**Annual Report 2024**

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 2024.**



# 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 2024, , 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 until the elections at the 20th WCNDT in May 2024:

The Annual Meeting went ahead as a hybrid meeting on Thursday 25 January 2024

# Meetings, Committees and Groups

## Annual Meeting 2024

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

## 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 well-attended meeting of the IAC chaired by Dr Mike Farley was held on 26th May 2024 in Incheon, just before the start of the 20th WCNDT.

**ICNDT Awards**

Following a suggestion at the previous meeting there was discussion about the ICNDT Awards. Ideas to be considered further are:

* Regions to promote and funnel award nominations to ICNDT
* Awards to attract younger people – increase number of awards for younger people to a minimum of four. Perhaps have awards for different regions, e.g. two per region.
* Consider an award(s) for the Best Paper(s) at the WCNDT. The Scientific Committee could decide in consultation with WG3 and the prize would be free registration for the next WCNDT. ICNDT could cover the cost.

**Discussion - ICNDT member operations outside their home territories** **– how to maximise mutual benefit**

As a result of a request by a member society, the committee discussed the benefits and sometimes problems when members operations extend into other territories. The Chair reminded members of the ICNDT mission overall which is to make a safer world and the key objective of ICNDT to promote cooperation between NDT Societies in pursuit of this mission.

The members present quoted many examples of NDT societies (and their certification bodies) providing valuable services in foreign territories, including examples of large societies supporting neighbouring small ones. The key to avoiding problems is cooperation.

**Discussion – ICNDT Membership – problems and opportunities for small/ fledgling societies**

The chair introduced the discussion by explaining that over the years up to around 2016 there had been a steady growth in the membership of ICNDT as new NDT societies were formed and joined the international committee. Typically, there were 2 or 3 new members at each General Assembly. This growth has stalled thereafter despite the efforts of the Regions (Asia- Pacific, Africa and Pan America in particular). Also, the smallest societies struggle to pay the ICNDT Membership fee even though this is a nominal 100 euro for the smallest societies.

It is still the case that the motivation for creating a society is often the need to organise training and certification.

Mike Farley suggested a new paradigm – ICNDT should create a model for what a new society might look like (based on the use of the internet, Zoom, website, social media Linked in etc,). A new society might not have its own certification scheme but would have links/provide a conduit to other certification bodies, and have links to other services available internationally.

S Babu suggested a questionnaire is run in the regions**.**

**Discussion - Succession planning ICNDT Officers and Committee/WG Chairs**

It was noted that the SIGs are helping to bring pool of talent into the orbit of ICNDT and ICNDT committees should encourage their broader involvement in ICNDT, especially to get younger people involved.

With respect to encouraging younger people to get involved Thomas Wenzel explained the actions they have taken in the German Society DGZfP and suggested the creation of a group for younger people in ICNDT.

In the case of ICNDT Officers and Committee/WG Chairs, there was some change happening (New Chairs of WG3, WG1, new Treasurer, new WG6 Chair) and some continuity (ICNDT Chair, ICNDT Past Chair, General Secretary, ICEC Chair, WG5 Chair). Looking towards 2028, some succession planning is needed.

**Next Meeting**

The next IAC will be at the Asia Pacific Conference 2026.

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

Having been forced to postpone the 20th World Conference on NDT (20th WCNDT) from its originally planned date of June 2020 to 27 – 31 May 2024, due to the global impact of the COVID‐19 pandemic, the Korean Society for Nondestructive Testing (KSNT) did a wonderful job and the conference was a huge success. The venue for the 20th WCNDT was Songdo Convensia, Incheon, Korea. The success of this event was due entirely to the dedication and commitment of the WCNDT Organising Committee and all related parties who were motivated to provide attendees with unforgettable memories.

The Opening Ceremony was held on Monday, May 27th. Dr. Dong‐Jin Yoon, Organising Committee Chair, officially announced the opening of the 20th WCNDT, and then Prof. Kyung‐Young Jhang, KSNT President, welcomed all attendees on behalf of the KSNT. Dr. Sajeesh K Babu, ICNDT Chair, provided a heartfelt thank you to all for contributing to the success of the World Conference. Dr. Babu then congratulated the winners of 2024 ICNDT awards(see below). Each was presented with a plaque recognising their contributions to NDT in each of their respective areas.

ICNDT award winners:

* HAVERCROFT AWARD For major contribution to NDT Education, Training and Certification Winner: The American Society for Nondestructive Testing (ASNT)
* PAWLOWSKI AWARD For major contribution to the promotion of NDT Internationally Winner: Mr. David Gilbert
* ROENTGEN AWARD For major contribution to science and technology of NDT Winner: Dr. Shant Kenderian
* SOKOLOV AWARD For major contribution to NDT Research Winner: Prof. Roman Maev
* YOUNG ACHIEVER AWARD For achievement of young people in NDT Winners: Dr. Misty Haith and Dr. Hogeon Seo.

The total number of participants in the 20th WCNDT was 3,145 from 64 countries, including 1,422 from Korea. Over 900 presenters and more than 250 exhibitors participated. The Scientific Programme Committee, consisting of 18 members, implemented an excellent scientific programme for the five‐day duration of the conference. The scientific sessions were organised from 936 submitted abstracts, 764 of which were oral and 174 posters that were displayed throughout the Conference. To further enrich the contents of the World Conference, 22 keynote speakers and 27 invited speakers were invited in addition to three distinguished plenary speakers.

The first plenary speaker, Prof. Tai Sik Lee provided the audience with his presentation “NDT:Pioneering the Final Frontier”. The second plenary talk was given by Prof. Dr. Bernd Valeske, entitled “Cognitive Sensor and Data Systems for NDE of Materials and for use within Circular Economy”. Prof. Takaaki Kajita, 2015 Nobel Laureate in Physics, presented the third plenary talk entitled “Neutrinos ‐ Key Particles for Our Understanding of the Smallest Particles and the Largest Universe”, in line with the programme of NDT Academia Research Day.

The impressive exhibition, in a large hall adjacent to the conference hall, featured some 236 exhibiting companies from all over the world and 25 NDT societies from across the ICNDT regions. All refreshment breaks and lunches were held in the exhibition hall. The Exhibition was opened by a formal “cutting- the- tape” ceremony.

The ICNDT activities embraced various committee meetings and workshops during the Conference, including two ICNDT General Assembly meetings, Working Group meetings, ICNDT Executive Committee and SIG meetings, and workshops on NDT Frontiers, Certification, plus meetings of some of the SIGs (see below in the section on SIGs).

The Conference was followed by ISO TC135 meetings on Saturday, June 1st and Sunday, June 2nd.

On the social side of the Conference, several events were held throughout the week for delegates. The “Gala Dinner” on Wednesday evening featured the sounds of Korea and the “Cultural Night” on Thursday evening was designed to provide opportunities to experience various features of Korean culture in a casual, relaxing atmosphere in which delegates could meet new friends and reacquaint with old ones. The closing ceremony provided a sketch of the week’s activities leaving a lasting impression of this brilliant event. Presentations by relevant societies for the promotion of upcoming regional conferences followed, and everyone bid farewell until the 21st WCNDT in Buenos Aires, Argentina, in 2028.

## ICNDT General Assembly Meetings GA1 2024 and 44th Meeting of ICNDT

Brief summary – full minutes can be found at: <https://www.icndt.org/ICNDT%2044th%20Meeting%20and%20General%20Assembly1%20Minutes%20Korea%202024.pdf>

General Assembly 1 and 44th Meeting of ICNDT was held in the Board Room – 305-307 at Songdo Convensia, Incheon, Korea– during the 20th WCNDT. Sajeesh Babu,Chair of ICNDT, presided. There were 29 voting members present plus 8 votes from the Regions, i.e. a total of 37 voting persons present (quorum 24). The Minutes of the last GA and 2024 Annual Meeting, the Annual Report for 2023 and the accounts balance for 2023 were reviewed and confirmed. OP19 Rev 6 was approved.

