NDT

TECH OPS

CAPABILITY STATEMENT

www.ndttechops.com.au

NDT TECH OPS

COMPANY PROFILE

About Us

NDT Tech Ops is an Aboriginal-owned and operated Perth business offering comprehensive non-destructive testing (NDT) services, carried out with the utmost level of expertise and professionalism by qualified, experienced technical staff who are committed to providing high-quality workmanship.

Since its inception in 2016, NDT Tech Ops has built strong relationships with clients, based on safe, reliable delivery of projects while providing the flexibility to meet our clients' needs.

We constantly striveto be the best and safest in the industry. We achieve this by understanding and working collaboratively with our clients, to understand their needs. We invest in the safety and development of our team, and use the latest NDT technologies.

Our Vision

NDT Tech Ops isn't just for profit: we're for purpose. Our team is passionate about empowering Indigenous Australians to explore and achieve their potential, while ensuring better outcomes for the economy through a diverse workforce.

Supply Nation CERTIFIED

NATA
WORLD RECOGNISED ACCREDITATION

OUR CLIENTS

TECHNOLOGY. WITH VALUES.

Our Values

FLEXIBLE

We take the time to understand and work with our clients and their needs

EFFICIENT

Being available on call, with rapid response times

RELIABLE

Family-owned company working hard to build a legacy for our community with a high level of quality control

Our Impact

NDT Tech Ops is committed to supporting local Aboriginal engagement across the communities in which we work, by providing real and sustainable employment, training and economic development opportunities.

OUR COMMITMENT TO ABORIGINAL PEOPLES

NDT Tech Opstakes a proactive approach to Aboriginal engagement across our business, and are committed to maintaining respect for the social, cultural and spiritual practices of the Aboriginal people.

To achieve this, NDT Tech Ops:

- Has developed effective recruitment, training and retention strategies to engage and promote opportunities for Aboriginal peoples;
- Actively participate in an Aboriginal Trainee Program;
- Provide local Aboriginal communities with information and encouragement regarding the uptake of opportunities available with NDT Tech Ops;
- Provide cultural awareness training to all NDT Tech Ops employees to develop and maintain a workplace that values cultural diversity;
- Builds relationships with Aboriginal subcontracting entities that have a demonstrated ability to perform work in accordance with NDT Tech Ops and industry standards and invite these companies to tender for subcontracting works;
- Works in conjunction with other organisations, which share the same objectives in regards to improving employment opportunities for Aboriginal peoples;
- Achieve alignment and positive outcomes with our Client's Aboriginal engagement visions and objectives.

