

INDUSTRIAL EYE

THE OFFICIAL JOURNAL OF THE AUSTRALIAN
INSTITUTE FOR NON-DESTRUCTIVE TESTING

RADIOGRAPHY ■ ULTRASONICS ■ EDDY CURRENT ■ PENETRANT ■ MAGNETIC PARTICLE
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President's Message

Welcome to the latest edition of the *Journal of the Australian Institute for Non-Destructive Testing*.



Joshua Morris

It's an exciting time for our institute and in this edition of *Industrial Eye* we are pleased to share some important updates and opportunities with you. This edition also contains several technical articles covering pipeline inspection in an offshore environment and the detection of chloride corrosion in offshore stainless steel pipework, identifying and addressing

process problems using thermal imaging, and a computed tomography buyers guide.

From Tuesday 18 to Thursday 20 November this year, the AINDT will proudly host the 2025 Summit at the historic Newcastle Town Hall.

The flagship event is being delivered by the New South Wales State Branch in collaboration with the Federal Office. Under the theme *The Power of Inspection*, the Summit will explore the critical role inspection services play across diverse industries, particularly in the context of Australia's evolving energy landscape and future infrastructure development.

The 2025 AINDT Summit will be a dynamic three-day event involving business leaders, asset owners, technical experts, equipment manufacturers, and professionals in non-destructive testing and condition monitoring. It promises to be a unique opportunity for knowledge sharing, networking, and professional development across our community.

I am proud to announce Evident Scientific as the Platinum Sponsor of the 2025 AINDT Summit. Their support highlights the significance of this event and the value it brings to our industry. ATTAR and Russell Fraser Sales have committed to the 2025 AINDT Summit as Silver Sponsors and additional sponsors will be announced as we build momentum toward November.

The sponsorship prospectus has been distributed across the industry, and I strongly encourage interested organisations to consider the excellent exposure and brand alignment this opportunity provides—locally in New South Wales, nationally across Australia, and internationally. Sponsorship packages remain available for major conference support, event functions such as dinners and receptions, as well as merchandise branding.

Sponsors will enjoy exclusive access to a highly engaged audience of NDT professionals, engineers, technicians, and key industry stakeholders from sectors including aerospace, Defence, oil and gas, mining, and infrastructure. Our tailored sponsorship options offer unparalleled visibility and meaningful engagement with decision-makers, while demonstrating your organisation's commitment to innovation and excellence in the NDT field.

The 2025 AINDT Summit will feature a rich program including technical and academic streams, a dedicated commercial presentation stream, and interactive live demonstrations from exhibitors. A designated presentation room will allow exhibitors to showcase the latest developments in equipment and services to guests and attendees in a dynamic and hands-on environment.

The Gala Dinner will be hosted by Anthony "Lehmo" Lehmann, a well-known comedian and Master of Ceremonies. With 15 years' experience as an entertainer and 10 years as a chartered accountant, he will ensure an enjoyable evening. The Gala Dinner will celebrate the industry and honour significant contributions to the Institute, providing an opportunity to bring family, partners, or reserve tables for colleagues.

I look forward to seeing many of you in Newcastle this November, as we come together to celebrate the progress of our industry and shape its future.

Warm regards,
Joshua Morris,
President Australian Institute for Non-destructive Testing



28



31

AINDT News

CEO Message	6
Member List	9
Membership Registrar Update	10
AINDT Certification Board Update	11
Strengthen Your Standing in NDT and CM: Become an AINDT Member Today	12
Condition Monitoring Training Centres	13
Authorised Qualifying Bodies	14
New South Wales Branch Update	16
South Australia and NT Branch Update	17
Queensland Branch Update	18
Victoria and Tasmania Branch Update	19
Western Australia Branch Update	20

Industry News

Standards Update	22
AICIP Update	23
Thermography in Action	25
AINDT Member Profile: Matthew Thompson	26
NDT World Event Calendar	40

Technical Articles

Pipeline Inspection in an Offshore Environment	28
Detection of Chloride Corrosion in Offshore Stainless Steel Pipework	31
How to Spot and Address Potential Process Problems Using Thermal Imaging	32
Computed Tomography Buyers Guide	38

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Products & Services

AXT	41
IMIS Asset Integrity	41
ITT	41
Kuzer	42
NDT Instruments Australia	42
Russell Fraser Sales	42
Simplifi NII	43
SmartChem Industries	43

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AINDT
PO Box 52, Parkville Vic 3052
P: (03) 9486 9267
www.aindt.com.au
E: federaloffice@aindt.com.au

ADVERTISING
AINDT Federal Office
P: (03) 9486 9267
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INSTRUCTIONS TO AUTHORS OF TECHNICAL ARTICLES

Manuscripts should be submitted in electronic form:

1. in word
2. typed with single spacing
3. with figures as tif or jpeg files at better than 300dpi

Manuscripts should include:

1. symbols and abbreviations conforming to recognised standards; metric units (SI)
2. references listed, after the text, in the order in which they occur in the paper
3. references indicated in the text by arabic numerals in square brackets
4. tables and figures numbered separately but consecutively with Arabic numerals and brief, descriptive titles

5. a reference in the text to all tables and figures
6. graphs and diagrams made with lines of sufficient thickness to reproduce well
7. titles and address of authors

Procedure for submission of manuscripts:

1. articles should be sent to: journal@aindt.com.au
2. manuscripts will be submitted to referees who will remain anonymous
3. reprints of each paper will be supplied free to the author

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A Message from the CEO

March has been a busy month for the AINDT community with the Institute attending Energy Exchange Australia (formally Australian Oil and Gas Conference) in Perth, meeting with the Federal Oppositions Office, organising the AINDT Summit 2025 and branches holding Technical Nights right around the country.



Stuart Norman

The AINDT once again had a booth in conjunction with the Western Australia Branch at Energy Exchange Australia (formally Australian Oil and Gas – AOG). The booth was very well attended with a great mix of people related to the industry and others who were inquisitive to know more. Attendance for the conference was

down on last year, with many people putting that down to the change of name and direction of the event.

As mentioned in previous Journal pieces the AINDT had sort a meeting with the Leader of the Opposition, Mr Peter Dutton to discuss the coalitions 'Future Energy' policy. While the media has focused on the introduction of nuclear power, a key platform of the policy is to increase domestic gas production.

I spoke with Mr Dutton's senior energy advisor and outlined the importance of the AINDT Certified Technicians in relation to their policy could be achieved should they win the 3 May election. The meeting was profitable and should lead to further dialogue but not as productive as I would've liked given of the important role we would play in the development of further domestic gas production and the building and testing of nuclear power facilities.

The key area that we focused on was the need for the Australian NDT workforce being upskilled to test nuclear facilities. We also asked what increased domestic gas production would look like in the future. While a number of our questions remain unanswered, we are well positioned to continue discussions should there be a change in government in May.

Now that we are in into the election campaign it's clear that energy policy is, and will continue be, a major issue. This is especially the case in terms of the role gas will



L to R: Mark Welland, Stuart Norman and Richard Stocker.

play as part of our domestic energy mix. There are clear differences in the two major party's policies, but it is yet to be seen what the ramifications of the expected future gas shortage for the east coast will be.

What we do know is that energy policy will continue to be a hot topic for debate in the coming weeks and that the election result will have some sort of impact on the future of our sector.

Preparations are well underway for the AINDT Summit 2025 to be held in from 18 to 20 November, in Newcastle, New South Wales. A number of sponsors have already committed their support, and around half of the exhibition booths are sold.

The Summit is aimed at those key decision makers in the NDT and CM fields as well as those technicians looking to learn and extend their knowledge and skills. In addition to presentations there will be panel sessions with the Certification Boards and the Board of Directors as we discuss the direction of our industries into the next decade.

With multiple rooms running differing session types and topics there will be something for all involved in every aspect of our industry. While there is will a focus on learning, there will also be time to network with friends old and new either at the Newcastle Town Hall during the breaks or at one of the planned social events.

To kick the Summit off we'll be holding a welcome reception in the exhibition all on Tuesday 18 November from 6.00pm. The following night will be the Gala Dinner.

Delegates and anyone associated with the industry are invited to join us as we celebrate the industry and honour those who have made a significant contribution to the Institute.

For those who wish to carry on the festivities we'll be holding a Gala Dinner After Party at a nearby licenced venue where attendees will get to network into the night. Additional tickets for the Welcome Reception and

the Gala Dinner are available to be purchased via the website. The After Party is free for all to attend with drinks at bar prices and sponsor giveaways.

As part of the Summit, we are inviting researchers, practitioners and those with something new to the industry to submit original papers. This year's theme, The Power of Inspection explores 'Power' in both its generative form and the power that testing provides asset powers in detailed information.

For those who attend, a certificate of attendance will be issued with the corresponding number of hours to assist when renewing certification or recertifying.

I encourage you to look at the Summit website aindtevents.eventsair.com/aindt-summit-2025 and register now to ensure you access the early bird rates.

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MORE INFORMATION TO FOLLOW



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Member List

April 2025

The AINDT is a national peak body that promotes the professional practices of non-destructive testing and condition monitoring personnel. Our mission is to provide members, industry and the community with independent and professional service in relation to the science and practice of non-destructive testing.

Through the work of our state branches and federal office, AINDT is committed to fostering a community of professionals and organisations dedicated to the fields of non-destructive testing, engineering, and materials and quality testing.

We offer a tiered membership structure, inviting businesses to enhance their professional standing and industry influence by becoming a Company, Corporate, or Sustaining member. Our memberships unlock a suite of benefits, including marketing opportunities, heightened support, streamlined staff certification management, and much more.

AINDT would like to thank the companies below for their valued support.

SUSTAINING MEMBERS

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EnerMech
SRG Industrial Pty Ltd
Intertek

SUPPORTING MEMBERS

Chevron

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Bureau Veritas Australia
Chemetall (Australasia) Pty Ltd
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SmartChem Industries Pty Ltd
Sonix NDT Pty Ltd
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QLD

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Metal Testing Pty Ltd
M-Test Mackay Pty Ltd
Queensland Alumina Limited
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Defence Science and Technology Organisation (DSTO – Fishermans Bend)
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OMS Software Pty Ltd

SA / NT

ASC Pty Ltd
Kuzer Technical
QMS
Red Earth NDT Pty Ltd

WA

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Asset Reliability Inspections Pty Ltd
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GoldFields NDT
Hofmann Engineering
ICM Training Solutions
Integrity Engineering Solutions
MJ Engineering Inspection Services (Welshpool)
NDT Instruments Pty Ltd
Vertech
Optiflow Pty Ltd
Portable Scientific Pty Ltd
Weld Integrity
Wood – Asset Performance Optimisation

Membership Registrar Update

AINDT continues to support the industry through the activities of its Federal Office, state branches, technical nights and social events. However, there seems to be a lack of importance placed on technician certification by an individual and company lens.

AINDT's mission statement is to provide members, industry and our community with an independent certification body to support NDT practitioners. NDT certification ensures the quality, safety and reliability of a material and its design, which could lead to various failures and catastrophes. This evaluation allows safe operation of engineering systems.

Without NDT certified technicians the majority of manufacturing, aerospace, oil and gas and construction globally would come to a standstill.

Our numbers continue to fluctuate due to various reasons including members leaving the industry, retirement, other certification bodies and low emphasis placed on membership renewals.

The AINDT CEO and Branch Presidents continue to meet to review the ongoing running of the institute on behalf of their members. These include the following:

- Federal Office: Updates to the website and database, recruitment of a Certification Services Manager and staff resources.
- Upcoming Events: AINDT 2025 Summit to be held in Newcastle in November.
- Branch Reports: Including technical nights and social events.



I encourage all members to attend their upcoming state branch meetings and technical sessions as one of the benefits provided to financial members. Additionally, attendance to these events will support five year and 10 year renewals as part of your credit system applications.

Let us support our branches as the local committees spend countless hours organising these events.

Craig Taylor
AINDT Membership registrar



Announcement: Jim Liu has joined Evident Australia

Evident Australia is pleased to announce that Jim Liu has joined our Test & Measurement division as a Sales Specialist in NSW. Jim brings over four years of experience as a Materials Testing Engineer, collaborating with industry partners across aerospace, mining, construction, infrastructure, and defense sectors. He has previously worked closely with multiple testing divisions on failure analysis investigations and the qualification of materials and welding procedures. In his new role, Jim will leverage his industry experience to assist our clients and partners in achieving their goals and targets.

