأن مجال عملهم في الصيانة يحتل الأولوية. وبدلاً من إعطاء الأسبقية للممثل الأكثر إصراراً، يمكن تصنيف جميع المهام وفقاً لمعيار عام وهو - في هذه الحالة - الخطورة. ومن خلال تصوُّر وتحسين أعباء العمل الكلية وأشكال التعارض وجميع أوجه الخطر الكائنة في مكان واحد، وإظهار كيف تؤثر الأنشطة والظروف مجتمعة على سلامة العمليات في العالم الواقعي، تصبح مشاركة المعلومات أكثر سهولة وتوافقاً. مع تطبيق هذا النموذج في التخطيط، سوف تتضح الصورة كاملة للجميع، من القاعدة حتى أعلى مستوى. ويتسنى للمهندسين في الخطوط الأمامية - باستخدامهم لغة المخاطر العامة - فهم أسباب وتبعات المهام التي يؤديونها، بينما يستطيع المديرون اتخاذ قرارات ذكية بشأن التوظيف، ووضع الجداول، لتنفيذ المشروع بمستوى خطورة مقبول.

الدعم الرقمي لن يؤدي إلى تغيير إجراءات وقف التشغيل والإنتاج وإعادة التشغيل وانقطاع الخدمة بين ليلة وضحاها. كما أنه لن يستبدل الخبراء في هذا المجال، ولكنه سيجعل المهام الملقاة على عاتقهم أكثر سهولة. فالأمر يتعلق كلية بتطبيق الإجراءات الصحيحة وتمكين الأشخاص المناسبين. والأهم من كل ذلك اعتبار السلامة عاملاً قوياً مساعداً على الإنتاج، وليس الاعتماد على العمليات والأرباح كما يبدو في الغالب. ومع الربط الإيجابي بين السلامة والإنتاجية، يصبح التميز التشغيلي أكثر قابلية للتحقيق.

كما أنه لا يراعي الرغبة البشرية الفطرية لتفادي الجلوس ومراجعة المستندات الطويلة. فهو بالأحرى ليس أداة تخطيط مصممة للتعامل مع بيئة حيوية متعددة اللغات ومحفوظة بالمخاطر؛ مثل بيئة وقف التشغيل والإنتاج وإعادة التشغيل وانقطاع الخدمة. فأياً كان مستوى العناية المبذولة في التنسيق بين الإجراءات والسياسات، تبرز النقطة الأكثر خطورة عند بدء التفاعل مع الأصول الخطرة، والبشر غير المنزهين عن الأخطاء.

وأخيراً، يجعل أسلوب «تتبع الدليل» في التخطيط الأمور أكثر صعوبة على المشغلين للتكيف مع التغيير بمرور الوقت. ويعتمد ذلك في الغالب على المعلومات المحفوظة على الحواسيب أو عبر الإنترنت، والتي ينبغي تجميعها وتحديثها والتحقق من صحتها. ويصعب الحصول على الدروس المستفادة من عمليات وقف التشغيل والإنتاج السابقة، كما الحال مع التغييرات التي تطرأ على ظروف التشغيل والمعدات الجديدة والمخاطر الجديدة المترتبة على ذلك. حتى وإن كان جمع هذه المعلومات يتم عبر الحواسيب بالكامل، فربما يكون عرضةً للركود، إذا كان يسرد أحداث السنوات الخمس الماضية، وليس الحقائق الحالية على أرض الواقع.

## لغة المخاطر

الإجابة عن التخطيط الفعال لا يمكن أن تعتمد بالكامل على قائمة طويلة وغير متصلة من مربعات الاختيار، لكنها ترتبط إلى حد كبير - بأدوات التخطيط التي تدعم تطوير مجموعة من الإجراءات الأكثر قابلية للإدارة والمشاركة. ومع مراعاة الترابط البيئي الطبيعي بين المهام والمخاطر المصاحبة، لا سيما العناصر ذات المسارات الحرجة، لا يكون بالإمكان فقط سرد التفاصيل الدقيقة لكيفية تنفيذ مهمة فردية، بل وتمكين القائمين على التخطيط أيضاً من الرجوع خطوة إلى الوراء والتفكير في كيفية تطبيق برنامج العمل بأكمله بشكل آمن.

