


Hazardous Engineering Solutions



Incorporating Health & Safety

The International Magazine For
Hazardous Area Professionals

July / Aug 2015 | Issue 24

A photograph of industrial machinery, likely a robotic arm or assembly line component, with a white and green color scheme. A yellow 'CAT' label is visible on a component. A prominent white label with green and black text is attached to the machinery, indicating it is a 'TURNER EXPLOSION PROTECTION SYSTEM CATEGORY 3G'.

Make Safe technological solutions for assured certified equipment

Read More On Page 14

TURNER EXPLOSION PROTECTION SYSTEM
 **CATEGORY 3G** 

4-13

News & Products

16-26

SPE Offshore Europe - Preview

27-29

Training



Visit us at www.hazeng.com

New possibilities with Beamex workshop



Meet Beamex at
Offshore Europe2015
8-11 September
in Hall 3 on stand 3B201



The Beamex MCS200 Workshop offers a controlled environment enabling very accurate calibration and ergonomic ready-to-use equipment. Beamex has recently launched the product, MC6 Workstation, an advanced panel mounted documenting calibrator and communicator. MC6 Workstation offers calibration capabilities for pressure, temperature and various electrical signals. Full fieldbus communication for HART, FOUNDATION Fieldbus and Profibus PA instruments is available. MC6 Workstation communicates with pressure controllers and temperature blocks, enabling fully automatic calibration.

beamex
WORLD-CLASS CALIBRATION SOLUTIONS

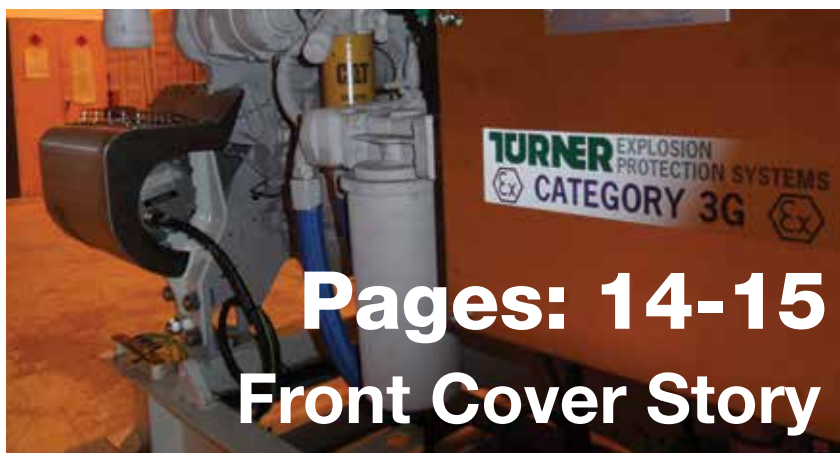


www.beamex.com
info@beamex.com



Contents

In This Months Issue



Contacts

Publisher

Michael Dominguez

Editorial

editors/contributing: Jon Barret, Christer Idhammar

Advertising

Steve Aslett
Paul Miles

Email

Info@hazeng.com

Website

www.hazeng.com

Phone

tel: +44(0)1634 731646
Fax: +44(0)1634 731644

Address

MSL Media LTD, Cobalt House, Centre Court,
Sir Thomas Longley Road, Rochester, Kent,
ME2 4BQ



BCAS Official Media Partners



P:4-13 News & Products



P:14-15 Front Cover Story



P:16-26 Preview – SPE Offshore Europe



P:27-29 Training



P:30-31 Buyers Guide

Free CompEx Foundation courses at ExVeritas

CompEx is an internationally recognised course and qualification in explosive atmospheres.

It provides competency based assessment for personnel working in hazardous locations. ExVeritas offers a full range of courses including EX01-06 and the new Ex12 for applications engineers and designers which is proving highly desirable in industry.

Book any Training Course at ExVeritas (CompEx, bespoke or specialist) and receive a FREE CompEx Foundation Course for you (perhaps as a foundation before an Ex12 Course) or for a colleague (the course place is transferable).

The course is an ideal primer or refresher for anyone working with ATEX or IECEx equipment or zoned hazardous locations. Full details on the CompEx Foundation course can be found here www.exveritas.com/compex-foundation-course.

Our CompEx Foundation course also includes updates on the NEW installation, inspection and

classification standards, the new EPL codes and the New ATEX Directive 2014/34/EU which comes in to force 20th April, 2016.

Why CompEx at ExVeritas?

The only training ExVeritas do is Explosive Atmosphere Training – We are accredited experts in this field, and as such have the leading instructors and facilities to ensure you will receive the very best instruction and assessment available anywhere.

We are an ATEX Notified Body and IECEx Certification Body with over 200 years' collective experience in this field and our CompEx instructors have at least 10 years' experience presenting CompEx courses, working on CompEx best practice working groups and helping with the development of CompEx courses. We have real world experience in design, installation and inspection, in fact we have



even written inspection software (www.ixinspection.com) and work with major blue chip companies providing area classification and inspection services.

Visit www.exveritas.com/compex-certification for more information on CompEx courses or e-mail info@exveritas.com quoting Free CompEx Offer

New field mounted HART temperature transmitter from PR electronics

Signal conditioning specialist, PR electronics introduces the 7501 – an innovative field mounted Ex d explosion- and flame proof temperature transmitter with local operator interface for easy programming, review and diagnostics of process values in the field.

The new field mounted transmitter builds on PR electronics' vast experience in innovating state-of-the-art temperature measurement devices and is the first new product in an extensive revitalization of the company's temperature portfolio.

Unique technology

Using unique technology, the user can easily configure the transmitter from the front of the housing in any environment by simply touching the optical buttons – even when wearing gloves. Chief Technology Officer, Stig Lindemann says:

"The optical buttons combined with the 10 mm explosion proof window is a patent-pending technology. It enables the user to access the LOI in all operating environments without opening the housing. The optical buttons are immune to interference of ambient light sources and false triggering caused by shadows and

reflections and it dynamically adapts to accumulation of dust and moisture."

The user can also perform advanced HART programming from the front, and as a result, significantly reduce the need for handheld communicators (HHC). The easy-to-read 60 mm high definition display provides a clear indication of the process magnitude, supported by a radial bar graph in real time.

The transmitter delivers HART 7 functionality with HART 5 compatibility and can be configured to measure 2, 3 and 4 wire RTDs, 13 different thermocouple types as well as bipolar mV and resistance signals, and it provides an analog output.

Easy configuration and operation

The transmitter has three mounting options: on the temperature sensor, on a pipe, or on a bulkhead. Configuration is easy and logical with scrolling help texts



and three optical buttons: up arrow, down arrow and OK. Thanks to the user-friendly PR Menu Guide, it is possible to configure the device in less than 1 minute.

Chief Sales Officer, Simon Bisbo says:

"We have high expectations for the 7501. The product fills a gap in the market for high quality, intuitive temperature signal conditioning solutions in the field. It offers high accuracy data monitoring and diagnostics as well as intuitive programming in the field at a low cost compared to competitive solutions."

For further information, please contact:
PR electronics
Tel: +45 8637 2677
tje@prelectronics.com



Solutions for safe & efficient working

Systems to protect staff, reduce environmental impact and realise financial gains

-  Extraction & filtration (dust, fume, gas, oil mist)
-  Cleaning (wet, dry, explosive)
-  Production recycling (inc cutting fluid & coolants)
-  Resource & waste management (metal, paper, wood)
-  Workplace services (air, power, fluids)

Nederman

Please contact us to arrange a **free site survey**
www.nederman.co.uk 08452 74 34 34

EXIOS

Cable Glands and Fittings for HAZARDOUS AREAS

+ STANDARD + BARRIER + A2F + MZ



Tested and certified according to the latest IECEx and ATEX standards



German Manufacturer of:
 Cable Glands (Industrial/Ex), Circular Connectors, Industrial Enclosures, ...

HUMMEL AG · Lie-Meiner-Straße 2 · 79211 Denzlingen / Germany · www.hummel.com
 Tel. +49(0)76 66/911 10-0 · Fax +49(0)76 66/911 10-20 · info.er@hummel.com

Visit us at SPE Offshore Europe in Aberdeen / UK
 8. – 11. September 2015, Hall 1 / Booth J20



ATEX Approved Antenna Solutions for Hazardous Commercial Environments

AntennaPRO is pleased to announce details of a new range of antennas designed, tested and approved in compliance with European 94/9EC ATEX directive.

The new range will be certified to ATEX level ATEX CLASS: II 3G Ex nA IIA IIC T6 for use in potentially explosive atmospheres.

ATEX approved equipment is a statutory requirement in the Oil and Petrochemical industry where wireless onboard communication, paging systems, ground-to-air communication, maritime VHF communication and Wi-Fi data transmission systems are in use. The addition of the new Procom ATEX range provides further opportunities to protect employees in the workplace in hazardous and potentially explosive environments.



Risk of explosion requires a need for ATEX certified equipment and there will be 25 different ATEX antenna types across many different applications including

- ATEX certified, Omnidirectional Base Station Antenna for the International Aircraft Band.
- ATEX certified, Omnidirectional VHF & UHF Marine and Base Station Antennas
- ATEX certified, Omnidirectional Base Station and Marine Wi-Fi Antennas
- Active receiving antenna for the 1575 MHz NAVSTAR GPS satellite navigational system.

To find out more about the forthcoming PROCOM ATEX antenna range, visit our website www.procomuk.co.uk. Alternatively, contact our sales team on 01227 743099 or via email at sales@procomuk.co.uk

Pilz Appoints a New BDM for Motion Control Products

Pilz Automation Ltd has appointed Ross Fenion as the new Business Development Manager for motion control products. This is a new role within the business and one which will cover all of the UK.