Email: jim.liu@evidentscientific.com
Office: 1800 844 211
Phone: 0427 305 839
<https://www.evidentscientific.com>



NDT Certification Board Update

Changes to the Structured Credit System for Five-Year Renewal

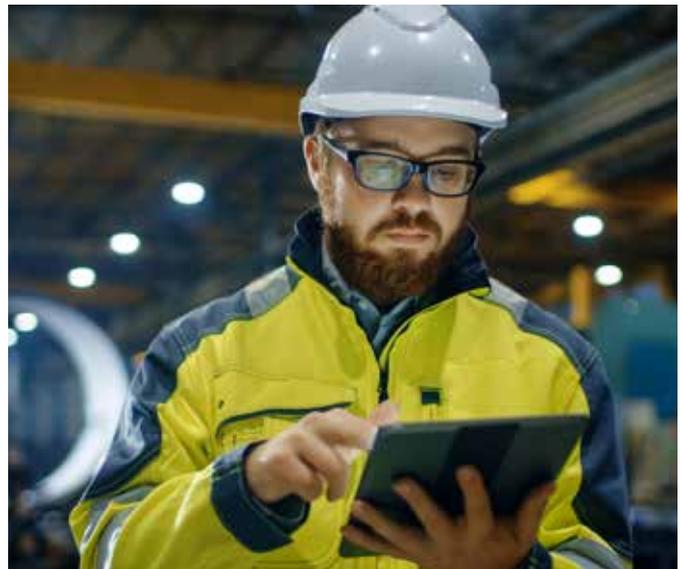
AINDT is working towards third party accreditation of our certification scheme to AS/NZS ISO 9712:2023 Non-destructive testing – Qualification and certification of NDT personnel (direct text adoption of ISO 9712:2021).

This brings with it the requirement of providing supporting evidence when renewing (for the five years) by the Structure Credit System. In the past, we have accepted a verified points table only. The Guide to Certification was amended to include the requirement to provide supporting evidence with the points table almost two years ago. However, this hasn't been enforced while we still issued certification to AS/NZS ISO 9712:2014 (direct text adoption of ISO 9712:2012). This will now be enforced to ensure that AINDT meets AS/NZS ISO 9712:2023 requirements for both Level 2 and Level 3 renewals.

Level 3 candidates, who elect to renew by the Structured Credit System, will be required to complete a spreadsheet and provide appropriate samples of evidence. The majority of supporting evidence should cover Level 3 Competencies and not Level 2 Competencies. We will also accept some evidence from other methods, as long as it is at Level 3 Competency Level only.

Andrew Kennedy is looking after most of the Level 3 Structured Credit System renewal applications and is quite willing to provide one-on-one assistance. The Level 3 Renewal Spreadsheet will be available soon from the AINDT website. But until it has been uploaded, please contact the Federal Office for a copy via federaloffice@aindt.com.au.

Level 2 candidates, who elect to renew by the Structured Credit System, will also be required to provide sample evidence of their performance.



Typical evidence for a renewing Level 2 candidate would be an NDT Report cover page in the same method with the candidate's name cited as the performing technician. If this type of evidence can't be provided, then the candidate has the option to undergo a practical exam similar to the requirement of the 10-year recertification.

We have already had applications stating that evidence can't be provided due to privacy or security reasons. As I previously stated in the last edition of Industrial Eye, the front page of NDT reports or Procedures with identifiers masked out (such as clients name, equipment inspected and results) will be accepted in this case.

If no supporting evidence is supplied for the renewal, then all candidates (Levels 2 and 3) have the option to undertake a practical exam to renew, similar to the requirement of the 10-year recertification.

Strengthen Your Standing in NDT and CM: Become an AINDT Member Today

Whether you're a seasoned professional, a business looking to build credibility, or a student starting your journey in non-destructive testing (NDT) or condition monitoring (CM), becoming a member of the Australian Institute for Non-Destructive Testing (AINDT) connects you with the leading minds, resources, and opportunities in the industry.

Why Join AINDT?

AINDT membership is designed to support individuals, companies, and government bodies that have an interest in NDT, CM, diagnostic engineering, and quality testing. More than just a professional association, AINDT is your gateway to staying informed, remaining certified, and actively contributing to the future of the industry in Australasia.

- ✓ **Knowledge at Your Fingertips.** Members receive six editions of the AINDT Journal annually, along with digital newsletters packed with the latest technical insights, industry updates, and practical knowledge.
- ✓ **Certification Support.** Take advantage of significant discounts on certification, renewals, and re-certifications—saving you time and money while staying compliant.
- ✓ **Exclusive Access and Advice.** Enjoy access to on- and off-site technical advice, as well as sample test plates and personalised guidance to make the most of your membership.
- ✓ **Promote Your Expertise.** All members can advertise for free in the Technical Experts Directory and post job ads on the AINDT website. Discounted online advertising and sponsorship opportunities are also available.
- ✓ **Network and Be Recognised.** Engage with industry peers through AINDT events, exhibitions, and local branch activities. You'll also have the chance to take on leadership roles and help shape the future of NDT and CM in your region.

Membership Types for Every Stage of Your Career

- **Individual, Student and Retired Members:** Ideal for professionals and students wanting to expand their knowledge, connect with peers, and save on certifications. Plus, you're eligible to take an active role in your local AINDT Branch.
- **Corporate Members:** Designed for companies seeking industry exposure, AINDT Corporate Membership includes benefits for up to three representatives, access to technical support, and tools to manage staff certifications.



- **Supporting Members:** National and multinational companies gain added influence and representation with access to senior AINDT experts, consultations on standards, and exclusive event discounts.
- **Sustaining Members:** For the most engaged industry leaders, this premium membership includes everything offered at other levels—plus enhanced influence, Federal Council meeting insights, and significant discounts for employees.

Ready to Join?

Whether you're focused on career development, growing your company's industry presence, or contributing to the future of NDT and CM, AINDT membership delivers real value. Explore the full list of benefits and join today at aindt.com.au/membership

Condition Monitoring Training Centres

Unlock the future of your career with top-tier condition monitoring training from trusted providers.

These training centres have earned the endorsement of AINDT, aligning perfectly with the national syllabi approved by the AINDT Certification Board. This ensures that you receive the highest standard of education and training.

To maximise your learning experience, AINDT recommends obtaining a copy of the training module—either directly from the training provider or by downloading it from the AINDT website. This will ensure you are well-prepared for your course.

For those seeking certification, it's crucial to successfully complete the specified training program and required training hours outlined in ISO18436. This is essential for achieving certification in your desired conditioning monitoring method, category, and industry sector.

All examinations are conducted by the AINDT. For exam dates and further details, please contact AINDT via: federaloffice@aindt.com.au.

Elevate your skills and advance your career with the industry's best training and certification programs.

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IR Technology Australia

A: 39–45 James Street, Lara 3212
T: 0418 569 698
E: erik.t@bigpond.com
W: irta.com.au

University of Melbourne

A: Parkville 3010
T: 03 9810 3348
E: claudine.evans@unimelb.edu.au
W: unimelb.edu.au

Wood – Asset Performance Optimisation

A: Level 3, 171 Collins Street, Melbourne 3000
T: 08 6314 2000 or (08) 6314 2280
E: svt.bu.training@woodplc.com
W: woodplc.com

Western Australia

ICM Training Solutions

A: 45 Delawney Street, Balcatta 6021
T: 0419 993 233
E: rainingacademy@icmt.com.au
W: icmt.com.au

SRG Training Academy

A: 109 Bannister Road, Canning Vale 6155
T: 08 9232 0300
E: trainingacademy@srgglobal.com
W: srgglobal.com

Wood – Asset Performance Optimisation

A: Level 1, 240 St Georges Terrace, Perth 6000
T: (08) 6314 2000 or (08) 6314 2280
E: svt.bu.training@woodplc.com
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Queensland

Advanced Infrared Resources Australia AIRA

A: PO Box 372, Hervey Bay 4655
T: 0467 565 836
E: jeff@irtau.com.au
W: irtau.com.au

Machinery Diagnostics Institute

A: 16 Wheeler Avenue, Gracemere 4702
T: 0499881 294
E: training@mcsturbo.com
W: mdiaustralia.com

SRG Training Academy

A: 7 Brisbane Road, Riverview 4303
T: 07 3816 5500
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W: mcsturbo.com

Wood – Asset Performance Optimisation

A: Level 20, 127 Creek Street, Brisbane 4000
T: (08) 6314 2000 or (08) 6314 2280
E: svt.bu.training@woodplc.com
W: woodplc.com

Authorised Qualifying Bodies

AQBs are authorised to offer AINDT-approved training and initial and recertification examinations in any Australian state, at any time throughout the year.

The AINDT also conducts scheduled examination rounds twice yearly, with dates advertised in The Industrial Eye and the AINDT e-newsletter.

While the AINDT strives to notify certificate holders of impending certification expirations, it remains the responsibility of the certificate holder to initiate the renewal and recertification process before their certification expires. Please note that late fees apply to overdue certification applications.

South Australia

Kuzer Technical

T: 1300 199 086
E: info@kuzer.com
W: kuzer.com

NDT methods, levels, and industry sectors offered:

- Magnetic Particle Level 1, 2 and 3 Multisector (ISO 9712)
- Dye Penetrant Level 1, 2 and 3 Multisector (ISO 9712)
- Ultrasonics Level 1, General Engineering (ISO 9712)
- Ultrasonics 2 and 3 Welds (ISO 9712)
- Phased Array Level 2 and 3 Multisector (ISO 9712)
- Time Of Flight Diffraction Level 2 and 3 Multisector (ISO 9712)
- Radiographic Testing Level 2 and 3 Welds (ISO 9712)
- Visual Testing Level 1 and 2 Multisector (ISO 9712)
- Eddy Current Level 1, 2 and 3 Multisector (ISO 9712)
- Level 3 Basic Exam Prep (ISO 9712)
- OCTG drill pipe inspection
- Material Science in NDT - Multisector
- NDT for Managers & Engineers
- Radiation Safety (exceeding the syllabus of national module EA612)

Victoria

ATTAR
T: 03 9574 6144
E: training@attar.com.au
W: attar.com.au

NDT methods, levels, and industry sectors offered:

- Computed and Digital Radiography 2, 3
- Ultrasonic Testing 1,2,3 Welds, Casting, Wrought, Aerospace, Thickness
- Radiographic Testing 2,3 Welds, Casting, Aerospace
- Magnetic Particle Testing 1,2,3 Multisector, Aerospace
- Penetrant Testing 1,2,3 Multisector, Aerospace
- Eddy Current Testing 2,3 Multisector, Aerospace
- Magnetic Flux Leakage 2
- Tank Bottom Testing

- Phased Array levels 2 and 3 Ultrasonics 2 Multisector
- Visual/Optical Testing 2 Multisector
- Time of Flight Diffraction (TOFD) levels 2 and 3 Welds
- Heat Treatment
- ISO 9712 UT Level 2 Corrosion/Erosion Detection and Mapping (CDM)

Western Australia

ATTAR
T: 03 9574 6144
E: training@attar.com.au
W: attar.com.au

NDT methods, levels, and industry sectors offered:

- Computed and Digital Radiography 2, 3
- Ultrasonic Testing 1, 2,3 Welds, Casting, Wrought, Aerospace, Thickness
- Radiographic Testing 2,3 Welds, Casting, Aerospace
- Magnetic Particle Testing 1,2,3 Multisector, Aerospace
- Penetrant Testing 1,2,3 Multisector, Aerospace
- Eddy Current Testing 2,3 Multisector, Aerospace
- Magnetic Flux Leakage 2
- Tank Bottom Testing
- Phased Array 2, 3 Ultrasonics 2 Multisector
- Visual/Optical Testing 2 Multisector
- Time of Flight Diffraction (TOFD) 2, 3 Welds
- Heat Treatment
- ISO 9712 UT Level 2 Corrosion/Erosion Detection and Mapping (CDM)

SRG Training Academy

T: 08 9232 0300
E: trainingacademy@srgglobal.com
W: srgglobal.com

NDT methods, levels, and industry sectors offered:

- Ultrasonic Testing 1,2 Welds
- Magnetic Particle Testing 1,2 Multisector
- Penetrant Testing 1,2 Multisector
- Phased Array Ultrasonic Testing 2 Multisector

Queensland

Protecs Global

T: 07 3492 9213
E: hamed.madani@protecsglobal.com.au
W: protecsglobal.com.au

NDT methods, levels, and industry sectors offered:

- Ultrasonic Testing 1 (General Engineering) 2 Welds
- Magnetic Particle Testing, 2 Multisector
- Penetrant Testing, 2 Multisector



RENEW YOUR MEMBERSHIP

RENEW FOR REWARDS: STAY A STEP AHEAD WITH 2024-2025 AINDT MEMBERSHIP

Whether you're looking to enhance your knowledge, expand your network, or influence industry standards, AINDT is your gateway to success. Connect with top professionals and thought leaders in an environment that celebrates innovation and progress. Just some of the member benefits are outlined below.

