



*The World Organisation for NDT*

# Annual Report 2023

ICNDT is formally registered as a legal association in Vienna in accordance with the Austrian Corporations Act and has a bank account to conduct financial business transactions.

The constitution meets the requirements of the Austrian Corporations Act.

As an incorporated body, ICNDT is required to submit its Annual Report and audited Financial Report to the relevant Austrian authorities.

**This is the Annual Report for 2023.**

## Vision and Mission

### *Our Vision*

To create a safer world through wider use of non-destructive testing (NDT) and diagnostic technologies.

### *Our Mission*

To lead a global network of NDT societies and their regional groups devoted to the promotion of the development of the science and practice of NDT for the benefit of the public worldwide.

## Introduction

The operations of the International Committee for Non-Destructive Testing (ICNDT), its regions and its member NDT societies have continued during 2023, returning to normal following the COVID-19 pandemic, taking account of the revised timing of the World and Regional Conferences.

It was recommended in 2020, and confirmed in 2021, that alternative arrangements should be made for some of the ICNDT business that is normally conducted every four years at the World Conference and these arrangements were continued in 2023:

- The in-person General Assembly (GA) meetings were postponed until the 20th World Conference on Non-Destructive Testing (20th WCNDT), now to be held in 2024.
- The current office bearers, Secretariat and auditors should remain in office until the GA is held at the 20th WCNDT.
- The decision on the 22nd WCNDT should be postponed until the GA is held in 2024.
- The presentation of the ICNDT Awards should be postponed until the 20th WCNDT.

The Annual Meeting went ahead on 1 March 2023, with an in-person meeting at the 16th Asia-Pacific Conference on Non-Destructive Testing (APCNDT 2023) in Melbourne, Australia, and other participants joining online.

## Meetings, Committees and Groups

### *Annual Meeting 2023*

The Annual Meeting of ICNDT members was held as a hybrid meeting on 1 March 2023, with 30 voting members (14 in-person and 16 online) and 23 observers present. Those taking part included: Dr Sajeesh Babu, Chair; Mr David Gilbert, General Secretary; Mr Gerhard Aufricht, Treasurer; Dr Mike Farley, Past Chair and ICNDT Advisory Committee (IAC) Chair; and Professor Younho Cho, President of the 20th WCNDT.

The Annual Report for 2022 was approved, along with the accounts for 2022 and the fees (no changes) and budget for 2023, which were presented by Mr Aufricht. Members were given an update on the plans for the 20th WCNDT, now scheduled for 27-31 May 2024.

The unconfirmed minutes of the meeting can be found at: [www.icndt.org/ICNDT\\_Annual\\_Meeting\\_2023\\_03\\_01\\_Unconfirmed.pdf](http://www.icndt.org/ICNDT_Annual_Meeting_2023_03_01_Unconfirmed.pdf)

### *ICNDT Executive Committee (IEC)*

IEC meetings were held on 20 January (online), 14 June (online), 12 September (hybrid) and 13 December (hybrid) 2023. These meetings were chaired by Dr Sajeesh Babu. In addition, several sub-group online meetings were held between the IEC and the WCNDT Organising Committee.

### *ICNDT Advisory Committee (IAC)*

A meeting of the IAC was held in March 2023 during APCNDT 2023 in Melbourne, Australia, chaired by Dr Mike Farley. 13 members were present, including Dr Sajeesh Babu, Mr David Gilbert, Mr Gerhard Aufricht and two representatives from three of the four regions. The two main topics covered and the outcomes were as follows:

### ● Review of the ICNDT Strategic Plan

A number of changes and additions were made and Dr Farley and Dr Babu will update and circulate the draft for approval.

### ● Review of ICNDT liaison memberships and confirmation of the ICNDT nominees responsible

The following were agreed:

<b>International Atomic Energy Agency (IAEA)</b>	Mr David Gilbert/Dr Sajeesh Babu
<b>International Institute of Welding (IIW)</b>	Dr Sajeesh Babu/Dr Thomas Wenzel (for affairs related to Commission V)
<b>World Institute for Nuclear Security (WINS)/ World Nuclear Association</b>	Dr Sajeesh Babu
<b>World Federation of NDE Centers (WFNDEC)</b>	Dormant
<b>World Congress on Isotopes (WCI)</b>	Mr David Gilbert
<b>Academia NDT International</b>	Mr David Gilbert/Professor Peter Trampus (agreement to be formalised)
<b>International Society of Condition Monitoring (ISCM)</b>	No meetings (arrangement lapsed)
<b>Austrian Chamber of Commerce</b>	Active (Mr Gerhard Aufricht)

Other discussions covered:

### ● ICNDT Awards

Members considered it important that ICNDT is seen to be recognising younger people with its awards. It was agreed that members would be reminded of this when finalising nominations in 2023 and that ICNDT should consider whether new awards/new titles are needed for the next cycle in four years.

### ● ICNDT Publications (including WCNDT proceedings)

Members discussed the copyright arrangements and the publication of WCNDT proceedings. It was agreed to follow up with a meeting and to review the proposed arrangements with NDT.net.

## ***World Conference on Non-Destructive Testing (20th WCNDT)***

The 20th WCNDT will be held at Songdo Convensia, Incheon, South Korea, from 27-31 May 2024, which is less than four months from the publication of this report. The preparation of the conference by the Korean Society for Nondestructive Testing (KSNT) is well underway.

The following information provides an update on how the arrangements for the conference are proceeding:

- The submission of abstracts was closed as of 31 October 2023, with over 1000 abstracts submitted from 55 countries. Subsequently, the authors were informed about the acceptance of their abstracts and were reminded that registration and payment of the fee must be completed by the end of December 2023.
- To date, 201 companies involved in the NDT field, either as equipment or service providers, have purchased exhibition space and a total of 354 exhibition booths are sold.
- A total of 24 sponsors, including the Exclusive Sponsor, have confirmed their sponsorship.
- The 20th WCNDT Organising Committee has invited many renowned speakers, including a Nobel laureate, for the plenary and keynote presentations. Three plenary speakers and 49 keynote/invited speakers have been confirmed so far.
- 20 special sessions and two short courses on various topics are to be scheduled during the overall scientific programme.
- A social programme consisting of a Welcome Reception (27 May), Gala Dinner (29 May) and Cultural Night (30 May) has been planned. An outstanding traditional Korean performance with various examples of Korean culture will make for a most memorable and pleasant night.

- The Scientific Committee of the 20th WCNDT is focusing on structuring the scientific programme featuring keynote/invited talks and contributed talks in parallel sessions, as well as poster sessions. It is aiming to complete the detailed preliminary programme by the end of January 2024.
- Conference pre-registration for attendees is now available on the conference website (<https://20thwcndt.com/registration/registration.html>). It is recommended that those who have not yet registered complete their registration as early as possible to benefit from the reduced pre-registration fee.

For further information, visit: [www.20thwcndt.com](http://www.20thwcndt.com)



### **Working Group 1 (Qualification and Certification)**

A hybrid meeting of Working Group 1 (WG1) was held on 4 July 2023 at the 13th European Conference on Non-Destructive Testing (13th ECNDT) in Lisbon, Portugal, with an attendance of 22. The meeting was co-chaired by Dr Sajeesh Babu and Dr Mike Farley, after Mr Alexander Mullin stepped down from WG1 and the position of WG1 Chair. This was as a result of the EU sanctions against Russia due to the Russia-Ukraine conflict. Dr Babu, Dr Farley and Mr David Gilbert each paid tribute to Mr Mullin in recognition of his excellent work for the group. A number of other changes to the membership of the group were agreed and have been ratified by the IEC. Dr Babu presented the draft document *ICNDT Guide to Good Practice – Fraudulent Management by Personnel Certification Bodies* and members were invited to comment in writing. Further work is underway.