Ross brings with him over eight years of experience specialising in servo motion control specification both for bespoke applications as well as OEM products. As an experienced motion control applications engineer, with a degree in Physics, Ross is equipped to assist customers in calculating motor and drive requirements for specific applications.



Ross stated "I am delighted to have secured this new position and look forward to bringing Pilz's tried and tested motion control products to market in the UK. I am particularly excited about helping businesses to understand the benefits and features of Pilz's PMCprimo DriveP, which brings our well established experience in the safety arena to the area of motion control."

He added "Thanks to our innovative safety card, our technology enables our drive to achieve PLe without the need for an additional sensor."

If customers would like to get in touch with Ross they can either contact him on his mobile: 07753 911166 or by email at r.fenion@pilz.co.uk.

rembe Safety is for life. T +49 2961 7405-0
info@rembe.de

Made in Germany

YOUR PARTNER FOR EXPLOSION SAFETY CONCEPTS

Consulting. Engineering. Products. Service.

Gallbergweg 21 | 59929 Brilon, Germany | F +49 2961 50714
www.rembe.de

REMBE GmbH Safety+Control © REMBE | All rights reserved

You wouldn't leave your hob on in an empty home!

Safety in the workplace is just as important as the safety precautions you take in your home.

Don't rely on luck, trust Fike.

We have been protecting people and critical assets from dangers faced in process industries for 30 years.

Contact us today on 01622 677081
Email: sales@fike.co.uk
Discover more at www.fike.co.uk

30 YEARS **Fike** FIRE UNITED KINGDOM



Intertek

Valued Quality. Delivered.



Let Intertek
clear a pathTM
for your next
innovation

**Get to market with
greater speed and simplicity.**

When launching a new product for use in hazardous locations, two questions often come up: What certifications do I need, and how long will it take to get them? You can't afford to get lost in a maze of complexity. That's why more and more companies are choosing Intertek.

With laboratories around the world providing expert service and quality, manufacturers partner with Intertek for fast, efficient testing and certification, including ATEX, IECEx, and ETL, as well as professional competency training for operatives working in potentially explosive atmospheres via CompEx Certified courses.

From sensors and transmitters to flow control equipment and lighting, we keep it fast. And we keep it simple.

Visit www.intertek.com/hazloc, email info.uk@intertek.com, or call 01244 882590 today and discover how we remove the barriers and get you to market faster.



Intertek



J D Neuhaus Offers Proven Performance Based On 270 Years Of Experience

9 September 2015 marks 270 years of manufacturing for the German based hoist and crane manufacturer J D Neuhaus, and after seven generations, the company is still managed by a descendant of the original owner.

Load handling equipment supplied by J D Neuhaus is now utilised throughout the world, from small engineering workshops up to large organisations and including some of the heaviest and most demanding handling operations, even under extreme operating conditions. Their world market leader status is backed-up with a service and supply organisation established in more than 90 countries together with over 70 branches.

Lifting equipment has been the backbone of the manufacturing dynasty, with their first wooden shaft winch being produced in 1745. Winches were also initially produced for waterway locks, controlling a growing traffic of horse-drawn barges on the Ruhr river. Business developed to include lifting and handling of railway carriages, the general loading of goods and a widespread use of JDN products in the coal mines of the German Ruhr. Over time their winches became progressively more powerful so that by the 1880's they had the capability of moving individual loads of up to 7,500kg.

Improvements in the quality of materials, coupled to an ongoing development program meant that JDN products became progressively more compact as well as providing enhanced safety and performance capacities. A major step was also taken by the company with the introduction in 1952 of hoists powered by compressed air, which operated a rugged vane motor encapsulated within each hoist. This proved to be a positive advance for their principal customers at that time, being the coal mining industry, enabling them to operate more effectively, with greater economy and at higher levels of safety when working underground in dust laden, explosive conditions. In 1966 the first JDN air operated hoists for applications outside underground mining were launched into the market, covering lift capacities of 250 to 1000kg. Further product developments also ensured that JDN hoists were equally successful in other potentially dangerous working conditions as typically experienced in tunnelling, foundries, the chemicals industries, cement manufacture, steelworks and shipbuilding, together with oil and gas industries both on land and offshore. In fact any industries where heavy loads and potentially dangerous working conditions and explosive atmospheres exist.

Over the years the JDN product range has been developed to incorporate hoists with ever-increasing lifting capacities, providing a product range suitable for applications right across the engineering spectrum. 1979 was highlighted by the introduction of the Profi 100 TI unit, the first air hoist worldwide having a capacity of 100 tonnes. In the same year, JDN also introduced monorail hoists, specially developed for BOP handling in the offshore industry. Parallel developments also culminated with the plant construction business unit being founded in 2011.

Hoists with optional power supplies of either compressed air or hydraulics are also now available in the JDN range. Most of the hoists are designed for top hook suspension, with optional trolleys also available to accommodate overhead rail mountings. Monorail hoists have also been further developed for specialised industry applications, particularly where loads have to be moved within areas of reduced space or where low headroom conditions exist. More recent product developments also include major redevelopments of some hoists in their Profi range which offer up to 50% savings in energy consumption, with increased lift/lower speeds. Appreciable reductions in hoist overall sizes, weights, and operating sound levels have also been achieved.

The manufacture of special purpose hoists has also been undertaken over the years including big-bag handling units where workloads comprising powdered, granular or small component materials are involved. These hoists are often utilised with cruciform lifting beams. BOP handling systems have also been supplied suitable for both land based and offshore oil and gas exploration, including both jack-up and semi-submersible drilling platforms. Hoists have been linked together for these operations to handle individual BOP loads of up to 200 tonnes. The utilisation of JDN hoists for interesting civil construction projects includes the new Las Vegas High Roller Observation Wheel at 550 feet high. This can carry 1100 visitors in 28 suspended pods offering exciting views over the Las Vegas Strip.

Air and hydraulically operated hoist products are also incorporated into the JDN crane systems which have developed into a major market for the company. The explosion-proof aspect of the equipment is a major



feature of standard or special purpose overhead travelling cranes including both top and under-hung variations, as well as the JDN jib cranes.

The provision of handling products for niche markets has been a growing major output for the company, to the extent that JDN promotion material now proudly states that our products are 'engineered for extremes' which includes an 80% of the market share being exports. Products in this category include both air and hydraulically operated hoists designed for underwater operation down to a depth of 70 metres. Oblique pulling as well as vertical lifting is provided to cover a wide range of subsea tasks. Hoist operations in arctic conditions have also been accommodated with a hydraulic unit, for operation at ambient conditions as low as -45°C. The company are geared up for forthcoming specialised markets including land-based fracking operations, and the development and construction of specialised turnkey handling systems.

Quality, environmental protection, employee orientation and highly effective processes play a key role in the production and operation of Neuhaus products. The company's environment management system was certified by the TUV Rheinland Technical Control Association in 2009. JDN has been reviewing its quality management system on a regular basis since 1991.

Methods such as Kaizen, CIP, Kanban, Lean Production and ERP serve as a basis for the whole JDN Group, which achieved a Group turnover of around 50 million euros in 2014. Annual production amounts to 6,000 to 8,000 hoists. At present, J D Neuhaus employs a workforce of 215, of which 160 work at the production site in Witten, Germany.

Further information is available on request to:
J D Neuhaus GmbH & Co. KG, 58449,
Witten-Heven, Germany
Telephone: +49 2302 208-219
Fax: +49 2302 208-286
e-mail: info@jdnngroup.com
www.jdnngroup.com



Turnkey Certification for Products, Systems and People

Our unique Certification Management System (CMS) will manage all of your certification activities from the on-line application to the final on-line certificate. You have total project visibility during the project and fast on-line variations and concessions when the project is complete. The system even updates you automatically when the standards you are using for compliance are superseded...

- ExVeritas are an ATEX Notified Body & IECEx Test & Certification Body
- We are UKAS Accredited for Test and Certification with full in-house Ex and CE test laboratories for a one location, one point of contact turnkey approval project
- We have Global Approval Partners –Add North American, Russian and Brazilian Approval for a turnkey global approval project
- We are a CompEx Approved Training and Assessment Centre in UK and Ireland offering Nationally Recognised Training Qualifications including EX01-06 and Ex 12
- We have full 'in house' technical expertise in all aspects of ATEX, DSEAR and Site Safety and offer FREE Ex Inspection software when we conduct Ex equipment inspections

FREE software tools and training/seminar places at www.exveritas.com



8613



8613



Licensed Centre No.32

FREE

Certificate updates to the new ATEX Directive 2014/34/EU on all new ATEX projects

T: 0845 862 2447 E: info@exveritas.com

www.exveritas.com

FREE

CompEx Foundation Course place with every new project placed this year!

Capital Safety Champions Protection Against Dropped Objects With Acquisition Of Python Safety, Inc

Capital Safety, the world leading provider of safety solutions for workers at height has announced the acquisition of specialist manufacturer of tool drop prevention equipment, Python Safety, Inc.

Capital Safety's industry-leading products, which include harnesses, lanyards, self-retracting lifelines, engineered systems and rescue devices, are sold through the globally recognised brands DBI-SALA® and PROTECTA®. The addition of Python Safety to the portfolio will support Capital Safety's mission to bring every worker at height home safely by focusing on eliminating accidents from dropped tools.

Falling objects are a leading cause of injury for workers. According to DROPS, the Dropped Objects Prevention Scheme, more than 850 incidents have been recorded in the oil and gas industry alone since 2010, with predicted incidents on the rise*. Ensuring employers are focused on

providing a total safety solution to protect workers at height, as well as those on the ground, from dropped objects is paramount to reducing and ultimately eliminating these incidents.