- ✓ Regular editions of the AINDT Journal (6 per year)
- ✓ Substantial discounts on certification fees and expenses
- ✓ Access to our online portal and resources
- ✓ Eligibility for exam and industry service awards
- ✓ A host of networking opportunities, including branch events, workshops, seminars, and our conference
- ✓ Exclusive Corporate Member benefits like free and discounted advertising rates, and technical advice

**AINDT
MEMBERSHIPS
ARE NOW DUE**

RENEW NOW >>>



New South Wales Branch Update

The AINDT New South Wales Branch recently delivered a highly engaging and informative seminar, attracting a strong turnout from professionals across the non-destructive testing (NDT) and broader industrial sectors.

Held on Wednesday 26 March 2025 at the Longtan Room in Smithfield RSL, the event focused on one of the most talked-about topics in the field: the integration of artificial intelligence and digital transformation into radiographic testing (RT).

The evening seminar, hosted in partnership with AXT, featured internationally renowned speaker Christopher Zepp, Head of Global Sales at VisiConsult in Germany. With over two decades of experience in metrology and X-ray inspection technologies, Zepp shared expert insights into the evolution of NDT as it moves towards fully automated, data-driven solutions underpinned by Industry 4.0 principles.

Zepp's presentation unpacked the shift from conventional manual methods to next-generation systems that incorporate computed tomography (CT), automation, artificial intelligence, cloud computing, and robotics.

Attendees were treated to in-depth case studies demonstrating the real-world applications of AI in RT—such as weld detection, SMD part counting, and IQI recognition. These examples illustrated how AI-powered inspection not only improves accuracy and reliability but also boosts throughput and enables better decision-making on the shop floor.

Donna Day, AXT's X-Ray Tubes and NDT Product Manager, served as host for the evening. A well-known figure in the industry with over 25 years of experience in X-ray technologies, Day ensured the event ran seamlessly and provided attendees with ample opportunity to engage in meaningful discussion and networking.

With food provided and a relaxed yet professional atmosphere, the event proved to be a valuable opportunity for knowledge-sharing and industry connection. Feedback from attendees was overwhelmingly positive, with many praising the relevance of the topic and the calibre of the speaker.



As the field of NDT continues to evolve, events like this highlight the importance of staying ahead of the curve. The AINDT New South Wales Branch remains committed to delivering valuable learning experiences for members and industry professionals alike.

South Australia Branch Update

Adelaide Welcomes Global NDT Expertise at Technology Seminar

It was standing room only at the British Hotel in North Adelaide on Tuesday 25 March 2025, as the local NDT community gathered for an enlightening evening of innovation and insight, courtesy of the AINDT South Australia Branch and AXT.

The seminar, Automated RT Interpretation Using AI and Digital Transformation, was led by Christopher Zepp, Head of Global Sales at VisiConsult, Germany. With over 20 years of experience in X-ray and metrology technologies, Zepp delivered a compelling presentation on the future of non-destructive testing in the era of Industry 4.0.

From computed tomography (CT) to real-world AI applications in weld detection and image quality recognition, attendees were treated to a thorough exploration of how automation and digital tools are reshaping NDT. The seminar highlighted not only the technical advancements driving efficiency and accuracy but also how AI is helping reduce human error and improve decision-making on the shopfloor.

Hosted by Donna Day, AXT's long-standing X-ray and NDT specialist, the event offered a perfect blend of technical knowledge and industry networking—all in a welcoming pub setting, complete with delicious catering and great conversation.

Events like this underscore the value of staying connected and informed as NDT enters a new era. AINDT and AXT are to be commended for creating a space where innovation meets community.

2025 South Australia Branch AGM

Following the glittering success of last year's South Australia AGM—an unforgettable evening of recognition, laughter, and networking—planning is now underway for the 2025 AGM in early August.

You can expect the same sense of celebration, community, and industry pride. Details will be announced soon, so mark your calendars and get ready to come together to reflect, recognise, and raise a glass to the year that was.



New South Wales Branch Update

Momentum in Motion: AINDT Queensland Branch Welcomes Autumn with Innovation

As summer transitions into autumn, the AINDT Queensland Branch continues to build on a strong start to 2025. With exciting technical sessions already underway and more in planning, our commitment to bringing value, learning, and connection to our members remains stronger than ever.

Tech Night Spotlight #1: Evident X4 Software Demo in Gladstone

On Wednesday 26 February, Evident hosted an engaging and insightful technical session at the Club Hotel in Gladstone, showcasing the capabilities of their latest X4 MXU 6.02 software.

The live demonstration highlighted how the new platform can significantly streamline setup and inspection times, offering a clear step forward in NDT efficiency. The session also delved into the use of nde data files for creating permanent inspection records, aligning with the broader evolution toward NDE 4.0 and digital transformation in the industry.

We extend our sincere thanks to Sean Fogarty and Nick Eleftheriou from Evident for facilitating this valuable session and sharing their expertise with our members.



Evident X4 Software Demo in Gladstone.

Tech Night Spotlight #2: Automated RT Interpretation Using AI and Digital Transformation, AXT and VisiConsult

On Wednesday 19 March, AINDT Queensland hosted an insightful technical seminar in Brisbane, exploring the future of NDT through the lens of AI and digital transformation. The session focused on how the rapid adoption of Industry 4.0 principles is shifting the industry from conventional inspection methods toward fully automated, data-driven solutions.

The case studies highlighted the practical benefits of AI-driven radiographic interpretation, such as improved defect detection, enhanced workflow efficiency, and reduced human error—ultimately leading to greater throughput and more confident decision-making on the shopfloor.

A sincere thank you to Donna Day from AXT and Christopher Zepp from VisiConsult for organising the session, and to Hamed Madani from Protec Global for generously hosting the event at his facility. Your efforts are helping to keep our members informed, inspired, and ready for the future of NDT.



Automated RT Interpretation Using AI and Digital Transformation Tech Night.

More to Come in 2025

With the year just getting started, we're excited to share that more technical sessions and regional gatherings are in the pipeline, covering a range of NDT modalities and emerging technologies. As always, we encourage our members across Queensland to participate, contribute, and connect. Your involvement is what keeps our branch vibrant and valuable.

Victorian and Tasmanian Branch Update

The Victoria and Tasmania AINDT Branch is all set for a packed 2025 schedule of technical and social events. We've also recently discussed topics such as certification challenges, membership growth strategies, and ideas for membership incentives to strengthen engagement within the NDT community.

A key highlight on the agenda is the development of guidelines for Technical Event Certificate justifications, ensuring that members receive appropriate recognition for their participation in technical events. Additionally, there will be an in-depth discussion on empowering women in NDT, with a drafted proposal set for review before being shared with the wider community.

AINDT Technical Night: Advancing NDT Through AI and Digital Transformation

On the evening of 21 March, attendees of the Victorian Technical Night delved deep into the future of NDT and the transformative impact of Artificial Intelligence in radiographic testing interpretation. Hosted by Donna Day, X-Ray Tubes and NDT Product Manager at AXT, the session featured a presentation by Christopher Zepp, Head of Global Sales at VisiConsult, Germany.

Christopher took attendees on an eye-opening journey through Industry 4.0, showcasing how automation, digitalisation, and how AI-driven inspection techniques are revolutionising NDT. He provided an in-depth analysis of computed tomography inspection, emphasising AI's role in weld detection, surface mount device part counting, and image quality indicator recognition. These advancements are assisting with defect detection, reducing human error, and enhancing workflow efficiency.

This sparked engaging discussions on the benefits of increased throughput, improved decision-making, and cost reductions. The night concluded with networking over refreshments provided by AXT. We would like to thank AXT, Donna and Christopher for making the event a success.

Technical Nights Ahead

- **29 May:** Laser Welding and Advanced Ultrasonics for Weld Testing – Ringwood Training (Hosted by EVIDENT and Weld Australia)
- **TBA:** Heat Treatment Tech Night (Hosted by Sadegh Abbaspour)
- **TBA:** Thermography Technical Night (Hosted by Peter Milligan)

The branch is also considering new event ideas, such as a Tasmania Industry Catch-Up, a Radiation Health Department information session, supplier showcases, and sessions on critical topics such as vibration and lubrication analysis. Additionally, a Mental Health



Information Night is in the works to address workplace stress and psychological wellbeing in the industry.

Get involved and don't miss out on these exciting opportunities to learn, network, and contribute to the future of NDT!

Western Australia Branch Update

On Thursday 13 March, the Western Australia Branch had the pleasure of promoting a highly insightful, double technical evening on Digital Radiography and Guided Wave Ultrasonics. With over 20 members in attendance, the audience was treated with two high class presenters.

The evening was kindly hosted and catered by Apave (formerly IRIS NDT and Metlabs Australia) in Welshpool. Thank you to Davien Clarke (CEO Australia), John Carroll (Operations Director) and Mark Welland (Technical Director), and all Apave staff for kindly donating their facility and time.

Nick D'Ademo (Head of Software Development at DÜRR NDT GmbH and Co) gave a presentation on Digital Radiography. Nick provided a deeper understanding around how the latest D-Tect X Evaluation software operates, as well as common mistakes in the field. Nick also provided a demonstration of DÜRR's new bendable 1024 high resolution detector (D-DR 1025B NDT). The demonstration included comparisons between flat panel and bendable detectors, and was valuable to witness in-person.

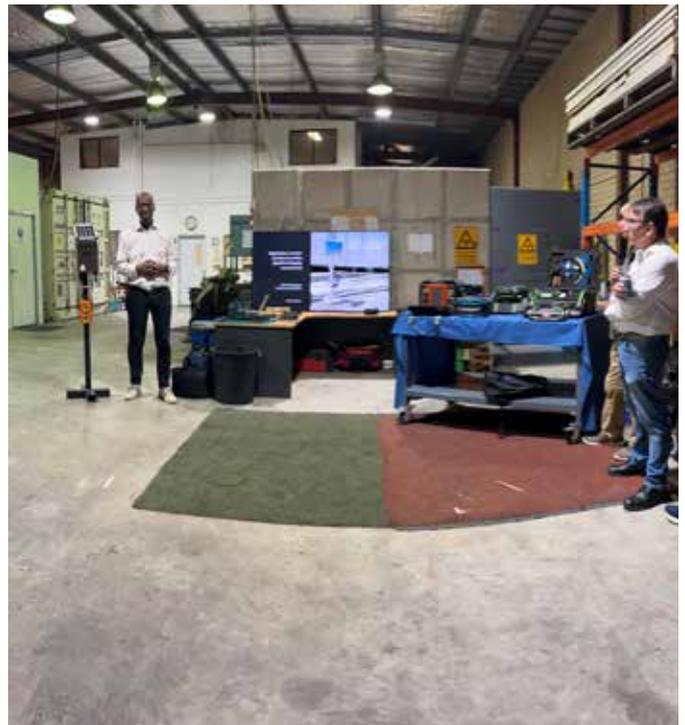


Nick D'Ademo Head of Software Development at DÜRR NDT GmbH and Co gives a presentation and demonstration.