Dr Babu presented the recommendations on interpretation of ISO 9712:2021, mostly prepared by Mr Mullin (whose work is much appreciated). Most of the items within the comparison document were accepted without further discussion. The clause on reduction in compulsory training to 50% where there is evidence of other training or education was discussed. The feedback from training establishments was that it was impractical to reduce course duration for a few candidates depending upon the level of their education. There was also discussion on how to implement (and verify) the industrial experience requirements and on the points option for renewal/recertification, which is causing difficulties for several Personnel Certification Bodies (PCBs). New text will be developed for the document.

Dr Farley presented the *ICNDT Guide to Qualification and Certification of Personnel for NDT*, updated to reflect ISO 9712:2021/2022, and stated that there had been an intention to publish it on the ICNDT website soon after the 13th ECNDT. He thanked the members of WG1 who helped with the revision. However, the posting of the document on the website has been delayed and further changes are being made to the Appendix relating to the EU and the UK after some recent changes in UK government policies. Printed copies will be available at the 20th WCNDT.

Dr Babu advised that ISO/IEC 17024:2012 is in the process of revision by the ISO committee for conformity assessment (CASCO). There will be the opportunity to comment in due course via TC 135. This is very important, as any significant changes to this standard will have an impact on all of the world's accredited NDT certification schemes.

WG1 has been operating in accordance with the Action Plan produced in 2022 by Mr Mullin. This plan is now being updated, taking account of progress to date and the outcomes of the meeting in Lisbon.

The next meeting will be an in-person meeting at the 20th WCNDT, when there will also be a Certification Workshop.

### ***The ICNDT Certification Executive Committee (ICEC)***

The activities of the ICNDT Certification Executive Committee (ICEC) centre around the Multilateral Recognition Agreement (MRA), ICNDT PCB conformity assessment and the ICNDT Examination Question Bank (EQB). The ICEC carries out most of its work via email and the internet. It had online meetings on 2 February, 2 July, 28 September and 28 November 2023.

Present ICEC members are as follows:

- Mr Harold Jansen (Chair and Africa representative)
- Dr Norikazu Ooka (Asia-Pacific region)
- Mr Gerhard Aufricht (ICNDT Treasurer)
- Mr João Rufino Teles Filho (Pan-America region)
- Dr Thomas Wenzel (Europe region)
- Mr Peter Milligan
- Mr Glenn Tubrett (proposed representative to be confirmed at the GA).

The Secretary is Mr Colin Bird, who can be contacted at: [icec-secretary@icndt.org](mailto:icec-secretary@icndt.org)

Following the period during the COVID-19 pandemic when special arrangements were in place, it can now be reported that the ICNDT OP19-registered PCBs are fully audited and registered.

There are now 46 signatories to the MRA Schedule 1. These signatories are committed to recognise the certification awarded by the 20 PCBs registered by ICNDT under the MRA Schedule 2.

The ICNDT register of Personnel Certification Bodies has been extended to highlight MRA membership and all known PCBs have been contacted to supply data. The revised register will be published on the ICNDT website.

The ICEC has developed an online delivery system for the ICNDT EQB. This online EQB has been successfully trialled by several PCBs. The ICEC has been approached by additional PCBs showing continued demand for the EQB, both in its current form and the future online version.

### ***Membership Committee***

**Chair:** Mr João Conte

**Members:** Mr Shohei Ooka, Mr David Gilbert, Mr David Bajula, Professor Ferid Herelli, Mr Les Dick and Ms Irene Pettigrew.

**Actions:**

- The committee was restructured with the addition of two new members: Mr Bajula and Ms Pettigrew.
- 'Action Plan 1: Support NDT Societies' was revised.
- A proposal was prepared for a draft Operating Procedure: NDT Societies Operations.
- The process involving the request of another organisation to become an ICNDT member in Chile was clarified.

### ***Working Group 3 (Research and Education)***

A meeting of Working Group 3 (WG3) was held on 6 July at the 13th ECNDT in Lisbon, Portugal, with very full attendance. The meeting was led by Dr Mike Farley, Chair of the IAC, with Professor Younho Cho and Dr Thomas Wenzel, the Co-Chairs of WG3, in attendance.

A proposed membership structure was agreed, as per the table overleaf, and the experts present at this meeting will be invited next time.

### ICNDT WG3 Membership Structure:

Designation	Current representative (invited to Lisbon 2023)
Co-Chairs	Professor Younho Cho
	Dr Thomas Wenzel
<b>Ex-officio</b>	
ICNDT Chair	Dr Sajeesh Babu
ICNDT IAC Chair	Dr Mike Farley
ICNDT General Secretary	Mr David Gilbert
ICNDT Treasurer	Mr Gerhard Aufricht
ICNDT Membership Chair	Mr João Conte
Chair WG1	<i>To be announced</i>
Chair WG4	Mr Shohei Ooka
Chair WG5	Mr David Gilbert
Co-Chairs WG6	Professor Len Gelman and Mr César Belinco
ICEC Secretary	Mr Colin Bird
<b>Regional Representatives</b>	
African Federation of Non-Destructive Testing (AFNDT)	Mr Harold Jansen
Asia-Pacific Federation for Non-Destructive Testing (APFNDT)	Dr Takamasa Ogata
	Professor Krishnan Balasubramaniam
European Federation for Non-Destructive Testing (EFNDT)	Mr Fermín Gómez Fraile
	Mr Bento Ottone Alves
Pan-American Federation for Nondestructive Testing (PANNDT)	Mr Glenn Tubrett
	Mr David Bajula
<b>Specialist International Group (SIG) Chairs</b>	
NDT Reliability	Dr Daniel Kanzler
NDE 4.0	Dr Johannes Vrana
Full Matrix Capture	Professor Paul Wilcox
Terahertz	Dr Mira Naftaly
NDT of Art and Cultural Heritage	Dr Roman Gr Maev
Non-linear UT	Dr Serge Dos Santos
Magnetic Memory Method	Dr Peter Ladányi
NDT of Civil Engineering	Mr César Belinco
<b>Representatives of Liaison Members</b>	
International Organization for Standardization (ISO)	Mr Shohei Ooka
IAEA	Ms Hannah Affum
IIW	Dr Luca Costa or nominee
Academia NDT International	Professor Peter Trampus
	Dr Serge Dos Santos
	Dr Shant Kenderian



### Specialist International Groups (including reports as of 1 December)

Reports were presented from most of the Specialist International Groups (SIGs) at WG3. These reports (updated and added here) indicated the breadth and depth of activity in this relatively new area for ICNDT. A number of decisions were made during and as a result of the meeting:

- Dr Roman Gr Maev confirmed that he will lead the Specialist International Group on NDT of Art and Cultural Heritage, the Canadian Institute for Non-Destructive Evaluation (CINDE) will be the sponsor society and Mr Ed Cabral will be the Secretary.
- Dr Serge Dos Santos (France) was confirmed as the Chair of the Specialist International Group on Non-linear Ultrasound for NDT (Non-linear UT).
- The Chair of the Specialist International Group on the Magnetic Memory Method was confirmed as Dr Peter Ladányi (Hungary).
- A new Specialist International Group on NDT of Civil Engineering was confirmed, with Mr César Belinco as Chair. There may be a sub-group to focus on NDT of civil structures in seismically active areas. The SIG will continue from the IAEA project (Training Syllabus to be published by IAEA as a TECDOC) and the new standard DIN 4871:2022-09 'Non-Destructive Testing – Qualification of NDT Personnel in Civil Engineering (NDT-CE)'.
- A new Specialist International Group on NDT Frontiers has been formed with Dr Roman Gr Maev as the initial Chair and two Secretaries: Mr Ed Cabral, who is responsible for Great Britain and North, South, Central and Latin America and the Caribbean; and Dr York Oberdorfer, who is responsible for Europe, Asia, Africa and Australia.

The **Specialist International Group on NDE 4.0** is led by Dr Johannes Vrana and Dr Ripi Singh.

The 3rd International Conference and Exhibition on NDE 4.0 is scheduled for 3-6 March 2025 in Bangalore, India. The Kurzweil Award for High Impact in NDE 4.0 will again be awarded during the conference. The 4th International Conference is scheduled for 2027.