Nate Damro, President - Europe, Middle East and Africa at Capital Safety, commented: "We are very excited to have Python Safety become part of Capital Safety. This acquisition is a natural extension for us and in line with our continued commitment to bringing workers home safely.

"Struck-by falling objects is a leading cause of injury for workers and Python Safety's portfolio of products are designed to prevent tools and equipment from

falling. This deal enables us to bring a broader range of solutions to our customer base and helps them keep their employees safe."

Mark Caldwell, CEO of Python Safety, added, "We are delighted to join Capital Safety. As a combined organisation, we will be able to leverage Capital Safety's global organisation and distribution channels with our core strength in drop prevention to broaden our reach and bring even more innovative solutions to a larger customer base. It will also allow us a better opportunity to expand the definition of fall protection to include tools and equipment."

For more information visit:
www.capitalsafety.com
or call:
+44 (0)1527 548000

3M Organic Gas And Vapour End Of Service Life Indicator Filters

Supporting the diversified technology company's commitment to improving occupational health among the British workforce, new 3M Organic Gas and Vapour End of Service Life Indicator Filters are the first of their kind.

The product, which was recently awarded a British Safety Industry Federation award for product innovation, gives respirator wearers a clear warning of when they need to change their filters to prevent exposure to hazardous gases and vapours.

Currently, some users change their filters only when they can detect contaminant odour, taste, or irritation inside the respirator, with the result that the harmful substance has already broken through, which can lead to workers developing lung diseases.

To combat this problem, 3M's new innovation has utilised the company's End of Service Life Indicator

(ESLI) technology. The ESLI is located inside the filter next to the activated carbon. As organic vapours travel through the filter, they are also absorbed into the ESLI.

As this happens, the indicator changes colour, visually marking the course of the organic vapours through the filter. Dependant on the viewing angle, the user will either see a red bar on a green background, or vice-versa. Once the bar reaches the end-of-service line, the filter will need replacing.

The ESLI can be used as either a primary or secondary method of determining a filter change



out schedule, depending upon the specific hazard and exposure level. It also enables health and safety managers to audit filter status in real-time for each individual user.

The products are compatible with all 3M Half and Full-Face Masks, so they can be used in a wide variety of applications and industries.

Health & Safety Helpline - Available Monday to Friday - 9.00am until 5.00pm
0870 60 800 60 (United Kingdom)
1 800 320 500 (Ireland)

Is your Pollution Prevention Watertight?

By David Cole, Water Pollution Manager at Hydro Consultancy.



The only acceptable kind of pollution risk is one that a business can demonstrate it has taken adequate measures to protect against. Flooding, pollution spills and fires are not far-fetched disasters that are unlikely ever to befall industrial or commercial premises. They happen all the time.

Providing evidence of how surface water is discharging to the environment should be on the agenda of any company that is keen to act sustainably. As well as being environmentally unacceptable, inadequate water pollution containment could be very costly.

Causing environmental water pollution is a risk that many companies may unwittingly be taking every day. The risk of causing environmental pollution through fire-fighting water is often unforeseen, for example, as is failure to contain spills of pollutants including those carried in surface water flooding on site.

An unexpected pollution incident is likely to land an unprepared operator with significant fines and a substantial bill for environmental remediation. Insurance cover may not be sufficient to pay for the clean-up costs, in all but the most exceptional

circumstances. In the worst cases, a pollution conviction can even include the option of custodial sentences for company directors.

Notwithstanding a company's regulatory obligations and noting that in the vast majority of instances the "polluter pays", the expectations of Corporate Social Responsibility alone (especially for larger companies) make it good practice to demonstrate exemplary environmental compliance.

Managing Flood Risks

Under current planning guidelines, the suitability of a new development is assessed using a system that compares flood risk vulnerability against its compatibility with a flood zone. The National Planning Policy Framework states that for any "installations requiring hazardous substances consent" such as Control of Major Accident Hazards (COMAH) and Environmental Permitting Regulations (EPR) sites, their vulnerability classification would be "highly vulnerable".

This would place planning restrictions on such development on the grounds of flood risk in two of the three "Flood Zone" classifications. But this

applies only to new developments and many existing sites are unlikely to have been built according to these guidelines.

So when considering existing "highly vulnerable" sites, it's a fair assumption that a great many of them are located in a flood zone that is not appropriate to their vulnerability, with the residual flood risks largely not understood.

Flood Risk Assessment

A robust flood risk assessment provided by suitably-qualified experts will identify all sources of flood risk, along with potential flow paths into and out of a site. A Hazard and Operability (HAZOP) study may also be an appropriate methodology to support an evidence-based understanding of the combined water pollution and flood risks, especially for COMAH or EPR sites.

As part of this process, using hydraulic modelling can be invaluable. It can accurately map the surface water pathways on and off a site as well as assessing and validating the effectiveness of the drainage system design.

Hydro Consultancy has developed this 2D modelling technique, a pioneering approach that requires an uncommon mix of flood risk and pollution containment expertise. It can provide an effective method to test the efficiency of containment systems – and provide reliable evidence for regulators and Environmental Management System documentation.

Even for those operators who are already fully familiar with their responsibilities, a comprehensive review could be both timely and highly advisable.

About the author

David Cole is Water Pollution Manager at Hydro Consultancy. He has devoted most of his career to pollution containment and is a UK-recognised authority and a passionate environmental advocate of spill protection techniques and technologies.

Hydro Consultancy is currently offering free on-site assessments to help companies check their current provision. Contact dcole@hydro-consultancy.com. www.hydro-consultancy.com

HOW CLEAN IS THE AIR YOU BREATHE?

Indoor air quality must be monitored to protect workers' respiratory health. Shawcity highlights the dangers that may be present in every breath you take.

Shawcity is the UK's leading provider of specialist monitoring instrumentation for health and safety, occupational hygiene and environmental monitoring across a wide range of industries. We offer instruments for gas detection, air quality, dust, sound, noise, vibration and heat stress. Within this remit, indoor air quality is increasingly a pressing issue for many industries, particularly with regard to Volatile Organic Compounds (VOCs).

TOXIC GASES AND DUST

VOCs are often associated with Sick Building Syndrome. Within the indoor environment they constitute the principal class of contaminants that can be found, consisting of a complex mixture of between 50 and 300 different types of compounds.

The sources of most VOCs are products used in construction, finishing and cleaning products such as paints, adhesives, sealants, flooring, processed woods and surface finishings. Other sources include furniture, office electronics, personal care/hygiene products and other such materials brought into a building by its occupants. It is also possible for VOC contaminants to be drawn in from the outdoor environment, especially if a building is near roads or industrial activities.

The specific components of interest are recognised as particulates, inorganic gases and organic vapours. Particulates contain polyaromatic hydrocarbons, metaliferous abrasion particles, sulfates and silicates; inorganic gases include oxides of nitrogen, sulphur and carbon; and there is an expansive list of organic compounds, which includes highly toxic compounds such as benzene, butadiene and formaldehyde.

HEALTH EFFECTS

The health effects of many volatile organics are still not fully understood, but in general it is known that the quantity, toxicity and length of time of exposure result in different outcomes. These effects are often

associated with symptoms of irritation to eyes, nose and throat, headaches, dizziness, visual disorders and memory impairment.

Little is yet known about the health effects found in public/commercial buildings when mixtures of VOCs are present, but continuing research by private organisations and public bodies is helping to understand the risks posed.

INDOOR ENVIRONMENTS

Indoor environment studies have shown that the ambient total VOC concentration ranges from 0.2 to 5 milligrams per cubic metre of air (mg/m³), with a number reporting some environments reaching up to 25mg/m³. European Community target guideline values of between 0.2 – 0.3mg/m³ have been discussed.

Within the UK, the Building Research Establishment Environmental Assessment Methodology (BREEAM) has set out guideline values for VOCs, semi VOCs and aldehydes. Further to this, BREEAM sets limits on gases – including CO, CO₂, NO, NO₂, SO₂ – as well as particles (mass concentration and size distribution). These are taken post-construction but pre-occupancy so that air quality can be confirmed before a building is put into use.

DIESEL FUME CANCER RISK

Furthermore, with the classification of diesel fume as a major cancer risk (International Agency for Research on Cancer, World Health Organisation) in 2012, diesel fume within enclosed spaces and indoor environments has come into sharp focus. This was reinforced by the Health and Safety Executive's guidance note INDG 286 "Diesel Engine Exhaust Emissions" in the same year. This now



requires any employer under the COSHH regulations to make a "suitable and sufficient assessment of the risks" and "prevent or adequately control the exposure".

THE BEST MONITORING TECHNOLOGY

As the UK's leading supplier of monitoring instrumentation, Shawcity has been working alongside a wide range of customers to provide both the expertise and equipment to monitor VOCs, toxic gases and dusts. To enable us to provide the widest range of monitoring solutions, we offer the best available technology from market leaders such as TSI, Sensidyne, Ion Science and Rae Systems.

For more information, please email:
info@shawcity.co.uk
or call the team on:
01367 899419.
www.shawcity.co.uk



ATEX approved drum handlers

- ATEX approved drum handlers for spark proof areas
- Fork truck attachment or pedestrian units
- Semi stainless steel or full stainless steel
- Quick attach / release attachments available
- Bespoke equipment to customer requirements
- Fully tested & certified for use in zone 1 or 2 areas

Tel: 02380 643402 Fax: 02380 642189
 Email: sales@stclare-engineering.co.uk
 Web: www.stclare-engineering.co.uk



You wouldn't run through a red light!

Safety in the workplace is just as important as the safety precautions you take on the roads.

Don't rely on luck, trust Fike.