Dr David Alleyne (CEO of Guided-Ultrasonics) then gave a presentation on Guided Ultrasonic Testing. Stepping back to where it all began, David has a PhD in guided wave testing and has studied guided waves (Lamb waves) for over 35 years. Since 1999, David has driven the adoption of guided wave testing globally, and is an acknowledged as a world leader in his field. It was an absolute pleasure hosting David in Western Australia.

David shared many stories from his journey and stepped through the development of the technology, including the three main lines of products: screening, scanning and live monitoring. The audience was thoroughly entertained and educated.

As usual, the presentations were followed by a gourmet local pizzas, refreshments and networking opportunities. Thank you to both Nick and David for sharing their products and expertise with the Western Australia AINDT members.



Dr David Alleyne (CEO of Guided-Ultrasonics) then gave a presentation on Guided Ultrasonic Testing.

Technical Evening Hosted by Andrew McGregor of Sonomatic

Reducing the risks of confined space entry with non-intrusive inspection

On the warm evening of Tuesday 25 March, Andrew McGregor of Sonomatic hosted a technical evening in conjunction with AINDT. The evening was held in the Vertech Group IRATA Training Centre which provided a great backdrop to the talk.

A healthy attendance of around 20 AINDT members listened as Andrew presented on the risks of confined space entry in vessels, the benefits of Non-Intrusive Inspection - NII, the Recommended Practice associated with NII (HOIS-RP-103), and an overview of the process. The four-step process included assessment to see whether NII was the most appropriate method of inspection; the creation of a work scope detailing the inspection and reporting requirements; the on-site inspection; and finally an evaluation of conformance to the inspection plan and a detailed analysis of the results with recommendations. Some of the specific technologies involved in the 4 stages were also discussed.

Following the talk, a question-and-answer session followed with great engagement with the members. The evening finished off with refreshments and networking.

Thanks to Andrew and Sonomatic for hosting and thank you to the AINDT Western Australia branch members for attending and supporting the events hosted by the branch.



Andrew McGregor of Sonomatic hosts a technical evening.

Standards Update

During the last quarter, AS 3669 / EN 4179 was provided to the editors for release after voting was completed and is being taken on as an identical adoption of EN 4179 Non-destructive testing – Qualification and approval of personnel – Aerospace (EN 4179:2021, IDT).

Review of Standard AS 3978 Non-destructive testing – Visual inspection of metal products and components was completed and this Standard is expected to be released for public review. Small changes were necessary to ensure that certification of personnel, verification of equipment and other wording was updated. This is expected to make the Standard easier to understand.

ISO 4993: 2020 Steel and iron castings – Radiographic testing gap analysis was completed. This Standard was voted on by the MT-007 committee and will be released for public comment.

Standards Australia's new MT-007 Project Manager is Josi Cuccurullo. She was welcomed to her new role, and we look forward with working with her.

Further work is being undertaken on MT-007's Standards Portfolio. A review was completed that identified aged Standards, as well as new ISO Standards that may require adoption due to the non-existence of an Australian Standard to cover the test. The identification of these Standards will be provided as MT-007 Committee commences work on them.

Other ISO Standard activities are as follows.

Current open ballots for voting

Reference and Title

ISO/FDIS 2400 : Non-destructive testing — Ultrasonic testing — Specification for standard block No. 1

ISO/DIS 18173 : Non-destructive testing — General terms and definitions

ISO/FDIS 16809 : Non-destructive testing — Ultrasonic thickness determination

ISO/FDIS 16827 : Non-destructive testing — Ultrasonic testing — Characterization and sizing of discontinuities

Proposed Projects (includes revisions)

Reference and Title

ISO/TS 16829:2017 : Non-destructive testing — Automated ultrasonic testing — Selection and application of systems

A potential overlap has been identified between the use of Electrical Thermography and Thermography for Machine Systems as outlined in ISO 18434-1. The possibility that two separate Standards may be covering the same area is currently under review.

Please contact me using the details below if you have any questions or require further information and I will reply at the first opportunity.

Angelo Zaccari
MT007 Standards Chairperson
angelo.zaccari@outlook.com



AICIP Update

Change of AICIP Management

AINDT would like to inform all member that there has recently been a change in the AICIP management.

Weld Australia has taken over both the In-Service Inspector (ISI) and Senior In-Service Inspector (SISI) certifications and examinations previously performed by the Australian Institute for the Certification of Inspection Personnel (AICIP).

Weld Australia will contact all the certified individuals with instructions on how to access and manage their certifications through the WeldQ platform.

Moving forward, the primary point of contact for any AICIP-related matters is Weld Australia. Please direct all future inquiries to the following email address: qnc@weldaustalia.com.au.

Exam Dates

Exam Papers	National Locations	Dates
Exam Enrolment Deadline	Nationally	28 April 2025
Exam Onboarding Deadline	Nationally	TBC
ISI Paper A & B – Theory	Online	5 to 9 May 2025
ISI Paper E – Practical	Online	5 to 9 May 2025
SISI Paper C & D – Theory	Online	5 to 9 May 2025

About AICIP Certification

Recognised nationally, AICIP certification can expand your career options and job opportunities. Examinations assess the level of skill, knowledge and capability of professionals working in the pressure equipment sector to ensure the integrity and safety of plant and pressure equipment inspection.

Suggested Prior Attributes Of Candidates

There are no prerequisites, prior qualifications, training or experience required for AICIP in-service inspectors' examinations. However, candidates with insufficient industry experience will have difficulty passing the theoretical Paper B and practical Paper E.

To have a reasonable likelihood of demonstrating the required competency and passing the exams, it is strongly recommended that applicants have at least the following:



- Qualifications:
 - Year 12 High School, a trade certificate or equivalent knowledge.
 - Knowledge of common pressure equipment types and terminology used in Australian Standards.
 - Basic mathematics ability (for example, to calculate the volume, thickness and hoop stress of a cylinder).
- Training: 100 hours of either self or on-job training in pressure equipment inspection and the application of AS/NZ 3788.
- Experience: five years (full time equivalent) including two years in inspection. Experience should be sufficient to develop basic technical skills and good communication skills.
- Pressure equipment knowledge: an understanding of the main technical inspection terms relating to pressure equipment.
- Personal skills:
 - Ability to read, write and communicate orally in English.
 - Maturity and reliability.
 - Good eyesight and hearing (with or without correction).

For SISI applicants, more in-depth experience, calculation and technical ability is desirable.

Thermography in Action

A low Delta-T Can Be the Sign of a Much Bigger Issue

BY SCOTT FLETCHER, CERTIFIED THERMOGRAPHER CAT 2
AUSTRALIAN STANDARDS, FOUNDING MEMBER AND
COMMITTEE MEMBER OF AUSPTA

Case in point: During a recent routine survey at a mine site on the west coast of Tasmania, a serious fault was identified inside the junction box of a 3.3kV electric motor.



The 3.3kV electric motor

In this case, the low Delta-T indicated a potential internal fault inside the equipment. While the variation was low, from the thermal images being displayed, it was evident that a critical fault was within the HV motor connections and would require immediate intervention.

Thermography can be difficult as we are considering small but significant temperature indicators, according to the three principles of heat transfer. Conduction, radiation, and convection. In this case we had two heat transfer principles evident:

1. Conduction: The initial identification was made with a slight temperature elevation of the HV tail. While this elevation was small, it was the correct interpretation of the thermal heat pattern
2. Radiation: It was also the thermal pattern, showing an area on the cover of the junction box, caused by internal heat that provided a positive location of the fault behind the cover.

With similar previously identified faults, this has not always been the case, and identification was only through thermal conduction in the motor tails, with variations in the low single digits.

At the time of the fault being identified, all associated electrical checks were also carried out to rule out the temperature elevation being attributed to variation of

load between the phases. The motor was taken out of service in a planned manner, ensuring the work was completed safely and efficiently with minimal down time.

The fault was repaired with the damaged tails replaced and all other connections checked, and the motor was returned to service. Follow up checks were carried out to verify that the work completed had been effective.

Possible Consequences

This survey has routinely been carried out every six months for the past 11 years with a lot of faults being identified over that time. Risks to business vary, depending on the fault.

Had this fault not been identified and repaired, the costs of further damage and associated downtime would likely run to six figures.

Conclusion

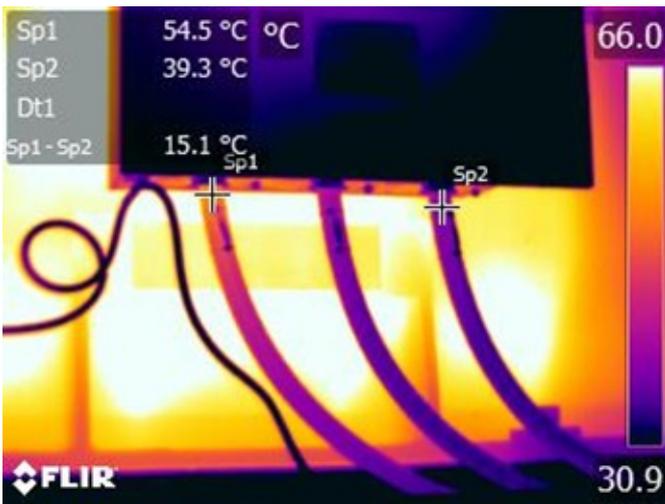
The identification of this fault again reinforces the benefits of strict routine survey regimes, the importance of understanding the condition monitoring method you're utilising and also having the level of training, practical experience and certification, to rate the calls on the critical assets during a survey.

As professional thermographers we are looking out for thermal indicators, and the resulting Delta-T, at every survey. A subtle variation can at times be the sign of much bigger issue.

The real heroes of this sort of find are the businesses that follow best practice principles as well as the organisers who, day in and day out, coordinate the regular condition monitoring functions to be carried out routinely by capable, professional, and accredited personnel.



Lower front angle of incomer glands.



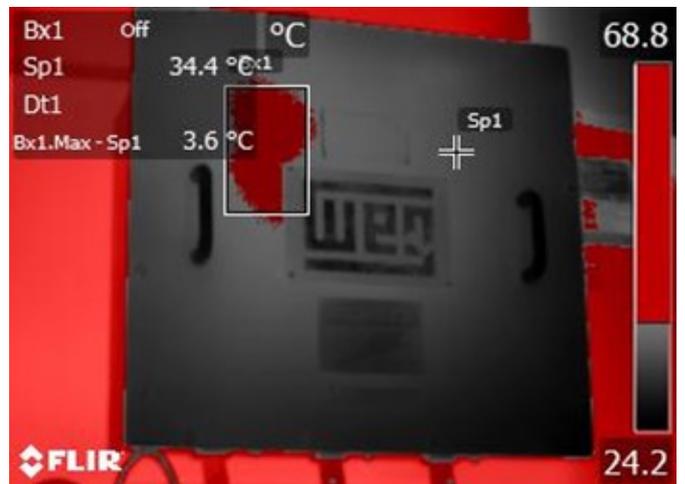
Elevated temperature noted at LHS phase



Junction box with cover in place



Lower right side angle of incomer glands



Warm area consistent with the tail elevation



Again, elevation noted in LHS tail



Warm area consistent with the tail elevation



Failing motor tail connection

AINDT Member Profile

Q&A with Matthew Thompson



Matthew Thompson

A respected leader in the NDT field, Matthew Thompson is helping shape the future of the industry through innovation, mentorship, and a hands-on approach to excellence. As a Director and Company Level 3 at Core Inspection Services, Matthew plays a pivotal role in both operations and technical development.

In this Q&A, he reflects on the career journey that led him to start his own business, the mentors who influenced him, and why giving back to the profession is one of his top priorities.

Where do you work? Describe your job.

I'm one of three company directors at Core Inspection Services and serve as the Company Level 3.

My role is a blend of hands-on fieldwork, training our up-and-coming staff, and developing new procedures and techniques to help us stand out in the industry.

I'm deeply involved in shaping how we operate, from the way we approach inspections, through to the equipment we use and the standards we set.

Can you share your journey into the NDT industry? What motivated you to take on a career in NDT?

I actually got into NDT while taking a break from university. I'd been studying but was classified as an international student, and the costs became unmanageable. During that break, while working in kitchens, I took some time to reflect on whether university was the right path. With so many graduates entering the job market, I started to worry about being one of many in a crowded field.