The SIG held four virtual meetings in 2023 to review the ongoing activities of the sub-groups. An additional meeting was conducted for the planning of a special session during the 20th WCNDT in South Korea. The work of the sub-groups is summarised as follows:

- Sub-group T1 for Sharing of International R&D and NDE 4.0 Activities is led by Dr Johannes Vrana and Professor Dr Norbert Meyendorf. It focused firstly on organising the NDE 4.0 conference (led by Dr Vrana and Dr Shyamsunder Mandayam) and secondly on organising an NDE research and development (R&D) data-sharing platform (led by Professor Dr Norbert Meyendorf). The group added 'NDE 4.0 training' as an important topic and is working on international harmonisation of NDE 4.0 training for technicians and integrating aspects of NDE 4.0 into university non-destructive examination (NDE) classes.
- Sub-group T2 for Guidelines on Data Formats, Interfaces, Exchange and Ontology is led by Dr Johannes Vrana and Mr Pranay Wadyalkar. It focused on gathering information around ongoing activities such as OPC Unified Architecture (OPC UA), DICONDE and HDF5. As the basic information has been collected, this group will decide next year what to do going forward.
- Sub-group P1 for Common Terminology was led by Mr Don Andrews. Due to other responsibilities, Mr Andrews could not continue. Fortunately, Professor Dr Nathan Ida was able to pick up this group. The group published a Wikipedia article on NDE 4.0.
- Sub-group P2 for a Knowledge Exchange Channel (Publications, Platform and Forum) is led by Mr Ramón Fernández Orozco and Dr Serge Dos Santos.
- Sub-group P3 for a Guideline for Roadmap/Application on NDE 4.0 is led by Dr Ripi Singh and Mr Ramón Fernández Orozco and produced a guideline on how to create a roadmap for NDE 4.0. This document was forwarded to the leaders of WG3 with the intention of presenting it to the ICNDT Executive Committee. Feedback is awaited.
- Sub-group E2 for Ethics, Diversity, Equality and Inclusion is led by Mr David Gilbert, Dr Ripi Singh and Professor Dr Michele Carboni. There are no activities to share at the present moment.
- Sub-group E3 for Certification was proposed by the Australian Institute of Non-Destructive Testing (AINDT), discussed by the SIG and put on hold for the moment.

The **Specialist International Group on NDT Reliability** (with three subsections: Standardisation, Human Factors and NDE 4.0), currently led by Dr Daniel Kanzler, serves as a platform for addressing questions related to reliability, including:

- Promoting the topic of reliability and its importance throughout industry and creating awareness on the topic to users of NDT/structural health monitoring (SHM) through international events: a significant milestone was achieved in March 2023 with the successful 8th International Workshop on the Reliability of NDT/NDE, in collaboration with SPIE, the international society for optics and photonics, held in Long Beach, California, USA;
- Standardisation: several standards are currently in progress in collaboration with the ICNDT SIG, including German standards NA 062-08-28 AA (General evaluation of the reliability of NDE application) and VDA 239-170 (Process capability for NDE application in automotive) and European standard EN 16991 (Risk-based maintenance);
- Predicting the challenges of reliability in the context of industry/NDE 4.0;
- Discussions on the development of new reliability models for future applications;
- Tackling existing setbacks in current reliability models, including updating to the modular model 4.0 by also including algorithms as influencing factors;
- Highlighting the importance of reliability requirements for the software involved in the inspection and maintenance activities separate to the NDT techniques used;
- Efforts towards including human factors in the reliability assessments; and
- Efforts towards extending the topic of reliability from highly safety-critical industries such as aviation and nuclear to other critical industries such as automotive, civil, railways, etc.

Despite efforts to make people aware of the importance of NDT reliability, some reliability assessments are less than ideal. Discussions around quality management, predictive maintenance and inspection on the production floor need to consider NDE reliability. This is particularly important when artificial intelligence (AI) is being evaluated. The group extends an offer to anyone grappling with issues related to reliability. If anyone is unsure how to meet these requirements or if certain NDE-related requirements seem unnecessary, please reach out. While the group may not be able to participate in every standardisation committee, it is eager to support the NDE community with its knowledge.

This SIG has set up a sub-group on the effect of **Human Factors** on reliability, initially led by Dr Marija Bertovic. ICNDT looks forward to her return in February 2024 after maternity leave. In the meantime, Dr Abdeldjalil Bennecer is acting as Secretary of the sub-group, which is actively developing a guide.

The **Specialist International Group on Terahertz** (THz) is led by Dr Mira Naftaly and supported by the British Institute of Non-Destructive Testing (BINDT). This group was established in 2021 to promote and advance techniques utilising THz technologies to inspect components, materials and structures and to recommend standardisation and best practice as appropriate. Currently, the group has *circa* 60 members from academia and industry, including major equipment manufacturers and end-users. In 2022, the group published a promotional leaflet, titled: 'Terahertz technologies for non-destructive testing and condition monitoring', listing the capabilities and applications of terahertz measurements, which can be found on the ICNDT website at: [www.icndt.org/common/pdf/Terahertz%20technologies%20for%20non\\_destructive%20testing%20and%20condition%20monitoring.pdf](http://www.icndt.org/common/pdf/Terahertz%20technologies%20for%20non_destructive%20testing%20and%20condition%20monitoring.pdf). This activity was continued in 2023 with the publication of a second leaflet, titled: 'Terahertz technologies for specific applications', listing the capabilities of various THz technologies and their applicability to particular applications, which can be found on the ICNDT website at: [www.icndt.org/common/pdf/Terahertz\\_Leaflet\\_A4\\_2.pdf](http://www.icndt.org/common/pdf/Terahertz_Leaflet_A4_2.pdf). An item about the group's activities was published in the September 2023 issue of *NDT News*, which is produced by BINDT and circulated to its membership. A plenary talk introducing THz to an audience of NDT professionals was presented at the 60th Annual British Conference on NDT (NDT 2023), organised by BINDT. In 2024, the group is planning to develop a 'THz appreciation' one-day course, to be presented to a variety of NDT audiences.

The **Specialist International Group on Full Matrix Capture** (FMC) is led by Professor Paul Wilcox and supported by BINDT. The group currently has 67 members (including 32 from the UK, ten from France and nine from the USA). Regular meetings continued, with a hybrid meeting at the annual RCNDE Technology Transfer event in London, UK,



in January 2023 (25 attendees) and an online meeting in October 2023 (21 attendees). The development of an open file format for the interchange of FMC data and promotion of open NDE file formats in general remains a major activity of the group. This work is relevant in the context of Industry 4.0 and efforts are being made to align with other initiatives for common formats for NDE data, such as that being driven by Professor Stephen Holland at Iowa State University. Professor Wilcox presented on the development of the Multi-frame FMC (MFMC) file format at the American Society for Nondestructive Testing (ASNT) Research Symposium in Columbus, Ohio, USA, in June 2023. A Python library for reading, writing, checking and viewing MFMC files (which will eventually supersede the existing MATLAB library) is under development, with a formal release expected in the near future.

The **Specialist International Group on Non-linear Ultrasound for NDT** (Non-linear UT) is led by new Chair Dr Serge Dos Santos (Institut National des Sciences Appliquées (INSA) Centre Val de Loire Centre, France) and supported by the French Confederation for Non-Destructive Testing (COFREND). The group, specifically focused on non-linear UT for NDT, was reactivated in July 2023 during the 13th ECNDT in Lisbon, Portugal, and brings together experts and researchers working in this specific field, thus promoting knowledge exchange and collaborations. This SIG will focus on the promotion of new non-linear ultrasonics techniques and methods suitable for NDT, taking advantage of recent advances in the field. Through the combination of skills and resources, the group will improve the sensitivity and accuracy of flaw detection and characterisation techniques. Moreover, it will contribute to the standardisation of NDT procedures based on non-linear UT, to facilitate their adoption in the industry. Finally, the group will also serve as a platform for training and education, sharing knowledge and best practices with the new generation of worldwide NDT professionals interested in the subject.

