



INTERNATIONAL COMMITTEE FOR
NON-DESTRUCTIVE TESTING

The World Organisation for NDT

44th MEETING (1st General Assembly)

Tuesday, 28 May 2024, 14h00 -18h00

Board Room – 305-307

Songdo Convensia, Incheon, Korea– 20th WCNDT

Attendees

S K Babu	ICNDT Chair & NDTSS (Singapore)	Non-voting
B Alves	FSEND-RELACRE (Portugal)	Voting
D Bajula	PANNDT	Voting
M Bakoura	CANDT (Cameroon)/AFNDT	Voting
K Balasubramanian	ISNT (India)/APFNDT	Voting
J Conte	ABENDI (Brazil)	Voting
I Cooper	BINDT (United Kingdom)	Voting
N Couture	ASNT (USA)	Voting
L Dick	NZNDTA (New Zealand)	Voting
P Fisch	SSNT (Switzerland)	Voting
A Garcia	AAENDE (Argentina)	Voting
E Gonzalez	AEND (Spain)	Voting
F Gomez	EFNDT	Voting
G Idinger	ÖGfZP (Austria)	Voting
I Ihara	JSNDI (Japan)	Voting
K-Y Jhang	KSNT (Korea)	Voting
J I Jung Yuan	CHSNDT (China)	Voting
M Johannes	SAINT (South Africa)	Voting
J Kurz	DGZfP (Germany)	Voting
T Lutsenko	USNDT (Ukraine)	Voting
E Martin	COFREND (France)	Voting
I Mukriz	MSNT (Malaysia)	Voting
B Muthuramalingam	NDTSS (Singapore)	Voting
T Ogata	APFNDT	Voting
R Raisutis	LNBD (Lithuania)	Voting
C Raspado	PSNT (Phillippines)	Voting
K Sahaimi	COMEND (Morocco)/ AFNDT	Voting
P Trampus	MAROVISZ (Hungary)	Voting
E Tuberosa	AIPND (Italy)	Voting
G Tubrett	CINDE (Canada)/ PANNDT	Voting
P Wadyalkar	AINDT (Australia)	Voting
C Wassink	KINT (Netherlands)	Voting
C-C Yin	SNTCT (China Taiwan)	Voting

C Almeida	RELACRE (Portugal)	Non-voting
J Amsler	AAENDE (Argentina)	Non-voting
C Belinco	AAENDE (Argentina)	Non-voting
C Bird	ICNDT ICEC Secretary	Non-voting
J Chen	ASNT (USA)	Non-voting
Y Cho	KSNT (Korea)/20 th WCNDT President	Non-voting
L Costa	IIW	Non-voting
S Egerland	IIW	Non-voting
J M Farley	ICNDT Past Chair	Non-voting
D Gilbert	ICNDT General Secretary	Non-voting
J Gillmer	NZNDTA (New Zealand)	Non-voting
M Gomez	AEND (Spain)	Non-voting
S Infanzon	AENDUR (Uruguay)	Non-voting
E Jasiuniene	LNBD (Lithuania)	Non-voting
D Marshall	CINDE (Canada)	Non-voting
S Ooka	ISO	Non-voting
V Rajamani	ISNT (India)	Non-voting
H Seo	KSNT (Korea)	Non-voting
D Tan Beng Siew	NDTSS (Singapore)	Non-voting
T Wenzel	DGZfP (Germany)	Non-voting
K A M Salleh	MSNT (Malaysia)	Non-voting

Observers

AA Abas	MSNT (Malaysia)
V K Babu	HKSNT (Hong Kong)
F Bey	COFREND (France)
E Cabral	CINDE (Canada)/PANNDT
K Cambridge	BINDT (United Kingdom)
J-F Chai	SNTCT (China Taiwan)
W T Chan	HKSNT (Hong Kong)
S Cunningham	BINDT (United Kingdom)
R Davies	SAINT (South Africa)
M Eyheralde	AENDUR (Uruguay)
C Finley	ASNT (USA)
R Hoshi	JSNDI (Japan)
H Jansen	ICEC/SAIW (South Africa)
G Liming	ASNT (USA)
K Kubo	JSNDI (Japan)
Y Kuksawa	JSNDI (Japan)
A Malcolm	NDTSS (Singapore)
S Mandayam	ISNT (India)
A Omimara	JSNDI (Japan)
N Ooka	JSNDI (Japan)
V Prabu	NDTSS (Singapore)
N Sihlahla	SAINT (South Africa)
K Smith	ASNT (USA)
R Vivek	ISNT (India)
K Yoshida	JSNDI (Japan)

Regional voting (2 per region)

Region	Voting members	
AFNDT	K Sahaimi	M Bakoura
EFNDT	F Gomez	F Gomez
APFNDT	T Ogata	K Balasubramanian
PANNDT	G Tubrett	D Bajula

1. Welcome

S Babu welcomed all to the 2024 GA1 meeting.

Apologies had been received from G Aufricht and G Nardoni. Apologies were also received from Antonio Aulicino from Brazil who had unfortunately been admitted to hospital upon his arrival at WCNDT. Best wishes were expressed to Antonio for a speedy recovery.

S Babu explained that every Member country would have one vote and, in line with the revised Constitution, every Region now had two votes. If the representative of a Region is also the President of that Region, then that person would have two votes.

It was noted that there would not be any voting at the GA1 but attendees would be issued with a voting slip at the GA2, according to their rights.

A full quorum was recorded which included IEC members and Regional Federations and participants gave a round of applause for the IEC members.

Participants were reminded to complete the form to update their particulars, email addresses, society contact details etc.

S Babu noted a small change to the agenda, i.e. GA1 was the 44th Meeting. There have been three GAs since the last conference and all of the minutes are available on the website.

2. Memoriam

No official information from any societies has been received.

3. Roll Call

All present introduced themselves and confirmed whether they were a voting or non-voting member.

4. Procedures for voting and confirmation of quorum

S Babu advised that within ICNDT membership there are Full Members and Regional Members. Each Region has two nominated voting members and each Full Member has one voting member. Observers, Associate, Liaison and Honorary Members do not have voting rights. Members who have not paid their 2023 fees were also not entitled to vote.

The requirement for a quorum was 33% of Full Members which equated to 24 out of the 72 Members.

The meeting was declared quorate with 29 voting members present plus 8 votes from the Regions, i.e. a total of 37 voting persons present. One proxy vote was allowed for each voting member but there would be no proxy votes at this meeting.

5. Approval of Minutes of ICNDT General Assembly/42nd Meeting

The minutes of the last GA held on 15th June 2022 had been circulated. This had been an online meeting and the minutes were presented. S Babu thanked the secretariat at BINDT for circulating the minutes.

Action Ref. No. GA/2021-07-19/..	Desc.	WHO	STATUS/COMPLETE BY
1.	<p>Look at WG objectives on the new website and send any comments to S Ooka.</p> <p>Update 15/06/22 – the new website has been developed and S Ooka is in communication with all of the WG Chairs.</p> <p>Update 28/05/24 – S Babu is in communication with all WG Chairs and this is ongoing. The new website is now in place.</p>	WG Chairs	<p>Ongoing.</p> <p>Complete.</p>

6. ICNDT business

6.1 Report on Annual Meeting (25 January 2024, Balance 2023, Budget 2024 and fees)

The 2024 Annual Meeting minutes were also reviewed. This was held as a hybrid meeting on 25 January 2024 and the minutes had been circulated.

The Annual Report and Finances were presented at this meeting and S Babu highlighted G Aufricht's presentation on the finances which had been pre-approved by the IEC. ICNDT had a modest financial year with an opening balance of €160,139 and closed the year with an allocation to reserves of €158,314. Income from membership fees was €14,981 against the expectation of €23,000. The shortfall was due to several unpaid membership fees.

Fees for ICNDT services for conformity assessments for ICNDT MRA Schedule 2 is a significant part of the income. Expenditure in 2023 included auditor fees, meetings, office costs and professional services by the ICEC Secretary who does an excellent job.

The auditors examined the accounts in 2023 and recommended approval at GA1.

On a proposal by G Tubrett, seconded by B Muthuramalingam, the Minutes of the last GA and 2024 Annual Meeting were approved.

