



INTERNATIONAL COMMITTEE FOR  
NON-DESTRUCTIVE TESTING

*The World Organisation for NDT*

Version	Record of change	Responsible	Status
Revision 9d	Update to cover period 2014 to 2016 taking account of discussion at PGP and GA in Prague. Action plans for ICEC and WG6 added.	MF	24/07/2015
Rev 10 draft	First draft for 2016-2020		
Rev 10 draft 2			20/03/2016
Rev 10d	After mtg with SKB and input from AM		5/5/2016
Rev 10e	After GA 39 in Munich	SKB/MF	
Rev 10f	After IEC Sep 2016	SKB	30/9/2016
Rev 10g	After IEC Nov 2016	SKB	21/12/2016
Rev 10h	Some corrections, adjust layout and general tidy up	DJG	30/01/2017

## ICNDT STRATEGIC PLAN

### 1. PROCESS

Since 2008, ICNDT has operated in accordance with Strategic Plans updated every two years. In this document Rev10 the ICNDT's objectives are reviewed and the global situation in which ICNDT operates is considered. There is then a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, against the Objectives designed to identify gaps in our activities and develop specific strategies and matching Action Plans for the period 2016-20.

### 2. OBJECTIVES OF ICNDT

ICNDT is a non profit association devoted to the international development of the science and practice of Non-Destructive Testing, in conjunction with individual already existing NDT societies and recognised Regional Groupings of NDT societies. ICNDT's activities are dependent on the voluntary actions of its members. The purposes, set out in the Constitution, are to:

- i. direct its prime focus on, to promote and support Non-Destructive Testing (NDT) at an international level for the benefit of the involved public in general;
- ii. promote international collaboration in all matters relating to NDT, including collaboration with international organisations with an interest in NDT, e.g. International Organisation for Standardisation (ISO), International Institute of Welding (IIW), International Atomic Energy Agency (IAEA), United Nations Development Organisation (UNIDO), World Federation of NDT Centres etc;
- iii. encourage the foundation, development, strengthening and cooperation of existing and new national and regional NDT Societies;
- iv. assign the place and organisation of the World NDT Conference to an appropriate NDT society or group of societies, at intervals of four years;

- v. establish and implement membership policies of ICNDT in collaboration with Regional Groupings of NDT societies; award distinctions honouring outstanding services in the area of Non-Destructive Testing;
- vi. encourage the formulation of international standards on Non-Destructive Testing in collaboration with the International Organisation for Standardisation, and other standards bodies;
- vii. promote best practices in NDT and to encourage international harmonisation in this area.

### **3. SITUATION ANALYSIS**

The situation in which the ICNDT and its member societies operate may be summarised as follows:

- i. NDT business in all its aspects (including personnel, company equipment, services, and industrial applications) is increasingly “globalised” and subject to standards, directives, regulations and specifications which are determined outside national boundaries. These are sometimes regional (e.g. PED), sometimes sectoral (e.g. ASME, NADCAP), sometimes international (e.g. ISO, IAEA, IAF...) and sometimes specific to the global operations of large companies.
- ii. In-Service NDT (for condition assessment, life estimation and life extension) is now as important as NDT in manufacture and increasingly important in a safety-conscious world.
- iii. The breadth and depth of technologies encompassed by NDT is increasing and many member societies now cover condition monitoring and diagnostic technologies as well as traditional NDT.
- iv. There are shortages of NDT personnel in some countries; and an increasingly mobile workforce, which need to be recognized in participating MRA countries.
- v. ICNDT needs recognition by and engagement with other international or regional bodies with interests in NDT; comparable with the recognition by ISO
- vi. NDT largely survived the economic downturn; demand continues to grow. Larger NDT Societies are in a healthy state but very small ones struggle to grow and the rate of formation of new societies has declined.
- vii. ICNDT has a long history and very broad membership (over 60 countries) and since legalisation in 2008 provides a stable platform for more effective representation and support of the membership and the wider NDT community.
- viii. ICNDT’s role as an association of NDT societies is complementary to the roles of individual member societies. Even in situations where members cannot find a consensus, ICNDT has a role to play in providing a forum for information, debate and discussion so that individual members are better informed.
- ix. ICNDT includes among its members NDT Societies which range from the very small to the very large with corresponding differences in budgets and resources. Some NDT Societies focus completely within their own countries whilst others have much more international involvement and operate outside their home countries’ borders Several of the larger societies have a track record of working with and supporting smaller societies. There is a desire amongst the Membership, approved at the GA in June 2016, to see closer co-operation between ICNDT and the Regions to eliminate duplication and increase efficiency.

