MISTRAS GROUP, INC.

MISTRAS GROUP

ENHANCING LIFE EXPECTANCY

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MISTRAS Group Executive Vice President, Phillip T. Cole, discusses the group's priceless contributions toward North Sea development over the last 20 years

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In the last four decades no fewer than 698 offshore fields have been discovered in the UK Continental Shelf, producing in that time some 41 billion barrels of oil and gas. With another 20 billion barrels estimated to remain untapped it comes as little surprise that the North Sea continues to be a huge boon to the UK and other surrounding nations.

One of the many companies fortunate enough to have been part of this continued prosperity is MISTRAS Group, who have been a consistent presence supplying a range of highly specialised products and services in the North Sea for almost 20 years.

"We began our activities here supplying valve leak detection technology in the form of our VPAC solution, which we developed together with BP," explains MISTRAS Executive Vice President, Phillip T. Cole. "An acoustic emission instrument, VPAC can estimate the quantity of material leaking through valves using its accompanying proprietary software and with more than 1,000 systems currently in use it is the instrument of choice for valve leak detection."

It was then in January 2002 that MISTRAS successfully completed its first installation of a structural monitoring system on an FPSO. "This system is designed to monitor eight critical areas of the FPSO, areas that have been identified by stress analysis as being the most prone to cracks," Cole continues. "This is technology that we used in the past on bridges and pressure vessels before adapting it to offshore use. Similar technology also extends to our installations that monitor and detect any failures in the structural wire armour or carcass of flexible risers."

A robotic pipe scanner mapping internal corrosion in pipe-work

In addition to its crack detection sensors, MISTRAS Group also possesses arrays of strain monitoring gauges which collect comprehensive data that can be used by engineering consultants to refine fatigue models and in some cases considerably extend the life of certain structures.

A further service offered is what MISTRAS calls the on-stream inspection of process equipment. This service has been designed to answer the question of how an operator can carry out inspections of pipework and vessels without the need to shut down production or place somebody in a potentially dangerous environment.

"The non-invasive approach that our technology utilises," Cole says, "involves using scanning systems around the outside of the pipes or vessels so that we can actually map the wall thickness at extremely high speeds to an accuracy of around 0.25 millimetres. This allows us to see where coatings have failed or where corrosion is taking place."

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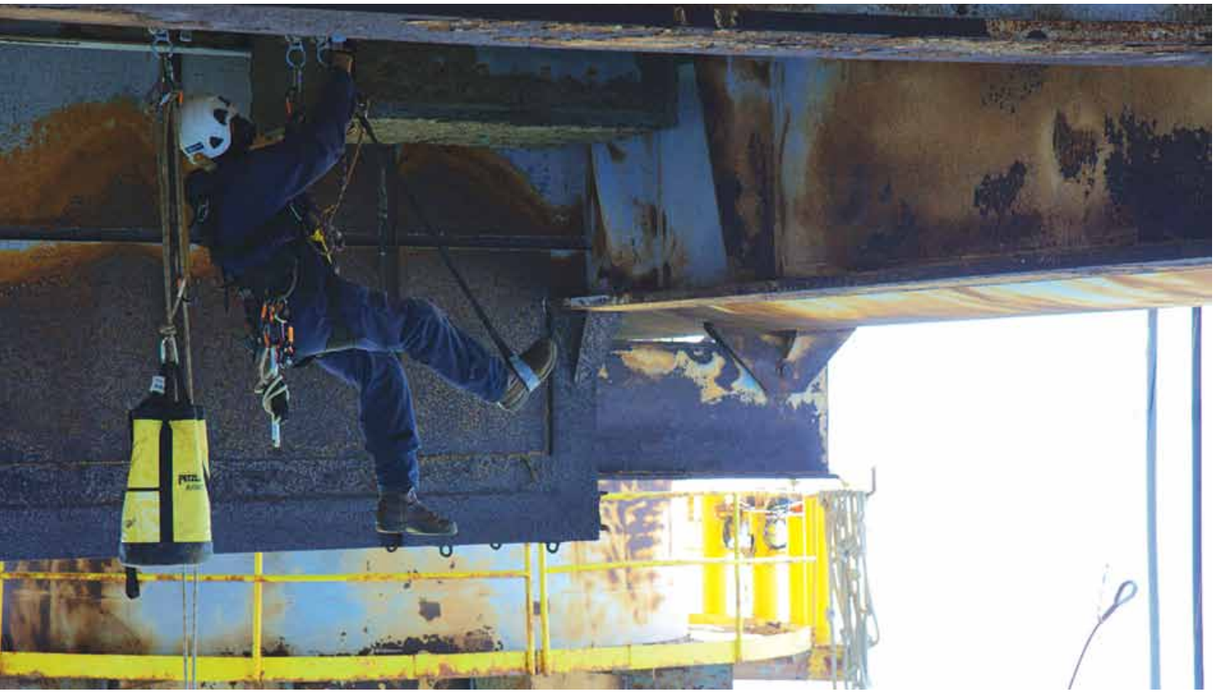