Nominations

Mike Farley (Past -Chair) explained that nominations had been sought from members for officers for 2024 to 2028, following the Operating Procedure OP 1. The nominees were:

|  |  |  |
| --- | --- | --- |
| **Position** | **Name** | **Proposed by** |
| ICNDT Chair | Dr Sajeesh K Babu (Singapore) | Singapore, Malaysia,  Poland, Germany, Romania,  UK |
| ICNDT General Secretary | Mr David Gilbert (UK) | UK, Singapore, Germany, Poland, Romania |
| ICNDT Treasurer | Vacant |  |
| World Conference President | Dr Ceaser Belinco (Argentina) | Argentina |
| ICNDT Past Chair | Dr Mike Farley | UK, Singapore |
| NDT Society to provide Secretariat | British Institute of NDT (UK) | UK, Germany, Poland, Romania, Singapore |

As there were no further nominations an election was not required in accordance with OP1. M Farley commented that it is very healthy that the people in the top three positions are not changing. There are some changes in the regional representatives and WG chairs so there will be new people at IEC meetings which is good. But it was agreed in response to a comment from Glenn Tubrett that some more consideration needs to be given to succession planning.

**Summary of ICNDT Awards presented at the Opening Ceremony**

Awards were presented during the WCNDT Opening Ceremony. Awards are issued every four years in conjunction with the WCNDT. the awards are:

Rontgen Award for major contributions to the science and technology of NDT.

Pawlowski Award for major contributions to promotion of NDT internationally.

Havercroft Award for major contributions to NDT education, training and certification.

Sokolov Award for major contributions to NDT research.

ICNDT Young Achiever award and the ICNDT recognition of voluntary effort award.

See the report on the 20th WCNDT above for the names of the winners.

M Farley reported that there was a really good set of nominations for all of the awards this year. A secret ballot was carried out among the IEC members and there was a clear winner in every category except for the Young Achiever award which was a draw so two awards were made.

The GA was advised of the recommendation from the IAC that we should in future increase the number of awards for young people from one to four. part of the award will be free registration at the next WCNDT, funded by ICNDT and this will require a change to the OP.

Many of the people that did not receive awards deserve recognition for their efforts so the process in OP22 was followed and there were 7-8 awards for voluntary effort awarded at the Opening Ceremony. M Farley reminded all members that OP22 can be used by any national society members of ICNDT any time between meetings.

**Approval of Nominations for Honorary Membership**

S Babu and M Farley put forward nominations which had been approved by the IAC and IEC and were unanimously supported by the meeting:

Harold Jansen for his services to ICNDT in chairing and leading the work of the ICEC for a very long period and for his input into the ICNDT MRA.

Prof Younho Cho was also nominated for his services to APFNDT and ICNDT and for his services as WCNDT President, and

Fermin Gomez was nominated for his dedicated services to EFNDT and ICNDT for many years.

**Report on Liaison Members**

The WG1 Chair (B Alves) will be nominated to ISO TC135-SC7. Similarly, we are seeking a new nominee for ISO TC108-SC5 as our current nominee (C Belinco) now has an active role with the next WCNDT.

We have an informal liaison with the IAEA and currently S Babu and D Gilbert take the lead on various groups within the IAEA. We also have a formal liaison with IIW and the latest MoU between ICNDT and IIW was signed in Shanghai during the IIW GA. It is now time for renewal and this was planned for the GA2 on Thursday. T Wenzel is our new representative to IIW.

# 22nd World Conference 2032 - presentation of bids

Bids for the 22nd World Conference in 2032 were presented. There were six presentations, and each society was given 15 minutes to present their bid.

Presentations were given in the following order which had been agreed earlier in the meeting:

* Singapore
* South Africa
* India
* USA
* United Kingdom
* Hungary

M Farley thanked the six societies that had presented a bid. A lot of hard work and commitment goes into making these plans and presentations and ICNDT was very grateful for this.

# Adjournment

S Babu expressed heartfelt thanks to the following people who have given him great support during his leadership over the past 8 years:

Gerhart Aufricht (Treasurer) for all of his hard work on the accounts and the auditors, V Schmidt and D Marshall.

Joao Conte for chairing WG2.

Mike Farley (Past Chair) for his valuable inputs which ensures that our constitution and procedures work well.

David Gilbert for all his support as General Secretary and BINDT for providing the secretariat.

All WG Chairs and the SIG Chairs for their great work and support to ICNDT.

Cindy Bailey and Zoe White from BINDT for their secretariat support.

GA1 was then adjourned.

## ICNDT General Assembly Meetings GA2 2024 and 45th Meeting of ICNDT

Brief report. Full minutes at: <https://www.icndt.org/ICNDT%2045th%20Meeting%20and%20General%20Assembly2%20Minutes%20Korea%202024.pdf>

General Assembly 2 and 45th Meeting of ICNDT was held in the Board Room – 305-307 at Songdo Convensia, Incheon, Korea– during the 20th WCNDT. Sajeesh Babu, Chair of ICNDT, presided. The meeting was declared quorate with 31 voting members present plus 8 votes from the Regions, i.e. a total of 39 voting persons present, plus one proxy vote from Poland which had been given to the Chair.

Reports were presented from National Societies, the four Regions and Liaison Members (ISO TC135, ISO TC135 SC7, IAEA, IIW, and Academia NDT International). A report was presented from ASME and it was agreed to seek to re-establish liaison.

**Election of Officers and Committees 2024-2028**

Dr M Farley advised that the list of nominations for the IEC had been presented at the GA1 meeting when it was noted that there would not need to be an election. Since the GA1 and after some canvassing, Dr Casper Wassink of KINT (Netherlands) had kindly agreed to be nominated as Treasurer. Bya show of hands, Chair (S Babu), General Secretary (D Gilbert), Treasurer (C Wassink), WCNDT President (C Belinco), Past Chair (M Farley) and secretariat (BINDT) were approved for office for the next four years.

Nominations to the IEC for the regions are:

AFNDT Dr Sahaimi Kamal (Morocco)

APFNDT Dr Tokamasa Ogata (Japan)

EFNDT Mr Fermin Gomez (Spain)

PANNDT Mr Glenn Tubrett (Canada)

Mr Douglas Marshall (Canada) and Dr Werner Schmid (Switzerland) were both willing to stand again as auditors and were unanimously approved.

WG Chairs nominated by the ICNDT IEC and approved at GA2 are:

Mr Harold Jansen ICEC

Dr Bento Alves WG1 (Qualification & Certification)

Mr David Bajula WG2 (Membership)

Dr Thomas Wenzel/Dr Younho Cho WG3 Co-chairs (Education & Research)

Mr Shohei Ooka WG4 (Communications)

Mr David Gilbert WG5 (Radiation Safety and Security)

Dr Cesar Belinco/Prof Len Gelman WG6 Co-chairs (Condition Monitoring and Diagnostic Technologies) \*

Dr Mike Farley WG7 (Administration)

\* As Cesar Belinco will have other duties relating to the 21st WCNDT it was agreed that a new Chair for WG6 would be sought and later (December 2024) it was announced that Simon Mills of BINDT, past Chair of the ISO CM Working Group, would take on the Chairmanship of WG6.