Annual Report 2023

D Gilbert reported that the Annual Report had been circulated and copies were available. The Annual Report covered reports of all of the meetings, committees, groups, including WGs and SIGs. The report also included details of the Chairs activities during the year as well as reports from all of the Regional Groups and Federations. The financial reports were covered towards the end of the Annual Report.

The budget for 2024 showed a large revenue of €50k expected as a donation from KSNT from the WCNDT.

On a proposal by I Cooper, seconded by D Bajula, the Annual Report, Balance 2023, Budget 2024 and fees were unanimously approved.

6.2 Notification and approval of Operating Procedures issued since last GA

OP18 Rev 4 and OP20 Rev 3 were approved at the 2022 GA.

OP19 Rev 6 was presented for approval at this GA and C Bird highlighted the following changes:

The main update was to extend the procedure to allow for remote audits. This had been triggered by the pandemic when face to face audits could not be performed so this was brought in as an emergency item. It has been decided to keep this as a permanent thing but we would only allow remote audits when there is an internationally recognised situation and not just because an organisation prefers it.

We have also brought in 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 – it had been noted that the International Accreditation Forum auditors throughout the world did not require education in NDT. The ICEC had been seeing incidents in the audit reports that were considered serious infringements of the ISO standards but these were not being highlighted by the auditors. Therefore, it has been brought in as a requirement that auditors have a proven education in NDT. The IAF who are members of the Accreditation Bodies have also put this into their own operating procedures.

S Babu commented that the 17024 auditors are system auditors who may not be technically aware of the details of NDT. Usually, they have a lead assessor and a technical assessor so we have requested in our OP that the assessors should be certified as a NDT L3, have previous NDT L3 qualifications or be equally technically competent. There are three criteria which have to be submitted to ICEC who will review it before auditing them to the Schedule 2 MRA.

The updated OP19 Rev 6 had been circulated to members for approval at the GA. On a proposal by G Tubrett, seconded by J Conte, all were in favour and the document was unanimously approved.

OP14 Rev 4 is a work in progress document and was not ready for approval today. WG4 had some input into this document which will go to the Annual Meeting in 2025 for approval. OP14 is the procedure for the World Conference and WG4 has developed a supporting document. The scope of this is that the Operating Procedures are firm procedures and guidelines for the preparation of the paper proceedings for the World Conferences. Regional conferences and ICNDT sponsored events are in accordance with the ICNDT Constitution 2018, Rev 4 and section 4.1 in order to achieve ICNDT purposes. All scientific lectures and the issuing of publications in this area are covered in OP14 and OP14 Appendix A primarily relates to the World Conferences.

It also requires Regional Conferences to follow the same process as a World Conference. Discussions have been taking place over the last two years and we would like to introduce this OP appendix to the next IEC meeting for approval at the next GA. The next WCNDT host and the incoming WCNDT host were asked to contact S Ooka to get this document well in advance. The document should be approved at the GA in 2025 and after that everyone will have to adhere to OP14, Rev 4.

7. Nominations of Officers and Secretariat for 2024-2028

M Farley reported that the process was conducted in accordance with OP1 which defines how to deal with proposals and nominations for Officers and for the Secretariat. A call for nominations was sent to the full ICNDT membership, nominations came in and were reviewed by the IEC. The IEC issued a complete list of two proposers and two nominators for each

position. Unfortunately, we were short of a nomination for the position of ICNDT Treasurer so G Aufricht has agreed to continue for a further year. Voting will take place at the GA2 meeting for the four-year period from the date of the GA2 to 2028. The list of nominations was presented as follows:

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 Caser 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.

The list also included nominations for the IEC which come from the Regions who automatically become members of the IEC. There was a full set of nominations from Africa, Asia Pacific, EFNDT and PANNDT. There are also further nominations for other positions that will be approved by the GA.

The ICEC Chair is H Jansen. The new Chair of WG1 is Dr B Alves. J Conte is standing down as Chair of WG2 after many years' service and D Bajula has accepted a proposal from the IEC to become Chair of WG2. Co-Chairs of WG3 were formed in the mid-term but Dr T Wenzel has since become Co-Chair alongside Prof Y Cho.

The Chair of WG1 is S Ooka, and the WG5 Chair is D Gilbert. The WG6 is co-chaired by C Belinco and L Gelman who are nominated for another term but there are some ongoing discussions and this may be reviewed and may change mid-term. WG7 is chaired by M Farley.

Participants gave a round of applause for J Conte who was completing his term as WG2 Chair and has done an excellent job.

The list of SIGs was presented. M Farley advised that SIGs were only created a few years ago and have been a growing part of ICNDT activities. Each of the SIGs were presented with their Chair and the society that leads them. All of the SIGs are very active and the introduction of new blood is welcomed into ICNDT.

M Farley reported that the SIG for Civil Engineering met this morning. The group was only created very recently and is already very active. He congratulated C Belinco on the progress that has already been made. This SIG already has three sub-groups looking at the different aspects of NDT in civil engineering.

It was pleasing that all of the other SIGs (NDE 4.0, NDT Frontiers, Non-linear Ultrasonics and NDT Reliability) were all holding meetings during this WCNDT. We are open to further suggestions for SIGs and one suggestion has been received for a SIG on NDT for the Nuclear Industry. There is quite a lot of interest in this and it would be very well supported by our Korean colleagues.

G Tubrett commented that the list of nominations shows that ICNDT is in good stead. Looking to the future, it is good practice to have formal succession planning within organisations and he wished to go on record to say that the ICNDT should look at working on this to some capacity. Within CINDE, it is assumed that the Vice Presidents will move up and they do succession

planning in this way. Perhaps the ICNDT process should not be an open process and we should consider a more formal process.

M Farley replied that this would need to be discussed within the IAC or IEC. G Tubrett had made a good point but this time we only accepted the nominations that we had and we followed the correct procedure. If we need to change the procedure then we should do that.

S Babu commented that the SIGs and WGs are a route for enriching newcomers into the ICNDT. This will be an action item for WG7 for the process to be reviewed.

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.

8. ICNDT Awards and Honorary Membership

8.1 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. Nominations are requested from the IEC so when a nomination request is received, all participants were asked to send in their society's input.

The ICNDT awards have been reviewed by the IAC using a secret ballot and 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.

We also have the ICNDT Young Achiever award and the ICNDT recognition of voluntary effort award.

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 discussion among IAC was that we really need to try and have more awards for young people and it was concluded that the GA would be advised that we should increase the number of awards for young people from one to four. M Farley therefore proposed that the number is increased to four and the OP would be modified to allow this for the next set of awards. This proposal was seconded by S Babu.

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. Voluntary effort awards do not have to only be awarded at a WCNDT. All members were asked to look at OP22 and think about using it for recognition awards.

For the four Young Achiever awards, part of the award will be free registration at the next WCNDT, funded by ICNDT and this will require a change to the OP. This will help us to budget on an annual basis for four registrations for the Young Achiever award winners. The award presentations will be given at the Opening ceremony and the ICNDT Chair (S Babu) and Past Chair and Chair of IAC (M Farley) can make the recommendations for Honorary memberships.

8.2 Approval of Nominations for Honorary Membership (confirmation of recommendations by Chair)

S Babu and M Farley put forward a nomination which was approved by the IAC and IEC. The nomination was for Mr 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 EFNDT and ICNDT and for his services as WCNDT President, and Prof Fermin Gomez was nominated for his dedicated services to EFNDT and ICNDT for many years.

By a show of hands, the GA supported these nominations and the awards would be presented during the Gala Dinner.

There is also an award for the best photograph which has been conducted through the WG4 process. Several photographs were received and the winner will receive a free registration to the next WCNDT. This is a new award and will go to the next GA during the ECNDT so the winner can attend the next WCNDT in Argentina.

8.3 Recognitions of Voluntary Effort

A summary of the awards that were given at this WCNDT was presented which only required IAC approval. At the same time ICNDT also recognised the long list of the voluntary recognition awards.

9. Membership Report (J Conte)

J Conte presented a brief report.

9.1 Presentation of new Member certificates (Full and Associate)

There were none.