#### 4. STRENGTHS AND WEAKNESSES OF ICNDT

	<b>OBJECTIVES</b>	<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
1	To direct its prime focus on, to promote and support Non-Destructive Testing (NDT) at an international level for the benefit of the involved public in general.	<ul style="list-style-type: none"> <li>- ICNDT is Internationally recognized</li> <li>- Can pool knowledge and share experiences</li> <li>- Liaison with other organizations: IAEA ISO TC 135 ISO TC 135 SC7 ISO TC 108</li> <li>- Members in other organizations</li> </ul>	<ul style="list-style-type: none"> <li>- Modesty of resources               <ul style="list-style-type: none"> <li>• Funds</li> <li>• Manpower</li> </ul> </li> <li>- Not in good contact with public at large</li> <li>- Insufficient knowledge of member wants</li> <li>- Lack of educational and promotional materials</li> </ul>	<ul style="list-style-type: none"> <li>- Modern communications, networking</li> <li>- Development of press releases</li> <li>- Build on member society capabilities</li> <li>- New brochures and videos on NDT available</li> <li>- Presence in conferences for materials &amp; testing</li> <li>- Market research</li> </ul>	<ul style="list-style-type: none"> <li>- NDT sometimes viewed as less important than other technologies</li> <li>- Competing bodies with more specific objectives</li> <li>- Academia NDT</li> </ul>
2	To promote international collaboration in all matters relating to NDT, including with international organisations with an interest in NDT, e.g. International Organization for Standardisation (ISO), International Institute of Welding (IIW), International Atomic Energy Agency (IAEA), UNIDO, World Federation of NDE Centres, CEN etc.	<ul style="list-style-type: none"> <li>- Established linkages and increased recognition from organizations such as ISO, IAEA, WINS and WFNDE Centers</li> </ul>	<ul style="list-style-type: none"> <li>- Still not enough influence with IAEA or IIW.</li> <li>- Lack of knowledge about liaison organizations</li> <li>- Lack of strong and continued representation</li> </ul>	<ul style="list-style-type: none"> <li>- Collaborative programs and publications</li> <li>- Joint workshops</li> <li>- Need to propose our own agenda</li> </ul>	<ul style="list-style-type: none"> <li>- Other organizations may have declining interest in NDT</li> </ul>

	<b>OBJECTIVES</b>	<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
3	To encourage the foundation, development, strengthening and cooperation of existing and new national and regional NDT Societies.	<ul style="list-style-type: none"> <li>- Good track record on all aspects, 10 new members in 4 years</li> <li>- Associate member category allows access for fledgling societies</li> <li>- Some Member societies interested in working with new societies guidance for new societies published</li> <li>- Membership of ICNDT helps promote national societies</li> </ul>	<ul style="list-style-type: none"> <li>- Resources to support are primarily with member societies – not ICNDT</li> <li>- Small NDT Societies are financially weak and lack the resources to fulfil their roles</li> </ul>	<ul style="list-style-type: none"> <li>- Additional geographic areas/ Regional Groups</li> <li>- Offer to provide links to experts Provide buddy/mentors to small Societies</li> <li>- Workshops for new and fledgling societies</li> <li>- Encourage external operations of larger societies to provide services in countries which do not have an NDT society</li> <li>- Internet provides low cost facilities to allow interactions</li> <li>- Need more frequent communication and interaction with Members</li> </ul>	<ul style="list-style-type: none"> <li>- Alternatives to NDT societies</li> </ul>
4	To assign the place and organisation of the World NDT Conference and exhibition to an appropriate NDT society or group of societies, at intervals of four years.	<ul style="list-style-type: none"> <li>- Well recognised (the only <u>World Conference</u>)</li> <li>- Increasing interest</li> <li>- Brings a broad spectrum together</li> <li>- Well formulated procedures and guidelines</li> <li>- Well established timetable interleaving with Regional Conferences</li> </ul>	<ul style="list-style-type: none"> <li>- Quality is variable</li> <li>- Lack of student participation</li> <li>- Lack of participation by important “users” of NDT</li> </ul>	<ul style="list-style-type: none"> <li>- Bring in or involve other “users”, especially from outside of the NDT Community</li> </ul>	<ul style="list-style-type: none"> <li>- Many other conferences <ul style="list-style-type: none"> <li>• Regions</li> <li>• Member Societies</li> <li>• Materials Societies</li> <li>• Industry Groups</li> </ul> </li> <li>- Modern communications, internet fora</li> </ul>