I realised I wanted something more hands-on—a job where I could see the results of my work, stay active,

and have long-term opportunities. That's when I came across NDT. It seemed like the perfect fit: practical, in-demand, and constantly evolving.

I started as a trainee at Bureau Veritas, which I applied for through a newspaper ad. From there, I never looked back. Over 14 years with an international company, I worked alongside a wide range of people, from new starters to veterans with over 40 years in the field.

The work took me across Australia and even as far as Papua New Guinea. I gained experience on everything from small magnetic particle jobs to leading major projects with 40 personnel under my direct supervision. Seeing different approaches and working across industries helped me figure out what worked, what didn't, and how I wanted to shape my own path moving forward.

Who or what has influenced you most professionally?

I've been fortunate to have many influential mentors and colleagues throughout my career, ranging from seasoned technicians with decades of experience to industry leaders who offered invaluable insights. Each brought their unique perspectives, helping me refine my problem-solving skills, strengthen my leadership style, and deepen my technical expertise.

One mentor who particularly stands out is John Horsely. John consistently made time for me both professionally and personally and played a crucial role in accelerating my development, particularly in ultrasonics. I'll never forget the first lesson he gave me, teaching me how to use DAC curves during my very first night shift. His genuine care, patience, and commitment profoundly impacted my confidence and technical growth.

Additionally, working across various industries and locations exposed me to diverse practices and standards, significantly shaping my own approach to inspections and management. Ultimately, the combination of John's mentorship and the broad exposure I've gained has had the greatest professional influence on me.

What has been the most interesting project you've worked on and why?

It's hard to pick just one. Every project I've worked on has contributed to my growth, whether that's improving my technical skills or learning how to manage and lead a team.

What I really enjoy are the one-off, fast-paced projects, where a team comes together with a common goal and tight timeline. There's something rewarding about being part of a group that brings different skills to the table and works together to get the job done.

Those projects push you, not just technically, but in communication, planning, and problem solving and that's where I've learned the most over the years.

My top advice:

There's no limit to where this job can take you. Even if you eventually pivot into another field, NDT gives you a rock-solid base with skills that are always in demand.

Top tips

- Don't be afraid to try something new.
- Always ask questions, it's how you grow.
- Never say no to training, especially early on. That's when you build the habits that shape your career.

What has been your greatest professional achievement?

Starting Core Inspection Services and hiring our first employee. That was the moment when it really sank in—this was happening. Building a business from the ground up and seeing it grow has been incredibly rewarding.

How has being a member of AINDT benefited you professionally or personally?

Being part of AINDT, especially in my early days, gave me the sense of belonging to a wider, unique community. It was reassuring to know I wasn't working in isolation but connected to a diverse network of professionals all committed to excellence in NDT.

Joining the local state council and more recently, the federal council expanded that network further, connecting me not only with technicians but also suppliers, managers, and industry leaders. These interactions were a persuading factor in my decision to step into business ownership, providing the insights and confidence to co-start Core Inspection Services.

Overall, AINDT has been invaluable for staying current with industry developments, accessing quality training, and building lasting professional relationships. It's played an important role in both my career growth and ongoing involvement in the industry.

What are the top three things on your bucket list?

1. Train someone who goes on to surpass me in the industry. That would be a proud moment, knowing I helped shape their journey.
2. Watch my kids grow up and still want to be a part of my life—that's probably the most important one.
3. Visit the Maldives. Those clear waters and remote islands are definitely on the list, once I'm ready to slow down and relax.

Rapid Fire Questions

- **Favourite Food:** Lamb Madras—can't beat the UK for a proper one.
- **Favourite Song:** Nothing in particular, but I'm a big fan of Coldplay.
- **Favourite Sport:** Squash.
- **If you could be famous, what would it be for?** Being a sportsman—though there aren't many famous squash players out there!
- **If you could meet anyone—alive or dead—who would it be?** I'm a big James Bond fan, so I'd have to say one of the actors—preferably Sean Connery or Pierce Brosnan.
- **What is your pet peeve?** People leaving couplant on calibration blocks and letting them rust—can't stand it.
- **What is your top tip for NDT excellence?** Stay curious, stay adaptable, and never stop learning.

Pipeline Inspection in an Offshore Environment

JME has been supplying pipeline crawlers since the mid-1980s, establishing a loyal customer base over the last 40 or so years. JME was contacted by Trinidad Inspection Services (TIS) in late 2021 to provide information in support of a tender for offshore crawler work.

The project involved the inspection of approximately 1,350 joints of 8" diameter pipework and was scheduled to be undertaken in the second quarter of 2022. TIS was engaged as a sub-contractor to the DeNovo Zandolie Project based in Trinidad and Tobago. The contract duration was in the region of 14 days of production, equating to the inspection of approximately 100 welds per day. The objective was to install a subsea pipeline facilitating the transportation of hydrocarbons from the Zandolie to the Iguana Platform.

To initiate the project, the team at JME worked in conjunction with the technical team at TIS to provide a review of drawings and documentation. This ensured that the pipeline crawlers were suitable for the project. JME also worked with the client to ensure suitability of the system for the application, including the provision of bespoke CAD modelling to ensure it could operate within the client's specific needs.

The schedule onboard the vessel was challenging. It required continuous operation of the equipment in 2 x 12 hours shift patterns. TIS had operated crawlers on previous projects. However, these projects were land based—this was their first time TIS operated JME's new CR2 range of crawlers.

Given the offshore nature of the project and the introduction of JME's next-generation CR2 crawlers, JME and TIS made a strategic decision to take a fresh approach—retraining all personnel from the ground up to ensure full alignment and optimal performance from the outset.

Before deployment, the equipment was specially configured for offshore operation. This included the addition of a magnetic reed switch to prevent the crawler system from overdriving within the pipe. JME also reoriented the end-of-pipe sensor to work in tandem with the stop trolley, enhancing system protection. Once the required modifications were identified, the necessary components were sourced, and the order was promptly placed. Impressively, JME delivered the complete system to site within just 10 days of order confirmation.

Crawler technicians and operators received in-territory training through a comprehensive three-day operation



and maintenance course. Upon completion, the TIS team was issued operator training certification, satisfying both internal personnel requirements and site health and safety protocols. This ensured the team was fully familiar with every aspect of the crawler system, allowing for a swift and seamless start once operations commenced onboard the vessel.



Throughout the project, the training proved invaluable—any minor challenges encountered were resolved quickly, and the equipment itself performed flawlessly during the entire inspection process.

The success of this initiative highlights the strength of the collaborative partnership between JME and TIS, delivering outstanding service and client satisfaction.

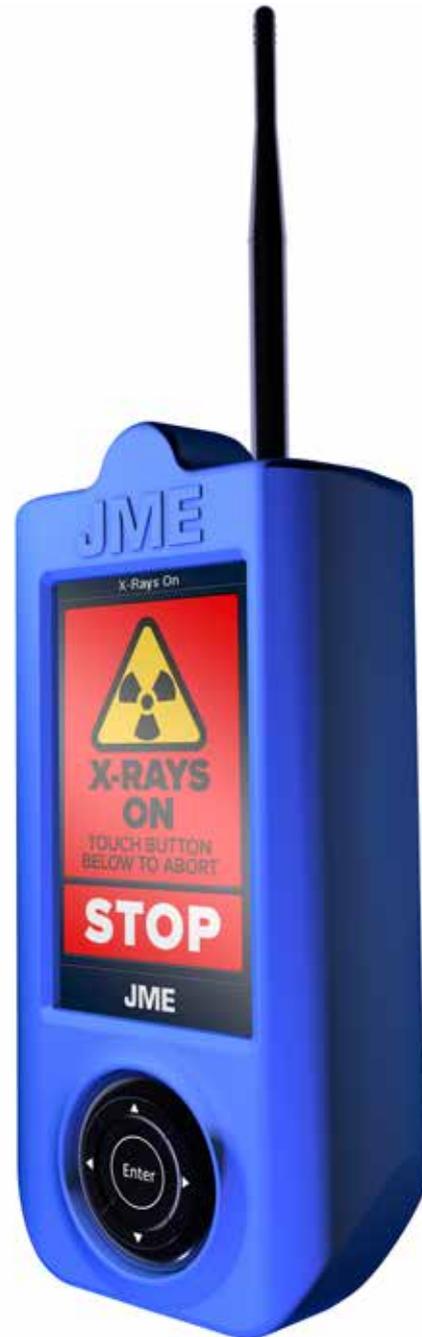
The project was completed on schedule, with all activities executed efficiently and to a high standard. Thanks to the tailored onsite training and the suitability of the equipment for the application, the team operated with confidence and precision. JME's Pipeline Crawler was instrumental in the successful delivery of the NDE components of the project.

It was noted by all operators that the new CR2 range of pipeline crawlers was significantly faster and easier to deploy than the previous generations.

The seamless performance of the crawler system throughout the project stands as a testament to the professionalism of the TIS team, the effectiveness of the training delivered, and the superior quality of the equipment in use.

Following the successful execution of this job, TIS has strengthened its relationship with the client and is now actively bidding on additional work of a similar nature.

Having demonstrated their ability to deliver reliably under a demanding production schedule, TIS continues to build a strong reputation in this specialised field. With prior experience across multiple crawler deployments, the team found the CR2 range to be particularly intuitive and quick to set up—an advantage that proved invaluable in the field. This ease of operation contributed significantly to the client's positive experience and the overall success of the project.



About the JME 6: CR2 Pipeline Crawler

The JME 6:CR2 Pipeline Crawler is specifically designed for non-destructive testing of circumferential butt welds in tubular installations such as oil and gas transmission pipelines.

The second generation CR2 range is one of the world's most technologically advanced NDT crawler system. The JME 6:CR2 Pipeline Crawler is extremely compact and lightweight, deployable in an internal diameter range between 5.5" (140mm) and a maximum of 18" (457mm). Coupled with x-ray generators from JME or ICM, this system can produce internal panoramic single-wall-single-image (SWSI) radiographs of very high quality.



The crawler can be commanded using JME's Magnetic Control System (Magnetope), or a conventional isotope control system. Additional features are accessible using the brand new CR2 remote handset.

JME's unique handset allows external control and monitoring of the crawler whilst operating in the pipe, providing real time data on the crawler's activity.

It allows the operator to enable and disable all features of the crawler and x-ray generator prior to operation, avoiding a lengthy, complex analogue configuration.

Detection of Chloride Corrosion in Offshore Stainless Steel Pipework

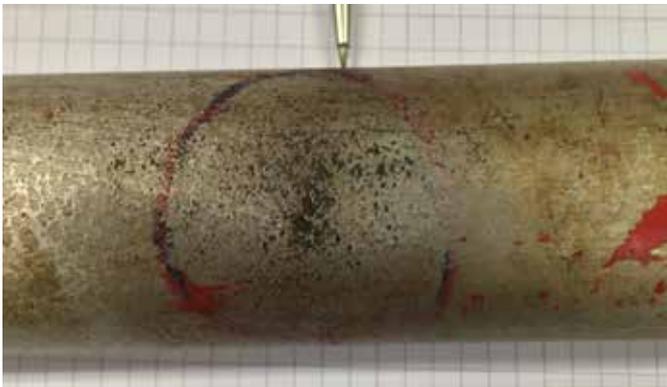
The Challenge

Offshore stainless steel pipes are often subjected to potential chloride corrosion due to the high salt content in the atmosphere. While chloride corrosion is externally visible as very minor defects on the outer wall of the stainless steel pipes, it could cause the small pitting defects to grow internally in the mid-wall through to the inner wall of the pipes.

A Norwegian Operator had identified leaking areas in the form of minor openings on the external wall of their offshore installed stainless steel 316L pipes. Comparable to chloride corrosion, Vertech Group was requested by the client to perform a verification test to determine if, and how well, the MEC™ (Magnetic Eddy Current) technique could detect the very minor defect sizes.

The Result

A 500mm section of a stainless steel pipe with OD 1", WT 3.38mm and a known leakage area was provided from the offshore jobsite for the verification test.



Stainless steel pipe sample from offshore jobsite with visible small pitting defects on the outer wall.

Distinction of the different defect locations i.e. externally, internally or mid-wall of the stainless steel pipe was also possible with the analysis of the signal phase angle while the wall loss severity was determined by the signal amplitude.