9.2 Report on current applications and reference of these to the Membership Committee

S Babu commented that the pandemic has put us in a very bad position in respect of generating new members and collecting membership fees. We expect that this will change and we also want to promote membership in the Middle East, African and Pan-American regions. This will be a big task and the incoming chair (David Bajula) will lead the new Membership Committee which will comprise of David Gilbert, Les Dick, S Ooka and F Herelli. If anyone else is willing to join the Membership Committee they should express their interest to David Bajula. We also need more support from all of the volunteers in the regions to promote membership and also to understand the needs of our members. The committee is thinking of generating a questionnaire to all Regional Federations for input from all their member societies.

9.3 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. Any nominations should be given to S Babu and D Gilbert who will then go through the proper process to nominate a new SC5 member.

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 last MoU

between ICNDT and IIW was signed in Shanghai during the IIW GA. It is now time for renewal and this will be done at the GA2 on Thursday. T Wenzel is our new representative to IIW.

We also have liaison with WFNDEC but this is not active and we also have a relatively new association with the World Nuclear Association. S Babu, M Farley and D Gilbert represent ICNDT on NDT Academia. We also have liaison with the ISCM. We are trying to get all of these liaisons more formalised.

10. Reports on ICNDT actions in accordance with the Strategic Plan

10.1 Strategic Plan 2016-2024

S Babu gave an overview of what has been done over the last eight years. ICNDT has been working on many things and each of the WGs have their action items. Two of the WGs (WG5 and WG6) have been less active but all other WGs are very active.

The Best Practice Workshop looked into some areas for increasing membership. For the Central Asia region, China was proposed to take the lead and support this region and work together with the WG2 chair. We are also looking for opportunities in the Middle East to expand our membership which could be supported by ASNT.

The WGs will discuss this and then we will get a more formalised Strategic Plan which will be updated after the WCNDT.

The African Federation has several members, some of them are members of ICNDT and some are not. There could be reasons for this and the leading African societies could support those societies that are just starting out,

Asia Pacific and EFNDT are very strong, they have structured meetings and we receive regular reports. We also have articles from societies published in the ICNDT journal which is published three times a year. Currently the editorial of the journal is supported by JSNDI but in the past this has been supported by BINDT and CINDE.

With a round of applause, participants showed their appreciation for BINDT who had done an excellent job with the journal over the past years and to JSNDI who have taken over editorial of the journal.

There is a new look and structure to the journal and any inputs for the journal should be sent to S Ooka. There are timelines in place, for example for articles for the July journal, the deadline is May. The Communications Group does not receive a lot of input and all Federations are asked to submit articles.

The ICNDT website includes a plan of all of the conferences and events and this has a good input from all societies. The website also contains a directory of ICNDT societies. A lot of money has been spent on the new website and it is supported by JSNDI. The 'My ICNDT' page is where people can log in with their society name (country) and password. This should be updated every year and it is under the control of the societies to update their own particular area.

S Ooka asked that everybody logs into their 'My ICNDT' page and enter the Full and Associate member for their region. We also require the Treasurers of the Regional Federations to coordinate with WG4 to pay their membership fees online. We have also requested that the Regional Federations have a nominee on WG4 so that we can have good communication which will help with the administration side.

With regard to certification and qualification, WG1 has done a great deal of work with the English question databank which is still on an old version. The ICEC is working on an online exam base with the smaller societies. We also have an action to participate in events to

promote ICNDT at other countries conferences and D Gilbert and S Babu are taking it in turns to do this. We want to review our members' participation with ICNDT so we plan to run a small workshop at other countries' events on the ICNDT.

The presentations on ICNDT are available for all members to download and we are also looking at reviewing our ICNDT OPs to reduce conflicts in other societies. We also need to encourage new and fledgling societies and this is our mission over the next four years.

S Ooka gave a brief update on the promotion of the importance of NDT.

10.2 Internet/Website/Journal

The ICNDT journal is published three times a year and the deadlines are very important. For example, for the March publication, information is needed by the end of January. For the July issue, information is needed by the end of May and for the November issue, information is needed by the end of September.

We would also like to see some articles to get younger people more interested in the journal and learn about the history of ICNDT and the WCNDT conferences in the past. We have a very long history of WCNDTs and ICNDT activities.

The last journal was published in March and the one before that was published in November last year.

In respect of other publications, we have a Guide to Qualification and Certification of Personnel for NDT, a Guide for Education and Training and one for Research and Development. Information is available on the website for anyone interested.

All members can now log-in to their own area of the website to update all of their information (President, voting delegates, email addresses etc).

We are trying to have a stronger social media presence, for example Facebook, LinkedIn and Instagram which also lets us see what is going on around the world including regional activities. Any updates or ideas should be sent to S Ooka.

These activities would not be happening without the involvement of members and their input to the journal so we can get more people aware and have more impact.

10.3 Support to NDT Societies

Refer to Strategic Plan.

10.4 WG1 – NDT Qualification and Certification (incl. presentation of new ICNDT Guide)

S Babu reported. A Mullin stepped down as WG1 Chair due to the EU sanctions against Russia which put us in a difficult situation. In the interim, the group was co-chaired by S Babu and M Farley and good progress has been achieved since the last GA. We have published the ICNDT Guide to Qualification and Certification and copies are available on the ICNDT stand. The ICNDT Best Practices Guide was also reviewed and is ready for publication. WG1 has members from Austria, Brazil, South Africa, Canada, Germany, Japan, Spain, USA, Singapore, Ukraine and we expect a nomination from Australia, BIND, China, Turkey, Iran, France, ISO TC-135 SC7 Chair and G Aufricht in an individual capacity. There are also some observers, i.e. WG1 members.

10.5 Certification Executive Committee

The ICEC report is attached.

10.6 WG3 – Research and Education Committee

T Wenzel reported. The last meeting of WG3 took place in Lisbon last year and the next meeting will be held tomorrow. There are a large number of activities and SIGs within WG3 but some of them have not had any actions for the past year and we will review whether these SIGs will continue for the next period. There is a lot of activity in the area of NDE 4.0 and this is the most interesting topic for all of our members and people working in NDT.

S Babu asked that if anyone has any inputs into WG3 to please contact T Wenzel. It was noted that WG3 is co-chaired by Y Cho.

10.7 WG5 – Radiation Safety and Security

D Gilbert reported that WG5 is currently being revitalised. He appealed to all members to nominate someone for this WG. It is a subject that affects all of us and all of our activities and it is important to consider participation by nominating a representative. Any nominations should be sent to D Gilbert. Activities have been focussed on the IAEA working group for the ISEMIR IR project. A meeting was held in April and the main objectives of that meeting were to review and analyse the results of the global survey that had taken place and to discuss the strategy to promote the ISEMIR IR system. There were 52 responses to the survey from regulatory bodies and 382 responses from NDT companies. Most responses showed interest in the IAEA software and in particular the proposed periodic analysis system suggesting that the grading system is timely. ISEMIR is a large project within IAEA and some amendments were proposed regarding the global survey questionnaire and the database itself. The questionnaire was reviewed and updated and approaches were identified and deadlines were set. Promotion remains a challenge. Cooperation with experts is needed to promote the system further and dissemination opportunities have been identified. There would be a further report on this at the GA2 on Thursday. ISEMIR is an important part of the activities but it is not only the subject that WG5 is involved with.

10.8 WG6 – Condition Monitoring and Diagnostic Technologies

C Belinco reported that there has been little activity and WG6 is trying to get more members on the WG for the next period.

11. **22nd World Conference, 2032**

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.

M Farley presented a slide showing where the previous World Conferences had been held and advised that the intention is that the WCNDT would move around the continents and the decision is based on geography or need.

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.

12. Reports by National Societies

This agenda item was postponed until the GA2 on Thursday. Copies of the reports are available on the ICNDT website.

13. 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 Smidt and D Marshall.

Joao Conte for chairing WG1.

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 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. The next meeting GA2 will be held on Thursday 30th May.



The World Organisation for NDT

Annual Report 2023

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

The constitution meets the requirements of the Austrian Corporations Act.

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

This is the Annual Report for 2023.