The objective of this SIG is to assess the relevance of developing new NDT methods using non-linear ultrasonics. NDT is constantly evolving and the utilisation of non-linear UT opens new perspectives for the detection and evaluation of defects in various materials. The project consists in forming a task group that will delve deep into the potential benefits of these innovative approaches. In this context, three key areas could play a crucial role. Firstly, the role of big data and the Internet of Things (IoT) is paramount, as it would enable the collection and analysis of vast amounts of data. Secondly, the integration of AI could aid in extracting meaningful patterns and trends from the gathered data. Thirdly, fine metrology associated with measuring non-linearities in noise would be essential in ensuring precise and reproducible measurements.

The formation of sub-groups constitutes the initial action plan. A preliminary meeting was held with COFREND members on 13 November 2023.

The **Specialist International Group on NDT of Art and Cultural Heritage** is led by Dr Roman Gr Maev, with two Secretaries: Mr Ed Cabral, who is responsible for Great Britain and North, South, Central and Latin America and the Caribbean; and Dr York Oberdorfer, who is responsible for Europe, Asia, Africa and Australia.

The 14th International Conference on Non-Destructive Investigations and Microanalysis for the Diagnostics and Conservation of Cultural and Environmental Heritage (art'23) was held in Brescia, Italy, from 28-30 November 2023, and hosted by the Italian Society for Non-Destructive Testing (AIPnD). Honorary committee members, ICNDT members Mr David Gilbert, Dr Maev (SIG Art Chair), Professor Peter Trampus and Dr Giuseppe Nardoni participated. Also in attendance was Mr Cabral (SIG Art Secretary).

The formation of the **Specialist International Group on NDT of Civil Engineering** was agreed, with Mr César Belinco (Asociación Argentina de Ensayos No Destructivos y Estructurales (AAEND)) as Chair. The creation of sub-groups is planned, one of which will focus on NDT for civil structures in seismically active areas (pre and post events). It is hoped that the SIG will cooperate with the IAEA.

The **Specialist International Group on NDT Frontiers** is a new group being formed that will focus on the future horizons of NDT. Dr Roman Gr Maev is the initial Chair, with Dr York Oberdorfer and Mr Ed Cabral as Co-Secretaries. An ICNDT Workshop on this topic is planned for the 20th WCNDT.

The **Specialist International Group on Magnetic Memory Method** (MMM) has been operating since 2018. It is led by Dr Peter Ladányi as Chair and supported by the Hungarian Association for Non-Destructive Testing (MAROVISZ). During the period from 2020 to 2023, the following work was performed and events were held within the framework of ICNDT SIG MMM activities:

- The group specialists took part in ten international and national NDT conferences with reports on 'Practical application of the MMM method'.

- An international scientific and technical online conference, titled: 'Diagnostics of Equipment and Structures Using the MMM Method', was held in February 2021. More than 170 specialists from different countries took part in the conference.
- Within the framework of IIW and ISO/TC 44 standardisation committees, a new revision of international standards was prepared and put into effect: ISO 24497-1:2020(E) 'Non-destructive testing – Metal magnetic memory – Part 1: Vocabulary and general requirements' and ISO 24497-2:2020(E) 'Non-destructive testing – Metal magnetic memory – Part 2: Inspection of welded joints'.
- 15 papers were published in technical journals, in particular: 'Diagnostics of power boiler superheater tubes made of austenitic steel using the metal magnetic memory technique' in *Welding in the World* and 'Experimental substantiation of diagnostic parameters used in metal magnetic memory method' in *Insight*.
- The book *Metal Magnetic Memory Method: Purpose and Practical Capabilities* was published in Russian and English under the general editorship of A Dubov. The book was written in collaboration with five specialists.

A full report on the above activities will be published on the ICNDT website.

### Working Group 4 (Communications)

ICNDT Working Group 4 (WG4) (Chair: Mr Shohei Ooka from the Japanese Society for Non-Destructive Inspection (JSNDI)) has been working on the ICNDT Strategic Plan and the Action Plan, titled: 'Promotion of the importance of non-destructive testing (NDT)'. WG4 was established to promote ICNDT activities and disseminate information to national NDT societies around the world, other NDT-related organisations, regional federations and corporations involved with NDT. WG4 activities include, but are not limited to, ICNDT website updates, journals, etc. WG4 held three hybrid meetings in 2023 on 1 March (Melbourne, Australia), 3 July (Lisbon, Portugal) and 22 October (Houston, Texas, USA).



Along with new WG4 members, a very fruitful discussion was had, with great progress made regarding ongoing items in the ICNDT Strategic Plan, including the *ICNDT Journal*, ICNDT website and ICNDT membership system. The *ICNDT Journal*, with a new editorial team supported by JSNDI, was published once, Volume 9 Issue 11, in November 2023. Due to the restrictions on activities during the COVID-19 pandemic, it has been difficult to publish the *ICNDT Journal*, but things are moving forward with activities and the aim is to publish the journal in the original cycle of three times a year in the months of March, July and November.

The ICNDT website was progressed, with more information added on ICNDT Specialist International Groups and other pages.

The ICNDT membership system was maintained and developed further this year to provide more systematic and effective communications, with a streamlined approach for members and users regarding the ICNDT online system.

As a new endeavor, WG4 is currently considering developing the ICNDT library on the ICNDT website.

WG4 will keep working on the promotion of the importance of NDT.

### Working Group 5 (Radiation Protection and Safety)

A hybrid meeting of the IAEA Working Group on the Information System on occupational Exposure in Medicine, Industry and Research focusing on industrial radiography (ISEMIR-IR) was held 12-14 June 2023, the main objectives of which were to review and analyse the results of the global survey and discuss the strategy to promote the ISEMIR-IR system.

The objectives of the meeting were to:

- Review the activities of ISEMIR-IR in 2022;
- Propose the work plan for ISEMIR-IR in 2023;
- Analyse and summarise the results of the ISEMIR-IR global survey in 2022; and
- Discuss the upgrade on the ISEMIR-IR system.

The methodology and results of the 2022 ISEMIR-IR global survey were discussed. 52 responses were received from Regulatory Bodies and 382 responses came from NDT companies. Most responses showed interest in IAEA software and in particular the proposed periodic analysis feature, suggesting that upgrading of the ISEMIR-IR is timely. ISEMIR is a large project within the IAEA and some amendments were proposed regarding the global survey questionnaire and the database. The questionnaire was reviewed and updated, approaches were identified and deadlines were set. Promotion remains a challenge; cooperation with experts is needed to promote the system and further information dissemination opportunities have been identified, for example the 20th WCNDT in South Korea.

ISEMIR is an important part of the activities, but it is not the only subject covered by the EFNDT WG, which also includes personnel who are not involved in the ISEMIR WG. More members are invited and if anyone is interested in joining the WG they should contact Mr David Gilbert.

It is hoped meetings will be held at the 20th WCNDT in 2024.

### ***Working Group 6 (Condition Monitoring and Technical Diagnostics)***

There were no meetings of Working Group 6 (WG6) in 2023.

The Chairs will try to organise in-person WG6 meetings in 2024 during the 20th WCNDT, in South Korea, and the 3rd World Congress on Condition Monitoring (WCCM), in China.

## **Chair's Activities**

Dr Sajeesh Babu, ICNDT Chair, has been actively engaged in a series of impactful activities and meetings during 2023, once again demonstrating unwavering dedication to the organisation's mission. His activities included:

### **ICNDT Annual Meeting and IEC meetings**

- Chaired the physical ICNDT Annual Meeting in Melbourne, Australia, during APCNDT 2023.
- Led four meetings of the IEC, discussing various activities of ICNDT.

### **WG1**

- During the 13th ECNDT in Lisbon, Portugal, Dr Babu led the meeting of WG1 as an interim Co-Chair with Dr Mike Farley, further strengthening ICNDT's global presence and engagement within the NDT community in the field of personnel certification.