QUALITY

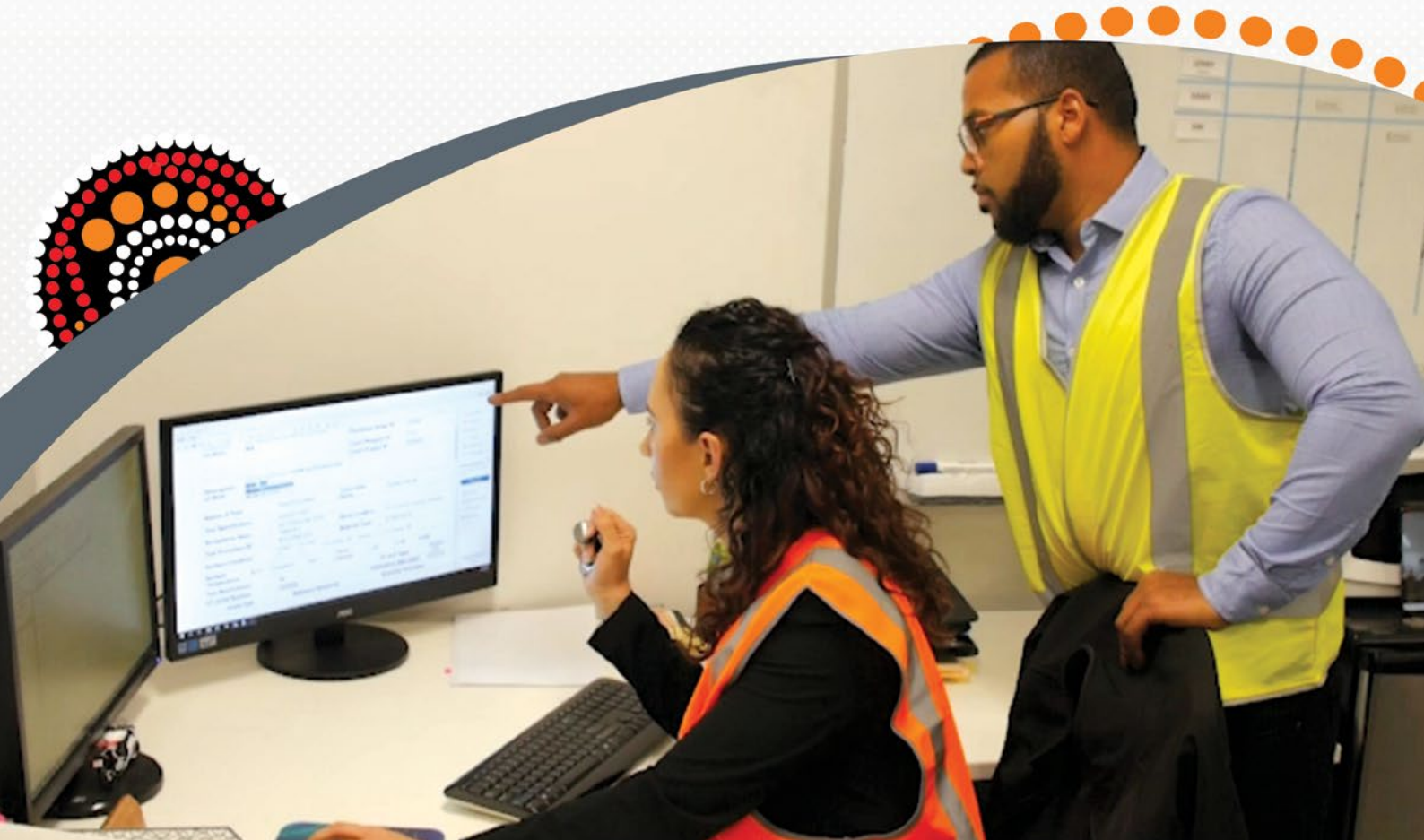
NDT Tech Ops is committed to providing the highest level of product-testing services for our clients.

We have established comprehensive policies and operational procedures, which comply with ISO/IEC 17025 requirements.

All employees accept their share of responsibility for identifying client needs and expectations, and ensuring that our service meets or exceeds these expectations, while complying with all legal and contractual obligations.

Our Management System is regularly reviewed by senior management, to ensure our objective of total customer satisfaction is met, and that the system is suitable and effective in meeting both client and company needs.

NDT Tech Ops has a culture which positions us as leaders in our field. We are committed to continuous process improvement, human resources development, and working closely with our clients to understand and meet their needs.



HEALTH & SAFETY

At NDT Tech Ops, our people are our most important asset, and we are absolutely committed to their health and safety.