Vision and Mission

Our Vision

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

Our Mission

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

Introduction

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

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

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

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

Meetings, Committees and Groups

Annual Meeting 2023

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

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

The unconfirmed minutes of the meeting can be found at: www.icndt.org/ICNDT_Annual_Meeting_2023_03_01_Unconfirmed.pdf

ICNDT Executive Committee (IEC)

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

ICNDT Advisory Committee (IAC)

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

● **Review of the ICNDT Strategic Plan**

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

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

The following were agreed:

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

Other discussions covered:

● **ICNDT Awards**

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

● **ICNDT Publications (including WCNDT proceedings)**

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

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

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

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

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

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

For further information, visit: www.20thwcndt.com



Working Group 1 (Qualification and Certification)

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

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

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

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

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

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

The ICNDT Certification Executive Committee (ICEC)

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

Present ICEC members are as follows:

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

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

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

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

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

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

Membership Committee

Chair: Mr João Conte

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

Actions:

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

Working Group 3 (Research and Education)

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

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

ICNDT WG3 Membership Structure:

Designation	Current representative (invited to Lisbon 2023)
Co-Chairs	Professor Younho Cho
	Dr Thomas Wenzel
Ex-officio	
ICNDT Chair	Dr Sajeesh Babu
ICNDT IAC Chair	Dr Mike Farley
ICNDT General Secretary	Mr David Gilbert
ICNDT Treasurer	Mr Gerhard Aufricht
ICNDT Membership Chair	Mr João Conte
Chair WG1	<i>To be announced</i>
Chair WG4	Mr Shohei Ooka
Chair WG5	Mr David Gilbert
Co-Chairs WG6	Professor Len Gelman and Mr César Belinco
ICEC Secretary	Mr Colin Bird
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
Non-linear UT	Dr Serge Dos Santos
Magnetic Memory Method	Dr Peter Ladányi
NDT of Civil Engineering	Mr César Belinco
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

Specialist International Groups (including reports as of 1 December)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Working Group 4 (Communications)

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



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

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

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

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

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

Working Group 5 (Radiation Protection and Safety)

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

The objectives of the meeting were to:

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

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

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

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

Working Group 6 (Condition Monitoring and Technical Diagnostics)

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

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

Chair's Activities

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

ICNDT Annual Meeting and IEC meetings

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

WG1

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

Ad hoc meetings for 20th WCNDT preparation

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

ICEC and WG4 meetings as Observer

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

External engagements representing ICNDT

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

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

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

Note from Dr Mike Farley, Past Chairman

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

ICNDT Officers 2023

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

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

Changes to the Constitution and Operating Procedures

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

APFNDT (Asia-Pacific)

APFNDT Membership

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

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)	
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)
	Vietnam Association for Non-Destructive Testing (VANDT)
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**16th Asia-Pacific Conference on Non-Destructive Testing (APCNDT 2023)**

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

APFNDT meetings

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

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

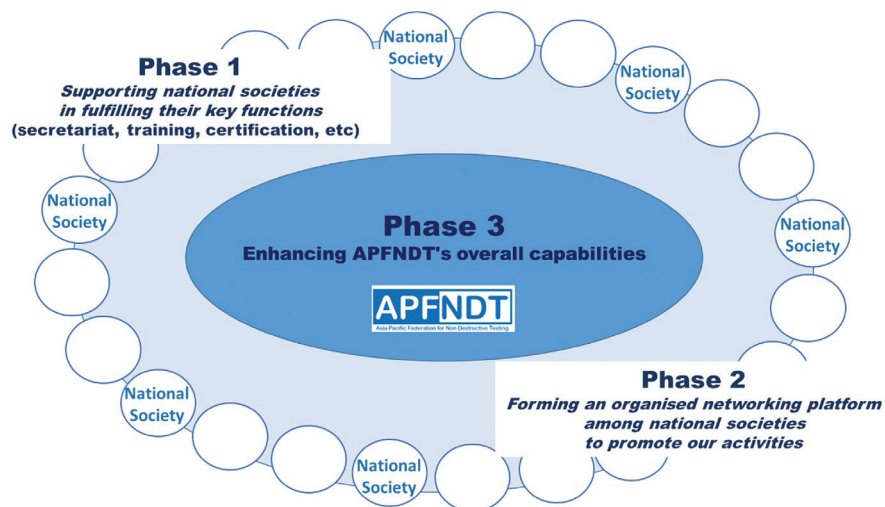
APFNDT homepage

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

Future plans for APFNDT

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

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



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

For the next step:

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

In the future:

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

AFNDT (Africa)

Membership

President	Dr Kamal Sahaimi (Centre National de l'Énergie 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 <i>There are 54 countries that are potential members</i>
Sub-Regions	<p>North Africa: Tunisia, Morocco, Algeria, Libya, Mauritania, Egypt</p> <p>East Africa: Sudan, Burundi, Djibouti, Kenya, Rwanda, Ethiopia, Eritrea, Somalia, Uganda, South Sudan</p> <p>Central Africa: Cameroon, the Central African Republic, Chad, Democratic Republic of the Congo, Equatorial Guinea, São Tomé and Príncipe, Gabon</p> <p>West Africa: Ghana, Benin, Burkina Faso, Cape Verde, Gambia, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo</p> <p>Southern Africa: South Africa, Angola, Botswana, Lesotho, Madagascar, Malawi, Mali, Mauritius, Mozambique, Namibia, Seychelles, Eswatini, Union of Comoros, Tanzania, Zambia, Zimbabwe</p>

Meetings

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

Outcomes

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

Outstanding

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

IAEA-AFRA

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

Visits in 2023

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

Website and Digital Platforms

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

Strategic Plan Objectives

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

EFNDT (Europe)

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

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

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

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

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

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

Projects and Actions

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

Brexit

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

Russia-Ukraine War

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

TIC Council agreement

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

Mr Fermín Gómez Fraile

EFNDT President

PANNDT (Pan-America)

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

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

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

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

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

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

Certification of NDT Personnel – MRA, PCB and EQB

Multilateral Recognition Agreement (OP19)

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

Personnel Certification Body Compliance Assessment (OP20)

- China re-registered under OP20 in 2021.

Examination Question Bank

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

ICNDT Guide to Qualification and Certification of Personnel for NDT

See WG1 report on page 4.

ISO/TC 135

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

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

Website/Journal/Publications

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

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

Finance

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

Acknowledgements

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

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

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

Dr Sajeesh K Babu
Chair, ICNDT

Financial Report – Balance at 31.12.2023

	€	€
	Income 2023	Expenditure 2023
Opening balance	160,139.34	
Donation from Austrian Chamber of Commerce	500.00	
Donation from WCNDT	0.00	
Membership fees (<i>new fee structure</i>)	14,981.60	
Interest from bank account no 290-317-99501	15.90	
PCB CA service (OP20)	0.00	
MRA service (OP19)	4,900.00	
EQB product: application fees (OP23)	0.00	
EQB update fees (OP23)	0.00	
Meeting expenses/Go to meetings (OP18)		4,060.05
Cost of bank account no 290-317-99501		348.97
Bank expenditure for incoming fees		11.53
Printing costs		0.00
Office costs (<i>insurance, various</i>)		1,749.34
PCB CA service costs: system administration (OP20)		418.00
MRA/PCB: auditor payment, administration (OP19)		5,544.00
EQB service costs: administration (OP23), overheads, third-party services		3,476.00
Professional service		6,402.00
Preparation of ICNDT monographs		0.00
Supplies (<i>ICNDT badges, flags, etc</i>)		212.00
Miscellaneous (<i>shipping, conference calls</i>)		0.00
Website upgrade		0.00
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 (<i>new fee structure</i>)	22,800.00	
Interest from bank account no 290-317-99501	20.00	
PCB CA service (OP20)	0.00	
MRA service (OP19)	6,900.00	
EQB product: application fees (OP23)	7,500.00	
EQB update fees (OP23)	500.00	
Meeting expenses/Go to meetings (OP18)		8,000.00
Cost of bank account no 290-317-99501		300.00
Bank expenditure for incoming fees		500.00
Printing costs		4,000.00
Office costs (<i>insurance, various</i>)		2,000.00
PCB CA service costs: system administration (OP20)		1,000.00
MRA/PCB: auditor payment, administration (OP19)		9,400.00
EQB service costs: administration (OP23), overheads, third-party services		6,000.00
Professional service		4,500.00
Preparation of ICNDT monographs		0.00
Supplies (<i>ICNDT badges, flags, etc</i>)		1,000.00
Miscellaneous (<i>shipping, conference calls</i>)		3,000.00
Website upgrade		25,000.00
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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Midsummer House, Riverside Way, Bedford Road, Northampton NN1 5NX, UK.