	<b>OBJECTIVES</b>	<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
5	To establish and implement membership policies of ICNDT in collaboration with regional groupings of NDT societies.	<ul style="list-style-type: none"> <li>- new Constitution recognises Member societies and Regional Groups; Full, Associate and Liaison membership</li> <li>- APCNDT and AFNDT have progressed to Federations and PanAm NDT is doing the same</li> </ul>	<ul style="list-style-type: none"> <li>- application process can be slow (but much improved) - African Federation has not progressed as was hoped</li> </ul>	<ul style="list-style-type: none"> <li>- Re-organisation planned</li> <li>- support new federations to form a regional group based on UN charter</li> <li>- support between Regions instead of duplication of work</li> </ul>	<ul style="list-style-type: none"> <li>- Regions need to communicate</li> <li>- lack of global consultation and support to members if regions fail to achieve consensus.</li> <li>- Narrowing vision within the regions</li> <li>- Interregion comms</li> </ul>
6	To award distinctions honouring outstanding services in the area of Non-Destructive Testing.	<ul style="list-style-type: none"> <li>- Well defined processes in place for Awards and Honorary Membership, and for recognition of Volunteers</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of publicity by Members, hence lack of awareness in Member Societies</li> </ul>	<ul style="list-style-type: none"> <li>- increase prestige</li> </ul>	<ul style="list-style-type: none"> <li>- Competition from similar national awards</li> </ul>
7	To encourage the formulation of international standards on Non-Destructive Testing in collaboration with the International Organisation for Standardization, and other standards bodies.	<ul style="list-style-type: none"> <li>- History of cooperation with ISO TC135, ISO TC135 responsive to ICNDT</li> <li>- ISO meetings frequently held in conjunction with WCNDT and Regional conferences</li> </ul>	<ul style="list-style-type: none"> <li>- Involvement with ISO largely limited to Certification</li> <li>- Insufficient involvement with other standards bodies (eg aerospace, ASME .....)</li> </ul>	<ul style="list-style-type: none"> <li>- ICNDT now a Liaison member of TC108 (Condition monitoring standards)</li> <li>- More joint ICNDT/ISO Workshops</li> <li>- ICNDT reports as a service to ISO</li> <li>- Input to sub Committees/ groups.</li> </ul>	<ul style="list-style-type: none"> <li>- Regional or local standards may conflict with ISO</li> </ul>

	<b>OBJECTIVES</b>	<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
8	To promote best practices in NDT and to encourage international harmonization in this area.	<ul style="list-style-type: none"> <li>- Conference presentations/ interactions both WCNDT, Regional and national on special topics</li> <li>- ICNDT Guide on Qualification and Certification –published</li> <li>- ICNDT Guide on NDT Education published</li> <li>- ICNDT Guide on NDT research published</li> <li>- MRA &amp; PCB and Examination Question Bank launched</li> <li>- Improve Certification Body accreditation/ approval process</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of literature by ICNDT on best practices</li> <li>- Insufficient knowledge and acceptance of MRA &amp; PCB and Examination Question Bank</li> </ul>	<ul style="list-style-type: none"> <li>- Additional Guides, including PCB/AQB/EC, Q+C for Condition Monitoring , NDT for Managers</li> <li>- Coordination of Regional efforts</li> <li>- Input to Wikipedia</li> <li>- Extend/improve EQB</li> <li>- Syllabus for NDT Engineer</li> <li>- Promotion via Wikipedia</li> </ul>	Extended support from regions is essential – Regional MRA

## **5. AREAS FOR ICNDT ACTION**

There are six key areas for ICNDT action:

- i. Support for NDT Societies
- ii. Promotion of the importance of NDT; better links to external bodies
- iii. NDT Qualification and Certification
- iv. NDT Education and NDT Research
- v. Radiation Safety and Security
- vi. Condition Monitoring & Technical Diagnostics
- vii. ICNDT Management & Administration

For each area an Action Plan has been devised.