### ***Ad hoc meetings for 20th WCNDT preparation***

- In preparation for the 20th WCNDT, Dr Babu dedicated substantial time to various *ad hoc* meetings, ensuring KSNT, the host society, was well prepared to make a meaningful impact at this significant event.

### **ICEC and WG4 meetings as Observer**

- Observed and contributed to meetings of the ICNDT ICEC and WG4, providing advice to the committee and group, respectively.

### **External engagements representing ICNDT**

Dr Babu represented ICNDT at several external activities, strengthening ICNDT's global presence and fostering international cooperation:

- Cooperation Forum for Nuclear Technology Associations (held 18 January 2023 and hosted by the World Nuclear Association): participated in an online meeting hosted by the World Nuclear Association, where he presented ICNDT's mission and activities.
- APCNDT 2023 (held 28 February-3 March 2023 in Melbourne, Australia): delivered opening remarks and actively participated in various ICNDT and APFNDT meetings during this prestigious conference. He was honoured with the prestigious Dr Ooka Award for exceptional support to the Asia-Pacific region.
- JSNDI Spring Conference 2023 and 70th Anniversary (held 6-8 June 2023 in Tokyo, Japan): presented a keynote speech during the JSNDI 70th Anniversary, sharing insights on personnel certification in the Asia-Pacific region and engaging with international society leaders to promote NDT.

- 13th ECNDT (held 3-7 July 2023 in Lisbon, Portugal): participated in the opening of the conference and actively engaged in various ICNDT and EFNDT meetings in person, while also contributing to ISO/TC 135 meetings online.
- IV NDT Days, with the title: 'On the Way to the XIII Welding Congress' (held 16 September 2023 in Bursa, Turkey): delivered a pre-recorded speech during this event, enhancing international collaboration and knowledge sharing.
- 50th National Conference on NDT (KKBN) (held 17-19 October 2023 in Kołobrzeg, Poland): participated in the opening of the conference and presented a keynote presentation on 'Advancing non-destructive testing on a global scale with a roadmap towards NDE 4.0 integration'.
- KSNT Electromagnetic/Nuclear Division Joint Conference (held 30 November 2023): presented a pre-recorded speech at the conference, furthering the reach and impact of the ICNDT MRA and the recognition of ISO 9712 personnel certification on a global scale.

### Note from Dr Mike Farley, Past Chairman

ICNDT members and the NDT community as a whole owe a huge debt of gratitude to Dr Sajeesh Babu, ICNDT Chair, for his immense contribution to promoting the mission of ICNDT during an exceptionally busy year. His efforts have been instrumental in strengthening ICNDT's global influence and fostering meaningful partnerships within the NDT community.

### ICNDT Officers 2023

<b>ICNDT Chair</b>	Dr Sajeesh K Babu (Singapore)
<b>ICNDT Past Chair</b>	Dr Mike Farley (UK)
<b>ICNDT General Secretary</b>	Mr David Gilbert (UK)
<b>World Conference President</b>	Professor Younho Cho (Korea)
<b>NDT Society to provide Secretariat</b>	The British Institute of NDT (UK)
<b>Treasurer</b>	Mr Gerhard Aufricht (Austria)
<b>Auditors</b>	Mr Douglas J Marshall (Canada) and Dr Werner Schmid (Switzerland)
<b>Chair – ICNDT Certification Executive Committee</b>	Mr Harold Jansen (South Africa)
<b>Chair WG1 – Qualification and Certification</b>	Mr Alexander Mullin (Russia) until July 2023, then Dr Sajeesh K Babu and Dr Mike Farley acted as Co-Chairs
<b>Chair WG2 – Membership</b>	Mr João Conte (Brazil)
<b>Co-Chairs WG3 – Research and Education</b>	Professor Younho Cho (Korea) and Dr Thomas Wenzel (Germany)
<b>Chair WG4 – Communications</b>	Mr Shohei Ooka (Japan)
<b>Co-Chairs WG5 – Radiation Protection and Safety</b>	Mr David Gilbert (UK)
<b>Co-Chairs WG6 – CM and Technical Diagnostics</b>	Professor Len Gelman (UK) and Mr César Belinco (Argentina)
<b>Chair WG7 – Administration</b>	Dr Mike Farley (UK)

### Regional Group Representatives

<b>Africa</b>	Dr Kamal Sahaimi
	Mr Harold Jansen
<b>Asia-Pacific</b>	Dr Takamasa Ogata
	Professor Krishnan Balasubramaniam
<b>Europe</b>	Mr Fermín Gómez Fraile
	Mr Ezio Tuberosa
<b>Pan-America</b>	Mr Glenn Tubrett
	Mr David Bajula

## Strategic Planning and Organisation

Revisions to the Strategic Plan were discussed at the IAC meeting in Lisbon, Portugal. A final version will be circulated for approval. In the meantime, the IEC has continued to organise ICNDT according to the intent of the previous Strategic Plan but taking into account the COVID-19 situation.

## Changes to the Constitution and Operating Procedures

There have been no changes to the constitution or operating procedures during 2023.

## APFNDT (Asia-Pacific)

### APFNDT Membership

Regarding the Asia-Pacific Federation for Non-Destructive Testing (APFNDT)'s membership and organisation status, the current members and regional representatives are as follows. To see other regularly updated information for the Asia-Pacific region, visit: [www.apfndt.org](http://www.apfndt.org)

<b>Full Member Societies</b> (16 members)	The American Society for Nondestructive Testing (ASNT)
	The Australian Institute for Non-Destructive Testing (AINDT)
	The Bangladesh Society for Non-Destructive Testing (BSNDT)
	The Canadian Institute for Non-Destructive Evaluation (CINDE)
	The Chinese Society for Nondestructive Testing (ChSNDT)
	The Indian Society for Non-Destructive Testing (ISNT)
	The Iranian Society for Nondestructive Testing (IRNDT)
	The Japanese Society for Non-Destructive Inspection (JSNDI)
	The Korean Society for Nondestructive Testing (KSNT)
	The Malaysian Society for Non-Destructive Testing (MSNT)
	The Mongolian Society for Non-Destructive Testing (MSNDT)
	The New Zealand Non-Destructive Testing Association (NZNDTA)
	The Non-Destructive Testing Society (Singapore) (NDTSS)
	The Philippine Society for Nondestructive Testing Inc (PSNT)
	The Russian Society for Non-Destructive Testing and Technical Diagnostics (RSNTTD)
	The Society for Nondestructive Testing and Certification of Taiwan (SNTCT)
<b>Potential Member Societies</b> (8 members)	Azerbaijan Society for Non-Destructive Testing (AZNDT)
	Indonesian Society for Non-Destructive Testing (AUTRI)
	Kazakhstan Association of Flaw Detection (KAOFD)
	Myanmar (Society under formation)
	Pakistan Society for Non-Destructive Testing (PASNT)
	Society for Non-Destructive Testing, Sri Lanka (SNDT)
	Thai Society for Non-Destructive Testing (TSNT)
	Vietnam Association for Non-Destructive Testing (VANDT)
<b>Regional Group One</b>	Western Asia, Central Asia, South Asia
<b>Regional Group Two</b>	East Asia, South East Asia
<b>Regional Group Three</b>	Pacific, Oceania



### APFNDT Executive Committee (AEC)

<b>President</b>	Dr Takamasa Ogata (JSNDI)
<b>Vice President</b>	Professor Krishnan Balasubramaniam (ISNT)
<b>Past President</b>	Dr Norikazu Ooka (JSNDI)
<b>General Secretary</b>	Mr Paulchamy Pugalandhi (NDTSS)
<b>Treasurer</b>	Mr Kevin Smith (ASNT)
<b>President of the 17th Asia-Pacific Conference on Non-Destructive Testing (APCNDT 2026)</b>	Mr Danny Keck (ASNT)
<b>Auditor</b>	Dr Sajeesh K Babu (NDTSS)
<b>Secretariat Representative</b>	Mr Shohei Ooka (JSNDI)