وهذا أمرٌ مهمٌ جداً. إذ أن القدرة على تصوُّر المخاطر، حتى قبل بدء عمليات وقف التشغيل والإنتاج وإعادة التشغيل وانقطاع الخدمة، تمنح



## التطلع نحو التميز:

## تخطيط أفضل لوقف التشغيل والإنتاج وإعادة التشغيل

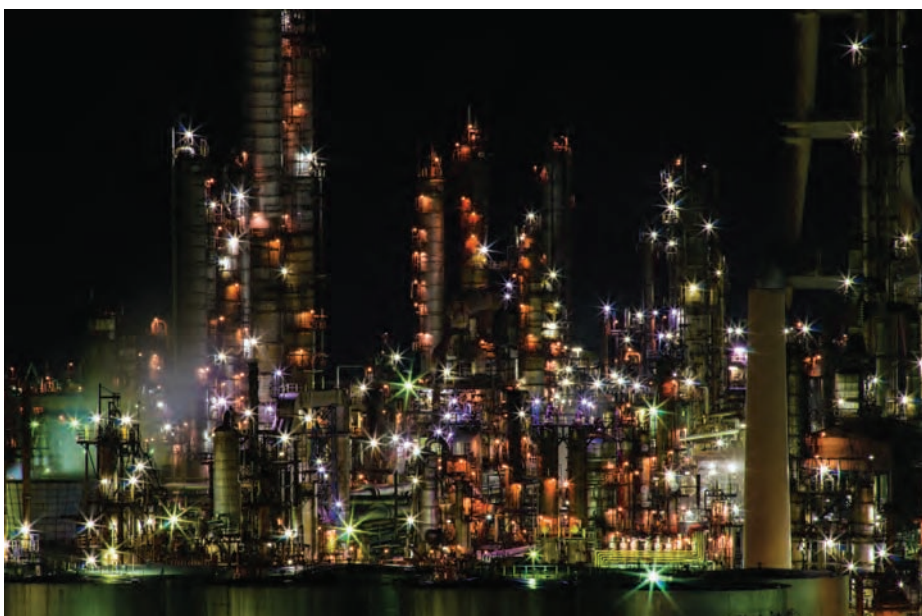
وانقطاع الخدمة، اختباراً عسيراً لقدرة المؤسسة على تحقيق التميز التشغيلي، حتى وإن كان هذا النشاط مقرراً إجراًه بصفة منتظمة وإن لم تكن متكررة.

وأنشطة وقف التشغيل والإنتاج وإعادة التشغيل وانقطاع الخدمة، تحتل مكاناً بارزاً في تقويم أي مُشغل، وذلك نظراً لحاجتها لكم هائل من التخطيط والمعاملات الورقية. ويمكن معرفة السبب في ذلك بإلقاء نظرة على الأرقام المرتبطة بهذه المهام. إذ ليس بغريب أن يقوم بأداء أنشطة وقف التشغيل والإنتاج وإعادة التشغيل وانقطاع الخدمة ما يزيد على ٤٠ ألف موظف، بينما تتراوح المدة المتوسطة لأدائها بين ٢٠ إلى ٦٠ يوماً، حسب نوع العمل المطلوب. ويمكن أن يتضاعف عدد العمال الميدانيين بمعمل تكرير تبلغ طاقته الإنتاجية ٢٠٠ ألف برميل يومياً، ثلاث أو أربع مرات خلال أحد مشروعات إعادة التشغيل. ويمثل هذا التوتر بين إدارة المخاطر والتسليم في الموعد المحدد، تحدياً دائماً يواجه عملية وقف التشغيل والإنتاج وإعادة التشغيل وانقطاع الخدمة على وجه الخصوص، والكفاءة التشغيلية بوجه عام.

## النتائج دون المستوى الأمثل

أظهر استفتاء حديث أجرته بوابة Oil & Gas IQ للوقوف على التوجهات في مجال وقف التشغيل والإنتاج، وإعادة التشغيل، وانقطاع الخدمة، حجم التحديات المرتبطة بتحقيق النتائج بطريقة فعالة. فقد قام ربع المتخصصين في عمليات وقف التشغيل والإنتاج بمنح عملياتهم أقل من خمس درجات من عشر (تمثل درجة واحدة أدنى مستوى وعشر درجات أعلى مستوى من دون أخطاء).