The list of nominations for SIG chairs was presented and unanimously approved.

It was noted by the Chair that we are very fortunate in that we have so many people willing to serve ICNDT and everyone was thanked for their past service and for their service going forward.

**Strategic Plan 2024-2028**

S Babu presented a snapshot of the changes to the Strategic Plan. There will be a draft Issue

12 of the Strategic Plan which will be circulated to the WG and SIG Chairs for their further input based on discussions during the conference. In due course the plan will be published on the website and used by the IEC and chairs to guide ICNDT’s work over the next four years

Action areas for ICNDT:

* + - * Support NDT societies – this will come from the Membership WG.
      * Promotion of the importance of NDT – better links to external bodies – responsibility of the Communications WG.
      * WG1 focuses on Qualification and Certification
      * WG3 focuses on NDT Education and Research.
      * WG5 focuses on Radiation Safety and Security including our cooperation with IAEA
      * WG6 focuses on Condition Monitoring and Technical Diagnostics and
      * WG7 focuses on Management and Administration and reviews some of the OPs as well as our Constitution.

**Election of host for 2032 WCNDT**

Three tellers, independent of the six bidders (see above), were appointed to count the votes. The procedure was clear, i.e. the winner would be the first country to get more than 50% of the number of eligible votes (40). Five rounds of voting were necessary but after five bidders were eliminated the winner was declared to be Singapore.

**Next General Assemblies**

GA 1 and the 46th meeting of ICNDT will be held in 2026 at the time of the ECNDT Conference in Verona, Italy.

GA’s1 and 2 and the 47th and 48th meetings of ICNDT will be held in 2028 at the time of the 21st WCNDT in Buenos Aires, Argentina.

## Working Group 1 (Qualification and Certification)

A hybrid meeting of Working Group 1 (WG1) was held on 26 May 2024 at the 20th World Conference on Non-destructive Testing (WCNDT 2024) in Incheon, Republic of Korea. The meeting was chaired by Dr Sajeesh Babu. A new WG1 Chair – Bento Alves from Portuguese Society of NDT was selected and approved by IEC held on 26th May 2024 and elected in the 43rd GA on 28th May 2024. Several other changes to the membership of the group were agreed and ratified by the IEC. An updated list will be published soon on the website. The Terms Of Reference were reviewed, adopted with comments and sent to publishing.

The “ICNDT Guide to best practice management by Certification Bodies to achieve Integrity, Impartiality & Independence” was reviewed and will be sent to publishing when the appendix is complete.

The “Report of ICNDT WG1 on interpretation of ISO 9712:2021” is almost finished, incorporating comments coming from several National Societies. New text will be developed for the document.

The ICNDT Guide to Qualification and Certification of Personnel for NDT, updated to reflect ISO 9712:2021/2022, was published on the ICNDT website and printed copies issued at the 20th WCNDT.

ISO/IEC 17024:2012 is in the process of revision by the ISO committee for conformity assessment (CASCO). A new link to CASCO was chosen, Mr. Robert Skwirut from Canada. Monitoring the revision is very important as any significant changes to this standard would have an impact on all the world’s NDT accredited certification schemes.

SK Babu has provided the liaison between ICNDT WG1 and International Accreditation Forum (IAF) and currently, Mr Colin Bird is playing this role.

The Strategic Plan was updated, taking account of progress to date and the outcomes of the meeting in Incheon.

An ICNDT Certification Workshop was held, the 31st of May 2024, during WCNDT, Incheon, Korea. The presentations are available on the website see xxxxxxxxxxxxxxxxxxx.

## 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 13 February, 18 April, 28 May, 15 August, 17 October and 12 December 2024.

Present ICEC members are as follows: l Mr Harold Jansen (Chair and Africa representative); Dr Norikazu Ooka (Asia-Pacific region); Mr Gerhard Aufricht (ICNDT Treasurer); Mr João Rufino Teles Filho (Vice Chair); Dr Thomas Wenzel (Europe region); Mr Kamal SAHAIMI (African region); Mr Glenn Tubrett (Pan Americas region); Mr Bento Alves (WG 1 Representative).

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

It can now be reported that the ICNDT OP19-registered PCBs are fully audited and registered. It can be further reported that all our OP19 and OP20 registered members are operating to ISO 9712:2021.

There are now 45 signatories to the MRA Schedule 1. These signatories are committed to recognise the certification awarded by the 18 PCBs registered by ICNDT under the MRA Schedule 2.

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, In particular two countries have approached the ICEC to become MRA registered and use the on-line EQB. The on-line version of the EQB will be compatible with ISO 9712:2021 and 17024 and include psychometric testing of the examination questions and enable translation of the EQB into more languages and include country and region-specific questions.

## Membership Committee (WG2)

**Chair:** David Bajula

**Members:** Mr Shohei Ooka, Mr David Gilbert, Professor Ferid Herelli, Mr Les Dick and Joao Conte.

Joao Conte stood down as Chair at the 20th WCNDT after many years of service in the role and David Bajula was confirmed as the new Chair at the General Assembly.

**Actions:** WG2 efforts are primarily associated with working on Action Plan 1: Support NDT Societies.  This Action Plan has 12 specific tasks or items, and the group is initially focussing on Items 1a – 1d and 12 (large task) as follows:

* 1a       - Look for opportunity (ies) to engage with the Middle East region.
* 1b       - Work with AFNDT to help structure the membership fees and collection.
* -   Assure support for the next AFNDT conference, determine needs, and report out by next ECNDT conference.
* 1c        - Prepare a standard request to have “International Forum” events/meetings at regional conferences and at the very least at all Federation conferences!
* 12       - Prepare a Societies Operational Manual – work in progress

## WG2 plans to meet more regularly outside of regional and federation meetings and events. It also plans to work with WG4 to update the membership area of the website.

## Working Group 3 (Research and Education)

A meeting of Working Group 3 (WG3) was held on Thursday 30th May at the 20th WCNDT with members present including representatives of Liaison member, IIW. The meeting was Co-Chaired by led Professor Younho Cho and Dr Thomas Wenzel.

The meeting reviewed the objectives of the Working Group, the current membership, heard reports from the SIG chairs present. Topics for inclusion in the next Action plan for the Working Group were discussed. The membership structure was confirmed as that previously agreed in Lisbon, with names of representatives updated as below.

**ICNDT WG3 Membership Structure:**

|  |  |
| --- | --- |
| **Designation** | **Current representative ( May 2024 onwards)** |
| Co-Chairs | Professor Younho Cho |
| Dr Thomas Wenzel |
| **Ex-officio** | |
| ICNDT Chair | Dr Sajeesh Babu |
| ICNDT IAC Chair | Dr Mike Farley |
| ICNDT General Secretary | Mr David Gilbert |
| ICNDT Treasurer | Mr Gerhard Aufricht (to be replaced by Casper Wassink) |
| ICNDT Membership Chair | David Bajula |
| Chair WG1 | Bento Alves |
| Chair WG4 | Mr Shohei Ooka |
| Chair WG5 | Mr David Gilbert |
| Co-Chairs WG6 | Professor Len Gelman and Mr César Belinco, replaced by Simon Mils |
| ICEC Secretary | Mr Colin Bird |
| **Regional Representatives** | |
| 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 |
| **Specialist International Group (SIG) Chairs** | |
| 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 |
| Guided Wave Ultrasonic applications | Prof Younho Cho |
| Non-linear UT | Dr Serge Dos Santos |
| Magnetic Memory Method | Dr Peter Ladányi |
| NDT of Civil Engineering | Mr César Belinco |
| NDT Frontiers | Dr Roman Maev |
| **Representatives of Liaison Members** | |
| 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 |
|  | **Other Interested Specialists** |

|  |  |
| --- | --- |
| SIG Reliability | Fabian Delhof |
| SNTCT, Chinese Taiwan | Juin-Fu Chai |
| MSNT | Ilham Mukriz |
| Department of Skills Development Malaysia Certification Body | Salbiah Hussein |
| AIPnD Italy | Roberto Felicetti |
| Academia NDT | Uwe Ewert |
| COFREND | Etienne Martin |
| DGZFP | Sascha Feistkorn |
| BINDT | Ian Cooper |
|  |  |
| KSNT | Hogeon Seo |
|  |  |

**Specialist International Groups**

Reports were presented from most of the Specialist International Groups (SIGs) during the WG3 meeting. These reports indicated the depth and breadth of activity in this relatively new area of ICNDT. Details of the SIGs may be found in the ICNDT annual report (below).