Working from ropes is the access method of choice for inspection work

A robotic scanner operated via umbilical cable can map at rates of 15 – 150 square metres per day

20 BILLION

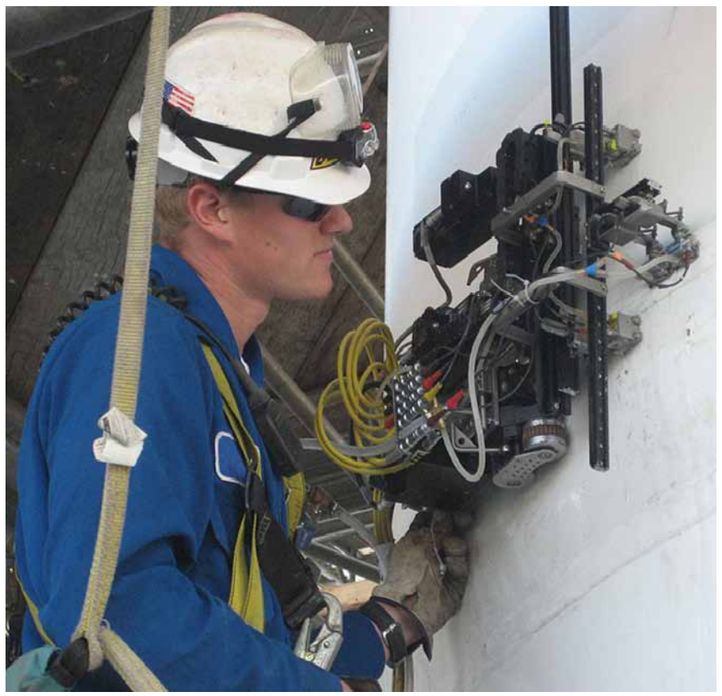
Number of barrels of oil and gas believed to remain untapped in the North Sea

What binds all of MISTRAS' activities together is the fact that they are specifically geared towards improving safety and productivity by helping structures and plants to remain online rather than shutting down operations to carry out invasive inspections. The very nature of its work means that MISTRAS can monitor clients' equipment and infrastructure on a continuous basis to effectively manage its integrity over the course of its remaining life.

"The key reason that there is demand for our services," Cole continues, "is simply that our approach to doing things, where we work with end clients and their engineering consultants to develop faster and more efficient ways of providing detailed information about an asset, makes sense."

One of the reasons it does so is because MISTRAS has spent considerable time and effort designing and manufacturing many of its mapping and monitoring systems in house, a trait that differentiates it greatly from much of its competition in the marketplace. "A lot of the

Final adjustments prior to launching a mapping scanner



A weld scanner identifies cracking and corrosion in welds

Under-deck inspection using rope access

> "THE TRUST THAT THE INDUSTRY PLACES IN MISTRAS AND ITS TECHNOLOGY CAN BE CLEARLY SEEN IN THE HOST OF TASKS AND PROJECTS IT HAS BEEN INVOLVED IN OVER THE YEARS"

technology we use is that which has been developed by ourselves with our more unique applications being the result of talking to clients and developing solutions to meet the issues they have discussed with us," Cole enthuses.

The trust that the industry places in MISTRAS and its technology can be clearly seen in the host of tasks and projects it has been involved in over the years. One of its more recent undertakings saw the company carrying out an inspection on around a kilometre of structural weld using a combination of two ultrasonic techniques, TOFD and Phased Array. Traditionally competing techniques, they were brought together by MISTRAS and used on the same weld inspection. The result was the most detailed and conclusive batch of information possible, something which has and will prove invaluable for the client in question.

Of course, while the impressive quality of the technology itself is one thing, just as vital are the men and women tasked with using it. "Clearly, given the specialist nature of many of the operations we conduct," Cole says, "it requires our staff members to carry with them several years of experience. For this reason we make it our priority to invest a lot in each employee, providing them with the training and apprenticeship opportunities that help them become proficient in carrying out their tasks on a daily basis."

As previously stated, the North Sea remains a vital source of international capital, with activity and investment continuing to increase. With this also comes added pressure to extend the life of existing assets and this is arguably the biggest present driver of MISTRAS' business.

"In the US onshore sector we are the largest service inspection company present and that is obviously what we would like to be here in the North Sea as well. The best way for us to achieve this is by continuing to introduce our technology to new clients and getting it put in place. While in some ways it is fair to say that we a relatively small player in the North Sea at present, we do remain at the top end of a technology spectrum that is in the midst of a continuous process of innovation." Cole concludes. BE

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