We have been protecting people and critical assets from dangers faced in process industries for 30 years.

Contact us today on **01622 677081**
 Email: sales@fike.co.uk
 Discover more at www.fike.co.uk



SmartLoad 2Ex®

A revolution in load measurement



Introducing our pioneering wireless load monitoring technology for hazardous areas.

SmartLoad 2Ex® makes wireless solutions a practical reality for hazardous area use, greatly improving both safety and reliability.

A wide range of wireless ATEX and IECEx certified load monitoring equipment is available ex-stock.

Benefits of SmartLoad 2Ex®

- Eliminates cables making challenging zone 2 work areas safer
- Onboard intelligence and memory providing data assurance when logging.
- Significantly reduces costs and downtime associated with cable damage
- Automated overload protection monitoring for safety assurance
- Provides significantly increased range and signal reliability
- System redundancy with no handset pairing required
- Both handsets and load cells can be used in zone 2

Smartload 1Ex® arriving soon to add to our existing zone 1 wireless capabilities



T: +44 (0) 1224 877007
 W: www.scotload.com

A part of
James Fisher and Sons plc
 Marine Services Worldwide



Make Safe Technological Solutions For The Ever Increasing Demand For Assured Certified Equipment Operating In Potentially Hazardous Areas.

Turner EPS's Explosion Protection Systems division, which operates from their Stoke-on-Trent office, have been suppliers of explosion protected diesel engines, diesel/electric MHE and components for a wide range of hazardous area applications since the late 1980's.



In the early days they specialised mainly in mining applications, where testing of equipment by independent bodies was mandatory. This gained a hard won insight into the requirements of specialised testing and test set-up, which led naturally to the involvement with offshore oil & gas, petrochemical industry, storage and warehousing.

Today Turner EPS offers a Make Safe technological solution for the ever increasing demand for assured certified equipment operating in Potentially Hazardous Areas.

They now offer comprehensive conversions for Category 2G & 3G Equipment with their 2G PAC® & 3G PAC® diesel engine passive protected equipment packages and 3G AIR® and AIR SAFE® active protection systems for use with Mobile or Semi-Portable Equipment and with Vehicles and Battery Powered Forklift Trucks.

Mechanical Handling Equipment

Turner EPS's mechanical handling equipment (MHE) conversions for surface, mining and military applications comply to the essential health and safety requirements of the ATEX directive 94/9/EC and other key standards including; BS EN 1755:2000, BS EN1834-1:2000, BS EN1834-2:2000, BS EN1834-3:2000 and MoD - JSP 482 July 2008, Chapter 16, Edition 3.

Offshore Oil & Gas

For the offshore market they offer design & manufacturer of flame/explosion protection components and packages/systems for offshore oil & gas installations. Incorporated in their 3G PAC® Engine Packages they feature Exhaust Gas Cooling, Exhaust Flame Traps (Flame Arrestors) and Ex Rated Electrical Control & Safety Shutoff Systems.

Packages can also incorporate their 3G AIR® (Advanced Infra-Red) self-powered stand-alone fail-safe Gas Detection Systems. All fully integrated with Diesel & Gas Engine Pump and or Compressor Drivers, including Generating Sets, for a range of various makes of engines selected for their suitability and compatibility for Hazardous Area applications. Their 3G PAC® Diesel Engine Packages are all Explosion Tested with verification from reputable third party test house.

- Full compliance to ATEX Directive 94/9EC
- Full Compliance to CEN Standard EN1834-1:2000

The 3G PAC® is also available for open self-ventilated or IPX6 enclosure installations primarily to conform to EN1834-1:2000, designation Ex II 3G IIA T3.

Parts Support

The Stoke-on-Trent office boasts a modern stores facility where they hold an extensive inventory of spare parts and components. Also as an OEM of power generation equipment, Turner EPS have many direct accounts with leading engine and power generation equipment suppliers

Service Support

The company also provide a comprehensive range of support services from the supply of factory trained technicians to carry out commissioning, scheduled maintenance tasks and or overhaul activities to responding to emergency call outs. Turner EPS have extensive offshore oil and gas experience and can deploy at reasonably short notice, as required from their fully equipped workshop facilities strategically located in Aberdeen to serve the offshore and marine market sector.

TURNER EPS

Turner EPS
sales@turner-eps.co.uk
www.turner-eps.co.uk

Complete design & build Explosion Protection Systems for Hazardous Areas



3G PAC®

- Full compliance to ATEX Directive 94/9EC
- Full compliance to CEN Standard EN1834-1:2000

TURNER EPS

Providing Make Safe technological solutions for the ever increasing demand for assured certified equipment operating in potentially Hazardous Areas.

Tackling The Industry's Technical And People Challenges

With less than two months before the free-to-attend SPE Offshore Europe 2015 opens its doors in Aberdeen, the industry is looking forward to welcoming visitors from all over the globe to discuss and debate both the technical and people challenges facing the oil and gas business today.



Over the four days, from 8-11 September, there will be a series of keynote sessions, technical sessions, topical lunches and breakfast briefings, alongside the exhibition representing the complete supply chain of exploration and production companies.

The event will open on Tuesday 8 September with a plenary session focusing on the basic challenge of meeting energy demand while balancing concerns over climate change, security of supply and consumer affordability. Professor Brian Cox is confirmed as a speaker. Arguably the UK's best known physicist, his books and TV programmes are read and watched around the world and are credited with making science engaging and accessible to millions. Other confirmed speakers include: Keisuki Sadamori, Director, Energy Markets and Security, International Energy Agency; Simon Bittleston, Vice President, Research, Schlumberger; Matt Corbin, Managing Director, Aker Solutions; and Liz Rogers,

Vice President Environment, Social Responsibility and HSSE Compliance, BP.

The keynote programme, chaired by Michael Engell-Jensen, Executive Director of the International Association of Oil & Gas Producers (IOGP), will offer 11 sessions dealing with important elements of the framework within which the industry is likely to have to operate in the coming years. Topics to be addressed include: health; the safety and security of people and assets; well intervention; financing investments; oil spill response; and inspiring the next generation to join the industry.

The technical programme, chaired by Charles Woodburn, Chief Executive Officer, Expro, will present more than 75 SPE papers, demonstrating that the industry's engineering, manufacturing and technology excellence is set to assure a long-term sustainable future. Speakers drawn from all over

the world will discuss topics such as asset and well integrity, maximising economic recovery, smarter field development, pipelines and risers, subsea processing, talent development, unconventional gas development, process safety, and decommissioning.

The exciting breakfast briefings and topical lunches are booking up fast. BP's Bernard Looney, Chief Operating Officer, Production, is the confirmed lunch speaker on Tuesday 8 September, and Andy Samuel, Chief Executive, Oil & Gas Authority will speak at the lunch on Wednesday 9 September. On Thursday 10 September, the lunch session will be given over to a small operators' panel chaired by Neil McCulloch, President, North Sea, EnQuest.

Meanwhile on the show floor, around 1500 organisations will display their products and services, including at least 300 companies – small and large – exhibiting for the first time at the event. Reflective of the global nature of the industry as a whole there will be a chance to connect with exhibitors from 44 countries. UK Trade & Investment commercial officers from around the world will also be available to discuss the opportunities that exist in each of their respective markets.

Taking over an entire hall, the dedicated Deepwater Zone will comprise its own conference and exhibition programme. And, for the first time, the event will include a series of workshops and meetings to connect entrepreneurs and investors. An ambitious 'Inspire' programme aimed at the younger generation will feature as well.

Visit www.offshore-europe.co.uk for more information and to register.

Low Glare LED Luminaire for Hazardous Areas, a New Approach

Glare resulting from a poorly designed lighting installation is a real health and safety issue for hazardous area operations.

The challenge this poses for lighting designers is outlined by Gareth Bruce, Marketing Manager at Abtech along with a new solution in the shape of the Gamma LED luminaire.

Abtech, manufacturers of hazardous area electrical equipment have announced the release of the Gamma LG. A low glare LED luminaire incorporating the company's innovative optical light guide technology, designed to minimise the effects of glare.

Glare is defined by the Illuminating Engineering Society (IES) as 'excessive contrast in a visual environment that is distracting'. This can result in a reduction in visual performance, a condition best avoided in heavy industrial environments. The worst instances of this condition are referred to as 'disability glare'. This occurs when an excessively bright light source comes into direct contact with the eye. An LED by its very nature is a bright point light source, LED luminaires commonly use multiple diodes to form their light engine. As a result this can lead to glare issues.

In the industrial or hazardous area environment, there is a requirement for higher lighting levels around pumps and rotating machinery as recommended by the IES and defined in numerous country and site specific standards. This is to ensure equipment is clearly visible and can be easily and safely maintained, day or night. These areas are typically lit by a dedicated white light source. Gareth Bruce, Marketing Manager, explains some of the real world challenges in meeting these levels. "Hazardous and heavy industrial facilities are often congested with process equipment, pipe-work and structural obstructions. The requirements of

the processes being undertaken and the physical constraints of the environment often determine the final location of machinery. This also means that the optimal location for a floodlight or lowbay is not always available. The challenge for the lighting designer is how to achieve the required lux levels in such areas without causing excessive glare".

In terms of luminaire design, point light sources of any type have traditionally been concealed within lighting fixtures to reduce the effect of glare. Reflectors are then used to transmit and direct the light out of the body. This often results in the reduction of luminaire efficiency. For LED luminaires, such losses can be dramatic so the focus of product design has been a drive towards ever increasing lumen output, irrespective of glare. In recognition of this problem and in response to client feedback, Abtech have designed low glare LED optical technology. This transmits light from indirectly mounted LEDs into the required field of distribution via a patent pending tubular light guide optic. This technology provides uniform illumination without glare and has been incorporated into the new Gamma LG stainless steel floodlight/lowbay hybrid luminaire.

