

Mako Offshore offers personalised guidance on implementing advanced non-destructive testing (ANDT) with consulting, services & developing technologies. We pride ourselves on our specialised training & experience to meet the ever-increasing demand for complex Non-Intrusive Inspection (NII). Mako offers a comprehensive range of specialist inspection services that individually or in combination provide solutions to meet the industry's most challenging applications.

**Specialised Ultrasonic Techniques** covers a wide range of ultrasonic examination techniques where the primary focus is locating flaws and corrosion within materials. We offer a comprehensive suite of AUT methods that provide clients with the flexibility and accuracy required to assess the condition of assets.

- ⦿ Ultrasonic Corrosion Mapping - Semi & Fully Automated (AUT)
- ⦿ Phased Array Ultrasonic Testing (PAUT)
- ⦿ Full Matrix Capture (FMC) / Total Focusing Method (TFM)
- ⦿ Time-of-Flight Diffraction (ToFD)
- ⦿ Multi-Skip (M-Skip®)
- ⦿ Long-Range Ultrasonic Testing (LRUT)



**Pulsed Eddy Current (PEC)** detects corroded areas in carbon and low alloy steels. This electromagnetic inspection technique can take measurements through any non-conductive material (insulation, protective coatings, concrete, and marine growth), making it suitable for inspections where the object's surface is not immediately accessible.



**Electro Magnetic Acoustic Transducer (EMAT)** is used to perform ultrasonic testing (UT) by introducing waves to gather thickness measurements on ferromagnetic and non-ferromagnetic metals. The EMAT does not require a couplant for sound transmission and can inspect through coatings, making it suitable for applications where production is on-line and where access to the entire pipe surface may be limited.



**Non-Intrusive Inspection (NII)** minimises production losses & costs associated with shutdowns by reducing manpower requirements. The secondary benefit is a reduction in shutdown duration leading to increased manpower availability. The tertiary benefit of NII is the removal of hazards associated with man entry of vessels and the requirement to clean vessels internally.