Utilising the MEC™-P9 Pipescanner with a permanent magnet typically used for the inspection of carbon steel materials, the MEC™ technique was proven to demonstrate a very high probability of detecting the small volumetric mid-wall pitting defects.

How Vertech Group Did It

MEC™ is a dynamic electromagnetic technique that operates on high frequency magnetic field controlled Eddy Current in combination with specially developed



sensors that are able to generate a higher density Eddy Current field and to measure and adapt the magnetic field strength.

As a result, the MEC™ technique offers high sensitivity in detecting topside and underside defects including small and shallow pitting caused by corrosion (from $\varnothing > 3\text{mm}$ and 10% wall loss).

The defects caused the Eddy Current field line configuration in the pipe wall to change and the changes were measured as an impedance change of the specific sensor. The changes in the signal amplitude and signal phase were displayed and compared to the calibration for the defect sizing and wall loss analysis.

Client Benefits

The MEC™ technique offers an alternative cost-effective inspection solution with the benefits of a reliable and thorough inspection for a peace of mind.

About Vertech Group

Vertech offers non-destructive testing (NDT) services to companies in many industries that possess assets or infrastructure. Their comprehensive range of conventional and advanced NDT services ensures clients receive first-class deliverables.

Vertech has proven experience in NDT inspection planning, advising clients on NDT services, and providing recommendations and solutions to comply with international and Australian standards.

Vertech Group is certified to ISO 17025 as an NDT inspection body by the National Association of Testing Authorities (NATA). Their NDT inspection personnel are highly qualified, skilled, and experienced in applying various NDT inspection services and testing methods.

For more information, visit: vertechgroup.com.au

How to Spot and Address Potential Process Problems Using Thermal Imaging

In the past several years, thermal cameras have transformed from a specialist-only device to the perfect tool for process equipment maintenance—from troubleshooting to scheduled maintenance. By using a thermal camera for troubleshooting, the technician can diagnose the root-cause more efficiently while also often identifying other potential problems during the same inspection, PdM-style.

How Thermal Cameras Work

Unlike regular digital cameras that capture images of the visible light reflected by objects, thermal cameras create pictures by measuring infrared energy or heat. The thermal camera then assigns colours based on the temperature differences it measures. In a “radiometric” imager, each pixel of colour on screen represents an individual temperature.

Thermal cameras read the surface temperature of objects. The trick is that surfaces don’t all emit thermal energy equally well. Emissivity is the material property that describes the efficiency with which an object radiates or emits heat.

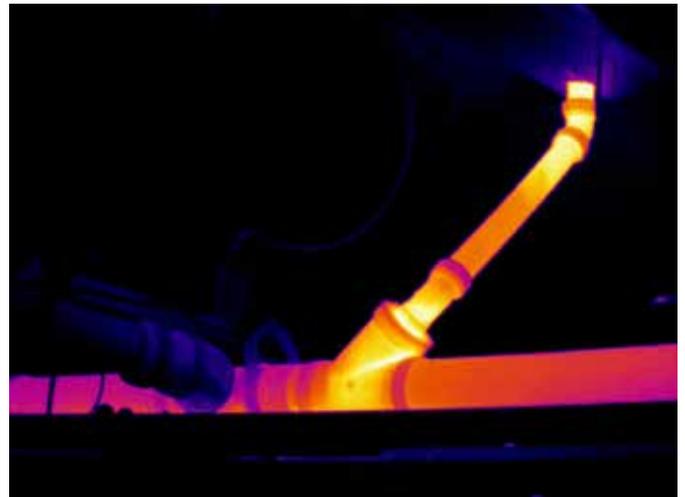
Emissivity is expressed as a value from zero to one-point-zero:

- Shiny metals have low emissivity
- Non-metals or painted or heavily oxidised metals have a higher emissivity

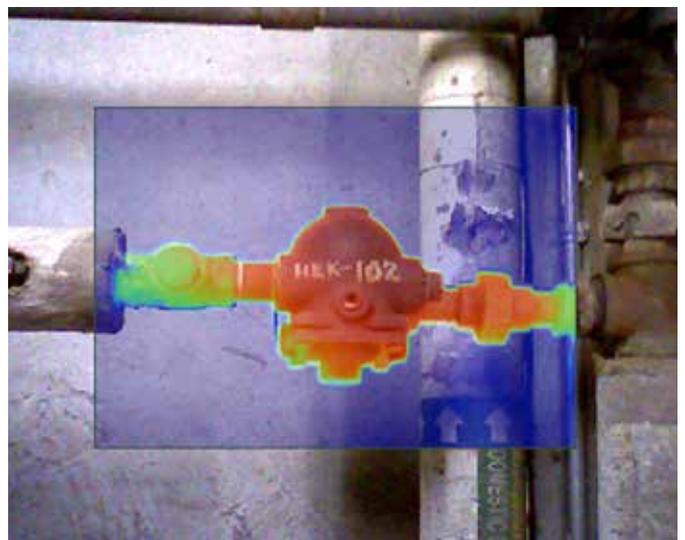
Objects with low-emissivity are—at the same time—highly reflective of their thermal surroundings. Because of this, the reflected energy a thermal camera sees may be different than actual temperature. To compensate (and improve temperature accuracy), follow these tips:

- Avoid measuring shiny metal surfaces
- In an electrical cabinet, focus on those object that are highly emissive such as the rubber insulation on the power cable
- Apply black paint or electrician’s tape to high-emissivity surfaces where necessary
- Know or control your back-ground temperature

The other way to compensate is to take qualitative readings. In other words, in many cases, you can compare heat signatures between like components or units, or to previous readings on that same object. If the temperature is markedly different, then there may be a problem. Knowing the precise temperature in that case may not be necessary.



Infrared imaging shows a partial blockage in a process liquid waste drainage line. Failure to recognise a deteriorating situation could result in serious problems.



Correctly operating steam traps should show a temperature differential from one side to the other. All high or low temperatures on both sides of trap may mean that the trap is stuck open or closed.

Measurement Guidelines

To capture the best thermal images, follow these best practices:

- Verify that the target is operating at a minimum 40 %of load (lighter loads don't produce much heat, making it hard to detect problems).
- Within the safe zone of your equipment, get as close to your target as you can.
- Don't "shoot" through doors; thermal gradients within an electrical cabinet make it impossible to understand the thermal impact inside the cabinet.
- Infrared doesn't go through glass or plastic safety shields so you need to work around these items.
- Account for wind and air currents that could cool the abnormal hot spots.
- Account for ambient air temperatures, especially outdoors. Hot/cool weather can mask component temperatures.
- Not all problems are hot! Restricted flow in a cooling system could be indicated by a cooler than normal signature.
- Think about how the equipment in question works and what its heat-related failure signatures are. It is important to understand the base line thermal pattern of the equipment you are thermally scanning.
- Consider sources for reflective infrared radiation when working with low-emissivity assets.
- When trending electrical or mechanical assets it's important to have consistent loads for accurate temperature data over time.

Note: While thermal imaging is non-contact, if you measure live electricity with the enclosure doors removed, safety standards still apply. Wear appropriate per-sonal protective equipment, try to stay four feet away from the object, and minimise time spent in the arc-flash zone.

Process Applications for Thermal Imaging

- Measure operational temperatures in motors or other rotating equipment.
- Identify leaks, blockages and settling in sealed vessels, pipes, steam systems, and heat exchangers.
- Capture process temperature readings.

Inspecting Motors and Other Rotating Equipment

Key inspection points for motors include:

- Bearings
 - Bearings under equal load should display equal temperatures
 - A hotter bearing on sheave side of motor could indicate over-tightened belts
- Belts



Take a baseline image of all motors, to compare over time, and then routinely look for abnormal hot spots on the motor, under full load.

- Sheaves that are hotter around circumference could indicate slipping belts
- Belts that do not cool between the motor and blower sheaves could indicate slipping belts
- Belts with unequal thermal patterns can indicate misalignment
- Couplings
- Electrical connections
- Overall temperature, especially
 - Poor cooling, or
 - Internal problems

Take the time to understand:

- How heat moves in the equipment via conduction and convection,
- How the equipment functions and fails. Understand the manufacture's operating specifications for the equipment

Thermal signatures are often associated with machine health. Normal operation has a verifiable signature and problems often show up as differentials. To understand these, however, requires knowledge of the machine and how it fails.

With the help of your trouble-shooting thermal camera, it pays to quickly check the overall motor temperature every so often, especially for smaller motors that may not get the kind of maintenance they should. Often these motors overheat before anyone notices otherwise. Use the motor temperature rating on the nameplate as a guide. Exterior motor temperatures are generally about 2 °C cooler than the interior temperatures.

For a routine or preventive maintenance program, it's ideal to start with a newly commissioned and freshly



Shafts made of shiny stainless steel can be tricky to measure with thermal cameras. Compensate by measuring close to the coupling.

lubricated motor and take a snap shot of the key inspection points, while the motor is running. Use these images as baselines.

Tip: On new motors, watch the initial motor start up through your thermal camera. A wiring problem, alignment or lubrication issue will show up thermally before permanent damage is incurred.

As the motor ages, the components become worn, and heat-producing friction develops, the housings will begin to heat up. If possible, take additional thermal images at regular intervals, comparing them to the baseline to analyse the motor's condition. When the thermal images indicate overheating, generate a maintenance order.

When you are looking at small bearings:

- Compare thermal patterns of one bearing to other similar ones in the same operation.
- Remember that small bearing failures can result in fire, mechanical stress, belt wear and increased electrical loads.

Inspecting small bearings is one of the places infrared shines as a maintenance technology. There is often no other way to inspect these and problems, while they may seem insignificant at first, can be serious. Another

benefit is that the inspection is done while the equipment is operating.

When you are looking at belts and sheaves:

- Guards may restrict your view.
- Be sure to re-inspect belts and sheaves after corrective action is taken. While it is not always possible to get a clear view of the belts, thermography can provide valuable information about the condition of the belt and sheave.

When inspecting pumps and fans, focus on the coupling:

- Look for irregularities—a healthy coupling should have a consistent thermal signature. Component wear will cause abnormal heat.
- Alignment issues will show up as excess heat before they cause bearing problems and then irreversible damage.

Inspecting Tanks and Other Sealed Vessels

Key inspection points:

- Scan the outside surface of tanks for differences in temperature at different points
- Gaskets, seals, and valves at openings



Thermal cameras can detect the level of fluid or other substance inside a tank, providing there is a temperature difference between the liquid, the air inside, and the air outside, and providing the tank is not made of a shiny material.

- Tank levels—locate fluid, solid, “floater” levels and sludge
- Refractory

While most large process tanks have built-in visual or electronic indicators for tracking product levels, they are not always reliable. Thermal inspections can reveal the interface between the liquid and the gas (usually air) in a vessel, indicating how full it is and whether the contents have settled or separated inappropriately. Knowing the correct levels avoids overfilling when a level sensor is faulty and ensures reliable inventory figures for raw materials and/or finished products.

Tank Levels

When a tank or silo is changing temperature, it's often possible to see the thermal patterns associated with the various levels inside. Knowing the sludge level, for instance, is invaluable when it comes to operating a continuous process or preparing to clean out a tank. Thermography can also reveal floating materials such as wax and foam as well as layers of different liquids, gases and even solids, such as the layer of paraffin that sometimes forms between the oil and water layers in separators, hindering their normal operation.

Spotting Leaky Gaskets and Seals

Most leaks develop in or around a gasket or seal. Less often, corrosion will cause a weakness to develop and rupture the vessel. To find a leaky gasket or seal, scan the imager along the seal looking for thermal eccentricities. A large change in temperature along the seal or gasket indicates a loss of either heat or cold—the signature of a failure.

Valves

A thermal camera can monitor process control valves for leakage, stiction (sticking) or excess friction. Also,

a valve's excitation coil may overheat from working too hard, pointing to a problem such as current leakage or valve size mismatch. When thermography indicates a problem, technicians can follow up by calibrating the valve or the valve's positioner.

Refractories

Under the right conditions, a damaged refractory or liner will show up as hot or cool spots. Most leaks occur because of the failure of a seal or gasket, although sometimes corrosion will lead to a leak in a vessel's wall. Whatever its origin, a leak is likely to manifest itself as a temperature anomaly. When inspecting refractory insulation, look for hot areas associated with refractory thinning or failure. Cold areas associated with internal product build-up.