### APFNDT Board Members

<b>Regional Representative: Group One (Western Asia, Central Asia, South Asia)</b>	Mr Diwakar D Joshi (ISNT)
	Mr Alexander Mullin (RSNTTD)
<b>Regional Representative: Group Two (East Asia, South East Asia)</b>	Dr Ji Jingyuan (ChSNDT)
	Professor Ik-Keun Park (KSNT)
	Dr Ilham Mukriz Zainal Abidin (MSNT)
	Professor Chih-Hung Chiang (SNTCT)
<b>Regional Representative: Group Three (Pacific, Oceania)</b>	Mr Neal Couture (ASNT)
	Mr Pranay Wadyalkar (AINDT)

### APFNDT Task Groups

The following seven task groups (TGs) were established in order to carry out specific activities. As per APFNDT official documentation, TGs may be organised by the Board on a short-term or permanent basis. The current TGs are as follows:

<b>TG1 Membership</b>	Mr Kevin Smith (ASNT)
<b>TG2 APFNDT Journal</b>	Professor Jung-Ryul Lee (KSNT)
<b>TG3 Communications</b>	Mr Shohei Ooka (JSNDI)
<b>TG4 Education and Training</b>	Dr B Venkatraman (ISNT)
<b>TG5 Certification</b>	Mr Paul Grosser (AINDT)
<b>TG6 Standards</b>	Dr Makoto Ochiai (JSNDI)
<b>TG7 NDE 4.0</b>	Mr Pranay Wadyalkar (AINDT)

### Current and Future Activities

#### 16th Asia-Pacific Conference on Non-Destructive Testing (APCNDT 2023)

APCNDT 2023 was held in Melbourne, Australia, from 28 February to 3 March 2023. The conference was opened by Mr Paul Grosser, APCNDT 2023 President, who led the APCNDT Organising Committee. Despite the many obstacles posed by the COVID-19 pandemic, the conference was a great success, with people from 47 countries attending, 47 exhibitors showcasing their work/products and over 125 papers presented. There were 657 participants, including 80 students and 151 people from overseas. During the conference, over 40 technical sessions were held covering a range of topics including, but not limited to, ultrasonics, surface methods, eddy current, thermography, radiography, NDT 4.0, commercial presentations and excellent panel discussions.

#### APFNDT meetings

During APCNDT 2023, the AEC/APFNDT Board met on 28 February and held GA 1 on 1 March and GA 2 on 2 March 2023. It was the first opportunity to meet in person after the pandemic and there was a lively exchange of views.

The election of the next APFNDT Board was held at the GA and Dr Takamasa Ogata was elected as the new President, succeeding Dr Norikazu Ooka, who had served as President for ten years since the establishment of APFNDT in 2013. The newly elected Vice President is Professor Krishnan Balasubramaniam, the General Secretary is Mr Paulchamy Pugalendhi and the APCNDT 2026 President is Mr Danny Keck. In terms of Regional Representatives, Mr Diwakar D Joshi, Dr Ji Jingyuan, Professor Ik-Keun Park, Dr Ilham Mukriz Zainal Abidin and Mr Neal Couture were elected as new members of the Board. The Dr Ooka Award for Distinguished Service in APFNDT was presented for the first time since its commencement to Dr Sajeesh Babu and the APFNDT Award was presented to Dr Abd Nassir Ibrahim at the APCNDT Banquet. Following APCNDT 2023, APFNDT implemented the new Board structure and held two meetings, the AEC meeting on 10 August and the APFNDT Board meeting on 18 August 2023. The next APCNDT is scheduled to be held in Hawaii, USA, from 11-14 May 2026 and will be hosted by ASNT. The following APCNDT is planned to be held in Kuala Lumpur, Malaysia, from 12-16 November 2029.

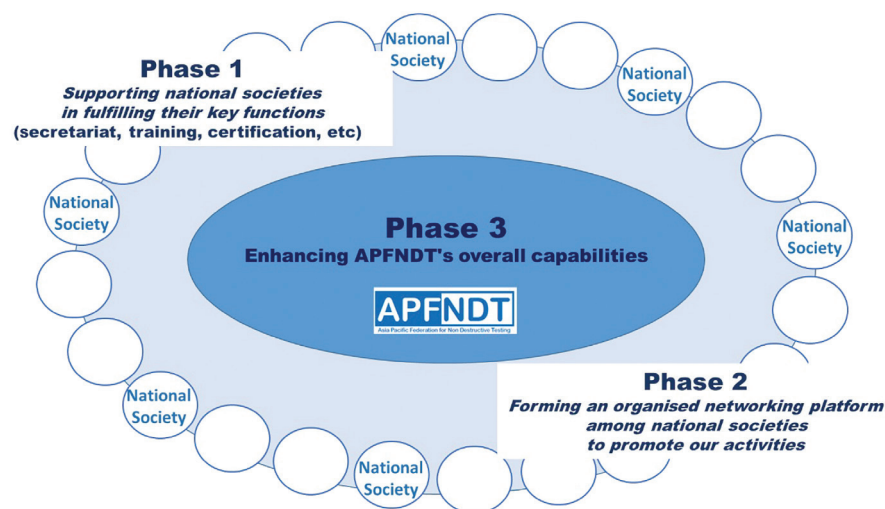
### APFNDT homepage

APFNDT is working on a new website. It is scheduled to be renewed around January 2024.

### Future plans for APFNDT

Since APFNDT's establishment in 2013, the primary focus has been on building the overall structure of the Federation. This includes activities such as drafting official documentation, for example the Constitution and Operating Procedures, forming TGs and maintaining communication in the region. While all of these activities have laid the foundation for APFNDT, from September 2023 the focus of APFNDT will shift from organisation building to a new phase of goals outlined below:

- Phase 1: supporting APFNDT national societies in fulfilling their key functions;
- Phase 2: forming an organised networking platform among APFNDT national societies to promote activities; and
- Phase 3: enhancing APFNDT's overall capabilities.



To achieve the above, the secretariat function of all APFNDT member societies must first be strengthened, because this is one of the most important functions in the development of a society. In order for each NDT society to operate more smoothly, communication and exchange of information between the respective secretariats is important. Therefore, the APFNDT Board will undertake activities to improve the secretarial functions of APFNDT member societies.

*For the next step:*

- Online consultation with the secretariats of APFNDT member societies, led by the APFNDT Secretariat and the Secretariat of the Volunteer Association.

*In the future:*

- Secretariat exchange workshop.
- Lectures and seminars by experts on topics such as non-profit organisation (NPO) studies or NPO management.
- Organising a conference-style event for secretariats to exchange information.

## AFNDT (Africa)

### Membership

<b>President</b>	Dr Kamal Sahaimi (Centre National de l'Energie des Sciences et des Techniques Nucléaires, Morocco)
<b>Secretariat</b>	Mr Harold Jansen (Southern African Institute of Welding (SAIW), South Africa)
<b>Founding Members</b>	Algeria, Cameroon, Egypt, Ghana, Democratic Republic of the Congo, Libya, Mauritius, South Africa, Tunisia, Tanzania, Zambia
<b>ICNDT Membership (Active)</b>	Egypt, South Africa
<b>Signatories to Current Constitution (2014)</b>	Algeria, Angola, Cameroon, Egypt, Ethiopia, Ghana, Kenya, Libya, Mauritius, Morocco, Nigeria, South Africa, Sudan, Tunisia, Uganda, Zambia, Zimbabwe
<b>Country (Active) Representation</b>	Cameroon, Kenya, Morocco, Nigeria, South Africa, Sudan, Tunisia <i>There are 54 countries that are potential members</i>
<b>Sub-Regions</b>	<b>North Africa:</b> Tunisia, Morocco, Algeria, Libya, Mauritania, Egypt
	<b>East Africa:</b> Sudan, Burundi, Djibouti, Kenya, Rwanda, Ethiopia, Eritrea, Somalia, Uganda, South Sudan
	<b>Central Africa:</b> Cameroon, the Central African Republic, Chad, Democratic Republic of the Congo, Equatorial Guinea, São Tomé and Príncipe, Gabon
	<b>West Africa:</b> Ghana, Benin, Burkina Faso, Cape Verde, Gambia, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo
	<b>Southern Africa:</b> South Africa, Angola, Botswana, Lesotho, Madagascar, Malawi, Mali, Mauritius, Mozambique, Namibia, Seychelles, Eswatini, Union of Comoros, Tanzania, Zambia, Zimbabwe

### Meetings

The African Federation of Non-Destructive Testing (AFNDT) last met in 2022, with nine participants from Cameroon, Morocco, Nigeria, South Africa and Sudan.

