

OIL & GAS

AGENDA

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Markets**

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The heat is on

Saudi Aramco on the race to green its business

2012

Introducing a gasket that's even better than ours.

We invented the spiral wound gasket in 1912. So it's fitting that we celebrate our centenary with another new product. It's a metal-wound heat exchanger gasket that delivers a more dynamic seal than ours – or anyone else's. We call it **Change**. And it's coming soon.

Details, application questions?
www.flexitallic.eu

Flexitallic **100** OUR NEXT CENTURY STARTS NOW

Cleckheaton, BD19 4LN, UK > www.flexitallic.eu

Hibbard Inshore

ROV Inspection and Maintenance of Underwater Structures

The entire Hibbard Inshore fleet of ROVs and hybrid ROV/AUVs are designed to be quickly shippable to any location worldwide via airfreight and standard truck lines allowing us to utilize vessels of opportunity to serve our customers quickly in even the toughest locations. We aim to provide the highest levels of capability while taking advantage of opportunities to keep inspection, survey and intervention costs lower than traditional large, dedicated systems. Our ROVs are depth rated to up to 2,000 meters and we can provide AUV services to 1,200 meters.



STRUCTURES INSPECTED

- Pipelines
- Ocean outfalls
- Inter-island potable water lines
- Cables
- Oceanographic sensors

INSPECTION EQUIPMENT

- Monochrome & Color Video
- Imaging Sonar
- 3D Sonar
- Ultrasonic Thickness Testing
- Navigation & Tracking Systems
- Multi-beam Sonar

ROV UNDERWATER INSPECTION SERVICES

- Route Surveys
- Cable Lay Surveys
- Pipeline Surveys
- Environmental Surveys
- Site Verification Surveys
- Equipment Installation Monitoring
- Structural Inspections

Product showcase

Infrared hydrocarbon gas detection



IRmax offers rapid, fail-safe detection of hydrocarbon gases and vapours.

Featuring dual-wavelength IR sensor technology in a rugged 316 stainless steel package, the ultra-compact IRmax infrared hydrocarbon gas detector from Crowcon is designed to detect methane gas and other potentially explosive hydrocarbons in the harshest conditions.

Unlike conventional IR gas detectors, the IRmax does not use heaters to prevent condensation on windows and mirrors. Instead, its optical components are treated with a highly durable hydrophobic coating called STAY-CLIR that completely prevents signal faults due to condensation.

As the IRmax contains no components for artificially heating optical surfaces, it requires less than 1W of power, typically 75–90% lower than conventional IR gas detectors. A gas detection system using IRmax detectors therefore requires smaller (and lower-cost) power supplies and battery back-up systems. Longer cables can also be used and more detectors can be powered on addressable networks.

Crowcon's IRmax infrared hydrocarbon gas detector has recently been certified to SIL 2 by Sira Test and Certification according to the requirements of the IEC 61508 and EN 50402 functional safety standards. This certification provides third-party assurance of the integrity and dependability of the IRmax, and allows it to be included as part of a SIL 2 safety system.

According to Sira, the IEC 61508 functional safety standard "provides the assurance that the safety-related systems will offer the necessary risk reduction required to achieve safety for the equipment".

During the six-month certification process, Sira scrutinised every detail of the IRmax's design – from hardware and electronics to software – against the required standards to achieve SIL 2 certification.

"Product documentation including a SIL certificate and safety manual provide the data and information to ensure that the product can be easily integrated into a SIL 2 system, and installed and operated according to the requirements of the certification," says Andy Avenell, Crowcon's senior product manager.

"Crowcon's management systems ensure that IRmax continues to comply with the standards regardless of modifications during the product's lifecycle," he added.

Further information
Crowcon
www.crowcon.com

A century in spiral wound gasket development



The Change gasket was developed to solve customers' long-term problems.

To mark Flexitallic's centenary year – it invented the spiral wound gasket in 1912 – the company is launching a new innovation in metal-wound

gaskets. Known as 'Change', this latest development will transform the global sealing industry.

Another pioneering first for Flexitallic, the Change gasket delivers a more dynamic seal, with superior recovery and compression than any other gasket on the market*. Initially created for heat exchangers, Change can be supplied with Thermiculite, PTFE, graphite filler and a wide selection of other metals, making it suitable for an extensive range of applications.

Russ Currie, applications engineering manager at Flexitallic said: "We developed a unique sealing construction and new welding process to engineer Change, which was created in direct response to customers' long-term problems with gaskets in poor-performing heat exchangers. Change has out-performed all alternative gaskets including our own. Efficiencies in production methods have also enabled this new technology to be a cost-effective solution for customers."

The Flexitallic Group is the world leader in the manufacture and supply of static sealing products to the oil and gas, energy and power generation industries. It supplies a wide product range, including: metallic and semi-metallic gaskets, ring-type joints, Kammprofiles, sheet gaskets, and dynamic and static packings.

Flexitallic also distributes innovated products such as Thermiculite, Sigma and the Flange Rescue Gasket (FRG) range, which has revolutionised inspection and corrosion management in the oil and gas industry. The company also supplies the I-Flex isolation gasket set. Constructed from Flexitallic's specially designed serration profile, the gasket is

engineered to extend the current operating temperatures of traditional insulation technology.

Flexitallic also supports its customers with a range of specialist services, including a world-class R&D facility, shutdown and turnaround support, engineering advice, bespoke solutions and industry specific training through the group's Academy of Joint Integrity.

**based on thermal cycling and leakage tests: Modified Shell Test, ROTT and compression testing.*

Further information
The Flexitallic Group
www.flexitallic.eu

Cost-effective AUV and ROV survey services



A Hibbard Inshore Saab Sabertooth hybrid AUV/ROV operating in shallow water.