High temperature refractory is designed to control heat transfer; as it degrades, it allows more heat to transfer to the outside of the device. In some cases, the cooler areas are the ones of interest as they may show product buildup inside a device.

Steam Traps, Lines, Radiators and Convectors

Thermal cameras can quickly see the trap and line temperatures into and out of steam traps. Check all transmission lines and follow pipe temperatures to the source of problems.

- If temperature is low in steam pipe, low in trap and low in condensate return, trap may be stuck closed.
- If temperature is high in steam pipe, high in trap, and high in condensate return, trap may be stuck open.
- If temperature is high in steam pipe, high in trap, and slightly lower in condensate return, trap is probably operating properly.

Take Note:

- Gases have a higher heat capacity than the liquids, meaning the liquid products change temperature much more slowly than the gas in the headspace.
- Since most tanks are located outside, their contents heat up during the day due to solar loading, and cool off at night. This temperature difference between the product and the head-space can usually be observed through most tank walls. This technique can work any time during the day but keep in mind that there will be times when the air and liquid or solid will be the same temperature and no apparent level will be visible. The level will start to become visible as the air gains or loses thermal energy.
- A thermal image of a tank that is completely empty or completely full, or that has a shiny reflective skin, will appear uniform and no product level will be apparent. Otherwise, the product level will appear as an obvious thermal separation between the headspace and the product.
- If the tank surface is shiny, or it has insulated walls, it may be difficult to inspect using thermal imaging.

A trap that has failed to open can go undetected for weeks or months and can be very costly. To a thermal camera, these traps will appear warm on both sides. If you find a trap like this, make sure it has not just cycled. If, after a few minutes, it remains hot on both sides, it is probably not working properly.

Heat Exchangers And Steam Radiators

Thermal inspection of heat exchangers can quickly and safely identify areas of corrosion, mineral deposits, and sludge build-up, as well as a lack of heat transfer due to external damage like hail, abuse, or lack of maintenance. It is important to remember however, that mechanical heat transfer is one area in which clear, sharp lines of temperature difference rarely exist. Unlike the typical “hot spots” one is able to see in overheating or malfunctioning equipment, heat exchangers are constructed to facilitate a diffuse and monolithic temperature exchange. Higher resolution cameras with on-camera level-and-span adjustments typically help with capturing lower thermal differences (called Delta T) often exhibited by blocked passages or clogged strainers of plate-type exchangers.

Inversely, shell-type heat exchangers often times show clear and definitive areas of blockage caused by solid build-up of materials. In these cases, infrared inspection will allow you to diagnose specific areas of trouble.

Conclusion

The missing ingredient in all of the above is personal experience. Troubleshooting by nature is scenario specific. The more time spent using thermal cameras, the better the user becomes at identifying anomalies. That thermal skill, blended into existing knowledge of line and equipment functionality, can make for a formidable troubleshooter and better, long-term maintenance.

Fluke’s Ultra Series thermal imaging cameras offer advanced thermal sensitivity, high-resolution imaging, and precise temperature measurement capabilities—making them ideal tools for identifying and diagnosing process anomalies with accuracy and efficiency.

Did you know?

1. Not all problems are hot. If a fuse or switch has failed, for example, you may see an uncommonly cold connection.
2. If a panel or other piece of equipment has an internal fan, you won’t get an accurate surface temperature reading. (Obviously, take care when disabling a fan critical to equipment cooling.)
3. You can take a thermal camera into messy process areas—just cover the camera with a thin plastic bag. The plastic is transparent to infrared.
4. Over lubrication is just as much of a problem as under lubrication! Similarly, belts can be both over and under tightened.
5. Water holds on to heat far longer than air. That means that after a hot day, the liquid inside a tank will stay warm long after the air has cooled, giving you the greatest thermal differentiation to detect tank levels with.

About Fluke

This article was supplied by Fluke.

Since 1948, Fluke has helped define and grow a unique technology market, providing testing and troubleshooting capabilities that have grown to mission critical status in manufacturing and service industries.

From industrial electronic installation, maintenance and service to precision measurement and quality control, Fluke tools help keep business and industry around the globe up and running. Typical customers and users include technicians, engineers, metrologists, medical-device manufacturers, and computer network professionals — people who stake their reputations on their tools, and use tools to help extend their personal power and abilities.

For more information, visit: [fluke.com](https://www.fluke.com)



AINDT

Australian Institute for Non-destructive Testing

SHAPE THE FUTURE

VOLUNTEER FOR YOUR LOCAL AINDT BRANCH COMMITTEE TODAY

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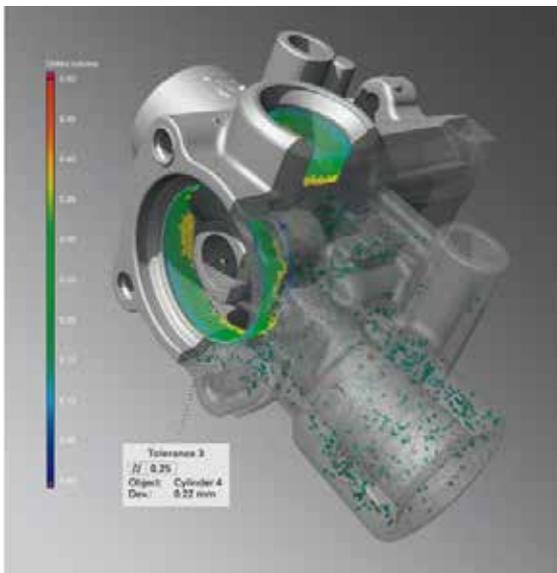
Computed Tomography Buyers Guide: What You Need to Know Before You Start Shopping

In Australia, the advanced manufacturing sector is booming. With the increasing implementation of additive manufacturing techniques, the need for non-destructive testing of complex components becomes even more important and computed tomography (CT) (Also known as microCT) is the go-to solution.

BY DR CAMERON CHAI AND PETER AIREY, AXT

Similar trends for CT are being seen in research, where there is a growing need to examine components non-destructively in 3D to optimise designs and fabrication processes.

There are currently a large number of solutions depending on what your requirements are and the choices can be confusing. In this article, we take a look at the various options that are available.



Sample Size and System Size

Benchtop systems are available for smaller samples, while larger systems can cater for samples in the meter plus range. Systems that cater for larger components may also include cranes and other lifting devices to aid loading as well as manipulators to manoeuvre the parts during examination.

You should also take into account the availability of space in your lab or workspace. Some manufacturers like diondo offer compact systems that can be more easily integrated into smaller spaces such as production environments.



The Rigaku HX130 benchtop CT system.



The Rigaku HX130 benchtop CT system.

Materials to be Examined

CT uses X-rays and X-rays are attenuated as a function of density and thickness. The penetrating power of a CT is dictated by its power i.e. kV. Systems up to 600kV are commonly available. For the largest, densest components, linac (linear accelerator) powered CTs are also available with power ratings up to 9MeV.

Lower power systems are more than suitable for imaging biological materials, organic materials, polymers, composites, ceramics and even thinner metals.

Imaging Modes

Oftentimes, the component being examined is made up of different phases. Depending on what they are e.g. differences in density, you may need to rely on different imaging modes to best resolve them to reveal any flaws or defects. These modes might include in quantitative phase contrast, bright field, dark field or phase retrieval.

Spatial Resolution

Depending on the size of the features and defects you are looking for, systems are available with sub-micron resolution using nano-focus X-ray sources and high resolution detectors.

Speed and Temporal Resolution

CT scans generate large datasets, with higher spatial resolutions, generating even larger datasets. Faster detectors and computers now allow for 360° scans in less than 10 seconds, opening the door for higher throughputs and true dynamic (4D) scanning.

2D, 3D and 4D

CT is by definition 3D imaging. The ability to perform simpler 2D scans can also be a useful capability and can be a quick QC checking technique akin to radiography.

There is also a growing trend towards performing in situ studies within a CT.

To do this successfully requires two things:

1. The ability to incorporate a testing rig into the instrument (such as mechanical, thermal, environmental) that does not interfere with the imaging hardware.
2. The ability to perform multiple scans, ideally on a continuous, uninterrupted basis generating real-time, 4D/dynamic imaging ensuring no instantaneous event (such as where a fracture is missed).

System Flexibility

For optimal flexibility, choose systems that support a range of X-ray sources and detectors—some even allow multiple units to be installed side by side, enabling quick and easy changeovers to suit your specific application needs.

Investing for the Future

A CT system is a significant capital expense. Try to consider the demands that you may have in the future—this can give you added flexibility and extend or increase the useful service life of your instrument.

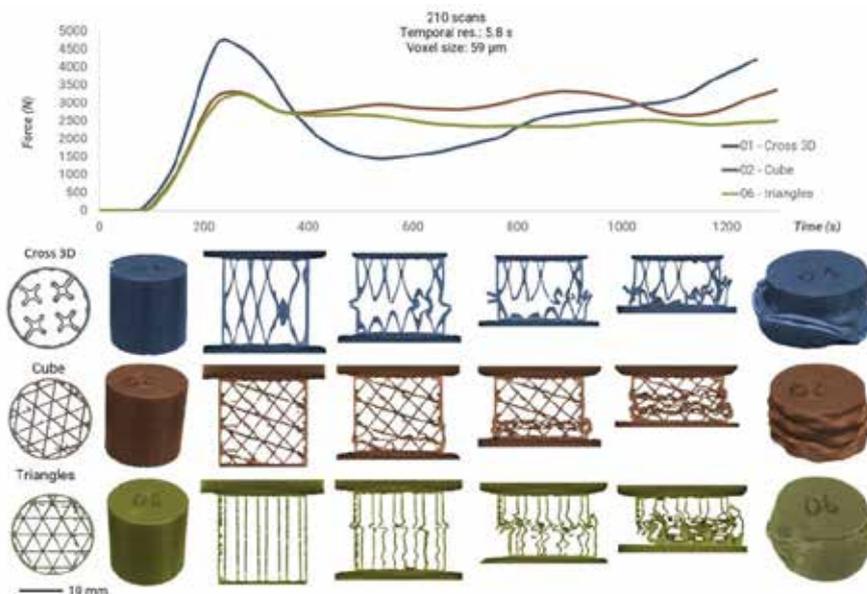
After Sales Support

Like any instrument, preventative maintenance should be performed periodically to ensure optimal performance. Make sure your supplier has a support network to facilitate both this and emergency service if required, as well as a supply of spare parts such as filaments which are a consumable item and essential to the operation of your CT.

Summary

AXT have Australia's widest range of CT solutions from manufacturers such as diondo, TESCAN, Rigaku and Sigray. They also have access to the components and software needed to design and build custom solutions where the need arises.

This article was supplied by AXT.



4D computed tomography studies of a range of additively manufactured cross-sections to see which structure was the most effective at resisting a compressive load.

NDT World Event Calendar

Pan-American Conference for Non-destructive Testing

9 to 12 June 2025 | Ontario, Canada

The next Pan-American Conference for Non-destructive Testing (VIII PANNDT) will be held at the Fallsview Casino Resort at Niagara Falls in Ontario, Canada from 9 to 12 June 2025. The exhibition area will have space for over 100 booths. This valuable conference is a must-attend event for inspection, quality assurance, quality control, manufacturing, and non-destructive testing personnel. The program will feature presentations from leading researchers, technicians, companies, and organisations who will demonstrate the latest technologies, trends, tools, and techniques. The conference is being hosted by the Canadian Institute for Non-Destructive Evaluation.

For further information, visit:

www.panndt.org/panndtconference

ASNT Research Symposium

23 to 27 June 2025 | Indianapolis, United States

Hosted by the American Society for Non-destructive Testing, the ASNT Research Symposium is the premier event for the Non-destructive Evaluation Community. Make plans now to attend, present, and network as we hear about cutting edge research from some of the best minds in the field, spotlight up and coming researchers, listen to engaging award lectures, and network with peers and friends. With the theme of New Horizons: The intersection of technology, community, and collaboration, the symposium will look at how digitalisation, artificial intelligence, and automation are enhancing efficiency and accuracy in NDE.