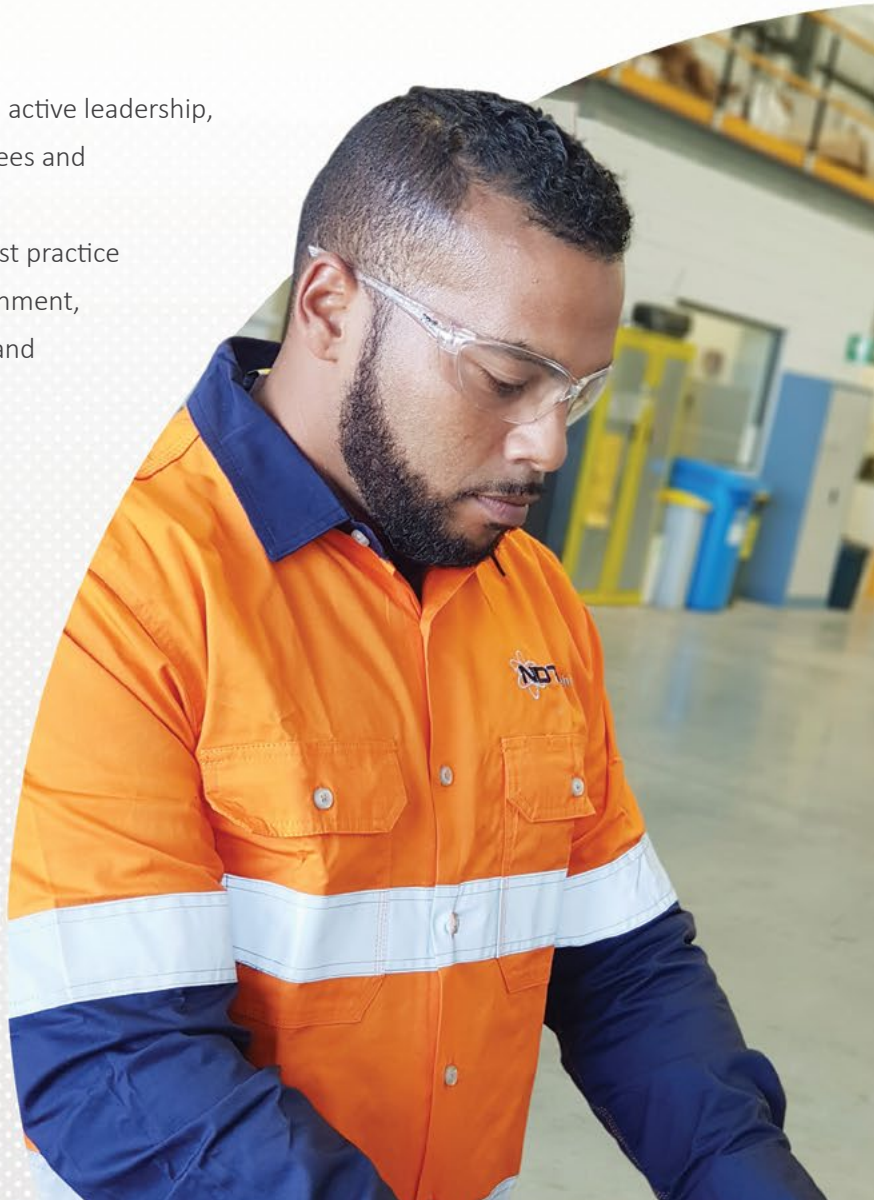
We engage directly with our clients, subcontractors and employees to ensure shared responsibility for our health & safety objectives.

NDT Tech Ops believes:

- All incidents are preventable;
- Leadership is required for success in safety;
- Each of us has a personal responsibility for our safety and the safety of others;
- No job is so important that it will be pursued at the sacrifice of safety;
- Working safely is a human right, and a condition of employment.
- Success depends on ensuring everyone has the competence, knowledge and desire to work safely.

To achieve this, we:

- Ensure a positive, supportive culture based on active leadership, consultation and engagement with all employees and subcontractors;
- Endorse relevant legislation, standards and best practice that impact on the operation and work environment, including duty of care required by employers and employees;
- Identify hazards and verify controls— that eliminate or reduce the potential risk to a level as low as reasonably practicable— are implemented effectively prior to commencing any activity;
- Implement and monitor safe work practices, continually review related procedures to ensure employees and subcontractors receive approved, current information to carry out tasks safely & effectively;
- Actively recognise and support opportunities for continuous health & safety improvement.