Tel: +44 (0)1604 438300 | Email: info@bindt.org | Web: www.bindt.org

The ICNDT is registered as a legalised association with its seat in Vienna, Austria.

Registered office: 1230 Vienna, Jochen-Rindt-Straße 33.

Chair: S K Babu | Email: chairman@icndt.org

www.icndt.org



INTERNATIONAL COMMITTEE FOR
NON-DESTRUCTIVE TESTING

The World Organisation for NDT

ICNDT Operating Procedure OP19: ICNDT Multilateral Recognition Agreement

Executive Summary

Representatives of the members of the International Committee for Non-Destructive Testing (ICNDT) have recognised the need for a global Multilateral Agreement on Recognition of NDT Personnel Certification. The work of developing the ICNDT Multilateral Recognition Agreement (MRA), which is based upon compliance with ISO 9712, was entrusted to the ICNDT Working Group on Qualification and Certification (WG1). The implementation and operation of the ICNDT MRA is the responsibility of the ICNDT Certification Executive Committee (ICEC).

This document is a strategic level Operating Procedure as defined in Operating Procedure OP 18 and is subject to approval by the ICNDT Executive Committee (IEC) and the International Committee. The document describes (a) the objectives of the MRA, (b) the obligations of ICNDT members that are signatories to the MRA, (c) the criteria for Personnel Certification Bodies to become registered under the MRA and (d) the high-level processes by which the MRA is managed.

Disclaimer

ICNDT accepts no liability for the use of certification awarded by any PCB registered under the MRA. In accordance with ISO 9712 (*Non-destructive testing – Qualification and certification of NDT personnel*) the responsibility for the quality of NDT tests with the employer of the certificated person.

Jurisdiction

The ICNDT Multilateral Recognition Agreement is subject to the jurisdiction of Austria.

Revision and Approval Status

Issue / Draft	Date	Details	Status / Approval
Issue 1	15/05/2013	Previous issue	Approved by ICEC, PGP & GA
Issue 2	30/09/2015	Modified to improve clarity; requirement for additional information to be provided by applicant PCB	Approved by ICEC, WG1, PGP & GA
Revision 3	15/02/2017	Approval by PGP replaced with approval by the International Committee. Issue 2 changed to Revision 3	Approved by IEC
Revision 4	14/06/2018	Section 6.3 revised to clarify expectations of auditors' NDT expertise Sections 6.1 and 6.4 revised to enhance the review process and to have clarity.	Approved by ICEC and IEC then by ICNDT GA on 14 June 2018
Revision 5	23/01/2020	Section 6.5 revised to require an annual return from PCBs to confirm continuity of registration. Section 6.7 revised to allow use of the ICNDT MRA logo by registered PCBs	Agreed by ICEC and IEC and approved by ICNDT Annual Meeting on 23 January 2020
Revision 6		Edited for responsibility and updated for remote audit if necessary. Clarification of use of Logo. Clarification of qualifications for auditors. Clarification of obligations	For approval

1 Scope

This Operating Procedure covers the operation of the ICNDT Multilateral Recognition Agreement (MRA). The Operating Procedure is supported by lower level Work Instructions (WI) under control of the ICNDT Certification Executive Committee (ICEC).

2 References

OP13	Use of ICNDT Logo
OP 18	ICNDT Certification Executive Committee
OP 20	Personnel Certification Body Conformity Assessment (PCB CA)
OP 24	Procedure for Complaints and Appeals Relating to ICEC Activities
ISO 9712	Non-destructive testing – Qualification and certification of NDT personnel
ISO/IEC 17011	Conformity assessment – General requirements for accreditation bodies accrediting conformity assessment bodies
ISO/IEC 17024	Conformity assessment – General requirements for bodies operating certification of persons
IAF MLA	Accreditation Body and Regional Accreditation Group Members of IAF
OP13	Use of ICNDT Logo
ATO	Authorised Training Organisation

Note 1. Any requirement for conformity with the above documents means conformity with the current edition (up to 12 months will be allowed between the issue of a revision and implementation of a referenced document).

3 Abbreviations

AB	Accreditation Body
AQB	Authorised Qualification Body
CA	Conformity Assessment
EA	European co-operation for Accreditation (https://www.european-accreditation.org/)
IAF	International Accreditation Forum (https://www.iaf.nu/)
ICEC	ICNDT Certification Executive Committee
ICNDT	International Committee for Non-Destructive Testing
IEC	ICNDT Executive Committee
GA	ICNDT General Assembly
MRA	Multilateral Recognition Agreement
OP	Operating Procedure
PCB	Personnel Certification Body
PGPC	ICNDT Policy & General Purposes Committee
WG1	ICNDT Working Group 1
WI	Work Instruction

4 Multilateral Recognition Agreement

4.1 General Principles

The MRA (the Agreement) is in two parts, described as 'Schedule 1' and 'Schedule 2'. Schedule 1 comprises the list of national NDT societies / institutes (Parties) that are members of ICNDT and have signed the agreement, committing to supporting the objectives of the MRA. Schedule 2 comprises a list of personnel certification bodies (PCB) that meet the required criteria and are registered by ICNDT under the Agreement.

A PCB seeking registration under Schedule 2 must be proposed for registration by a Party to the MRA Schedule 1 or **an ICNDT regional federation should perceived conflicts of interest occur**. In some cases this may be academic, as many national societies are PCBs. But this need not be the case and there may be more than one PCB in a country.

4.2 Objectives

The objectives of the Agreement are to elevate standards and to harmonise NDT personnel certification operations of personnel certification bodies registered under the Agreement.

4.3 Administration of the Agreement

This MRA is administered as a series of agreements under the jurisdiction of Austrian law, and shall be administered by the ICNDT Certification Executive Committee (ICEC), which assigns the day to day responsibility for reviewing applications for PCB registration to the ICEC Secretary.

4.4 Complaints and Appeals

Any complaints or appeals concerning the implementation of the Agreement or registration of PCBs shall be dealt with under Operating Procedure OP 24.

5 Multilateral Recognition Agreement: Schedule 1

5.1 Obligations

Each Party to Schedule 1 of the **MRA should:**

- commit itself to the pursuance of the objectives of the MRA;
- promote the recognition and acceptance of certification issued by issued by MRA schedule 2 signatories
- assist other interested parties by giving a clear overview of the NDT personnel certification activities in its own country, including a description of the sectorial arrangements;
- provide other Parties with non-confidential information on the certification scheme(s) operated by PCBs registered under this Agreement;
- consult with and seek membership of the scheme and technical committees of NDT PCBs in its own country;
- indemnify ICNDT against liability for the Party's use or misuse of this MRA.
- **Provide an annual National NDT Society report to regional federations & ICNDT in relation to national NDT certification capabilities.**

5.2 Access to Schedule 1 of the MRA

Access to Schedule 1 of the MRA is available to any ICNDT member that has committed to accept the obligations set out above.

5.3 Fees, Renewal and Termination

- There are no fees for Schedule 1 of the MRA and no requirement for renewal.
- If any of the obligations within any of the ICNDT procedures are proved to have been deliberately broken then ICNDT has the right to immediately suspend the Schedule 1 or Schedule 2 signatory from ICNDT MRA registration.
- Any Schedule 1 or Schedule 2 signatory which is "Suspended" from Schedule 1 will be removed from the register of Schedule 1 and schedule 2 members.
- If any of the obligations are proved to be broken, then the ICEC secretary will inform the ICEC committee and the ICNDT Chairman.
- If any obligations continue to be proven¹ to be broken then the ICNDT may exclude the PCB from both Schedule 1 and Schedule 2 registration and announce any such violations/suspensions via the ICNDT journal and on the ICNDT website.

NOTE

1 "Proven" will be enacted in accordance with ICNDT procedure OP24.

5.4 Publication of Schedule 1

The register of Parties to Schedule 1 of the MRA is available on the ICNDT website.