For further information, visit:

asnt.eventsair.com/rs2025

ASNT 2025: The Annual Conference

6 to 9 October | Florida, United States

'Access Granted' is more than just a theme—it's your key to the future of NDT. Join industry leaders as we explore innovations, share insights, and open doors to the latest advancements in NDT. This must-attend event provides unparalleled networking, hands-on technology showcases, and an immersive experience designed to expand your knowledge and elevate your career. Hosted by the American Society for Non-destructive Testing, ASNT 2025 will be held at Disney's Coronado Springs Resort, with over 100 technical sessions, 210 exhibitors and 2,200 attendees.

For further information, visit:

asnt.eventsair.com/asnt-2025

2025 AINDT Summit

18 to 20 November | Newcastle, Australia

The 2025 AINDT Summit will bring together industry leaders, innovators, and NDT professionals for three days of knowledge sharing, networking, and professional development in Newcastle from 18 to 20 November 2025. With the theme The Power of Inspection, the Summit will explore how inspection services deliver crucial insights about critical assets across industries. This timely theme also addresses Australia's evolving energy landscape and the expanding role of inspection services in supporting our future energy infrastructure.

For further information, visit: aindt.com.au

The 17th Asia Pacific Conference for Non-Destructive Testing (APCNDT)

11 to 14 May 2026 | Hawaii, USA

APCNDT is set to be an unmissable event for NDT professionals across the globe. Held under the theme Breaking Barriers: NDT Solutions for a Changing World – Innovate, Adapt, Transform, this premier conference will showcase the latest innovations and emerging technologies that are redefining non-destructive testing. Attendees will have the opportunity to connect with global experts, share knowledge, and explore new solutions to address the evolving challenges faced by industries worldwide. Join us to discover how NDT is driving transformation, and paving the way for a dynamic future.

For further information, visit: www.apcndt2026.com

The 14th European Conference on Non-Destructive Testing (ECNDT 2026)

15 to 19 June 2026 | Verona, Italy

ECNDT 2026 is a leading international event hosted by the European Federation for Non-Destructive Testing. Bringing together experts, researchers, and professionals, the conference is a hub for sharing innovation, research, and emerging technologies shaping the future of inspection and quality assurance. The program features technical presentations and case studies across a range of sectors, complemented by a dynamic exhibition. This connection between research and practical application encourages collaboration, networking, and advancement of NDT worldwide.

For further information, visit: www.ecndt2026.org



AXT

VisiConsult X-ray Inspection Systems Available from AXT

VisiConsult has been involved in X-ray inspection for over 25 years. AXT is proud to announce that they have brought their intelligent

end-to-end NDT solutions to Australia where they will help local companies transition to the next phase of modernisation.

German-based VisiConsult have expertise in automation, robotics, Automatic Defect Recognition (ADR) powered by AI and image enhancement and their experienced engineers produce solutions that set new industry standards.

They have clients in industries such as aerospace and aviation, automotive, defence, electronics, energy and

oil and gas around the world. Their technology helps maintain quality as well as improving processing and product development, while increasing efficiency and improving data interpretation.

Their range of X-ray inspection systems ranges from standard products to modular standard and fully custom systems which can include cranes and other sample loading devices and robotic manipulators. VisiConsult are also a software developer and provider. Their x.OS software platform underpins all their inspection systems.

They offer a choice of X-ray sources and detectors to suit your specific application, with the ability to upgrade to Computed Tomography (3D imaging). Their systems are characterised by ease of use and will help you take your capabilities to the next level.

For further information, visit: axt.com.au/visiconsult



IMIS Asset Integrity

Ensuring Safety, Compliance and Reliability

IMIS Asset Integrity specialises in comprehensive asset integrity solutions, helping industries maintain safety, compliance, and operational efficiency. As experts in non-destructive testing (NDT), inspection, and maintenance, IMIS supports businesses in mining, oil and gas, and heavy industry by ensuring their assets meet the highest standards.

The company provides a full suite of NDT methods, including ultrasonic testing, eddy current inspection, magnetic particle and dye penetrant testing, as well as advanced techniques such as phased array ultrasonics and wire rope testing. With a commitment to precision and innovation, their services deliver critical insights

that minimise downtime, mitigate risks and extend asset lifecycles.

Their team of highly qualified technicians leverages cutting-edge technology to detect and prevent potential failures before they occur. IMIS takes pride in delivering industry-leading solutions tailored to the unique challenges of their clients.

As an AINDT member, IMIS Asset Integrity is committed to upholding the highest industry standards while continuously evolving to meet the demands of modern asset management. Whether it's pressure vessels, pipelines, or structural components, IMIS Asset Integrity ensures your assets remain safe, efficient, and compliant.

For further information, visit: imisgroup.com



International Tube Testing

Active in the NDT industry since 1978, Charlie Panos has over 40 years of experience. He provides

International Tube Testing (ITT) was established by Charlie Panos in 2000. With over 40 years of industry experience, Charlie has in-depth expertise and qualifications in the engineering, testing and inspection industry.

ITT was formed to fill a growing need for accurate, dependable specialised engineering testing services. ITT provides specialised IRIS and RFT tube testing and has tested almost every boiler design in the process,

petrochemical and power industries in Australia, the Pacific Islands, Papua New Guinea, Indonesia, Malaysia, Philippines and India.

The company can test tube sizes from 16mm up to 200mm, including straight tubes and tubes with bends for industries as diverse as pulp and paper, fabrication, maritime and aerospace.

ITT prides itself on delivering personalised, ethical service every time and has the field proven experience, technology and determination to ensure all your requirements are exceeded.

For further information, visit: tubetesting.com.au



Kuzer
**Mining for Technical Gold:
 How Tech-O-Metrics
 Transforms the Skills
 Shortage into Opportunity**

The technical talent crisis has reached a critical stage. With 81% of NDT companies reporting they've declined projects due to staffing limitations and industry turnover exceeding 23% annually, conventional recruitment strategies are proving inadequate for today's challenges. Forward-thinking organisations are turning to Tech-O-Metrics—not just as an assessment tool, but as a complete talent strategy reinvention.

This innovative platform from Kuzer Technical moves beyond the increasingly futile search for 'ready-made' technicians by scientifically identifying adaptable minds with untapped technical potential. The 15-minute assessment evaluates fundamental reasoning patterns across five domains critical to NDT success, revealing

candidates with exceptional promise regardless of their formal qualifications or industry background. "Tech-O-Metrics has completely transformed our approach to the skills shortage," explains Operations Manager David Leung. "Instead of competing for the same limited pool of experienced technicians, we're building our own talent pipeline from career changers and related technical fields."

His team now uses the assessment data to create accelerated learning pathways tailored to each new hire's specific cognitive profile, cutting induction time by nearly 40%.

The platform's sophisticated analytics also help organisations optimise their existing workforce, identifying untapped potential in current employees who might excel in technical roles. This internal mobility strategy has helped companies reduce external hiring needs while improving retention through meaningful career development.

For further information, visit: kuzer.com



NDT Instruments Australia

NDT Instruments Australia is a subsidiary of NDT Instruments Singapore. Established in 2023 in Perth, their mission is to identify, source and supply quality products to customers in the field of Non-Destructive Testing

(NDT) systems and quality assurance and control.

NDT Instruments Australia offers a wide range of products including their parent company, FOERSTER's new mobile universal device for non-destructive eddy current testing: the TCM 2.142. TCM (Test Channel Mobile) is an innovative platform that can revolutionize portable NDT with eddy current.

Mobile testing often requires a variety of testing systems. Designed for multi-Purpose use, FOERSTER's versatile new TCM serves as a unifying platform for established eddy current testing products.

Deep penetrating Low-Frequency (LF) testing with DEFECTOSCOPE for measuring residual wall thickness and High-Frequency (HF) testing with DEFECTOMETER for detection of the smallest cracks are now integrated in a single device. The TCM platform also covers conductivity measurement of non-ferromagnetic materials.

Software modules available include:

- DEFECTOSCOPE: Universal eddy current testing with rotating, HF and LF probes
- SIGMATEST: Measures electrical conductivity of non-ferromagnetic metals
- ECA (Eddy Current Array): Eddy current testing via sensor arrays with up to 512 channels

For further information, visit: ndt-instruments.com



Russell Fraser Sales

Russell Fraser Sales (RFS) has been a cornerstone in Australia's non-destructive testing (NDT) industry since its establishment in 1993. Recognised as a trusted supplier, RFS offers a

comprehensive range of high-quality inspection and testing equipment tailored to sectors such as aviation, mining, oil and gas, and food processing. Their product lineup includes advanced tools like ultrasonic flaw detectors, thickness gauges, hardness testers, magnetic particle inspection (MPI) and dye penetrant inspection (DPI) equipment, videoscopes, and ultraviolet (UV) light sources.

Beyond equipment supply, RFS is committed to enhancing industry standards by providing expert guidance and support, ensuring clients receive solutions

that meet their specific testing and inspection needs. With over three decades of dedicated service, Russell Fraser Sales continues to uphold its reputation as Australia's most trusted NDT equipment supplier.

RFS was acquired by the Cebeco Group in December 2024. Despite the change in ownership, RFS continues to operate under its established name, maintaining the same address, contact information, and staff. The acquisition of RFS by Cebeco Pty Ltd marks a significant milestone in RFS's history, set to drive the company's growth and innovation in the NDT industry. Cebeco, a well-established distributor of industrial and engineering solutions, brings extensive market expertise, operational resources, and an expanded network that will strengthen RFS's position in the industry.

For further information, visit: rfsales.com.au

SIMPLIFI NII

Simplifi NII

Delivers Seamless SIUI PAUT Solutions for OmniScan Users

In the world of advanced NDT, compatibility is king—and Simplifi NII is proud to supply SIUI's powerful range of Phased Array Ultrasonic Testing (PAUT) probes, wedges, and crawlers that integrate beautifully with Olympus/OmniScan platforms.

Whether you're running automated weld inspections, corrosion mapping, or composite inspections, the right hardware makes all the difference. SIUI's PAUT gear, distributed by Simplifi NII, is engineered to match the performance and signal fidelity demanded by OmniScan users—without the need for complicated adapters or workaround setups.

Simplifi NII's standard connectors and wedge profiles ensure plug-and-play compatibility, while their range of dual-axis crawlers and encoded scanners offer the flexibility and precision needed for high-spec projects.

With durability for harsh site conditions and precision you can count on, SIUI is a serious alternative for teams looking to enhance performance without breaking the budget.

Simplifi NII doesn't just supply the gear—they also offer fast delivery, calibration services, and technical support across Australia. So whether you're scaling up your inspection fleet or need a reliable replacement probe in a pinch, Simplifi NII has you covered.

Looking for equipment that plays nice with your OmniScan, but without the brand tax? Talk to us about SIUI.

For further information, visit: simplifi-nii.com.au

See every detail with the large 7" Hi-Resolution Touch Screen

Work your way with the option of touchscreen gestures or conventional button control

Improve efficiency with easy to access menus and customisable hotkeys

Perform any task with the powerful feature-laden user interface (AWS, TVG, Interface Gate, 600V Pulser)

Experience peace of mind with rugged, US-made quality and IP67-certified durability

PCTE Introduces the ECHO PRO A new approach to Flaw Detectors



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PCTE's NDT Team

Derek Burns - Lead & WA
d.burns@pcte.com.au
0498 800 373

Joel Shenoy - NSW
j.shenoy@pcte.com.au
0487 043 466

Gary Day - VIC
g.day@pcte.com.au
0488 331 244



EVIDENT



Be Ready for What's Next

The New OmniScan™ X4 Flaw Detector

Engineered for Speed & Simplicity

Advanced imaging technology and an easy-to-use interface allow users of all skill levels to perform fast, accurate inspections—boosting performance and streamlining workflows.

Proven to Perform, Trusted to Deliver

An all-in-one imaging platform, coupled with unmatched portability and versatility, delivers exceptional results in even the most challenging inspection environments.

Designed to Evolve with Your Needs

With free quarterly software updates, the OmniScan X4 empowers you to continuously adapt to future inspection needs—ensuring that you're always ready for what's next.

[EvidentScientific.com](https://www.evidentscientific.com)