"The output provided by the Gamma is that of a clearly defined and high quality white light" explains Bruce. "However if looking directly at the luminaire, the impression is dramatic. Whilst the focal area is well illuminated, there is little glare or visual discomfort in the field of vision. This approach, combined with the maintenance free characteristics of LEDs, provides lighting designers with a safe and long lasting solution."



The Gamma's compact form and even optical distribution make it equally suitable for use as either a floodlight or a lowbay. It is ideal for use in height restricted or congested areas where there is a need for higher levels of white light, such as over pumps or rotating machinery.

The design of the Gamma has considered the rigours of operation associated with oil and gas production. In addition to harmonic and overvoltage protection (EN61000-3-2 & EN61000-3-3), the control gear features thermal cut off protection to maintain LED life. All Gamma luminaires are supplied with a five year complete system warranty.

Designated suitable for use in Zone 2 gas and Zone 21 & 22 dust, the Gamma is both ATEX and IECEx compliant. A Zone 1 version is also pending final certification approval. It is constructed from marine grade stainless steel with toughened glass, stainless steel fixings throughout and is designed to operate within an ambient range of -50°C to +55°C (T3/T4). These features ensure the luminaire is capable of withstanding the harshest of environments. Further details can be found at <http://www.abtech.eu/products/zone-2-lighting/gamma-lg>

For further information on the full range of Abtech products and services, please visit <http://www.abtech.eu>.

Dialight will showcase its Emergency Stainless Steel fixture range at Offshore Europe

Dialight, the innovative global leader in LED lighting technology will showcase its industry leading SafeSite Stainless Steel Linear fixtures at Offshore Europe, Aberdeen in September.



The emergency fixtures, carrying ATEX certification, provide at least three hours and up to eight hours of battery backup in temperatures from -20°C to +65°C. With the ability to operate at this wide ranging temperature and featuring Dialight's exclusive integrated battery, the emergency fixtures provide the best alternative to conventional emergency luminaires and will meet the needs of a larger scope of emergency lighting applications.

The fixtures are ideal for industrial and hazardous applications, offering optimal safety, reliability and illumination in an emergency, and particularly in applications prone to vibration and shock. Traditional luminaires will suffer from a shortened lamp life in these environments, whereas Dialight's emergency fixtures are designed to withstand harsh surroundings, including the added security of a one piece design and 316 Marine grade stainless steel housing.

Designed specifically to replicate the output of conventional 2x18W and 2x36W fluorescents, the extremely robust and energy efficient linear fixtures provide long-life emergency lighting, both delivering 270 lumens in battery backup mode which is maintained over the life of the battery.

For Further Information:

www.dialight.com

+44 (0)1638 665161

Offshore Oil & Gas Leak Detection

The FLIR GF320 thermal camera from FLIR Systems is a preventative maintenance tool purpose designed to spot leaks in piping, flanges and connections in offshore petrochemical operations.



The thermal camera can rapidly scan large areas and pinpoint leaks in real time.

It's too late. By using the most advanced VOC detection, Offshore oil and gas facilities will improve safety and productivity and minimize emissions.

Offshore oil and gas facilities require state of the art technology to achieve results that are safe for the environment and safe for business. FLIR GF-Series optical gas imaging cameras have been developed together with oil industries and the American Petroleum Institute (API) to meet their requirements for detecting and minimizing gas leaks. The use of optical gas imaging cameras has already become a standard practice in many oil and gas companies. Using the FLIR GF320 provides a proactive way to identify sources of Volatile Organic Compound (VOC) emissions and repair leaking components before

Using a FLIR GF320 optical gas imaging camera literally thousands of components can be scanned for gas leaks per shift without the need to interrupt the process. It reduces repair downtime and provides verification of the process. Above all it is exceptionally safe, allowing potentially dangerous leaks to be monitored from several meters away. The FLIR GF320 will significantly improve your work safety, environmental and regulatory compliance, not to mention helping to improve the bottom line by finding leaks that essentially decrease profits.

The latest version of the GF320 now embeds GPS data into the image allowing workers to pinpoint the location of the leak or hot spot.

For further information on offshore oil and gas leak detection please visit:

www.flir.co.uk/ogi/display/?id=49559 or

contact FLIR Systems on:

Tel: +32-3665-5100

Email: asimaging@flir.com

Centa Transmissions launches new CENTAWAVE coupling for testing wind turbine drives

Mechanical power transmissions experts, Centa Transmissions, have launched a unique flexible coupling designed for testing systems before they are installed or constructed.

'CENTAWAVE' is a torsionally stiff and homokinetic link coupling that facilitates for angular misalignments of up to 12 degrees and torques from three to 20,000 kNm.



Explains Michael Sykes, manager of Centa's Gear and Renewables and special projects: "CENTAWAVE will primarily be used to test wind turbine drives and offshore renewable products. It will also be extremely suitable for many test rig applications, from petrol/diesel engines to marine gearboxes and anything in between.

"Manufacturers will build a complete wind turbine and test to see if it works or not. If it doesn't, it has to be stripped back and rebuilt which costs both time and money. "

Centa Transmissions will be exhibiting its ATEX Approved flexible couplings, electromagnetic clutches, gears and other mechanical drive products for simple or complex problem solving in all types of marine and offshore applications at Offshore Energy, stand 4E80.

Tel: 01742 531034
Email: post@centa-uk.co.uk
www.centa-uk.co.uk

Get Connected with Weidmüller at Offshore Europe

Exhibiting on Stand No 1C72 at Offshore Europe, Weidmüller will be showcasing its latest innovations from their ranges of Electrical Connectivity and Process Industry Electronics.

On display will be Weidmüller's industry leading range of terminals including the extensive ranges of SAK and W series terminals which are synonymous with the process industry. Also to be seen is Weidmüller's WMF line of terminal blocks which provide a multi-functional solution for marshalling signals. This space-saving terminal block combines all the necessary functionality into a single solution. Alongside these will be Weidmüller's Klippon® TB MH stainless steel enclosure as well as the Klippon® POK GRP and the K series aluminium enclosures.



Weidmüller's Surge Protection Devices will be on display to help protect your investments against damage and downtime and ensure you maintain compliance with BS7671:2008 Amendment 1 within your electrical system.

For the process industry, Weidmüller will be demonstrating the ATEX approved Pro-H power supplies and the DC UPS system. The ACT20 ranges of signal conditioners will be seen, including the ACT20X Intrinsically Safe (IS) Isolators, ACT20M 6mm slim signal converters and the ACT20C signal converter with Ethernet interface. Also EN-61508 SIL rated relays for emergency shutdown applications, controller interface units will be on display. To complement the product range, a comprehensive Industrial Ethernet range of high quality products can be viewed, with extended temperature ranges with both active and passive components.

Further information visit www.weidmuller.co.uk



Customised 4-Way Handling

www.combilift.com





- Space saving, safe and productive handling
- Indoor/outdoor capabilities
- Robust and versatile
- Capacities from 1.5 – 80 tonnes
- Diesel / LPG / AC Electric

Without Combilift



With Combilift



Free warehouse layouts



Combilift Ltd Co. Monaghan Ireland
Tel: +353 47 80500 E-mail: info@combilift.com

New RUGGED 4-20mA Panel Indicator

Offshore Europe 2015
Stand 3A184






- Stainless Steel & Toughened Glass
- High Impact IP66 Front
- Suitable for Ex e, Ex n or Ex p Equipment
- Ex ia Model for Zone 1, 2, 21 or 22
- Ex nA Model for Zone 2 or 22 (Isolator or Barrier Not Required)
- General Purpose Model also Available



www.beka.co.uk
 Hitchin, Herts. SG5 2DA, UK
sales@beka.co.uk Tel +44 (0)1462 438301

New at SPE Offshore Europe

For their first time ever at Offshore Europe, Red Dragon Ltd is bringing a series of new brands and innovations to this exhibition on stand 1A29.

The Italian manufactured ATEX & GOST certified air/gas pressure regulation and flow control valves from Sitecna® Srl offer high performance, comprehensive certification, elastomer choices for low temperature operation down to -55°C and optional exotic alloy constructions. This makes them the first choice for instrumentation demands in harsh environments and hazardous atmospheres.

New products on display at the show include 2" high flow filters, high flow volume boosters with threaded relief ports and the problem solving all 316L tamper proof locking system for the Sitecna® regulators and filter regulators.

Another first is the introduction of the CS-ITEC GmbH range of air/gas measurement technology which offers air quality measurement to meet the requirements of ISO 8573 in addition to

consumption monitoring for plant efficiency analysis and improvements. The complete range includes sensors for dew point, oil concentration, particle counting, current and power consumption, gas or liquid flow and leak detection; displays, data loggers and analysis software.

On stand 1A29 will be the S 450 ATEX certified, insertion type, thermal mass flow sensor for clean, corrosive or contaminated gases. With dual 4-20mA plus pulse/alarm outputs and options for HART and Modbus, the S 450 can interface easily in all applications. Sensor configuration can be achieved through wireless Bluetooth communication for both this and the S 452 inline type sensor.

The S 450 will be operating with other instruments on this display during the exhibition and available for practical demonstrations.



Visit Hall 1, stand 1A29 to understand the many benefits for these products and how Red Dragon can help you to improve efficiency and reduce operating costs.

Red Dragon Ltd
Unit 15 Abergorki Industrial Estate
Ynyswen Road, Treorchy, CF42 6DL
T: 01443 772500
E: sales@reddragonvalves.co.uk
W: www.reddragonvalves.co.uk

Ensure your workforce and assets are fully protected so nothing is left to chance.