### Outcomes

- Final draft constitution is pending adoption
- AFNDT 'renewal'/rejuvenation agreement
- Participation agreement
- Membership and communication: 54 countries; establish communication channels.

### Outstanding

- Operating procedures: June 2022
- AGM and election of dignitaries/representatives: July 2022
- Action plan, activities and website: July 2022 – ongoing activities.

### IAEA-AFRA

- Triangular project: IAEA, Cameroon, SA – Level 3 Workshop (completed 2021)
- National project: Cameroon – Authorised Qualification Body (aqb) and PCB establishment (2023-2026).

***Visits in 2023***

- SAIW provided training to Malawian Fellows during 2023 as part of an IAEA-AFRA (African Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology) triangular project, with the intent to establish an Approved Training Body (ATB) in Malawi.
- An anticipated visit to Sudan during 2023 was cancelled due to the internal conflict that broke out in April 2023.
- Initiating discussions were held with IAEA-AFRA in establishing a nine-year project to establish ATBs, AQB's and PCBs in various African countries. Five initial countries have been identified as the sub-regional leaders and the intent would be to initiate this project via triangular projects in the 2024/2025 period. Expansion into neighbouring countries shall be facilitated via these countries and through proposed triangular projects.

***Website and Digital Platforms***

- A formal AFNDT website is being developed and will be linked to the ICNDT website once completed and approved by the AFNDT Board.
- An AFNDT LinkedIn group has been initiated.
- A Meta (Facebook) group will be initiated.
- A database has been initiated with 63 email addresses.

***Strategic Plan Objectives***

- National NDT liaison/NDT societies in 54 countries.
- ICNDT MRA Schedule 1 signature.
- At least one ATB per country.
- A sustainable PCB (and AQB) per country.
- ICNDT MRA Schedule 2 registration – via National Accreditation Body or ICEC OP20 process.

## EFNDT (Europe)

The European Federation for Non-Destructive Testing (EFNDT) has a number of ongoing actions, despite the situation facing all societies due to the COVID-19 pandemic, Brexit and the Russia-Ukraine war. The Board of Directors (BoD) met several times online and in person during the year.

EFNDT elections were held during the 13th ECNDT, which took place from 3-7 July 2023 in Lisbon, Portugal.

Board of Directors	
<b>President</b>	Mr Fermín Gómez Fraile (Spain)
<b>Vice President</b>	Mr Ezio Tuberosa (Italy)
<b>Treasurer</b>	Mr René Klieber (Switzerland)
<b>Directors</b>	Dr Thomas Wenzel (Germany)
	Mr Frédéric Schaditzki (France)
	Mr Peter Fish (Switzerland)
	Professor Libor Topolar (Czech Republic)
	Mr Gerald Idinger (Austria)
	Mr Bento Ottone Alves (Portugal)
	Mr David Gilbert (UK)
	Professor Dr Eng Tomasz Chady (Poland)
Co-opted Members (non-voting)	
	N/A
	Mr René Klieber (Switzerland)
Ex-Officio Members (non-voting)	
<b>General Secretary</b>	Dr Emilio Romero (Spain)
<b>Past President</b>	N/A
<b>14th ECNDT (Verona, Italy)</b>	Professor Dr Michele Carboni
<b>EFNDT Certification Executive Committee (ECEC) President</b>	Dr Thomas Wenzel (Germany)
<b>Auditor</b>	Mr Casper Wassink (Netherlands)

## EFNDT Matters

EFNDT has redefined the ten Working Groups and three Forums and these have started their work through virtual meetings and conferences. They are as follows:

- WG1 – Education
- WG2 – Radiation Protection and ADR
- WG3 – Condition Monitoring
- WG4 – Laboratory Accreditation
- WG5 – NDT for Public Safety and Security
- WG6 – NDT on Additive Manufacturing (two meetings)
- WG7 – Failure Analysis (Risk Analysis) (three meetings together with ICNDT SIG)
- WG8 – Human Factors
- WG9 – Ethics (internal work with some associations)
- WG10 – NDT 4.0 (eight meetings, one conference hosted by the German Society for Non-Destructive Testing (DGZfP) and an international conference planned in Spain for aerospace NDT (AEROEND 4.1)). Joint with ICNDT SIG.



- Forum for European National Aerospace NDT Boards (NANDTBs) (four meetings and development of EN 4179)
- Forum for Railway Industries
- Forum for Marine (preparing underwater inspection specifications; contact with the International Association of Classification Societies (IACS)).

Additionally, a Working Group with the European Welding Federation (EWF) has been reactivated to complete the European NDT Engineer proposal (two meetings were held in 2021).

An agreement has also been reached with the TIC Council Confederation of Inspection and Certification Organisations to work together on WG6 and WG10 matters.

### ***Projects and Actions***

Robotics for Inspection and Maintenance (RIMA) is a four-year EU Horizon 2020 project that aims to establish a network of 13 digital innovation hubs (DIHs) on robotics, sharing best practices and providing services to facilitate the uptake of inspection and maintenance technologies. The very successful EU project RIMA Network closes after four and a half years of work towards closing the market gap. In its place, the project partners have built something greater that will work beyond the scope of the project itself, the RIMA Alliance, with the collaboration of institutions such as the European Commission, euRobotics, ADRA, Sprint Robotics and BDVA.

### ***Brexit***

During the EFNDT BoD meeting, the situation due to Brexit was analysed in relation to the European Pressure Equipment Directive (PED) 2014/68/EU and the new requirements of the United Kingdom Accreditation Service (UKAS) affecting how NDT personnel with certificates issued by an EU Recognised Third-Party Organisation (RTPO) can work under the UK Pressure Equipment (Safety) Regulations (PE(S)R). There have been a number of interim arrangements (which BINDT can advise on), but following a UK government announcement in August 2023 (see: <https://www.gov.uk/government/news/uk-government-announces-extension-of-ce-mark-recognition-for-businesses>) and the completion of the parliamentary process, certificates issued by an EU RTPO are valid against the UK PE(S)R and this will remain the case in future (so long as the certificates are valid). Please refer to BINDT for information on this subject as changes are still being made to the requirements.

### ***Russia-Ukraine War***

On 27 December 2022, the BoD received the resignation of Mr Alexander Mullin (EFNDT Vice President and Chair of the ECEC) from these positions until the end of the Russia-Ukraine war.

### ***TIC Council agreement***

EFNDT is preparing an agreement with the TIC Council to obtain administrative support in Brussels.