**D Kanzler (SIG Reliability)** commented that there were some issues with the Reliability Workshop. He had hoped to run the workshop in a different way and that it would be shown in the programme in a different way. There were four Reliability sessions listed in the WCNDT programme and he could not find himself in any of them and had been placed in the Acoustic Emission session. He had talked to the conference organisers about his workshop but it was not in the programme, so the visibility failed this time on the topic of Reliability, which is a pity. Hopefully, this can be improved at the next ECNDT and WCNDT events. Dr Kanzler said that he would offer a workshop again but hoped to be able to help structure the topic better as, in his opinion, Reliability is a very important topic.

As one of the WCNDT organisers, Y Cho said that he took responsibility and took the criticism on board and apologised profusely. The reason why it happened this way was because we ran this workshop totally in parallel and it was not part of the regular technical programme. This needs to be improved in future.

**C Belinco (NDT Civil Engineering)** presented the SIG report. C Belinco reported that the Civil Engineering group had been set up in Portugal in 2023. He stated that three meetings have been held concerning emerging technologies lead by L Dick, S Laprida, R Felicetti and E Niederleithinger. Three sub-groups have been created. During a meeting in March, the liaison member of the HSE mentioned that the liaison and scope of the working groups aligned with the IAEA activities.

D Gilbert commented that for some time we have been talking to the IAEA about a Practical Agreement (PA) at a higher level between ICNDT and IAEA and we reached a point where we have a draft PA. We need to complete some of the gaps which correspond to the activities. We need to provide a timeline associated with the actions and determine who will help to complete those actions, with suggested completion dates in each case. We will go through this and then submit the PA for approval by IAEA. It is hoped that this will help to coordinate all of the activities. This is not an easy task as there are various ‘touch points’ between IAEA and ICNDT at different levels, different deadlines, different activities but it would be good to have some form of coordination of those activities to help with communication as to who is doing what and when.

**Y Cho (Long range Guided Wave Ultrasound)** presented a summary of his considerations with respect to Long Range Guided Waves (LRGW). In particular, he noted the significant number of papers presented during the conference. Of special interest he noted that LRGW research shows that small defects can be detected. He noted that LRGW was now being applied in deep water applications, in particular delamination of corrosion resistant coatings on pipelines, this being an on-line monitoring process. He also noted that LRGW is being applied to heat exchangers in Korea and that during the JSNDI conference a special session was held on LRGW.

**NDE 4.0** T Wenzel presented the work with NDE 4.0 with respect to education. A list of NDE 4.0 competencies has been produced but it was questioned whether the list was complete. The SIG discussed how to address these competences at the university level. It was noted that the number of students applying for NDE is getting smaller and we must do more to encourage young people into NDT

**Interaction of ICNDT SIGs with the similar Regional Groups**

There was discussion about the overlap of activity and how to avoid duplication of effort. Some principles emerged:

1. Some topics are fully international and should be led from the ICNDT SIG. However Regional groups may wish to discuss these topics and feed their ideas to the ICNDT Group
2. Some topics are specific to regions and should be led from the Region. Nevertheless, it is interesting and useful to keep the ICNDT group informed of what is being done.

**Reports from Regions**

Reports were given from EFNDT, APFNDT, PANNDT, and AFNDT.

**Cooperation with IAEA**

David Gilbert reported on the liaison with the IAEA. It was noted that there was progress within the civil engineering community with IAEA in particular with respect to civil engineering activities within disaster areas. IAEA were invited to the WG3 meeting but the meeting received apologies from Ms Hannah Affum of the IAEA.

The ISEMIR project was discussed at the WG5 meeting (see below).

**IIW**

T Wenzel welcomed the representatives from IIW (Stephan Egerland and Luca Costa). A meeting had been held yesterday with S Babu, T Wenzel and IIW and both sides agreed to fostering the collaboration between IIW and ICNDT. T Wenzel will take over and lead the interface with IIW and will fulfil the action to attend the IIW annual event in Rhodes.

**Open discussion on purpose and objectives of WG3**

The discussion was led by Thomas Wenzel and Younho Cho with the purpose of listening to the members prior to completion of a revised Action Plan to be incorporated in the new ICNDT Strategic Plan (see below)

**Extract from Action Plan**

The action from the meeting was for the Co-Chairs to take away the results of the discussions and to formulate a revised Action plan. This has been included in v12 which was later issued by the ICNDT Chair.

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| |  | **Action (What)** | | --- | --- | | **1** | Set up **a plan of meetings** to be held – at least one physical meeting/year and one internet meeting  2025:   * NDTSS Local event in Singapore (Feb) – Online Meeting * PANNDT in Niagara Falls Canada (June) in person   2026:   * Online Meeting in Feb * ECNDT in Verona, Italy in person   2027:   * Online Meeting in Feb * Alongside Annual Meeting of IIW or Alongside Annual Meeting of NDT Academia in person   2028   * Online Meeting in Feb * WCNDT, Buenos Aires, Argentina in person | | **2** | Research Agenda for NDT: Follow-up of the results created during the workshop ICNDT NDT Frontiers Workshop in Korea and the SIG Meetings | | **3** | Continue to **promote register of NDT Research Bodies** on ICNDT website. | | **4** | **Update of ICNDT Guide on Education in NDT** - including a list of universities organising courses in NDT and CM categorising them as in the Guide    Draw up **list of NDT text-books** with commentary on their level (to be reviewed) | | **5** | Promote **International Specialist Groups (new and existing)**, each hosted by a member or other organisation. | | Encouragement of NDT Societies to develop e-learning & contribute to the national programs initiated by UNIDO, IAEA, ISO etc. | |  | |  | |

**Next meeting of WG3** – this is planned as an in-person meeting during the PANNDT Conference in Niagara Falls, Canada June 9-12th 2025.

### *Specialist International Groups*

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 being organized by ISNT (co-chaired by ICNDT) and will be in Bangalore, India from March 3rd to 6th 2025. The Kurzweil Award for High Impact in NDE 4.0 will be awarded again during the conference. The 4th conference is scheduled for 2027 and 5 counties are currently preparing a pitch.

The SIG held two virtual and one in-person meeting in 2024 to gain insight into the ongoing activities of the sub-groups.