وأظهر الاستفتاء نفسه أن المصدر الرئيسي لحالات العجز بالنسبة لـ ٤٥٪ في المائة من المشاركين في الاستفتاء، هو تغيير نطاق عمل المشروع، بينما ذكر ٣٦٪ في المائة منهم أن التخطيط غير الكافي هو العامل الرئيسي الذي يهدد إدارة المشروع بكفاءة. ومع الأخذ في الاعتبار أن أغلب أعمال تغيير نطاق عمل المشروع تتضمن الأعمال الساخنة، فإن الانحراف عن النطاق المحدود أيضاً من شأنه زيادة المخاطر.



هذا التوتر بين إدارة المخاطر والتسليم في الموعد المحدد، يمثل تحدياً دائماً.

مع استمرار انخفاض أسعار النفط، تتعرض هوامش الربح الضيقة للمزيد من الانخفاض، مما يؤدي إلى زيادة التركيز على التميز التشغيلي، والحاجة إلى بيئة عمل أكثر كفاءة وإنتاجية وأماناً. وبما أن التميز التشغيلي يكتسب أهمية خاصة بالنسبة للكثيرين، فيجب مراعاة الفرضيات الأساسية الخمس التي يعتمد عليها، وهي:

## إدارة المخاطر والمواعيد النهائية

إلقاء نظرة سريعة على هذه اللائحة، يوضح أن تحقيق التميز التشغيلي ليس مهمة مباشرة بأي حال من الأحوال، حتى خلال الإجراءات التشغيلية المعتادة. غير أن تحقيق التميز التشغيلي خلال فترات التغيير لا يزال أمراً عسيراً. فالعمليات الانتقالية أو غير المعتادة، تطوي على عدد أكبر من المخاطر المرتبطة بالعمليات والأنشطة عالية الخطورة. فلا عجب - إذن - أن تصبح أنشطة مثل وقف التشغيل والإنتاج وإعادة التشغيل

- توفير مكان عمل خالٍ من الحوادث والإصابات.
- تقليل المخاطر الصحية الحرجة في مكان العمل، وتعزيز صحة وسلامة العاملين.
- تحديد ثم تقليل المخاطر الأمنية التي تواجه العمليات والبيئة
- ضمان تحقيق أعلى معايير السلامة والكفاءة للأصول.
- ضمان استخدام الموارد الطبيعية والأصول بكفاءة عالية.

ايكوم لمسح الرموز الشريطية بشكل مهني، وهو يسمح بمسح الرموز الشريطية أحادية البعد/ ثنائية الأبعاد وقراءة/كتابة ناقلات التواصل قريب المدى NFC / تحديد الهوية عبر الترددات اللاسلكية عالية الوضوح HF RFID بسهولة، وذلك باستخدام كاميرا هاتف ذكي أو حاسب لوحي. يقوم تطبيق CamScan Keyboard بمسح وإدخال بيانات NFC / HF RFID / NFC / RFID بجميع أنواع الرموز الشريطية الأخرى تقريبا (حتى في ضوء الشمس وظروف الإضاءة الضعيفة) مباشرة إلى حقول البيانات المحددة لأغلب التطبيقات. ويمكن بدء إجراء المسح بالضغط على زر «المسح» على لوحة المفاتيح الموجودة على الشاشة، أو باستخدام زر الجهاز القابل للبرمجة Smart-Ex، مما يقلل الكتابة اليدوية ويلغي الحاجة لأعمال النسخ واللصق. وبحسب الشركة، فإن CamScan يوفر فعالية التكلفة، إذ يُغني عن الحاجة لأجهزة إضافية

لمسح الأصول. كما يوفر التطبيق خيار مسح وتحميل البيانات مباشرة إلى التطبيقات الأخرى، وهو بهذا يقلل العمل اليدوي. وبما أن التطبيق مُصمَّم للاندماج مع التطبيقات والأنظمة الخلفية الأخرى، فإن له تأثيراً مباشراً على كفاءة ووضوح عمليات الأعمال، والتفاعل السريع تجاه الأمور غير الطبيعية، وتوحيد عملية اتخاذ القرارات، وأخيراً تقليل التكاليف، وفقاً لما ذكرته الشركة.