OUR SERVICES

NDT Tech Ops offers comprehensive NDT services, at the highest quality.

MAGNETIC PARTICLE INSPECTION

The use of magnetism to detect discontinuities in ferromagnetic material can be traced back to the mid-1860s, when magnetised cannon barrels were swept with a compass to detect localised magnetic field leakages that corresponded with flaws in the barrels.

Magnetic Particle Inspection was developed in the 1920s, initially discovered by William Hoke when he discovered grinding dust sticking to and making patterns on ferromagnetic materials that correspond with cracking. By 1929, methods were established, equipment was made available, and the use of this test extended across industry.

Although the physics of the inspection has not changed in modern times, the technique has benefited from advancements in material technologies which have resulted in increased sensitivity and efficiency. Magnetic Particle Inspection (a.k.a. MPI, MT) is a non-destructive testing method used to detect surface or near-surface discontinuities in ferromagnetic materials. It is widely relied upon by industry globally as a cost-effective surface NDT method.

Magnetic Particle Inspection Techniques Offered by NDT Tech Ops

- Colour Contrast using 240 volt AC portable yokes in accordance with AS 1171;
- Fluorescent using 240 volt AC portable yokes in accordance with AS 1171.

LIQUID PENETRANT INSPECTION

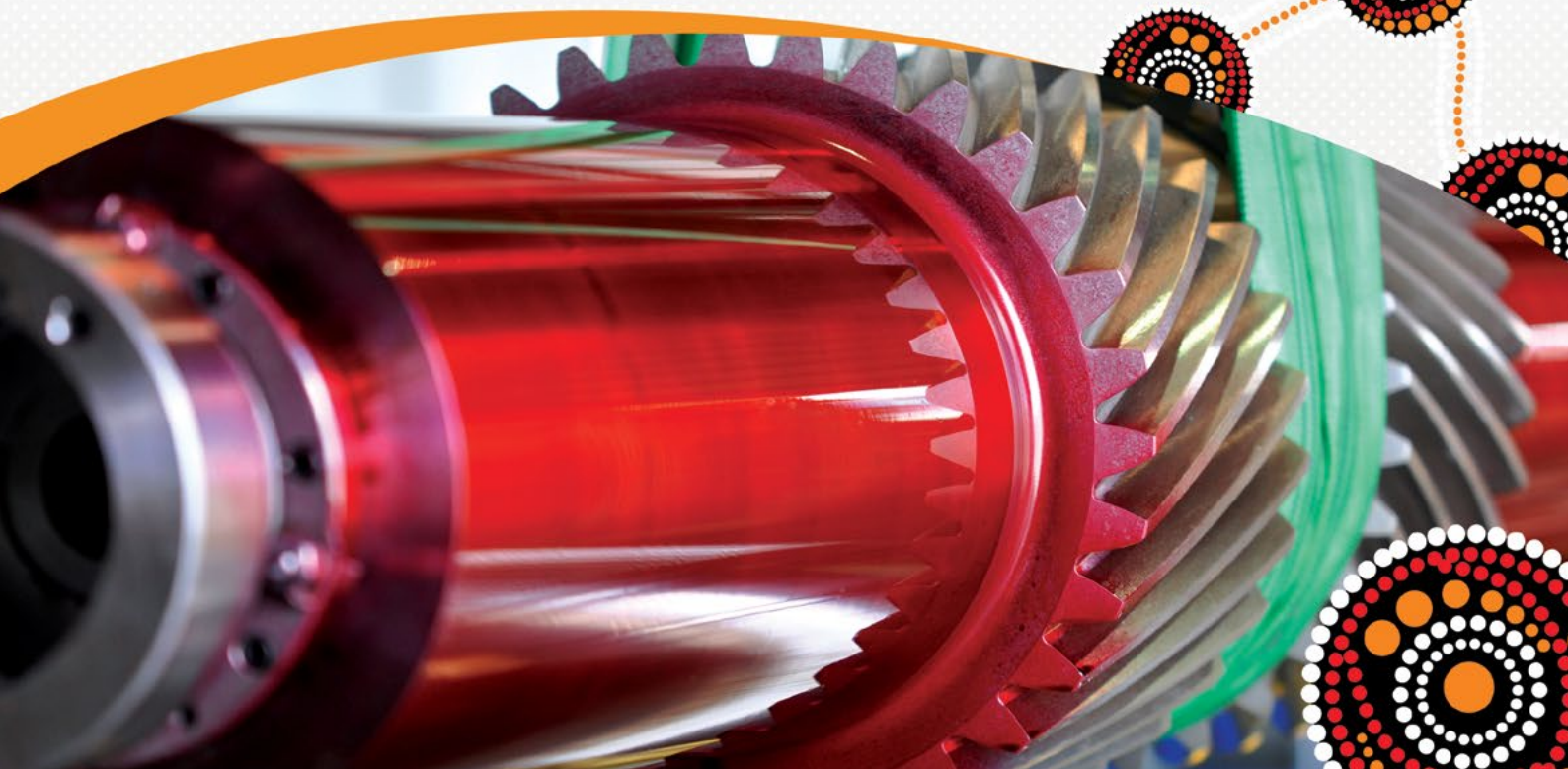
Liquid Penetrant Inspection was initially developed from an inspection technique call ‘Oil and Whiting’, which was used from the 1880s-1920s for the detection of surface-breaking discontinuities, particularly in the rail industry. The technique we use today was enhanced during 1935 to 1940 by developments in Fluorescent Penetrant Inspections, to meet the WW2 requirements of a higher-sensitivity inspection method for aircraft components.