Hibbard Inshore has added to its fleet of underwater vehicles by acquiring a customised Saab Sabertooth that can operate either with a tether in remotely operated vehicle (ROV) mode, or without a tether in autonomous underwater vehicle (AUV) mode. The vehicle can provide both AUV and ROV services for bottom survey, mapping and object location. The Hibbard Inshore Sabertooth comes as standard with cameras, sonar, GPS, inertial navigation system, and Doppler Velocity Log to accurately track position of the vehicle and the orientation of sensors while surveying. The vehicle can operate to a depth of 1,200m and be shipped via airfreight to any location

worldwide for use on a vessel of opportunity.

In AUV mode, surveys can be performed in a grid format or by following other preset routes. Pipelines and cables can be followed and inspected, and the Sabertooth vehicle can perform object avoidance when encountering manifolds or other obstacles along a pipeline.

In addition to AUV applications, Hibbard Inshore runs the Sabertooth in ROV mode over a fibre-optic tether. The Sabertooth is unique and useful in its design as it can stop, hover, and closely examine a point of interest just like an ROV. Traditional AUVs are limited to operating in cruise mode only, due to instability at zero speed.

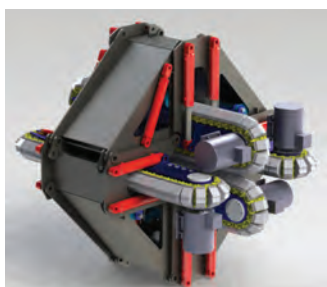
The ability of the Hibbard vehicle to operate in ROV mode with real-time manoeuvring, control and data visualisation can offer cost savings. This eliminates the need to carry two separate vehicles to the site. During the initial survey in AUV mode, points of interest would be catalogued. The same vehicle, without returning to port, can then visit the points of interest by switching to ROV mode. Traditionally, these operations would require two separate vehicles deployed during two separate trips, or a larger deployment vessel.

Further information
Hibbard Inshore
www.hibbardinshore.com

An innovative approach

Innovation is at the core of the activities of Innovative Input, a company that designs and supplies heavy mechanical constructions for offshore, such as cranes, pipe tensioners, traction winches, (containerised) hose and umbilical winches and heave compensators.

Innovative Input provides the perfect, innovative solution for its



A 100t two/four-track tensioner from Innovative Input.

clients by way of using problem-solving skills and a ground-breaking way of thinking.

The company's winch with active heave compensator consists of three primary parts: the active heave compensator, the spooling device and the winch. The system is suitable for lifting installations weighing up to 250t and lowering them 2,500m below sea level, heave compensated. The specially designed compensator can cope with a big variation in load in a fast and energy-friendly way.

Due to the separate compensator, the winch also does not have to act continuously. The adjustment is almost done in the compensator only, increasing cable lifetime too. Other special precautions have been made to further extend that lifetime, resulting in a cost-effective winch that requires less power.

The compensator is designed as an active system, but can efficiently and easily be operated as a passive compensator as well.

Innovative Input's pipe tensioners can consist of two or four-track bodies. The track bodies comprise standard track chains using rollers to ensure the clamping force of the pipe will be equally divided. The rollers are placed in such a way that the rolling surfaces achieve constant pressure to achieve a smooth working cycle.

Further information
Innovative Input
www.innovativeinput.nl

Certified oil and gas operational safety



KBA Training Centre offers training programmes in operational safety and for worksite representatives.

The NEBOSH International Technical Certificate in Oil and Gas Operational Safety is a professional qualification that offers an excellent grounding in operational safety requirements in the oil and gas environment, on and offshore. It has been developed to meet the growing requirements for formal training and certification.

By implementing effective process safety management across all areas of operations, it will reduce accidents and provide a safer workplace, thereby saving time and money. Designed for individuals with safety responsibilities, such as managers, supervisors, employee representatives, and health and safety counsellors who need to ensure and understand safety in the working environment, the certificate is also appropriate for those needing an appreciation of hydrocarbon process safety.

This course is offered via various study modes: full-time classroom, distance and e-learning with classroom-based learning available in Australia, Canada, Indonesia, Malaysia, Norway, Philippines, Singapore, the UK and the US.

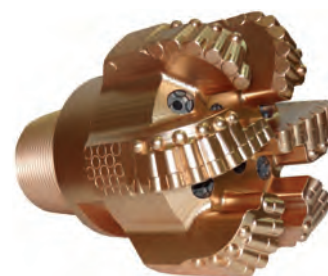
Another popular course is the Oil & Gas Producers (OGP) Client Worksite Representative course, which acts as the 'eyes and ears' of the client with regards to safety, planning, system and procedural assurance, day-to-day operations

and contractual requirements for onshore preparation and offshore operations of a project. This course has been developed to enable delegates to understand the roles and responsibilities of the client representatives as outlined by industry guidance documents issued by OGP and the International Marine Contractors Association (IMCA), as well as any legislative requirements.

This course offers a holistic overview of offshore legislation and the common issues affecting offshore construction, and diving and maritime operations, with particular emphasis on regional legal variations.

Further information
KBA Training Centre
www.kbatraining.org

Drill bits that deliver top performance



Rockpecker manufactures drilling bits from 2-26in in diameter.

Rockpecker is owned by professionals who have achieved excellence in the design and manufacture of high-performance PDC drill bit and accessories. Produced under the supervision of experienced design and manufacturing engineers, Rockpecker PDC bits ensure high drilling performance for drilling professionals across the world. Advanced designing software (NX8) and state-of-the-art ISO 9001: 2008 manufacturing facilities are used for the production of PDC drill bits.

Rockpecker can manufacture PDC drilling and mining bits ranging from 2-26in in diameter in various designs, from three