## DNV GL تمنح روكويل أوتوميشن أولى شهادات الأمن الوظيفي



الشهادة تثبت الالتزام بمعياري IEC 61511 و IEC 61508

وتصميم وتركيب وصيانة الأنظمة الوقائية، وأنظمة السلامة الحرجة على النحو الملائم. وتدرج شركة روكويل أوتوميشن المحدودة، بوصفها أول متلق لهذه الشهادة الجديدة، أهمية الممارسات الجيدة في هذا المجال للمساعدة في تحسين أنظمة الاختبار وزيادة توافر المنشآت وتقليل أعمال الصيانة. ونحن نتطلع إلى منح هذه الشهادة للمزيد من الشركات في المستقبل».

عقب إطلاق شركة DNV GL لمواصفات الخدمة الخاصة بشهادة الأمن الوظيفي، والتي يمكن تطبيقها على جميع الأنظمة الإلكترونية أو القابلة للبرمجة والتي تؤدي وظائف أمنية، أصدرت الشركة أولى شهادات الأمن الوظيفي برمز DNVGL-SE-0141 لشركة روكويل أوتوميشن المحدودة.

وهذه الشهادة تثبت الالتزام بمعياري IEC 61511 و IEC 61508، إذ أن الأول هو المعيار الدولي للأنظمة الكهربائية والإلكترونية والقابلة للبرمجة ذات الصلة بالأمن. وهو يحدد المتطلبات اللازمة لضمان تصميم الأنظمة وتطبيقها وتشغيلها وصيانتها على نحو يوفر مستوى كمال السلامة (SIL) في مواجهة الأحداث الخطرة المحددة غير المرغوبة. أما المعيار الثاني فيشمل متطلبات عمليات التصنيع.

من جانبه، صرح جو كوين، مدير قسم حلول النفط والغاز العالمية بشركة روكويل أوتوميشن بقوله: «تبعث شهادة DNV GL الخاصة بمنهجنا في تطبيق دورة الحياة، رسالة طمأنة لعملائنا بأن روكويل أوتوميشن ملتزمة بتوفير أعلى المعايير لحلول الأمن الوظيفي إلى جانب تحقيق أقل تكلفة إجمالية للملكية عبر فترة عمر المنتج». وأضاف هاري فاماديفان، المدير الإقليمي بشركة DNV GL بالملكة المتحدة وغرب إفريقيا لشؤون النفط والغاز، قائلاً: «إن تطبيق الأمن الوظيفي بشكل فعال، أمر لا غنى عنه لضمان تحديد

## مفكرة رجال الأعمال ٢٠١٦

### نوفمبر/ تشرين الثاني

السعودية	٩.٦	معرض اجتماع (سابق) التقني
أبوظبي	١٠.٧	معرض أبوظبي الدولي للنفط - أدبيك
باريس	١٠.٧	المعرض التجاري لمعدات الوقاية - ExpoProtection
دبي	٢٤.٢١	معرض بيع فايف

### ديسمبر/ كانون الأول

القاهرة	١٣.١١	معرض ومؤتمر الشرق الأوسط لمعدات الوقاية من الحريق والأمن والسلامة - MEFSEC
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## دفع برنامج البيئة والصحة والسلامة قدماً



الدكتور وضاح شهاب غانم، المدير التنفيذي لإدارة البيئة والصحة والسلامة والأمن والجودة والشؤون المؤسسية في مجموعة شركة بترول الإمارات الوطنية «اينوك»

والسلامة كمجال مهني ثانٍ، وتعتمد مهاراتهم الفنية على خبراتهم السابقة. «ربما يفتقر الممارسون لبعض الجوانب في معلوماتهم الفنية عن بعض المجالات. وفي النهاية، يشمل مجال البيئة والصحة والسلامة العديد من النواحي المختلفة، مثل الوقاية من الحرائق والسلامة والصحة الصناعية والصحة المهنية وإدارة سلامة العمليات والبيئة والاستدامة. أماعلى الصعيد السلوكي، فربما يتمتع الشخص ذو الخبرات الهندسية بنسبة ذكاء عالية للغاية، غير أنه يحظى بمستوى أقل من الذكاء العاطفي. وربما يكون، على سبيل المثال، قادراً على تقديم حالة فنية جيدة، ولكنه يكون بحاجة أيضاً لامتلاك العاطفة والمهارات لإقناع الرئيس التنفيذي بالسلامة كمقترح ذي قيمة».