Liquid Penetrant Inspection (a.k.a. LPI, PT) is a non-destructive testing method for detection of open-to-the-surface discontinuities in non-porous materials.

Although commonly used as a technique to inspect non-ferrous metals, it is also used on non-metals, and widely relied upon by global industry as a sensitive-surface NDT method.

Liquid Penetrant Inspection Techniques Offered by NDT Tech Ops

- Solvent Removable Colour Contrast in accordance with AS 2062;
- Solvent Removable Fluorescent in accordance with AS 2062;
- Water Washable Colour Contrast in accordance with AS 2062;
- Water Washable Fluorescent in accordance with AS 2062.



ULTRASONIC TESTING INSPECTION

Ultrasonic inspection of materials was developed by several people across the globe early during the 20th Century. Inspired by sonar technologies developed prior to WW2, studies for the application of ultrasonic waves continued through the years. As early as 1931, and through to 1940, various patents were issued for equipment as technologies developed; however, ultrasonic testing equipment only became commercially available in the 1950s.

Although the physics of the inspection has not changed in modern times, advancements in material technologies and computing power have increased both the sensitivity and efficiency of this technique.

Ultrasonic Inspection (UT) is a non-destructive testing method used to measure the thickness of materials, and to detect discontinuities in solid materials. This technique is relied upon by global industry as a reliable and sensitive NDT method.

Ultrasonic Inspection Techniques Offered by NDT Tech Ops

- Ultrasonic testing of fusion welded joint in carbon steel and low alloy steel in accordance with AS 2207;
- Ultrasonic thickness determination in accordance with AS 2452.3.

RADIOGRAPHIC INSPECTION

X-rays were discovered in 1895 by Wilhelm Roentgen. Working with cathode-ray tubes in his laboratory, Roentgen observed a fluorescent glow of crystals on a table near his tube. This tube consisted of a glass bulb with positive and negative electrodes encapsulated in it. When the air in the tube was evacuated, and high voltage was applied, the tube produced a fluorescent glow; when the tube was shielded with heavy black paper, a material located a few feet away generated a green fluorescent light. Roentgen concluded that this new ray could pass through most substances, casting shadows of solid objects.