***Mr Fermín Gómez Fraile***  
*EFNDT President*

PANNDT (Pan-America)

Current members of the Pan-American Federation for Nondestructive Testing (PANNDT) are as follows:

Argentina	AAENDE	Asociación Argentina de Ensayos No Destructivos y Estructurales
Bolivia	ASBOSENDIC	Asociación Boliviana de Soldadura, Ensayos No Destructivos, Inspección y Corrosión
Brazil	ABENDI	Associação Brasileira de Ensaios Não Destrutivos e Inspeção
Canada	CINDE	Canadian Institute for Non-Destructive Evaluation
Chile	ACHISEND	Asociación Chilena de Soldadura Inspección y Ensayos no Destructivos
Colombia	ACOSEND	Asociación Colombiana de Soldadura y Ensayos No Destructivos
Costa Rica	–	Instituto Tecnológico de Costa Rica
Ecuador	ESPOL	Escuela Superior Politécnica del Litoral
Mexico	AMEXEND A.C.	Asociación Mexicana de Ensayos No Destructivos, A.C.
Mexico	IMENDE A.C.	Instituto Mexicano de Ensayos No Destructivos, A.C.
Peru	APEND	Asociación Peruana de END
Uruguay	AENDUR	Asociación Uruguaya de Ensayos No Destructivos
USA	ASNT	American Society for Nondestructive Testing

Meetings were held during the 2023 ABENDI CONAENDI conference, which took place in São Paulo, Brazil, from 20-22 September 2023. The current Board is as listed below:

President	Mr Glenn Tubrett (CINDE, Canada)
Vice Chair	Mr David Bajula (ASNT, USA)
Treasurer	Mr Antonio Aulicino (ABENDI, Brazil)
Secretary	Mr Jorge Amsler (AAENDE, Argentina)

Discussions centred on the role of PANNDT compared to the other regional groups and how PANNDT should evolve. The Terms of Reference of the Federation and the PANNDT Strategic Plan are being reviewed by the Board.

The next PANNDT Meeting and Regional Conference is scheduled for June 2025 and will be held in Niagara Falls, Ontario, Canada; see: <https://www.panndt.org/panndtconference>. Visit the website for opportunities to sponsor, exhibit, attend and present.

## Certification of NDT Personnel – MRA, PCB and EQB

### ***Multilateral Recognition Agreement (OP19)***

- There are currently 46 signatories to Schedule 1 of the MRA. See: [www.icndt.org/OP19%20Schedule%201\\_MRA%20Master%20Register%2007.05.2022.pdf](http://www.icndt.org/OP19%20Schedule%201_MRA%20Master%20Register%2007.05.2022.pdf)
- There are currently 20 PCBs registered under the MRA Schedule 2. See: [https://www.icndt.org/OP19%20Schedule%202\\_MRA%20Master%20Register%2010.01.2023.pdf](https://www.icndt.org/OP19%20Schedule%202_MRA%20Master%20Register%2010.01.2023.pdf)

### ***Personnel Certification Body Compliance Assessment (OP20)***

- China re-registered under OP20 in 2021.

### ***Examination Question Bank***

The ICEC has developed an online delivery system for the ICNDT EQB. This online EQB has been demonstrated to the current EQB users and the new delivery method has been trialled by volunteer PCBs. The ICEC has been approached by additional PCBs showing continued demand for the EQB, both in its current form and the future online version.

### ***ICNDT Guide to Qualification and Certification of Personnel for NDT***

See WG1 report on page 4.

## ISO/TC 135

ISO/TC 135 Plenary and SC meetings are scheduled for three days following on directly from the 20th WCNDT.

Lastly, acting as the ICNDT representative and liaison member, respectively, for ISO/TC 135, Dr Mike Farley and Dr Sajeesh Babu have also been participating.

## Website/Journal/Publications

The ICNDT Secretariat has continued to provide updates to members through the website and the *ICNDT Journal*, issued in November 2023.

ICNDT is grateful to JSNDI for providing the platform for the ICNDT website and to BINDT, especially Zoe White and Cindy Bailey, for their support to the committees and for the preparation of the Annual Report and other published documents.

## Finance

The audited financial report for 2023 and the budget for 2024 are shown in the following pages.

## Acknowledgements

ICNDT wishes to thank its Executive Committee, Committees and Working Groups for their efforts during 2023 and acknowledges the support of the Secretariat provided by BINDT. Thanks are also reiterated to the 20th WCNDT Organising Committee, particularly Dr Dong-Jin Yoon, Chair of the Conference Organising Committee, and Professor Younho Cho, WCNDT President, for their efforts in dealing with the complexities of organising and rearranging the 20th WCNDT. ICNDT is also grateful to the organisers of APCNDT 2023 and the 13th ECNDT, as well as ASNT and BINDT for their provision of facilities for ICNDT meetings during their conferences.

ICNDT also thanks JSNDI for maintaining the ICNDT website. The Chair personally thanks Dr Mike Farley, who has coordinated and compiled the contents of the Annual Report. All volunteers working for their NDT societies have again faced extra challenges this year and their work is much appreciated. It is vital to continue to create a safer world through the wider use of NDT and diagnostic technologies.

We hope to see all our members in person for the first time in seven years at the 20th WCNDT. Please make every effort to attend!

**Dr Sajeesh K Babu**  
Chair, ICNDT

## Financial Report – Balance at 31.12.2023

	€	€
	Income 2023	Expenditure 2023
Opening balance	160,139.34	
Donation from Austrian Chamber of Commerce	500.00	
Donation from WCNDT	0.00	
Membership fees ( <i>new fee structure</i> )	14,981.60	
Interest from bank account no 290-317-99501	15.90	
PCB CA service (OP20)	0.00	
MRA service (OP19)	4,900.00	
EQB product: application fees (OP23)	0.00	
EQB update fees (OP23)	0.00	
Meeting expenses/Go to meetings (OP18)		4,060.05
Cost of bank account no 290-317-99501		348.97
Bank expenditure for incoming fees		11.53
Printing costs		0.00
Office costs ( <i>insurance, various</i> )		1,749.34
PCB CA service costs: system administration (OP20)		418.00
MRA/PCB: auditor payment, administration (OP19)		5,544.00
EQB service costs: administration (OP23), overheads, third-party services		3,476.00
Professional service		6,402.00
Preparation of ICNDT monographs		0.00
Supplies ( <i>ICNDT badges, flags, etc</i> )		212.00
Miscellaneous ( <i>shipping, conference calls</i> )		0.00
Website upgrade		0.00
<b>Totals</b>	<b>180,536.84</b>	<b>22,221.89</b>
<b>Allocation to reserves</b>		<b>158,314.95</b>
Pending costs 2024: Website €25,000.00		

*Ing Gerhard Aufricht (Treasurer)*  
Vienna, 02.01.24

Financial Report – Draft Budget 2024		
	€	€
	Income 2024	Expenditure 2024
Opening balance	158,314.95	
Donation from Austrian Chamber of Commerce	500.00	
Donation from WCNDT	50,000.00	
Membership fees ( <i>new fee structure</i> )	22,800.00	
Interest from bank account no 290-317-99501	20.00	
PCB CA service (OP20)	0.00	
MRA service (OP19)	6,900.00	
EQB product: application fees (OP23)	7,500.00	
EQB update fees (OP23)	500.00	
Meeting expenses/Go to meetings (OP18)		8,000.00
Cost of bank account no 290-317-99501		300.00
Bank expenditure for incoming fees		500.00
Printing costs		4,000.00
Office costs ( <i>insurance, various</i> )		2,000.00
PCB CA service costs: system administration (OP20)		1,000.00
MRA/PCB: auditor payment, administration (OP19)		9,400.00
EQB service costs: administration (OP23), overheads, third-party services		6,000.00
Professional service		4,500.00
Preparation of ICNDT monographs		0.00
Supplies ( <i>ICNDT badges, flags, etc</i> )		1,000.00
Miscellaneous ( <i>shipping, conference calls</i> )		3,000.00
Website upgrade		25,000.00
<b>Totals</b>	<b>246,534.95</b>	<b>64,700.00</b>
<b>Allocation to reserves</b>	<b>181,834.95</b>	

*Ing Gerhard Aufricht (Treasurer)*  
Vienna, 02.01.24

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Midsummer House, Riverside Way, Bedford Road, Northampton NN1 5NX, UK.  
Tel: +44 (0)1604 438300 | Email: [info@bindt.org](mailto:info@bindt.org) | Web: [www.bindt.org](http://www.bindt.org)

*The ICNDT is registered as a legalised association with its seat in Vienna, Austria.*  
Registered office: 1230 Vienna, Jochen-Rindt-Straße 33.  
Chair: S K Babu | Email: [chairman@icndt.org](mailto:chairman@icndt.org)

[www.icndt.org](http://www.icndt.org)