6 Multilateral Recognition Agreement: Schedule 2

6.1 Criteria for Registration

An NDT PCB seeking registration under this MRA shall:

- Be proposed for registration under Schedule 2 by a Party to this MRA that is a signatory to Schedule 1 (see notes 2a, 2b and 2c below); The registration proposal can be made by any MRA Schedule 1 signatory society and can also be proposed via an ICNDT regional federation should perceived conflicts of interest occur.
- Have confirmed their acceptance of the ICNDT Code of Practice for Personnel Certification Bodies set out in Appendix 1.
- Have provided information on the possible use of Authorised Qualification Bodies and sectorial arrangements and shall have a published code of ethics (see 6.2.3 below);
- Have been independently accredited (see 6.3 below);
- Have provided evidence that the accreditation meets ICNDT requirements (see 6.4 below);
- Have remitted to the ICNDT the current initial application fee or the renewal fee if applicable.
- Provide an annual report to regional federations & ICNDT regarding PCB's / AQB's & ATO's activities and Schemes followed in represented countries.

Note 2a. If a Party to this MRA (a signatory listed in Schedule 1) is also a PCB, this shall not on its own be reason to refuse to propose other PCBs in the country concerned for registration.

Secretariat: The British Institute of NDT, Midsummer House, Riverside Way, Bedford Road,
Northampton NN1 5NX Tel: +44 1604 438300 Fax: +44 1604 438301 Email: gensec@icndt.org
The ICNDT is registered as a legalised Association with its seat in Vienna, Austria. ICNDT
Registered Office: 1230 VIENNA, Jochen-Rindt-Strasse 33.
Chair: S K Babu Email: chairman@icndt.org

Note 2b. *If the ICNDT member in the country concerned is not a Party to this MRA, an NDT PCB based in that country may be proposed for registration by any ICNDT member that is party to this MRA with the agreement with the national NDT Society (if one exists) of the applicant PCB.*

Note 2c. *The Certification Executive Committee has the right, if it wishes, to ask the national NDT Society of the applicant's country for an opinion on the suitability of the applicant PCB.*

6.2 Additional Information

ISO 9712 permits some freedom for a PCB (a) to establish one or more Authorised Qualification Bodies (AQB) under its control and (b) to set up sectorial arrangements to satisfy national needs. In addition, ISO 9712 requires a PCB to develop a code of ethics. Information is required on the way that the PCB implements these points both to check compliance with ISO 9712 requirements and to publicise details on the ICNDT website if registration is successful (see 6.7 below). Further details are in 6.2.1, 6.2.2 and 6.2.3 below.

Note 3. *The requirement for this information was introduced in Issue 2 of this Operating Procedure. PCBs registered under Issue 1 of this Operating Procedure will be required to provide the information on or before renewal of their registration (see 6.5 below).*

6.2.1 Management Structure and Use of Authorised Qualification Bodies

The requirements for a PCB ('Certification Body' in ISO 9712) are given in clause 5.2 of the standard. Clause 5.2.2 c) states that the PCB *"may delegate, under its direct responsibility, the detailed administration of qualification to authorized qualification bodies, to which it shall issue specifications and/or procedures covering facilities, personnel, calibration and control of NDT equipment, examination materials, specimens, conduct of examinations, examination grading, records, etc"*. The requirements for an Authorised Qualification Body (AQB) are given in clause 5.3 and Clause 5.3.2 notes that *"If there are no authorized qualification bodies, the certification body shall fulfil the requirements of the qualification body"*.

The use or otherwise of one or more AQBs is acceptable for registration under the MRA but a PCB seeking or renewing registration shall provide information on the management structure of the PCB, including whether the PCB is part of the national society / institute or a separate legal entity and whether or not qualification is delegated to one or more AQBs. On successful registration, this information will be made available in the register entry on the ICNDT Website (see 6.7 below).

6.2.2 Definition of Sectors

'Sector' is defined in ISO 9712 as *a "section of industry or technology where specialized NDT practices are used, requiring specific product-related knowledge, skill, equipment or training"*. It is noted further that *"A sector can be interpreted to mean a product (welded products, castings) or an industry (aerospace, in-service testing)"* and a reference is made to normative Annexe A which provides reference lists of product and industrial sectors without precluding the development of additional sectors to satisfy national needs.

A PCB seeking or renewing registration, or one already registered that is altering its sectorial arrangements, shall provide a definition of the sectors used and shall inform the ICEC Secretary of any changes during the period of registration. This information will be made available in the register entry

on the ICNDT Website (see 6.7 below). The PCB shall supply evidence of an annual surveillance audit which will be verified during application for renewal.

Note 4. The existence of different sectorial arrangements between PCBs shall not be used as a barrier to harmonisation. If certification awarded by a PCB under the ICNDT MRA does not fully cover a particular sector required, for example in another national jurisdiction, then this should be remedied by additional examination, not by a complete new certification. The PCB in the other national jurisdiction may require a certificate holder to undertake to abide by the code of ethics for that national jurisdiction (see 6.2.3 below).

6.2.3 Code of Ethics

Clause 5.2.2 k) of ISO 9712 requires that “The certification body shall require all candidates and certificate holders to give a signed or stamped undertaking to abide by a code of ethics which it shall develop for the purpose and publish.” A PCB seeking or renewing registration shall provide a copy of its code of ethics which will be made available in the register entry on the ICNDT Website (see 6.7 below).

6.3 Accreditation

For registration under Schedule 2 of the MRA, the ICNDT requires evidence of independent accreditation in conformance with ISO/IEC 17024 and ISO 9712. This will usually be provided by an Accreditation Body (AB) meeting the following criteria:

- The AB is a shall be a member of an international body acceptable to ICNDT (see note 5);
- The accreditation process is judged satisfactory by ICNDT on the basis of a review of the Accreditation Body’s Assessment Report;
- The Accreditation Body’s Assessment Report demonstrates in the judgement of ICNDT that the assessment involved an assessor who has held NDT qualifications (for example ISO 9712 certification Level 3 in at least one method or education in a degree which includes NDT courses and sufficient experience of auditing certification bodies to be able to assess compliance with ISO 9712 (see Notes 6 and 7 below).
- The ICEC reserves the right to request further evidence or audit should these be required as part of the application review process.

Note 5. Accreditation Bodies which are members of the European co-operation for Accreditation (EA) or the International Accreditation Forum (IAF) meet this requirement.

Note 6. It is reasonable to ask this of Accreditation Bodies because they are required to use “experts” who are defined in ISO 17011 as a “person assigned by an accreditation body to provide specific knowledge or expertise with respect to the scope of accreditation to be assessed”.

Note 7. As stated above, the ICNDT considers it good practice to include a qualified NDT assessor or an assessor with either ISO9712 Level 3 certification or equivalent knowledge. E.g. A degree in NDT or related applied science or engineering degree and previous NDT certification.. However, ICNDT recognises that PCBs do not control the makeup of the audit team but ICNDT will require documented evidence that the PCB has asked the audit organization to

provide at least one auditor with acceptable NDT knowledge. Further where suitable auditors cannot be found within a country, the ICNDT can nominate a suitably qualified/acceptable assessor to review the PCB's operating procedures.

Note 8. ICNDT considers that in exceptional circumstances where governments impose travel restrictions due to internationally recognized events e.g. epidemics, remote audits may be accepted by the ICEC instead of the normal face to face audits. It shall be noted that this may only apply for re-registration to OP19 and not for the initial registration audit.

Note 9. ICNDT encourage the PCBs to ask the accreditation body to include in their assessment report statements with regard to the independence of the training and certification aspects of the PCB, AQB's and any ATOs. In particular it is encouraged that, with the possible exception of the organization board, the management structure clearly separates training from certification with personnel not being permitted to hold positions in both the training and/or certification structure of the PCB without showing clear delineation/separation of activities in the PCB's organogram.

These separation rules are to apply to any person, regardless of job function, that could be active in the areas of an AQB's examination and training functions.

6.4 Assessment of Application

The application for registration shall include evidence that the independent accreditation of the PCB meets ICNDT requirements. This shall include but is not be limited to:

- A copy of the main quality management system documents;
- A certificate of accreditation from the national/international accreditation body;
- A document demonstrating the scope of accreditation. Where a remote audit has been undertaken as allowed in clause 6.3 this shall be noted in the audit report with an explanation of such activities.
- A copy of the most recent assessment report from the national/international accreditation body.

Note 1. All copies of documents will be treated in confidence and will be returned or destroyed in the event of an unsuccessful application.

Note 2. All documents shall be provided in the English language.