The work of the subgroups is summarised as follows:

* Sub-group T1 for Training, Education, and Research for NDE 4.0 is led by Dr. Johannes Vrana and Professor Dr Norbert Meyendorf. It focused on NDE4.0 training is working on international harmonization of NDE 4.0 training for technicians and integrating NDE 4.0 aspects into university 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 about ongoing activities such as EU data act, OPC UA, DICONDE, and HDF5. As the basic information has been collected this group will choose next year what to do going forward.
* Sub-group P1 for Common Terminology was led by Professor Dr Nathan Ida. The group is currently on hold after publishing a Wikipedia article on NDE 4.0.
* Sub-group P2 for Knowledge Exchange Channel (Publications, Platform and Forum) is led by Ramón Fernández Orozco and Dr Serge Dos Santos.
* Sub-group P3 for Guideline for Roadmap/Application on NDE 4.0 is led by Dr Ripi Singh and 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 on 12 April 2022 with the intention of presenting it to the ICNDT Board of Directors (BoD). Unfortunately, no feedback has been provided to the SIG to date.
* Sub-group H1 is a collaboration with the SIG Reliability and led by Professor Dr Norbert Meyendorf.
* Sub-group H2 for Ethics, Diversity, Equality and Inclusion is put on hold for the moment.
* Sub-group H3 for Certification was proposed by AINDT, discussed by the SIG, and put on hold for the moment.

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

NDE 4.0 subgroup, led by Prof. Dr. N. Meyendorf which seeks to build bridges between the reliability field and the NDE 4.0 field. In regular meetings common topics are discussed with the experts in both fields.

Human Factors subgroup, led by Dr Marija Bertovic and Dr Abdeldjalil Bennecer, meets monthly to work on and discuss the progress of the Human Factors Guidance Document. Furthermore, they are reviewing existing guidance documents and sharing experiences and information on existing and future projects related to human factors, occasionally inviting someone to present their work.

**Promotion**

An important objective of the SIG in 2024 has been “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” with mixed results:

* + 27-31 March 2024: 20th WCNDT in Incheon Korea - regrettably NDT-Reliability was almost invisible, indicates of lack of papers submitted.
  + 6-8 May 2024 DGZfP annual meeting 2024 with the **application award** to a reliability topic: “An Industry-suited NDE 4.0 approach – validation of automated ultrasonic testing application using POD on the production floor”
  + 24-28 June 2024: ASNT Research Symposium: Pittsburgh: strong representation in the field of Reliability

Looking forward the SIG will work through ICNDT Working Group 3 and offer support to conference organisers, including the PANNDT, ECNDT, APCNDT and 21st WCNDT in an endeavour to promote the visibility of NDT-Reliability through specialist sessions, Keynotes and Workshops.

**Standardisation**

Several standards are currently in progress in collaboration with the ICNDT SIG,

* + German standards DIN 19293 Non-destructive testing – Evaluation of testing data – Guideline to estimate the reliability of applications
    - a general standard for reliability
    - including new topics like synthetic data and with a connection to the AI-law
    - developed from a wide field of experts (aviation, railway, industries etc.)
    - presented and discussed at different events in ICNDT meetings and regular NDT meetings
  + Automotive standard: VDA 239-170:2025 (Process capability for NDE application in automotive)
  + Improvement of the European standard EN 16991 (Risk-based maintenance);

CEN/TC 138 “Non-destructive testing” is considering an update and change from TR to TS of CEN/TR 14748 "Methodology for the qualification of NDT". If the work item is accepted a WG will be established. The SIG will seek to participate through its links with EFNDT.

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%20](http://www.icndt.org/common/pdf/Terahertz%20technologies%20for%20) non\_destructive%20testing%20and%20condition%20monitoring.pdf, followed 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 focused on producing three application notes for specific use-cases, due to be published in 2025, and on promoting THz via presentations and professional social media (e.g. LinkedIn).

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 Guided Wave Ultrasound Applications** is led by Professor Younho Cho. It held a meeting on 29th May during the 20th WCNDT designed to showcase the evolution of guided wave technology in addressing complex inspection challenges, providing new insights and potential applications across industries.

The focus was on three topics:

* Ultrasonic Guided Wave-Based Damage Detection System for Heat Exchanger Tubes in Offshore Structures

*Jeongnam Kim, Korea Institute of Machinery & Materials (KIMM)*

The system was designed to address the challenges of inspecting narrow spaces and complex geometries in underwater environments. The experimental results demonstrated the system’s capability to accurately detect corrosion and other defects, even in tightly spaced tube bundles.

* Enhancing Ultrasonic Guided Wave Inspection of Marine Coatings through Artificial Intelligence

*Jiannan Zhang, School of Mechanical Engineering, Pusan National University*

The presentation focused on improving the inspection of bonding quality in underwater environments. The AI system developed demonstrated a high accuracy rate in identifying bonding defects, offering a promising solution for large-scale inspections in harsh marine environments.

* Quasi-Static Component Generation of Guided Waves and Its Applications on Damage Detection

*Jinshan Wen, School of Aerospace Engineering, Xiamen University, Xiamen, 361102, China*

The study highlighted the effectiveness of QSC in detecting localized damage, particularly in tubular structures subjected to harsh operating conditions and indicated that QSC could significantly enhance the sensitivity and accuracy of damage localization in aerospace applications, making it a valuable tool for ensuring the safety of critical structures.

The findings not only demonstrate the current capabilities of guided wave technology but also pave the way for future innovations that can further improve safety and efficiency in various sectors.

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.

Following on from involvement in three events in 2022 and 2023, namely 1. **T**hird International Workshop, “Analysing Art: New Technologies – New Applications,” Florence, Italy, April 2022, 2. “NDT of Art and Culture Heritage” Special Session at the 13th ECNDT​, Lisbon, Portugal,July 2023 and 3. “NDT in Art’23” Brescia, Italy November 2023, planning has begun in 2024 for a a Special Session for the PANNDT 2025 Conference in  Canada for June 2025. The program for this Session is currently under development and will be finalized sometime in March 2025.

Another important event being planned for 2025 will be Fourth International Workshop, “Analysing Art: New Technologies – New Applications,” which is scheduled to take place in Antwerp, Belgium, from May 18-21, 2025.  The ICNDT Specialist International Group “NDT of Art and Culture Heritage” together with BINDT are responsible for this regular and successful event. With the permission of ICNDT President, - the logo of ICNDT will be displayed at the banners and flyers of this event. The Program of this three-day Workshop Session is currently under development and will be finalized sometime in February 2025.

The **Specialist International Group** **NDT Civil Engineering,** led by Dr Cesar Belinco, had 5 virtual meetings since its creation in July 2023 and an hybrid meeting during the WCNDT 2024 in Korea. In those meetings, 3 sub-groups with different scopes, were created (see <https://icndt.org/ICNDT-Activities/NDT-of-Civil-Engineering> ).

The Chairs of the 3 Sub-Groups have worked to design preliminary Work Plans for their Sub-Group:

**SG 1 “NDT CE Standardization”**

SG 1 intends to promote knowledge exchange between specialists on emerging NDT-CE Standardization, to build an international basic model for training and certification standards on the main NDT methods used in in civil engineering.

SG 1 will produce and edit leaflets on emerging NDT-CE Standardization, written by appointed experts, approved by at least two thirds of the SG members and the SIG and approved & published by ICNDT.

SG 1 wants to involve experts from NDT companies from all countries in the world who apply NDT techniques and train NDT staff in their own nationalities and abroad. We will make an open call.

**SG 2 “NDT-CE Applications”**

To know, gather, and analyze all possible applications of NDT methods in civil structures. Put the group at the service of the sector for the correct application of testing methods, emphasizing what is right and wrong in the application of each method. Propose actions in different construction phases: project, quality control, research, maintenance, analysis of defective structures, and others.

Plans: The group is discussing how to organize itself and its actions. The scope is divided is divided in 4 areas of application: Maintenance & Safety assessment (including interventions pre and post disasters); Quality Control for new construction or refurbishment projects; Analysis of pathological behaviour; Cultural Heritage.