We offer cost effective total process protection:

- Isolation and suppression systems
- Conventional venting
- Flameless venting
- Product testing
- Rupture discs
- CFD modelling

The safety and continuity of your business is our concern. Place your full confidence in Fike's delivery of exceptionally reliable safety products that will exceed your expectations.

Don't rely on luck, trust Fike.

Contact us today on **01622 677081**
Email: sales@fike.co.uk
Discover more at www.fike.co.uk



FIKE UNITED KINGDOM

E2S Warning Signals previews its new stainless steel beacon at Offshore Europe, Aberdeen

E2S Warning Signals will be exhibiting on Stand 3E181 at Offshore Europe, 8 - 11 September in Aberdeen UK.

As the world's leading independent manufacturer of audible and visual warning signals, E2S will be showcasing the latest developments in their extensive range of explosion proof, hazardous location and intrinsically safe warning devices for the onshore and offshore oil and gas industry.



Also featured will be examples of the E2S explosion proof, intrinsically safe and industrial alarm horns, LED's, strobes and loudspeakers for hazardous areas and other rugged environments. The 'D2x' and 'E2x' UL, cULs, ATEX & IECEx Div 2 & Zone 2 approved alarm horns and combination signals will be displayed alongside the industry standard 'BEx' explosion proof and the 'IS-mini' intrinsically safe product ranges. Also on show are the 'GNEx' manual call points, available as break glass, push button or tool reset versions, approved for Zone 1 and 21 hazardous areas for the control of fire and gas alarm systems and available with either single or double pole changeover switches.

For general industrial signalling, examples of the E2S audible and visual signals for fire and industrial applications ranging from panel mount indicators through to alarm horns, LED's and strobes for use in areas with high background noise and light levels will be on display.

E2S Warning Signals
Tel: + 44 (0)20 8743 8880
sales@e2s.com | www.e2s.com

ABB launches a new LED range of lighting fixtures for hazardous locations

Offer now comprises linear & tubular lighting, self-contained emergency lighting and beacons fully equipped with the efficiency and durability of light-emitting diode (LED)



is compliant with most stringent national, European and international regulations including IECEx and ATEX, specifically designed for use in potential explosion gas & dust atmospheres. As for DTS LED products are concerned: linear lighting - Zone 2, 21, 22; tubular lighting - Zone 1, 2, 21, 22; Beacons - Zone 2, 22.



ABB has launched a new range of LED products for hazardous locations from its DTS branded portfolio - a leading product brand for hazardous lighting and cabinets. DTS' range comprises linear fittings - EVNL, EVDL and EVTL range, tubular fittings - XFPL and XFPL range, and beacons - XFB and FB range.

"The availability of LED technology in DTS' industry-leading lighting and beacons brings longer service life, greater energy efficiency and vibration & shock resistance to lighting for hazardous locations," said Christophe Janin, Director, global product management and engineering, Explosion Protective Components and Systems. "Our luminaires are the most popular items in DTS' catalogue, and by offering them with LED technology, we deliver our range's benefits for applications in oil and gas processing, as well as food and beverage, pharmaceutical and chemical processing."

The DTS tubular and linear fittings offer an operating life of more than 100,000 hours, output of 5,000

lumens with 100 per cent yield. All components, mounted on a sliding gear tray, permit easy installation and maintenance, and may be retrofitted into existing fluorescent fixtures mounted with T8 lamps.

The DTS beacons are equipped with a static LED, lightweight and robust for easy installation.

In addition, both tubular lighting and beacons are manufactured with low-copper, marine-grade aluminum castings and finished with offshore-grade paint. Linear lighting are fiberglass polyester reinforced for high impact strength with a UV protected polycarbonate diffuser to resist harsh environments.

DTS also provides a complete range of enclosures, junction boxes and custom built control panels for hazardous environments, which can be combined with Kopex-Ex flexible conduit systems, cable glands and accessories. A comprehensive offer that

About ABB

ABB (www.abb.com) is a leader in power and automation technologies that enable utility, industry, and transport and infrastructure customers to improve their performance while lowering environmental impact. The ABB Group of companies operates in roughly 100 countries and employs about 145,000 people.



For more information about our products, visit <http://new.abb.com/low-voltage/products/explosion-protective-components-systems>.

Glamox awarded LED lighting contract for Statoil – Johan Sverdrup Field Centre

Glamox is pleased to announce that Glamox AS has signed a framework agreement to supply the LED lighting package for the Johan Sverdrup Field Centre, one of the largest oil fields on the Norwegian continental shelf.



The Johan Sverdrup field is planned as a phased development, with a Field Centre and tie-backs of subsea templates and standalone well head platforms. The field is located on the Utsira Height in the North Sea, approximately 155 km west of Stavanger and near to the fields of Grane, Ivar Aasen, Edvard Grieg and Sleipner.

Phase One of the project involves the establishment of a Field Centre comprising of four main bridge-

linked platforms for living quarters (including utilities), a process platform, a drilling platform and a riser platform. Future phases will include additional satellite platforms and/or subsea templates that will be connected to the Field Centre via subsea flowlines. The field will be operated by electrical power generated onshore. Oil will be exported via a dedicated pipeline to the Mongstad terminal in Hordaland. Production start-up is scheduled for the end of 2019.

Glamox will supply the complete LED lighting package, including LED light fixtures and LED floodlight fixtures for hazardous areas and for safe areas. In addition, Glamox will supply a variety of LED lighting products for the living quarter and utility platform. Choice of LED technology provides significant operational benefits for Statoil and their partners, such as limited maintenance work, long lifetime and energy efficient solutions, reduced operational costs and improved environmental performance. Investment and operational analysis shows that a new LED lighting installation reduces carbon emissions and maintenance work significantly. The contract represents a milestone for offshore installations as the first fully equipped Field Development with LED technology.

The contract also includes options for future projects such as Johan Castberg, Snorre 2040 and Peregrino II.

Mr Kjell Stamnes, CEO of Glamox AS commented: "We are delighted to be selected by Statoil to supply the complete LED lighting package for such a high profile and important project. Johan Sverdrup is one of the most important industrial projects in Norway over the next 50 years. The contract is to date one of the largest contracts for Glamox and will generate work and activities for several production units within the group. It confirms Glamox's position as a leading and innovative supplier of LED lighting solutions for the oil & gas market."

For more information, please visit:
www.glamox.com/gmo

Increasing the Life Expectancy of Equipment in the Offshore Industry

Arc Energy Resources is a leading specialist in weld overlay cladding and fabrication for the oil & gas industry providing protection against corrosion and wear for process and pipeline equipment used in hostile offshore environments.

Arc Energy's weld overlay cladding provides a versatile and cost effective corrosion resistant option, providing the assurance of a heavy-duty metallurgically-bonded protective layer that will not be undermined or dislodged in service, and will protect the internal surfaces to maintain the efficiency and reliability of service, when transported media can, for chemical or mechanical reasons, degrade valves, pipelines, flanges and other specialist equipment. Qualified welding engineers can advise on welding processes and a wide range of cladding alloys ideally suited to counteracting the corrosive or abrasive properties of any medium.



For further information contact:
 Arc Energy Resources
 Unit 12 Eastington Industrial Estate, Meadow Mill, Eastington,
 Gloucestershire GL10 3RZ
 Tel: +44 (0)1453 823523 | Fax: +44 (0)1453 823623
 E-mail: sales@arcenergy.co.uk | Web: www.arcenergy.co.uk

When Flow Meter Selection is Critical

Specifying the correct flow meter for any application is important but becomes absolutely critical in potentially explosive environments.

In these situations only meters with the correct ratings and genuine certification must be specified.

The latest Macnaught MX-Series Ex range of intrinsically safe oval gear flow meters have been tested and approved for use in ATEX EEx ia applications and possess CSA and FM approvals, offering the ideal solution for applications requiring accurate flow measurement in hazardous environments.



Available in aluminium and stainless steel with a flow range from 0.5LPH to 1200LPM these meters can be specified with either an NPN open collector or a NAMUR sensor together with a comprehensive range of ATEX rated LCD displays. Macnaught MX-Series Ex range is available exclusively from Bell Flow Systems.

Contact Details:
 +44 (0)1280 817304
 sales@bellflowsystems.co.uk
 www.bellflowsystems.co.uk
 SPE Offshore Europe Stand: 1A120

PFA Lined Gear Pumps Suit Aggressive Or High Purity Liquids

When pumping applications involve aggressive liquids such as inorganic acids, bases and salts, or those that are regarded as high purity where contact with metallic components must be avoided, the Liquiflo Polygard Series pump are the ideal choice.

These PFA lined magnet drive gear pumps are perfect for accurate and reliable pumping of challenging liquids such as Hydrochloric Acid, Ferric Chloride, Sulphuric Acid, Hydrofluoric Acid, Sodium Hypochlorite, Nitric Acid, Sodium Hydroxide and Chromic Acid.

Available through MICHAEL SMITH ENGINEERS these pumps feature non-metallic wetted parts and offer the important characteristics of zero leakage and therefore safer pumping. They are available in seven sizes in both DIN and ANSI flanged connections and provide flows up to 47 lit/min at differential pressures to 7 bar and they can operate at temperatures to 90°C.

Among the advantages of PFA lined stainless steel housings for these types of pump is that they do not suffer from wicking problems associated with

fibre reinforced housings while the effects of heat entrapment and corresponding thermal expansion issues are minimised, as are the effects of fluid absorption. The stainless steel housings also increase the strength and durability required for process pump applications.

In addition to their corrosive resistance Liquiflo PFA lined pumps provide smooth, pulseless flows so they are easy to monitor and control, also their accurate output (within +/- 2%), means wastage is eliminated. They are also designed for easy servicing so downtime for routine maintenance is minimal.