Note 3. While not mandatory, it will be useful if an application is made shortly after assessment or re-assessment by the accreditation body. This will help to ensure (a) that the assessment report is up to date and (b) that a three-year renewal of MRA registration (see 6.5 below) is synchronized with a further re-assessment by the accreditation body.

Each application shall be assessed by a panel composed of ICEC members that, if necessary, may seek advice from other experts. The results of this assessment shall be fully recorded and available for audit if required.

If it is concluded that some or all of the ICNDT requirements are not met, ICNDT may offer an assessment under the ICNDT Personnel Certification Body Approval Scheme (see ICNDT OP 20). This

may be a complete conformity assessment or a limited assessment targeted at specific items. The cost of this assessment will be paid for by the applicant.

The ICEC or the review panel has authority to make further enquiries about the performance history of the applicant PCB or its directors. If these enquiries raise doubts about the applicant PCB, then a specific conformity assessment audit may be deemed necessary or the application may be refused. There is no right of appeal against such decisions.

6.5 Renewal and Continuity of Registration

Registration under the ICNDT MRA is valid for three years after which the PCB may apply for renewal of an initial or renewed registration. The criteria for renewal are the same as for initial registration.

Within the three-year period before renewal, registration shall be maintained subject to annual submission of a return to the ICEC Secretary. The details required for the annual return are specified in OP19_Form C, but typically the requirements are:

- Continued validity of ICNDT recognised accreditation or ICNDT certificated conformity of the NDT PCB demonstrating compliance with the standards referred to in the PCB's scope of accreditation or ICNDT certificate of conformity;

and

- Provision of the latest assessment report from the accreditation body confirming compliance with the standards referred to in the PCB's scope of accreditation;
- Provision of any major revisions to the quality management system documentation;
- Provision of any changes to the scope in which certification is offered including methods/techniques, sectors and levels;
- Provision of any changes in the list of AQB's (if any) and reports of any AQB audits including witness assessment;
- Where accreditation is based on an ICNDT assessment of conformity under OP20, ICNDT reserves the right to carry out a surveillance audit during the three-year renewal period at cost to the registrant;
- Continued compliance with the ICNDT Code of Practice for NDT PCBs (see Appendix 1).

The ICEC will review the annual submission and decide whether continued registration is adequately supported. An NDT PCB failing to fulfil the conditions for continued registration shall be de-registered on the authority of the ICEC. A deregistered PCB shall have access to the complaints and appeals process detailed in OP 24.

6.6 Fees

The fees for registration comprise:

- An initial application fee, which could include;
 - Full - Site and / or remote digital audit
 - Part - Remote digital audit pending audit scope
- A three-year renewal fee, which could include;

- Full - Site and / or remote digital audit
- Part - Remote digital audit pending audit scope

See OP20 for the fees relating to a full or part conformity assessment (see 6.4 above).

The fees will be proposed by the ICEC and confirmed at the Annual General Meeting of ICNDT. A list of the current fees, updated annually, is available on the ICNDT website.

6.7 Publication of Schedule 2

A certificate is provided to the PCB to acknowledge registration (see Figure 1) and the list of PCBs registered under Schedule 2 of the MRA is available on the ICNDT website at <https://www.icndt.org/news/5c32f4b8f6a695d937e5d50dbec6bfc89e0cd13f/.Additional> information, where available, (see 6.2 above) is provided in an appendix to the register on the website.

The registered NDT PCB may announce that holders of its certificates gained under these arrangements “*are certificated by a body which is registered by the ICNDT as meeting the requirements of Standards and Technical Documents referenced in its schedule of Accredited Scope or scope of its ICNDT Certificate of Conformity*”.

A PCB registered under Schedule 2 of the MRA may use the ICNDT MRA logo as defined in Figure 4 of Operating Procedure OP13:

- When advertising their certification;
- On certificates relating to the certification issued during the period of valid registration indicating compliance with the standards referred to in the PCB’s scope of accreditation or ICNDT certificate of conformity, including on certificates issued following the renewal process permitted in ISO 9712. PCBs are advised to check that such use of this logo is acceptable to their accreditation body.

6.8 Process for Application for Initial Registration and Renewal of Registration

The process map for application and renewal of registration is shown in Figure 2. The renewal process is similar to the initial application except that the ICEC are able to take cognisance of information provided by the initial application and any following renewals.



**INTERNATIONAL COMMITTEE FOR
NON-DESTRUCTIVE TESTING**
The World Organisation for NDT

ICNDT Multilateral Recognition Agreement (MRA) for Personnel Certification in NDT Certificate of Registration

<Name of PCB>

The above named NDT Personnel Certification Body (PCB) has satisfied all of the eligibility criteria for registration under the ICNDT Multilateral Recognition Agreement (MRA) for PCBs, including having undertaken to abide by the ICNDT Code of Practice, and has been nominated and accepted for registration within the terms of the Agreement signed by those Members of the International Committee for NDT (ICNDT) listed in Schedule 1 to the Agreement.

The Personnel Certification Body may therefore announce that holders of its certificates issued under these arrangements are certificated by a PCB which is registered by the ICNDT as meeting the requirements of the applicable Standards (including ISO 9712:2012 and ISO/IEC 17024:2012) and Technical Documents referenced in the schedule of conformity (scope) issued by the accreditor and/or the ICNDT.

A copy of the MRA, including a list of the signatories and a schedule of those certification bodies satisfying the criteria for registration, is available at www.icndt.org and from all parties that are signatory to the Agreement.

All signatories to the Agreement, and all PCBs registered under the Agreement, are bound to promote the recognition and acceptance of the certificates issued by all other ICNDT Registered NDT Personnel Certification Bodies.

Signed for ICNDT

Initial registration date:	<date>
This certificate number:	<#>
Issue date:	<date>
Expiry date:	<date>

Chairman

Disclaimer: ICNDT accepts no liability for the use of certification awarded by PCB registered under the MRA. In accordance with ISO 9712 the responsibility for the quality of NDT rests with the employer of the certificated person.
Jurisdiction: The ICNDT Multilateral Recognition Agreement is subject to the jurisdiction of Austria.