**SG 3 “Emerging Techniques”**

SG 3 intends to promote knowledge exchange between specialists on emerging NDT-CE technologies, to foster international collaboration for improvement towards practical application and to provide objective information about potential and limitations to the NDT community and potential users.

SG 3 will produce and edit leaflets on emerging NDT-CE techniques, written by appointed experts, approved by at least two thirds of the SG members and the SIG and approved and published by ICNDT.

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**The ICNDT Specialist International Group *“NDT Frontiers”*** was established in September 2023. The original initiative to create a new SIG group: “NDT Frontiers” came from the three founders, Prof. Roman Maev (CINDE, Canada), Dr. Shant Kenderian (ASNT, USA) and Mr. David Gilbert (BINDT, UK).  After careful review and some additional suggestions this initiative was fully supported by  Dr. Babu and Dr. Farley. It was also suggested by them that Prof. Roman Maev (Canada) will be the Chair of the SIG group “NDT Frontiers” and the new SIG will comprise about 20 members representing various active national societies with the goal to arrange the first in-person ‘kick-off’ SIG Meeting (Session) at the 20th WCNDT in South Korea in May 2024. It was also agreed that, after the first physical meeting of the SIG at WCNDT, further ICNDT SIG meetings will be held within the programmes of PAN NDT (2025), ECNDT, and APCNDT (2026) events.

For the WCNDT on Monday, May 27th, ICNDT SIG “NDT Frontiers” (led by SIG Chair Prof., Dr. Roman Gr. Maev, with the strong support of SIG Secretaries: Mr. Ed Cabral and Dr. York Oberdorfer) prepared a Special Session with a very impressive programme with the involvement of globally recognized leading NDT experts. The opening included an introduction by Dr. Roman Maev; welcome notes by Dr. Sajeesh Babu, by Dr. Mike Farley; by Mr. David Gilbert and by Dr. Younho Cho, WCNDT2024 President. Invited Lectures:  Dr. Shant Kenderian, USA, “At the threshold of new frontiers in NDT”;  Dr. Marc Kreutzbruck, Germany, “Robotics and AI - Key Technologies for Fully Automated NDT”; Dr. Jianmin Qu, USA, “Quantitative Non-destructive Evaluation in the Age of Artificial Intelligence”;  Mr. David Gilbert, Great Britain, “Development of Engineering Talent for the Next Generation of Inspection Technology”; Mr. Etienne Martin, Mr. Pierre Calmon, France, “Present and Future Challenges for NDT in the Nuclear Industry”. The Program of this Session included two Panel discussions:

First Panel with the title*“Rethinking requirements for NDT Education and Training” .* Moderator Mr. David Gilbert, Secretary Mr. Ed Cabral. Panelists:  Dr. Sajeesh Babu (Singapore), Dr.Shant Kenderian (USA), Dr. Glenn Tubrett (CINDE), Dr. Krishnan Balasubramanian (India), Dr. Manfred Johannes (South Africa), Dr. Roman Maev, Mr. Etienne Martin (France).

Second Panel with the title “The impact of standardisation: standards and metrology on innovation*”*.Co-Moderators Dr.Tomoki Shiotani (Japan) and Mr. Etienne Martin (France), Secretary Dr. York Oberdorfer. Panelists: Dr. Thomas Heckel (Germany), Mr. Danny Keck (USA), Dr. Gongtian Shen (China), Dr. Benoit Dupont (France).

Closing remarks were presented by Dr. Roman Maev.

Notably, at the WCNDT opening ceremony, ICNDT SIG Chair, Prof., Dr. Roman Maev received **Sokolov Award** for his major contributions to NDT research. The next action for ICNDT SIG *“NDT Frontiers”* in 2025 is preparing a Special Session for PANNDT 2025 Conference in  Canada for June 2025. The Program of this Session is currently under development and will be finalized sometime in March 2025.

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).

The fourth meeting of the ICNDT SIG MMM was held on May 30, 2024 during the 20th World Conference on Non-Destructive Testing (20th WCNDT) in Incheon, Republic of Korea. The meeting was attended by 21 specialists from 9 countries: Argentina, Brazil, Canada, China, Czech Republic, Hungary, Korea, Malaysia and Russia.

At the meeting, reports were delivered on the following topics:

- Report on the work of the ICNDT SIG MMM for 2018 – 2023.

- Work Plan of the ICNDT SIG MMM for 2024 – 2025.

- How MMM can be integrated with other pipeline integrity technologies.

- Advances in MMM Using Drones and Augmented Reality.

As of January 2024, the MMM method has been spread to 47 countries of the world. The ICNDT SIG MMM continues to work actively in accordance with the Work Plan for 2024 – 2025, which includes the following activities:

1. Participation in the exhibition and 20th World Conference on Non-Destructive Testing (20th WCNDT), Incheon, Korea, May 27-31, 2024.

2. Participation in national and international conferences on non-destructive testing with reports on the experience of the MMM method application in technical diagnostics of equipment and structures, in particular:

- 11th international industrial forum “NDT Territory”, Moscow, Russia, April 15-17, 2024;

- World Congress on Condition Monitoring (3rd WCCM), Beijing, China, October 15-18, 2024;

- 24th international exhibition "NDT Russia", Moscow, Russia, October 22-24, 2024;

- 34th Annual Conference & Exhibition on Non-Destructive Evaluation & Enabling Technologies, Chennai, India, December 12-14, 2024;

- 12th international industrial forum “NDT Territory”, Moscow, Russia, April 14-16, 2025.

At the ICNDT SIG MMM meeting, it was proposed to discuss with the Malayan NDT Society the possibility of holding the fourth international conference on the MMM method in Malaysia.

3. Promotion and coordination of experimental studies of metals' physical and mechanical properties using the MMM method.

4. NDT personnel training and certification in the MMM method in Russia, Kazakhstan, China, Malaysia, India, Moldova, Croatia, Azerbaijan and other countries.

5. Publication of articles in national and international scientific and technical journals, including "Welding in the World" and "Insight" journals.

6. Further development of the non-contact method, development of procedures for inspection of various equipment. At the ICNDT SIG MMM meeting, a resolution was adopted to develop ICNDT recommendations for application of non-contact magnetometric inspection of buried pipelines based on the metal magnetic memory method.

## 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 ISEMIR-IR (Information System on occupational Exposure in Medicine, Industry and Research) was held 2-4 April 2024, the main objectives of which were to:

o Review the activities of ISEMIR-IR in 2023

o Discuss the 2023 ISEMIR-IR annual report

o Review the summary of the results of the global survey on ISEMIR-IR in 2023

o Discuss the upgrade of the ISEMIR-IR system

o Propose and discuss methodology and work plan for ISEMIR-IR in 2024.

o Discuss the experience from operation of the ISEMIR-IR system in testing environment.

The methodology and results of the third ISEMIR-IR global survey were discussed.

In summary:

* A majority of regulatory bodies (RBs) recognise the advantage of the free information system for NDT companies.
* Almost two-thirds of the responding NDT companies are interested in the free software provided by the IAEA.
* Most of the responding RBs and NDT companies are willing to share information with the IAEA through ISEMIR-IR.
* About 50% of the companies would like the IAEA to create an ISEMIR-IR account for them.
* Most of the responding NDT companies still use hard copy for their registrations.
* For most companies, registrations include individual dose, source details, accidents/incidents, number of radiographers and training records.
* RBs and NDT companies are willing to work with IAEA to provide input data to ISEMIR-IR system.

A meeting of the ICNDT Working Group 5 was held in Korea alongside the 20th WCNDT. ISEMIR is an important part of the activities, but it is not the only subject covered in 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 David Gilbert.