في مقابلة حصرية له مع «نشرة الصحة والسلامة والأمن - الشرق الأوسط»، أكد الدكتور وضاح شهاب غانم، المدير التنفيذي لإدارة البيئة والصحة والسلامة والأمن والجودة والشؤون المؤسسية في مجموعة شركة بترول الإمارات الوطنية «اينوك»، التي مقرها دبي، على ضرورة أن يصبح الممارسون في مجال البيئة والصحة والسلامة رؤساء تنفيذيين يتمتعون بكفاءة عالية في مهارات الإدارة من أجل دفع برنامج البيئة والصحة والسلامة قدماً. وقال الدكتور غانم: «يجب أن تكون لدى الممارسين في مجال البيئة والصحة والسلامة، المعلومات الأساسية، والفهم الشامل لجميع نواحي العمل وكيفية إدارته، وذلك على المستوى الإستراتيجي والتشغيلي، إلى جانب مستوى التخصصات المتعددة. وأن يحظوا - أيضاً - بكفاءة عالية كرؤساء تنفيذيين. وبهذه الطريقة، يمكن أن تتماشى إستراتيجية البيئة والصحة والسلامة مع التوجه العام للشركة».

وأضاف: «الممارس في مجال البيئة والصحة والسلامة، هو الشخص الذي يضيف قيمة بحماية الأعمال. ولكن كيف يمكنك حماية الأعمال إن لم تكن تتهم آتية عملها؟ إن لم نفهم، على سبيل المثال، كيفية حساب العائد على الاستثمار، أو العوامل التي توجه عملية اتخاذ القرارات، فلن نتحلى بالكفاءة العالية كممارسين في مجال البيئة والصحة والسلامة».

وأشار غانم أيضاً إلى أن معيار إدارة أنظمة السلامة المرتقب «ايزو ٤٥٠٠١»، من شأنه زيادة التأكيد على إستراتيجية وقيادة الصحة والسلامة المهنية. وإلى أنه يتعين أيضاً على الممارسين في مجال البيئة والصحة والسلامة تطوير مهاراتهم الفنية الشاملة. ويقول الدكتور غانم، الذي تلقى تعليمه كمهندس بيئي: «يتحول الموظفون عموماً إلى ممارسين في مجال البيئة والصحة والسلامة».

## حل برمجي جديد للتقاط البيانات في المناطق الخطرة

طوّرت - مؤخراً - شركة إيكوم للأدوات «ecom instruments» تطبيقاً مهنياً لمسح الرمز الشريطي، وهو تطبيق CamScan Keyboard، لالتقاط البيانات في المناطق الخطرة. فصيانة المعدات والأصول ومراقبتها، تعتبر أمراً ضرورياً لتوفير مستويات أعلى من الأمان والكفاءة والانتاجية في الصناعات الخطرة. ومن ثم يتزايد الطلب على استخدام الرموز الشريطية أحادية البعد/ثنائية الأبعاد، والناقلات التي تستخدم تقنية التواصل قريب المدى / NFC / تحديد الهوية عبر الترددات اللاسلكية عالية التردد HF RFID، والتي يُستعان بها لتحديد العناصر والمنصات والحاويات ومواقع التخزين وحتى الساحات، هذا علاوة على مراقبة تحركات الأصول. ويُستخدم تطبيق CamScan من



CamScan اللوحي يستخدم كاميرا مدمجة لمسح الرموز الشريطية بشكل مهني

# في هذا العدد ...

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التطلع نحو التميز: تخطيط أفضل لوقف التشغيل والإنتاج وإعادة التشغيل

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# نشرة المحررة والسلامة والأمن

العدد السادس 2016

الشرق الأوسط

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