Figure 1: Example of a certificate

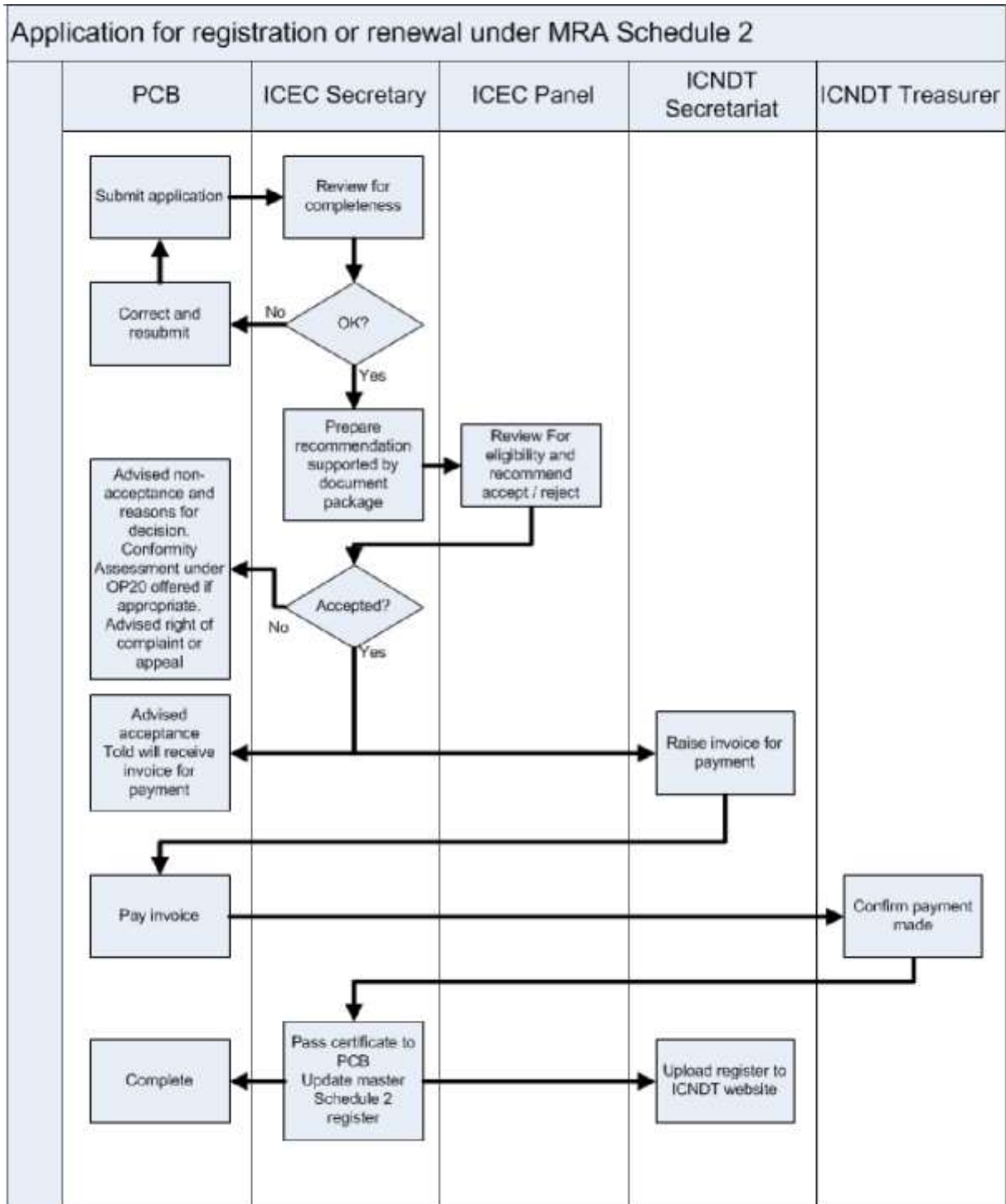


Figure 2 Process map for application and renewal of registration

Appendix 1: Code of Practice for Personnel Certification Bodies

NDT personnel certification bodies (PCBs) seeking ICNDT registration under the ICNDT Multilateral Agreement on Recognition of Certification are obliged to sign an undertaking to comply with this Code of Practice. *Inter alia*, they shall:

1. Maintain compliance with the standard(s) and specification(s) detailed on their certificate of accreditation or the ICNDT certificate of conformity, notifying the ICNDT Certification Executive Committee (ICEC) of any change in status, or in the standards with which the certification scheme that they operate to complies;
2. Require all candidates and certificate holders to give a signed or stamped undertaking to abide by a code of ethics which they shall develop for the purpose and publish;
3. Promote recognition and acceptance in their own country of the certificates of conformance issued by other NDT PCBs registered under the ICNDT MRA;
4. Keep confidential all examination material, including examination questions and specimens, in secure conditions with strictly controlled access only to authorized individuals;
5. Conduct their business in a responsible manner and utilize fair and equitable practices in dealing with clients and candidates;
6. Perform their professional duties with proper regard for the physical environment and the safety, health and well-being of certificate holders and candidates for certification;
7. Protect to the fullest extent possible, consistent with the wellbeing of the public and the provisions of this Code of Practice, any information given to them in confidence by an employer of certificated NDT personnel, candidates and certificate holders, or members of the public;
8. Avoid conflicts of interest with employers of certificated NDT personnel or candidates, but when unavoidable, forthwith disclose the circumstances to the employer or candidate;
9. Not falsify nor permit misrepresentation of their Accreditation, ICNDT certificate of conformity or certificate of registration under the ICNDT MRA;
10. Refrain from making unjustified statements or from performing unethical acts which would discredit the NDT profession or the ICNDT;
11. Immediately report to the ICEC any perceived violation(s) of this Code of Practice by any party;
12. Accept the right of the ICNDT, and provide unhindered access to a nominated representative of the ICNDT, to investigate any alleged infringements of this Code of Practice;
13. Indemnify ICNDT against liability for the PCB's use or misuse of the ICNDT MRA and/or PCB CA systems which are administered as a series of signed agreements under the jurisdiction of Austrian law.
14. Personnel Certification Bodies are only permitted to use the ICNDT LOGO on certificates if authorized to do so. **PCBs wishing to include the ICNDT logo must first supply the ICEC secretary with a full description of the intended use before proceeding.** Once authorized by ICEC the appropriate logo will be supplied by the ICEC secretary for this inclusion.
15. Use of the ICNDT logo without prior permission will be considered a serious breach of ICNDT Code of Practice.



The World Organisation for NDT

**Report from the ICNDT Certification
Executive Committee (ICEC) for
GA Meeting in 28 May 2024**

Compiled by Colin Bird Secretary ICEC and Harold Jansen ICEC Chair

Contents

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- ICNDT MRA Schedule 2 Registrants
- Certification Bodies which are under renewal process
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- PCBA status
- Updates to OP19 and OP20
- EQB Progress and New Owners

ICNDT Multilateral Recognition Agreement (MRA) - Current Status of Schedule 1

45 National Societies/Institutes, which are Members/Associate Members of ICNDT have signed the ICNDT MRA Schedule 1:

Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, China, China Taiwan, Colombia, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, India, Iran, Israel, Italy, Japan, Kazakhstan, Malaysia, Mexico, Morocco Netherlands, New Zealand, Poland, Portugal, Romania, Serbia, Singapore, Slovakia, South Africa (SAINT & SAIW), South Korea, Spain, Sri Lanka, Switzerland, Turkey, Ukraine, UK and Uzbekistan.

They have *thereby agreed to promote the recognition of the certification awarded by the Personnel Certification Bodies (PCBs) which are registered with ICNDT under Schedule 2.*

2 National societies have been lost Lebanon and Russia



ICNDT Multilateral Recognition Agreement (MRA) - Current Status of Schedule 2

*19 Personnel Certification Bodies (PCBs) are registered with
the ICNDT MRA Schedule 2*

IRAM Argentina,
AINDT Australia,
ABENDI Brazil,
ChSNDT China,
IMENDE Mexico,
Inspecta Sertifiointi Finland,
ISNDT India
KSNT Korea
DoS Malaysia,
NDTSS Singapore,
NCNDT Sri Lanka.

PCN UK,
RELACRE Portugal
SAIW Certification South
Africa,
SECTOR Cert Germany,
NDT Society Taiwan
TUV Nord Czech, s.r.o.
TWI, UK
UDT-CERT Poland,



ICNDT Multilateral Recognition Agreement (MRA)- Recent Changes to Registrations

Recent losses to MRA Schedule 2 (Personnel Certification Bodies)

- Russia
- Ukraine

Recent renewals of registration to MRA Schedule 2 (PCBs)

- | | |
|-------------------------|---------------|
| ■ China | May 2024 |
| ■ Finland | August 2023 |
| ■ Korea | February 2024 |
| ■ Sri Lanka | October 2023 |
| ■ Singapore | July 2023 |
| ■ British Institute NDT | July 2023 |
| ■ Chinese Taiwan | February 2024 |

2023/24 was a good year for ICEC MRA review teams.

THANK YOU for your hard work and dedication



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ICNDT Multilateral Recognition Agreement (MRA)- Other activities

Schedule 2 Applications in Progress

- AINDT Australia
- TWI Certification
- ISNT India

Schedule 2 Continuity Check (Form C)

- All MRA Schedule 2 members have completed form C and have registered their continuity of registration.



ICNDT Multilateral Recognition Agreement (OP19)

- The OP19 MRA procedure has been updated in some areas and the IEC asks permission of the GA for its issue.
 - **The following areas have been updated**
 - Enable remote audits where physical events such as pandemics prevent travel.
 - Clarification of the ICNDT logo on certificates
 - Clarification of auditor qualifications
 - Clarification of obligations
 - Provide an annual report to the regional federation regarding the PCB activities.

ICNDT Conformity Assessment of Personnel Certification Bodies (OP20)

- In situations where independent accreditation of PCBs is not available or considered sufficient, ICNDT may offer a conformity assessment to support an application for registration under the MRA Schedule 2.
- China used the OP20 route during 2023 after updating to ISO 9712 2021.
- OP20 will be used where certification bodies have had difficulties within their certification system with respects to audits.
- OP20 has been amended to take into consideration remote audits where international travel has been restricted.



ICNDT Examination Question Bank (OP23)

- The current Examination Question Bank delivery system is being replaced by an on-line delivery platform supported by a pay per examination system.
- This system will improve the security of the current examination delivery system by enabling continuous monitoring by ICNDT.
- A further benefit will be the ease of updating the question bank in-line with current technology and standards.