

ARTEMIS®

Acoustic Resonance Technology External
Measurement Inspection System.



CASE STUDY

TSC Subsea has completed another successful deployment of ARTEMIS®, its subsea external pipeline and riser inspection system. The campaign involved the inspection of heavy insulated flowlines, risers, and jumpers.

The purpose of the inspection was to measure effective steel thickness through 4 inches of pipeline insulations made of Glass syntactic polypropylene and injection moulded polypropylene. Scanning operations were carried out at 2000 meters water depth. More than 40 scanning locations were completed in six days, including in-field transit and preparations.

To achieve this, the ARTEMIS® tool followed a strict qualification process at both ambient pressure and at relevant depths in hyperbaric chambers.

The project's overall purpose was to demonstrate the tool's ability to detect wall thickness variations in steel under coatings and insulation. Steel wall thickness can change due to the corrosion or erosion processes that can occur in subsea production systems over time.

The work was carried out with no upfront cleaning. Both the regular riser and pipeline sections at the seabed and touchdown regions were targeted in this campaign.

The associated preparation time for each inspection point was reduced to a minimum, as the tool is designed to operate without the need for any extensive dredging before it can access the underneath of the pipeline.

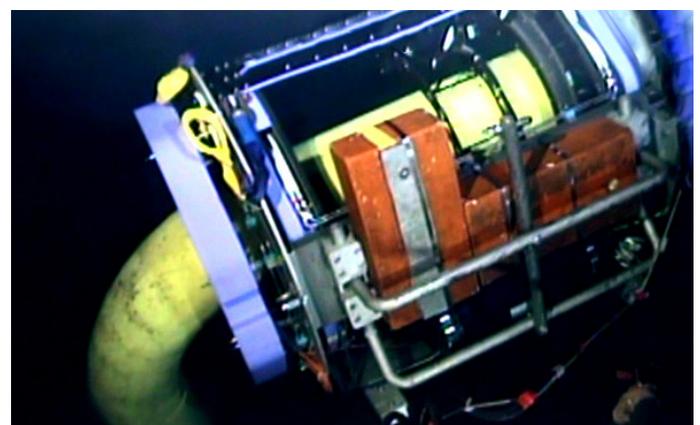


Fig A: ARTEMIS® Scanning of Jumper

ARTEMIS®

Acoustic Resonance Technology External Measurement Inspection System.



Another key feature of this inspection tool is its flexibility. Its design means inspections can be carried out on multiple diameters with just one tool without the requirement for time-consuming reconfigurations offshore.

Glass syntactic coatings have been a challenge to acoustic inspection technologies due to the presence of micro glass spheres inside the coating. The development of this specific inspection methodology, is expected to replace traditional solutions for subsea NDE due to significantly reduced vessel time.



Figure B, Artemis® ready to dive

UK

Davy Avenue
Knowlhill
Milton Keynes MK5 8PB
UNITED KINGDOM

T: +44 (0)1908 317444

NORWAY

Glasskaret 1
5106 Øvre Ervik
Hordaland,
NORWAY

BRAZIL

Av. Republica do Chile 330,
14o andar, Torre Oeste, Centro,
20031-170 –Rio de Janeiro
– RJ, BRAZIL

T: +55 21 3983 1890

US

c/o NDT Global LLC
15500 International Plaza Dr,
Houston, TX 77032,
USA