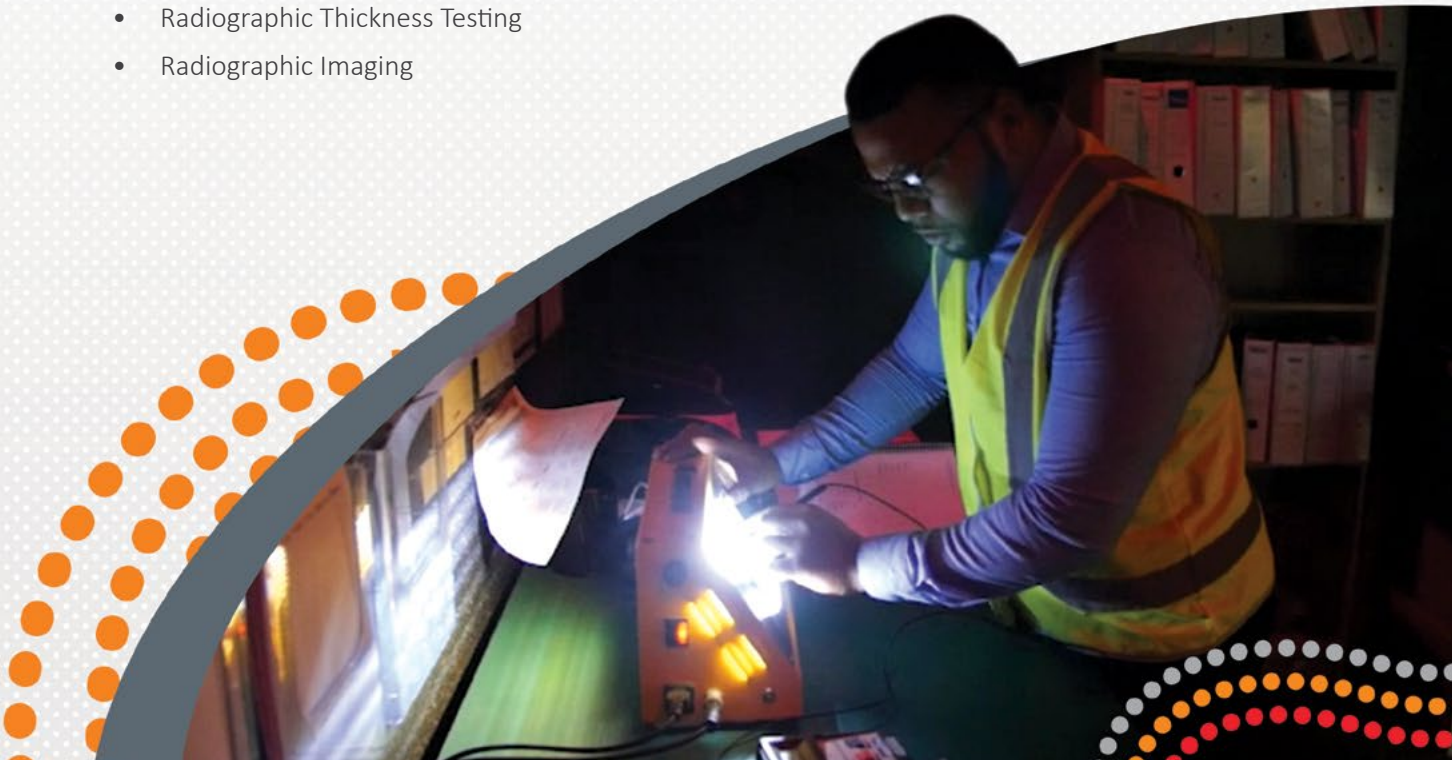
Soon after his discovery, another form of penetrating rays was discovered through the Nobel Prize-winning research of Becquerel and Curie. Initially experimenting with uranium as a radiation source, Curie isolated an element, radium, which was more radioactive than uranium.

