

# Changing asset integrity to meet the needs of the oil and gas industry

Market leader in asset integrity management services to the oil and gas industry, the EM&I Group has seen increased demand for its services because of its innovative approach to solving challenges faced by the floating-production and drilling sectors

**EM&I**

The number of floating offshore installations (FOIs) and mobile offshore drilling units (MODUs) is increasing as oil and gas reserves are discovered in ever-deeper waters. Currently there are 333 FOIs and 700 MODUs in service or on order, a 69 per cent increase over the last decade. Many operational FOIs and MODUs are based in deep water, on long-life projects with no dry-dock intended for 25 years or more.

EM&I recognised the challenges that operators and owners of these increasingly complex units would have to face to ensure their assets complied with safety regulations while optimising production efficiency.

Chief executive of the EM&I Group Danny Constantinis believed that fundamental changes were needed in the way FOIs and MODUs were designed, operated, maintained and inspected to avoid the significant penalties associated with unplanned dry-docking.

"The industry has recognised cost and lost production consequences when coming off station for many weeks to dry-dock" he says. "But no one had developed a holistic solution that met the requirements of the operators, classification societies and regulators.

"We have spent the last ten years developing and implementing a comprehensive 'No Dry-dock... Safely' package. This ensures compliance with regulatory and classification society requirements, provides our clients with the tools to manage the integrity of their assets while on station and producing safely for extended periods, and we have reduced the number of people required to undertake the offshore element of the work."

EM&I has been a best-in-class provider to the oil and gas industry for more than 30 years with additional customer demand contributing to the company's growth and geographic expansion. Having previously established bases in North America, South-East Asia, Australia and Northern Europe, EM&I has additionally established bases and won long-term contracts in Brazil and West Africa where 43 per cent of the

world's floating production projects are planned.

Mr Constantinis explains the growth of EM&I: "When we started the business 30 years ago, we set out to be the world's leading asset integrity service provider and this meant doing things differently. Rather than providing a commoditised service, we chose to focus on high added value innovations. While this required greater investment, the growth in revenue and profits justifies our strategy."

EM&I has always believed that strong partnerships with industry and regulators are key foundations for long-term success. Joint ventures and alliances with Odebrecht, Stantec, Bureau Veritas and others have proven the value to both EM&I and their partners. EM&I's leadership of the HITS (hull inspection techniques and strategies) joint industry project is an example of how EM&I brought all sectors of the industry together to identify challenges and develop innovative solutions. One challenge was the need to reduce diver-based inspection of floating installation hulls which included floating production and mobile offshore drilling units.

ODIN™, EM&I's Diverless UWILD (underwater inspection in lieu of dry-docking) is a major part of EM&I's "No dry-dock" strategy. David Mortlock, EM&I's chief technical officer, explains: "Our Diverless UWILD methodology changes the way floating assets are inspected. We built a validation centre in the UK to demonstrate the new methodology to classification societies, regulators and operators.

"As a result, ODIN was successfully implemented on two FPSOs [floating production storage and offloading units] in Brazil within a few months of it becoming available. We are now planning a fleet-wide approach with one of the largest operators, and are negotiating contracts with several drilling contractors and floating LNG [liquefied natural gas] operators".

ODIN is a complete hull structural integrity package comprising engineering, planning and site implementation, including a patented means of



inspecting critical safety valves, without divers while giving better quality and more accurate data on valve condition. EM&I's life cycle and holistic capability of finding and fixing anomalies at an early stage helps operators run their plant efficiently and safely.

"EM&I's diverless approach has changed the way this type of inspection will be carried out in the future," adds Alexander Constantinis, chief financial officer. "Our long-standing relationships with classification societies and regulators are a result of working together at all stages of the solution development. This brings benefits to the industry by

replacing the old periodic method of underwater inspections with the ODIN continuous approach."

EM&I's chief operating officer Pat Lawless comments: "We have been in the business for many years so have a clear understanding of what our clients need and how we can help solve their challenges. We continue to conceive innovative solutions to improve asset integrity for high capital value projects. We work closely with classification societies, regulators and industry bodies, and understand the value and importance of their input and acceptance.

"Our work with R&D organisations and knowledge of other industries expedites solutions. Our policy of continuous improvement, exploring new markets, and transferring our knowledge and expertise into other areas of the industry, keeps our people energised and motivated."

EM&I is not standing still, as chief executive Mr Constantinis notes: "We have further developments underway and significant interest is being shown in another of our classification society accepted innovations, HullGuard™. This diverless,

retro-fittable, impressed current cathodic protection (ICCP) system protects the hull against corrosion for an extended period and avoids the risk of having to dry-dock to repair coating or the hull structure.

"We have been managing gas plant integrity for many years and, with the requirement for politically stable supplies, it is a strong part of our business. Recent developments in floating LNG production and regasification correspond well with our expertise, and we are working with these operators and classification societies to adapt our existing systems. In addition, we have developed new physics, in collaboration with a number of universities, to make sure we stay ahead of the game."

For many in the oil and gas industry, EM&I's name is synonymous with delivering integrity through innovation – and that fits very well with EM&I's vision and culture.



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**For more information on the EM&I Group and its services go to [www.emialliance.com](http://www.emialliance.com)**