Examples of applications where Liquiflo Polygard PFA lined pumps have been successful include, pumping hot hydrochloric acid into a chemical reactor at a speciality chemical manufacturer, injecting ferric chloride into a waste water treatment



process and circulating a hot mixture of solvents and hydrochloric acid at a speciality chemical manufacturer.

Further details on Liquiflo PFA Gear Pumps are available from:
 Michael Smith Engineers Ltd,
 Oaks Road, Woking, Surrey, GU21 6PH, UK
 Tel: 0800 316 7891
 email: Info@michael-smith-engineers.co.uk
 Visit: <http://www.michael-smith-engineers.co.uk/products/liquiflo/liquiflo-polyguard-pfa-lined-gear-pumps>

Ambitious Valve Manufacturer Bifold Continues To Grow Developing 48Hr Despatch For Efficient And Quick Delivery

Bifold's 48hr Despatch



Bifold has recently moved to larger premises in Chadderton (see below for full address) and so have been able to develop many different initiatives due to their expansion within the factory and growing workforce. The initiative that has the biggest impact for customers is that Bifold now has the capability to deliver products, configured and built to order within 48 hours.

The significant increase in business over the last few years has meant that Bifold has implemented new plans for more efficient and fast despatch whilst still retaining excellence of quality and service. Bifold's modular approach to product design and extremely efficient build and test processes have afforded increasing levels of flexibility as to the number of valve types that can be assembled and tested with very short lead times. This negates the need for 'off the shelf' finished valve products to meet customer's urgent requirements. This form of productivity enhancement emphasises the significant increase in demand that has been placed on Bifold for their outstanding products.

The products that are available for 48hr despatch are available to view on the website (details of which can be found below). However, along with the preferred range that is advertised, Bifold is also able to accommodate reasonable requests for alternative, configurable valve options that the customer

may require and are more than willing to cater to individual customer requests. Whilst this 48hr service is applicable to single valves and small batch quantities, Bifold are also able to, within reason, accommodate specific demands for large quantities.

With 48hr despatch the customer receives the same quality and efficiency as they would usually experience and it does not require any special process within the ordering of the products. The customer must simply specify that they require the parts to be ready for despatch within 48 hrs and so provides minimum hassle process.

If you are interested in Bifold's 48hr despatch please see the website for further details and terms and conditions. You can also contact Bifold using the information below.

Bifold are dedicated to maintaining the excellence of their products and their new facility confirms their commitment to shortening lead times and meeting customer demands.

They would like to take the opportunity to thank all their customers for their continued support.

Visit us at SPE Offshore Europe, Aberdeen, UK, 8th - 11th September 2015, Stand No. 3B60

About Bifold

The Bifold Group of Companies provides technical and engineering support together with a global network of agents and distributors. Bifold Group is a world class supplier of the widest range of switching instrument and piping valves and pumps for use in the oil and gas upstream and downstream sectors. Our innovative and reliable range of high-tech products and accessories, specifically designed with the customer in mind, have gained worldwide approvals and credibility for the onerous conditions as found in hazardous (classified) locations, hostile, corrosive and subsea environments.

For More Information:

Tel. +44 (0) 161 345 4777

Fax. +44 (0) 161 345 4780

Email: gbancroft@bifold.co.uk

Web: www.bifold.co.uk

Bifold Fluidpower Ltd, Bifold Group,
Broadgate, Oldham Broadway Business
Park, Chadderton, Greater Manchester,
OL9 9XA. UK.

**VIEW FULL
MAGAZINE ONLINE**

- + Extra Articles and features
- + Full Business Directory
- + Much More...

HESOnline

www.hazeng.com

All of our articles are available to read online today!
Scan the QR code to go directly to the site



Visit Us Online

www.hazeng.com



Bifold Group



clean Manufacturing
Configurable Lean

= 48 hr Despatch

On selected products

Bifold can now offer an expedited delivery service on selected products, typically within 48 hrs of receipt of order. Credit Card and PayPal transactions now accepted, all this teamed with a front end sales desk for customer service. Available product ranges are as follows:-

Hydraulic Range

- Check Valves
- FP15, FP15E Solenoid Valves, Interface Valves / Pilot Valves
- Direct Acting Solenoid Valves Model FP01
- Indirect Acting Solenoid Valves Model FP15

Instrumentation Range

- Ball and Needle Valves
- Fire Safe Ball and Needle Valves
- Medium Pressure Needle Valves and Fittings

Pneumatic Range

- Direct Acting Solenoid Valves Models FP06P, FP10P & FP12P
- Check Valves
- QEV's (Quick Exhaust Valves)
- Models SH and SC Filter Regulators
- Flow Control Valves
- Relief Valves
- Volume Booster Range Model VBP Series
- High Speed Exhaust Valve Range HIPEX Series

Conditions - Please note

- Ready to ship within 48 hrs from receipt of order (Excluding Saturday and Sunday)
- Controlled batch quantity on 48 hr despatch, for more information please contact Bifold on Tel: +44 (0)161 345 4777
- Positive Material Identification (PMI) is available on 72 hr despatch
- Additional Documentation available upon request, standard document package = C of C and FAT certificate
- Price on application

Visit us at SPE Offshore Europe, Aberdeen, UK, 8th - 11th September 2015, Stand No. 3B60



Bifold Fluidpower Ltd, Bifold Group,
Broadgate, Oldham Broadway Business Park, Chadderton,
Greater Manchester, OL9 9XA, UK.
Tel: +44 (0) 161 345 4777 Fax: +44 (0) 161 345 4780 Email: marketing@bifold.co.uk

bifold.co.uk

EUROPE'S LEADING
TECHNICAL E&P EVENT

OE 2015
8-11
SEPT
2015
Offshore Europe ABERDEEN, UK

SPE Offshore Europe
CONFERENCE & EXHIBITION

HOW TO INSPIRE THE NEXT GENERATION

PEOPLE • TECHNOLOGY • BUSINESS

-  MEET FACE-TO-FACE WITH
1,500 EXHIBITORS
-  INNOVATE IN THE **DEDICATED
DEEPWATER ZONE**
-  DEVELOP GLOBAL BUSINESS AT
34 INTERNATIONAL PAVILIONS
-  ACCESS **1000'S OF NEW TECHNOLOGIES**
ACROSS THE E&P VALUE CHAIN
-  UPDATE YOUR KNOWLEDGE WITH **100+ FREE
KEYNOTE & TECHNICAL PRESENTATIONS**

“A great opportunity to see
advances in technology,
new ideas, alternative
products and practices from
not only the UK but globally.”

**MECHANICAL /
CONSTRUCTION ENGINEER
BRITANNIA / AMEC**

Photo Credit:
Harald Pettersen, Statoil

REGISTER NOW AT
OFFSHORE-EUROPE.CO.UK/HAZARDOUS

Organised by



 **Reed Exhibitions**
Energy & Marine

MORE THAN JUST CERTIFICATION

Certification:

This is our core business, where the name of SGS Baseefa Ltd on a certificate can be your passport to European and International sales.

- ATEX Product Certification
- ATEX Services for Technical Files
- ATEX Quality Assurance Notification
- IECEX Product Certification
- IECEX Service Facility Certification
- IECEX Personnel Competence Certification
- IECEX Certification Mark Licensing
- IECEX QAR Services.



Information:

Our web site contains lots of useful information, including links to relevant ATEX and IECEX documents, for example the history of the harmonisation status of major standards

Advice:

Our customers value our unbiased advice on how the standards apply to their particular product or service. With seven individuals directly involved in the writing of Ex related standards, and with over 300 years' total Ex experience in the company, no other certification body in the world can place more knowledge at your disposal.

Training:

Our portfolio of training courses is unsurpassed and includes courses for those new to the Ex environment or needing a brush-up in the basics to courses covering detailed subjects such as Area Classification.

SGS Baseefa are continually looking to expand their team and are always looking for new Certification Engineers, should you be interested please forward your CV or contact us at sgsbaseefa@sgs.com for further information.

TO LEARN HOW WE CAN HELP YOU, VISIT US AT:
WWW.SGS.CO.UK/SGSBASEEFA OR EMAIL SGSBASEEFA@SGS.COM

BASEEFA IS NOW PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

WHEN YOU NEED TO BE SURE



Exloc Instruments (UK) Ltd *Hazardous Area Solutions*

Exloc Instruments provide one convenient source for the procurement of instruments, electronic devices and other products specifically designed and approved for use in hazardous classified locations involving flammable gas and dust atmospheres.

DIN Rail Safety Products:

- I.S. Interfaces.
- SIL Rated relays
- Surge protection
- SIL 3 Power Supplies

I.S. Portable Devices:

- I.S. Smartphones
- I.S. Tablets and PC's
- I.S. Digital Cameras
- I.S. Torches

Visualisation & Alarm Products:

- I.S. and ruggedised tablets and PC Terminals
- Hazardous area beacons, sounders & call points.
- Fire, industrial and disaster warning signalling.
- Digital indicators and totalizers.
- I.S. LED Cluster lamps

ATEX Ethernet:

- opis transceivers
- Zone 1 switches and media converters
- Ethernet extenders

TUV Approved Functional Safety (Engineer) Training:

- Manchester, UK plus new locations for 2016.



EXLOC Instruments UK Ltd, 59b High Street, Uppermill, Oldham, OL3 6AP www.exloc.co.uk
 Tel + (0) 1457 239301 sales@exloc.co.uk Company Registration no:7737802 VAT no 138 6571 86

Exloc Instruments UK Ltd are the sole UK distributor of GM International products.