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

There were no meetings of Working Group 6 (WG6) in 2024. Simon Mills from BINDT will take on the chair of this WG. Member societies are encouraged to nominate experts in the area to join the group.

# Chair’s Activities

* Dr. Sajeesh Babu, Chair of ICNDT, has played a pivotal role in advancing the organisation’s mission and strengthening its global presence through a range of significant activities and engagements throughout 2024. His steadfast commitment to the non-destructive testing (NDT) community is reflected in his dynamic leadership and strategic contributions:
* ICNDT Annual Meeting and IEC Leadership
* Chaired the ICNDT Annual Meeting on 25th January 2024 in Glasgow, UK, held in conjunction with the BINDT Scottish Branch meetings.
* Led six IEC meetings, driving key discussions on ICNDT’s strategic priorities and operational plans.
* Working Group 1 (WG1) Contributions
* Co-chaired the WG1 meeting during the 22nd WCNDT with Dr. Mike Farley, formulating a comprehensive four-year strategic plan for the working group.
* Oversaw the election of Dr. Bento Alves as the new WG1 Chair and conducted an induction program to ensure seamless leadership transition.
* Preparations for the 20th WCNDT
* Dedicated substantial effort to ad hoc meetings with KSNT, the host society for the 20th WCNDT, ensuring meticulous preparation for this landmark event.
* Provided critical guidance on the implications of European sanctions on Russia’s participation, enabling informed, strategic decisions.
* Actively observed and contributed to ICEC and WG4 meetings, offering expert advice and reinforcing ICNDT’s influence in global NDT advancements. Provided an induction for incoming chair of WG2 Mr. Dave Bajula
* Representation at International Forums
* Dr. Babu’s presence at key international events has elevated ICNDT’s global profile and fostered meaningful collaborations:
* BINDT Scottish Branch Seminar (January 2024): Presented a paper during the ICNDT Annual Meeting.
* 20th WCNDT (2024): Delivered opening remarks, actively participated in ICNDT and APFNDT meetings, and was re-elected as ICNDT Chair for another four-year term.
* Malaysian International NDT Conference & Exhibition: Presented a keynote on NDE 4.0 applications in the storage and energy sectors.
* IAEA SSG-11 Revision Working Group (Vienna, Austria): Contributed to the revision of international safety standards.
* 1st Formosa Conference (Taiwan): Delivered a keynote speech and inspired students through university engagements, promoting the importance of NDT.
* Saudi Aramco Quality Forum: Presented on global trends in NDE 4.0, digital technology, and AI.
* ASNT Annual Conference: Participated in strategic discussions to advance ICNDT’s goals.

NDE 2024 Conference (India): Delivered the opening address, a keynote speech, and contributed to two panel discussions, promoting innovation and collaboration in NDT.

## 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 and Chairs 2024

# The 2023 Officers and Chairs were in post until the elections at the 20th WCNDT on 25th May when the new officer-holders took over.

|  |  |  |
| --- | --- | --- |
|  | Jan to May 25, 2024 | May 25, 2024 onwards |
| **ICNDT Chair** | Dr Sajeesh K Babu (Singapore) | Dr Sajeesh K Babu (Singapore) |
| **ICNDT Past Chair** | Dr Mike Farley (UK) | Dr Mike Farley (UK) |
| **ICNDT General Secretary** | Mr David Gilb aert (UK) | Mr David Gilbert (UK) |
| **World Conference President** | Professor Younho Cho (Korea) | Cesar Belinco (Argentina) |
| **NDT Society to provide Secretariat** | The British Institute of NDT (UK) | The British Institute of NDT (UK) |
| **Treasurer** | Mr Gerhard Aufricht (Austria) | Casper Wassink (Netherlands)  (Phased handover) |
| **Auditors** | Mr Douglas J Marshall (Canada) and Dr Werner Schmid (Switzerland) | Mr Douglas J Marshall (Canada)  and Dr Werner Schmid (Switzerland) |
| **Chair – ICNDT Certification Executive Committee** | Mr Harold Jansen (South Africa) | Mr Harold Jansen (South Africa) |
| **Chair WG1 – Qualification and Certification** | Mr Alexander Mullin (Russia) until July 2023, then Dr Sajeesh K Babu and Dr Mike Farley acted as Co-Chairs | Bento Alves (Portugal) |
| **Chair WG2 – Membership** | Mr João Conte (Brazil) | Mr David Bajula |
| **Co-Chairs WG3 – Research and Education** | Professor Younho Cho (Korea) and Dr Thomas Wenzel (Germany) | Professor Younho Cho (Korea)  and Dr Thomas Wenzel (Germany) |
| **Chair WG4 – Communications** | Mr Shohei Ooka (Japan) | Mr Shohei Ooka (Japan) |
| **Co-Chairs WG5 – Radiation Protection and Safety** | Mr David Gilbert (UK) | Mr David Gilbert (UK) |
| **Co-Chairs WG6 – CM and Technical Diagnostics** | Professor Len Gelman (UK) and Mr César Belinco (Argentina) | Mr Simon Mills (UK) |
| **Chair WG7 – Administration** | Dr Mike Farley (UK) | Dr Mike Farley (UK) |

# Regional Group Representatives

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

# Strategic Planning and Organisation

At the GA 1, Dr Babu reviewed the activities of the ICNDT versus the previous Strategic plan and explained that the new plan for the next four years would be finalised after the General Assembly meetings, taking into account the discussions at these and those in the various ICNDT Working Groups and Committees that were happening in parallel with the conference. Subsequently at the meeting of the IEC on 21 Oct 2024, Dr Babu confirmed the finalised plan as v12 and asked for this to be posted on the website. There will be a Workshop on the plan during 2025.

**Changes to the Constitution and Operating Procedures**

There have been no changes to the constitution during 2024.

Operating Procedure OP19 Rev 6 (ICNDT MRA) was approved at GA1. C Bird highlighted the following changes:

* procedure to allow for remote audits. when there is an internationally recognised situation (and not just because an organisation prefers it).
* clarification of the use of the ICEC and ICNDT logos to specifically state that the ICEC logo can only be used by Schedule 2 members.
* Qualification of auditors –auditors should be certified as a NDT L3, have previous NDT L3 qualifications or be equally technically competent.

There was discussion at GA2 about other Operating Procedures that need improvement/revision and WG7 Administration has included this work in the Strategic Plan v12.(See xxxxxxxxxxxxxxxx).

# 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

|  |  |
| --- | --- |
| * **Full Member Societies** (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) |
| * Vietnam Association for Non-Destructive Testing (VANDT) |
| * **Potential Member Societies** (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) |
| * **Regional Group One** | * Western Asia, Central Asia, South Asia |
| * **Regional Group Two** | * East Asia, South East Asia |
| * **Regional Group Three** | * Pacific, Oceania |

* ***APFNDT Executive Committee (AEC)***

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

* ***APFNDT Board Members***

|  |  |
| --- | --- |
| * **Regional Representative: Group One (Western Asia, Central Asia, South Asia)** | * Mr Diwakar D Joshi (ISNT) |
| * Mr Alexander Mullin (RSNTTD) |
| * **Regional Representative: Group Two (East Asia, South East Asia)** | * Dr Ji Jingyuan (ChSNDT) |
| * Professor Ik-Keun Park (KSNT) |
| * Dr Ilham Mukriz Zainal Abidin (MSNT) |
| * Professor Chih-Hung Chiang (SNTCT) |
| * **Regional Representative: Group Three (Pacific, Oceania)** | * 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:

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

* ***Current and Future Activities***
* **APFNDT meetings**
* In 2024, APFNDT AEC meetings were held a total of three times with the following schedule
* - Online on 16 April 2024
* - Face-to-face during the 20th WCNDT in Incheon on 29 May 2024
* - Face-to-face during the FCNDT 2024 in Tainan on 4 October 2024
* The APFNDT ABM meeting will be held during the NDE 2024 in Chennai on 12 December 2024.
* During the 7th MINDTCE held in Malaysia on 20-21 August 2024, Dr Takamasa Ogata, Chairman of APFNDT, delivered a speech on the activities of APFNDT. After the speech, certificates of appreciation from APFNDT were presented to individuals who have contributed to the advancement of non-destructive testing technology in Malaysia.
* Certificates of Appreciation from APFNDT were also presented at the FCNDT2024 in Tainan and the NDE2024 in Chennai.
* The next APCNDT is planned to be hosted by ASNT and held in Hawaii, USA from 11 to 14 May 2026. The next APCNDT is scheduled to be held in Kuala Lumpur, Malaysia from 12 to 16 November 2029.
* In February 2024, the APFNDT website was relaunched with a more user-friendly design than the previous version, making it easier for visitors to find the content they need.
* **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: l Phase 1: supporting APFNDT national societies in fulfilling their key functions; l Phase 2: forming an organised networking platform among APFNDT national societies to promote activities; and l Phase 3: enhancing APFNDT’s overall capabilities.
* A diagram of a diagram

  Description automatically generated
* 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. l Lectures and seminars by experts on topics such as non-profit organisation (NPO) studies or NPO management. l Organising a conference-style event for secretariats to exchange information.
* Based on the plans outlined last year, an information exchange meeting was held with the participation of the management team of the Malaysian Society for Non-Destructive Testing (MSNT), the Society for Non-destructive Testing and Certification of Taiwan (SNTCT) and the Indian Society for Non-Destructive Testing (ISNT), respectively. The meeting mainly focused on exchanging information on each other's academic, educational and accreditation activities. It is planned to continue the exchange of information with APFNDT member societies in the future.

# AFNDT (Africa)

## Membership

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

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

## Outstanding

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

## IAEA-AFRA

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

***Visits in 2023*** l 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, AQBs 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. l A Meta (Facebook) group will be initiated. l A database has been initiated with 63 email addresses.

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

# EFNDT (Europe)

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

|  |  |
| --- | --- |
| **Board of Directors** | |
| **President** | Mr Fermín Gómez Fraile (Spain) |
| **Vice President** | Mr Ezio Tuberosa (Italy) |
| **Treasurer** | Mr René Klieber (Switzerland) |
| **Directors** | 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)** | |
| **General Secretary** | Dr Emilio Romero (Spain) |
| **Past President** | N/A |
| **14th ECNDT (Verona, Italy)** | Professor Dr Daniele Bisi |
| **EFNDT Certification Executive Committee (ECEC) President** | Dr Thomas Wenzel (Germany) |
| **Auditor** | 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 l WG2 – Radiation Protection and ADR l WG3 – Condition Monitoring l WG4 – Laboratory Accreditation l WG5 – NDT for Public Safety and Security l WG6 – NDT on Additive Manufacturing (two meetings) l WG7 – Failure Analysis (Risk Analysis) (three meetings together with ICNDT SIG) WG8 – Human Factors

l 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)

l Forum for Railway Industries

* Forum for Marine (preparing underwater inspection specifications; contact with the International Association of Classification Societies (IACS)).
* Two new forums has been created:Forum of Civil Works and Forum of AI

A new WG has been created: WG EFNDT Marketing and Communication

WG´s and Forums have been asked to work more intensively in their areas of work and to meet their objectives within the EFNDT focussing on the criteria and particularities of European sectorial markets in cooperation with ICNDT.

EFNDT needs to know the present NDT market in Europe in order to work more efficiently in the geographical areas or sectors to improve the European NDT world and to establish the MRAs (European and ICNDT in a better way.

EFNDT BoD is promoting a European Conference on Certification that will be defined and prepared during an extraordinary BoD in February 2025. This conference will be held in 2026 with special invitation to ICNDT.

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.

EFNDT will seek a meeting with the EU Commission in order to participate in new NDT projects.

## 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-markrecognition-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. This essentially resolves the EU-UK problems.

## 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.

EFNDT has suspended Russia Federation of NDT until the war against Ukraine ends. As a result, the Russian Federation can’t participate in any WGs, meetings, seminaries, works and conferences organized by EFNDT.

## TIC Council agreement

EFNDT is seeking 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 Tecnologico 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 |

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) |

The Terms of Reference of the Federation and the PANNDT Strategic Plan are being reviewed by the Board.

The region is excitedly preparing for the PANNDT Regional Conference to be held in June 2025 in Niagara Falls, Canada. (see [www.panndt.org](http://www.panndt.org) for more information and how to participate). At the conference, the Pan-American region will introduce a new awards program recognizing the leaders who forward NDT initiatives in the Americas.

In addition to the PANNDT conference, member countries are also hosting important conferences in the near future - ASNT   is hosting the 2026 Asia Pacific NDT Regional Conference in Hawaii and Argentina will host the next World Conference on NDT in 2028 in Buenos Aries.

# Certification of NDT Personnel – MRA, PCB and EQB

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

lThere are currently 45 signatories to Schedule 1 of the MRA. See:

https://www.icndt.org/What-is-ICNDT/Certification-Executive-Committee

l There are currently 18 PCBs registered under the MRA Schedule 2. See:

https://www.icndt.org/What-is-ICNDT/Certification-Executive-Committee

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

Brazil is in the process of supplementing its OP19 Schedule 2 MRA registration using the OP20 route to provide additional international assurance of its high standard of compliance with ISO 9712 and 17024.

***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. ICEC is now in the process of generation operating procedures for the purchase, and use of the on-line EQB.

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

The latest version of the Guide is available on the Website at <https://www.icndt.org/ICNDT%20Guidelines%202024.pdf> .

# ISO/TC 135

# Website/Journal/Publications

The ICNDT Secretariat has continued to provide updates to members through the website and the *ICNDT Journal*, issued in March 2024 (s12.pdf and August 2024 (see https://www.icndt.org/common/pdf/The%20ICNDT%20Journal%20-%20Volume%209%20Issue%20No.%2013.pdf).

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

**Finance**

The audited financial report for 2024 and the budget for 2025 are shown in the following pages.

# Acknowledgements

ICNDT wishes to thank its Executive Committee, Committees and Working Groups for their efforts during 2024 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 with great success ICNDT is also grateful to the organisers of the 20th WCNDT , 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 had a busy 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 were delighted to see many of our members in person for the first time in seven years at the 20th WCNDT.

***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 *(new fee structure)* | 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 *(insurance, various)* |  | 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 *(ICNDT badges, flags, etc)* |  | 212.00 |
| Miscellaneous *(shipping, conference calls)* |  | 0.00 |
| Website upgrade |  | 0.00 |
| ***Totals*** | **180,536.84** | **22,221.89** |
| ***Allocation to reserves*** |  | **158,314.95** |
| 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 *(new fee structure)* | 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 *(insurance, various)* |  | 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 *(ICNDT badges, flags, etc)* |  | 1,000.00 |
| Miscellaneous *(shipping, conference calls)* |  | 3,000.00 |
| Website upgrade |  | 25,000.00 |
| ***Totals*** | **246,534.95** | **64,700.00** |
| ***Allocation to reserves*** | **181,834.95** |  |

***Ing Gerhard Aufricht*** *(Treasurer)*

*Vienna, 02.01.24*

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