During WW2, industrial radiography grew tremendously as part of shipbuilding programs. In 1946, man-made gamma ray sources such as cobalt and iridium became available. These new sources were far stronger than radium, and much less expensive.

Radiographic Inspection (RT) is a non-destructive testing method by which manufactured components are examined to verify their internal structure integrity.

Radiographic Inspection Techniques Offered by NDT Tech Ops
(in association with Oceaneering Australia)

- Radiographic Interpretation
- Radiographic Thickness Testing
- Radiographic Imaging



PHASED ARRAY TOFD

Initially, the use of ultrasonic phased array systems was largely confined to the medical field, with the first industrial phased array system introduced in the 1980s.

These systems were extremely large, and required computerised data processing and image visualisation. Portable, battery-powered phased array instruments for industry appeared in the 1990s, and the rapid development of inexpensive embedded microprocesses led to ongoing improvements in the technology.

Additionally, the availability of low-power electronic components, improved power-saving architectures and industry-wide use surface-mount board design made miniaturization of this advanced technology possible.

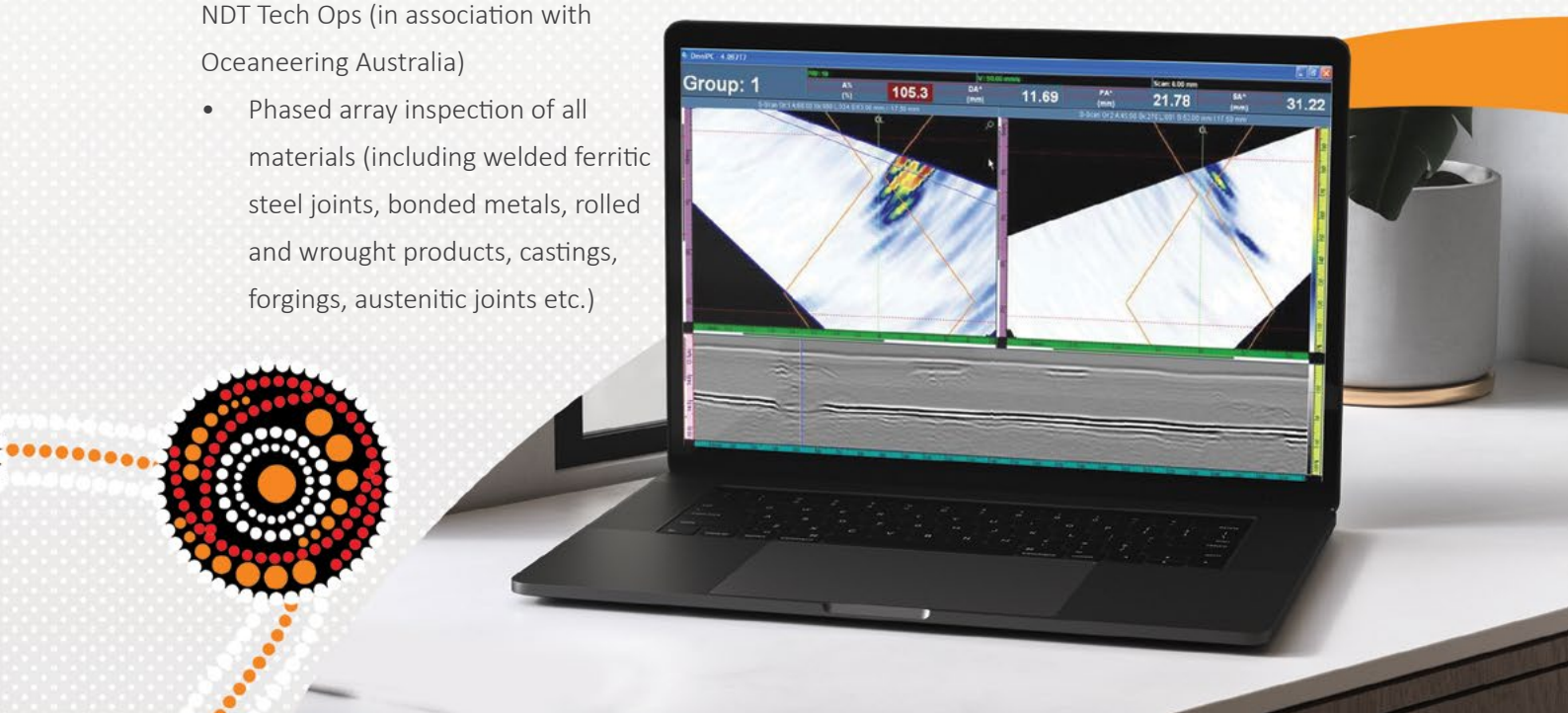
Phased array tools are now capable of electronic setup, data processing, display and analysis within a portable device, with the ability to specify standard phased array probes for common applications.