In this issue we focus on the expanded range of SIL certified relays and switch repeaters that have been designed and engineered to meet the requirements of modern niche projects.

The switching of Safety-Related circuits demands the use of specific SIL certified Relay Output modules, capable of delivering the highest rate of availability and functional safety. The original SIL relay by GM International was the D5293S, a relay output with a normally energised load and with load and line diagnostics which achieves SIL3 according to IEC61508:2010 Ed.2.

The new D5294S and D5295S modules are both 4Amp modules (normally open and normally closed contacts respectively) which again achieve SIL3 and are suitable for Normally Energised or Fire & Gas / Normally De-energised load with open/short circuit diagnostics.

However, these units are so much more than just a relay. They not only perform the desired safety function, but also provide full Load & Line Internal Diagnostics: load voltage and current, load



resistance (patented), leakage from load to earth, coil integrity and internal faults.

Moreover, MODBUS communication allows the units to be remotely interrogated and configured. Hardware is SIL 3 certified, while diagnostic functions are now also SIL 2 certified by TUV: they remain two independent features, which can be used separately or together.

All models are ATEX, IECEx and SIL certified and are suitable for installation in Zone 2 / Div. 2 Hazardous locations.

The range of GM International modules which are SIL capable continues to expand and also includes the single channel D5093S and dual channel D5093D Loop Powered Switch Repeaters. These modules operate at 24 to 220 Vac/Vdc and are suitable for safety related system applications requiring SIL 3 in high risk industries.

Each channel is able to reflect the presence of a 24 to 220 Vac/Vdc input signal to the output by closing an optically coupled Normally Open open-drain transistor (solid-state relay, MOSFET output).

The presence of the 24 to 220 Vac/Vdc input signal is also indicated by a yellow LED on the front panel.

The input switching voltage levels are selected, according to the applied input signal, by means of an internal dip-switch which is overload protected. Mounting of the units can be via standard DIN-Rail or on customized Termination Boards, in Safe Area or in Zone 2, group IIC T4. All models are ATEX, IECEx and SIL certified.

Where it is necessary to reflect the presence of a 24 to 220Vac/Vdc input signals in your application, D5093S modules are the right choice, satisfying the highest grade of availability and functional safety.



Call us on 01457 239301 / 07557 371373 or e-mail sales@exloc.co.uk for further details.

VOC Monitoring

Sound, Noise & Vibration

Air Quality & Dust

Confined Space

Fixed Gas Systems

The UK's leading provider of specialist instrumentation for occupational hygiene, health & safety and environmental monitoring

**Sales • Hire • Service
Training • Advice • Support**

T: 01367 899419
E: info@shawcity.co.uk
www.shawcity.co.uk



Be sure. Be safe

Shawcity Ltd, Instrument House, 91-92 Shrivenham Hundred Business Park, Watchfield, Oxfordshire SN6 8TY



**LEADING
STANDARDS
IN COMPLIANCE
& SAFETY**



CSA Group is a world leader in conformity assessment and product testing solutions.

Advanced laboratory capabilities combined with ATEX, IECEx and North American approvals from one location in the UK underpin the investment we continuously make to lead the way in conformity services for our clients around the globe.



ATEX • IECEx • CSA Approval • QA Audit • Training • Personnel Competence • MCERTS Certification • PSM & DSEAR

Tel: +44 (0)1244 670 900 | Email: ukinfo@csagroup.org | www.csagroupuk.org

Specialist Electrical Wholesaler



Authorised Assemblers For Abtech & Pepperl + Fuchs
Stainless Steel & GRP Exe ATEX Certified Junction Boxes
For Use In Hazardous Areas, Zones 1,2,21 & 22

PEPPERL+FUCHS

ABTECH



www.tcad.co.uk

sales@tcad.co.uk

Tel: 01642 612662

Control Panels

ATEX and IECEx Compliant
Solutions Providers

www.jcegroup.com

J.B SYSTEMS LTD
EExd & EExe enclosures
Custombuilt panels
Terminal boxes
& Control Stations
Tel: 01296 489967 Fax: 01296 393515
Email: sales@jbsystems.co.uk
Website: www.jbsystems.co.uk

CONSULTANCY

**4² Square Engineering
Consultancy Limited**
ATEX / DSEAR
Inspection-Training-Consultancy-Gap Analysis
DSEAR Compliance & Verification
Explosion Protection Document
Ignition Risk Assessment
Compliance Audits

Tel / Fax +44 (0)1506 823311 Web: www.4sq.co.uk
Mobile 07764 461694 e: info@4sq.co.uk

CONSULTANCY

**Inglewood Engineering
Consultancy**

- DSEAR Site Compliance
- Area Classification and Risk Assessment
- BS EN 60079 Part 17 Inspections
- DSEAR non-conformance support / remedial design

01625 410 100

Info@inglewoodengineering.com
www.inglewoodengineering.com



DRUM HANDLING

STS Safety Trolley Systems
Lifts, Tips & Weighs In Hazardous Areas

- Suitable for Zone 1 areas
- Handle all drums 50 to 205 litres
- Including plastic and steel drums
- Complies with latest ATEX regulations
- Bespoke UK design and manufacture

Tel : 01736 851050
Email : sales@sts-trolleys.co.uk
Website : www.sts-trolleys.co.uk

EXPLOSION PROTECTION

Total Explosion Protection

- Conventional venting
- Flameless venting
- Explosion isolation
- Explosion suppression
- Testing services
- Expert advice

Contact us today!
Fike UK, 35 Earl Street
Malden, Kent
ME14 1PP, UK
T: +44 (0) 1622 677081
E: info@fike.co.uk
www.fike.co.uk

TURNER EPS
The new name for **FLAMETEC**

The make safe solution to enable plant & machinery to operate in Zone 1 & 2.

- Fork Lift Trucks
- Diesel Engines
- Diesel Generating Sets

TURNER EXPLOSION PROTECTION SYSTEMS
Stoke-on-Trent (UK) office:
tapsystems@turner-eps.co.uk
Tel: +44 (0)1782 657 331

Electrical Distributor

R&M
ELECTRICAL GROUP LTD

Your Source Onshore For
Everything Electrical Offshore

R&M is the UK's largest independent
electrical group serving the Oil and
Gas industries.

023 80341 444
www.rm-electrical.com

Pipework



JACOB
EUROPE'S NO 1 IN PIPEWORK SYSTEMS

**fast assembly
- tight connections**



**always trust original
JACOB quality**

Jacob (UK) Limited
Unit 2, Laundry Bank
Church Stretton, SY6 6PH
Tel: +44 (0) 16 94 72 28 41
Fax: +44 (0) 16 94 72 34 73
E: sales@jacob-uk.com
Web: www.jacob-uk.com

Training



**the
WORLD
LEADER**

The first provider in the world to have achieved acceptance for all 10 units of competence under the new IECEx CoPC scheme.

Tel: +44 (0) 1298 766600
Email: info@baseefa.com
www.baseefa.com



**EP-IT
GROUP**

Training Courses & Consultancy
for Industrial & Hazardous Areas

www.epitgroup.com

Hazardous Area Specialists



F.E.S. (EX) LIMITED
HAZARDOUS AREAS SPECIALISTS – Explosive Atmospheres

An experienced & professional team with demonstrable and proven skills within the field of potentially explosive atmospheres. Flexible, client focussed and provide logical solutions or resources.

ISO9001, ISO14001 & OHSAS18001 accredited along with our memberships of the Energy Institute & IOSH ensuring no matter how large or small the organisation we tailor our services to match the clients specific needs.



Hazardous Areas Specialists – We Provide

- "Hands On" Inspection & Rectification of Electrical & Instrumentation Assets utilising Hand Held Terminals & fully qualified, experienced personnel
- Select, Install, Test, Maintain Plant & Process
- Mechanical Inspection
- Hazardous Areas Assessment & Classification
- Health, Safety & Environmental Solutions
- Resource and Supervision
- CAD Facilities

Training Solutions

- CompEx E & I
- CompEx E & I Refresher
- CompEx Foundation
- Future - CompEx Mechanical

Based at the **CATCH** facility, Lincolnshire
For course details e-mail: bookings@roxby.com
or call **01642 438700** or **01469 552853**




- ATEX/DSEAR
- Process Safety
- SHE
- Instrumentation

Testing



Vibration Sensors

**Intrinsically Safe
Vibration
Sensors**



Hansford Sensors
Excellence in Vibration Monitoring

Tel: 0845 680 1957
Fax: 0845 680 1958
Email: sales@hansfordsensors.com
Web: www.hansfordsensors.com

To advertise please contact:

Paul Miles
MSL Media Ltd
Email:

paul@engineeringmaintenance.info

Tel:
+44 (0)1634 731646



F.E.S. (EX) Ltd., Cleethorpes Business Centre,
Jackson Place, Wilton Road, Humberston, Grimsby,
North East Lincolnshire, DN36 4AS

Telephone: +44 (0) 1472 598987 Fax: +44 (0) 1472 324694
Website: www.fes-ex.com Email: enquiries@fes-ex.com





Introducing CML your partner in Product Certification, Test & Training

Responsive

Accessible technical know-how, outstanding customer service, focussed on your deadlines

Competent

We have strong technical expertise across all protection methods available to help solve your project challenges across a wide range of needs – electrical, non-electrical, components, assemblies, safety-related devices and protective systems as well as production audits and Quality Assurance Approvals (QAN, QAR)

Credible

A wide scope to deliver all product certification work covered by the ATEX directive & IECEx scheme

Innovative

Delivering end-to-end solutions around the globe – including an integrated service for USA & Canada – testing for China, Korea & Japan

Call today for a **FREE technical compliance meeting** at your site...

www.cmlex.com

+44 (0)151 559 1160



8175