The benefits of this technology comes from its ability to use multiple elements to steer, focus and scan beams with a single transducer assembly to use for mapping components at appropriate angles.

The small footprint of the transducer and the ability to sweep the beam without moving the probe also aids inspection of such components in situations where there is limited access for mechanical scanning. Beam steering is also typically used for weld inspection; the ability to test welds with multiple angles from a single probe greatly increases the ability to detect abnormalities.

Phased Array Techniques Offered by NDT Tech Ops (in association with Oceaneering Australia)

- Phased array inspection of all materials (including welded ferritic steel joints, bonded metals, rolled and wrought products, castings, forgings, austenitic joints etc.)



EDDY CURRENT

The phenomenon of eddy currents was discovered by Leon Foucault in 1851, when Foucault built a device that used a copper disk moving in a strong magnetic field, demonstrating that eddy currents are generated when a material moves within an applied magnetic field.

Eddy current testing began largely as a result of Michael Faraday's discovery of electromagnetic induction in 1831. Faraday discovered that when a magnetic field passes through a conductor — or a conductor passes through a magnetic field—an electric current will flow through a conductor if there is a closed path through which the current can circulate.

Further breakthroughs were made in 1879 when Hughes demonstrated how the properties of coils change when placed in contact with metals of different conductivity and permeability. During WW2, these developments in electromagnetic wave transmission were put to practical use for materials testing.

Eddy current testing is a widely used, well-understood inspection technique for flaw detection, and thickness & conductivity measures.

Eddy Current Inspection Techniques Offered by NDT Tech Ops
(in association with Oceaneering Australia)

- Electromagnetic thickness testing
- Coating thickness testing
- Qualitative material profiling using magnetic flux leakage, low frequency eddy current & pulsed eddy current
- Visual assessment of materials prior to initial service
- Visual assessment of materials, during service life, for defined service applications

CRANE AND LIFTING COMPLIANCE AND CERTIFICATION

We offer a comprehensive range of inspection and consultancy services. Our software database tracks condition, inspection intervals and maintenance history. Our services and personnel are nationally accredited to ISO 17020, ISO 17025 and NATA.

Crane and Lifting- Compliance and Certification Services
Offered by NDT Tech Ops
(in association with Oceaneering Australia)

- Equipment certification inspections
- Proof load testing and witnessing
- Derrick inspections
- DROPS surveys
- 3rd party pre-load inspections
- Compliance evaluations
- Risk analysis and failure modes, effects and criticality (FMECA)
- Engineering studies for modifications and upgrades
- Hydraulic test jigs

CONDITION MONITORING

Condition monitoring is part of an effective maintenance regime, ensuring that clients have access to quality information for meeting relevant standards and regulations, while ensuring the safety of their employees and the environment.

Using NDT Methods, visual inspection and corrosion mapping, NDT Tech Ops assists clients in extending the life of assets and reducing downtime.

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