## **6. ACTION PLANS**

Action Plans for the above six key areas are tabulated below. There is one additional Action Plan for ICNDT Management and Administration. The tables show the Action proposed; the anticipated cost to ICNDT, supporting Societies; Working Groups/Committees/members/ individuals responsible and proposed completion dates.

Note Rev 9d as been retained on the website as a record of previous actions. Rev 10 deals only with on-going /new actions.

*ICNDT members able to contribute to these actions are asked to advise the Secretariat.*

## ACTION PLAN 1: SUPPORT NDT SOCIETIES

- **Task Leader: J. Conte**

**Group: Membership Committee: Joao Conte, Sajeesh Babu, Emilio Romero, Nori Ooka, David Gilbert, Sharon Bond, Alexander Mullin**

	Action (What)	Cost (€)	Who?	When?	Progress Remarks	Exec Decision
1	Set up series of ICNDT International Forums in conjunction with Conferences, General Assemblies, on sharing best practice. Collaborate with IAEA where appropriate.					
	a) Look for opportunity to engage with Central Asia societies		Mullin and S K Babu	Nov 2017	To keep in contact with central Asian societies and coordinate with APFNDT	
	b) Africa- support ACNDT conference in 2016		IEC	Nov 2016	M Farley participated in Oran, New members were applied for membership	
	c) International Forum at ASNT Fall conference		IEC	Oct 2016	Completed	
	d) International Forum at APCNDT		IEC	2017		
	e) International Forum at Middle East NDT conference		IEC	To be updated	Action not executed as the days were overlapping with APCNDT	
2	Enable ICNDT National Societies and committees to better demonstrate their recognition of the value of the support given by volunteers. Certificate created to recognise the work of Volunteers		IEC to promote more strongly.		Modified OP22 approved	
3	Articles on Societies activities and development for ICNDT Journal		Gilbert/ Bond	ongoing		



4	Input to NDT.net to ensure references to ICNDT		IEC – David Gilbert	ongoing		
5	Organise a Survey Monkey Questionnaire to seek views of Membership on how support can be best provided		IEC – David Gilbert	Jan 2017	Draft questionnaire send to David	

	Action (What)	Cost (€)	Who?	When?	Progress Remarks	Exec Decision
	Organise more frequent communication with members. Facebook? Email news?		IEC- Sharon/Shoei/Pranay	Ongoing	Report on Munich Workshop by Tony Wooldridge is published on ICNDT Website	
6	Nominate contacts as buddy/mentor to new societies for specific geographies/languages/cultures and publicise in the ICNDT Journal and on the website		Conte	Continues	Needs more attention outside South and Central America. ABENDI is mentoring a fledgling society in Angola	
7	Update the directory of National Societies, including the website of each association and promote a link with the ICNDT		Conte/Bond	Ongoing	Most of the member websites are updated	
8	Register entities that carry on some type of coordination of NDT activities in countries that do not have National Societies and encourage Associate Membership of ICNDT		Membership Committee	Ongoing	New associate member applications are being reviewed from Africa region	
9	Participate in NDT events promoted in each country to advertise the ICNDT activities and foster the participation of each national society  Poland		All Executive Committee  Farley	Ongoing	Completed, Secretariat to contact members to provide the list of their national events to be published in ICNDT calendar	
10	Provide recommendations to encourage external operations of larger societies whilst fully recognising/and encouraging new/fledgling societies		Farley	Draft presented at PGP. Convert to OP.		

## ACTION PLAN 2: PROMOTION OF THE IMPORTANCE OF NDT

- **Task Group Leader: D Gilbert**

**Group: Communications (Journal/ Internet): David Gilbert, Sharon Bond, Stefan Culman, Shohei Ooka**

	Action (What)	Cost (€)	Who?	When?	Progress remarks	Exec Decision
1	Wider promotion of existing videos (JSNDI, ASNT, BINDT....) via website		Gilbert	Complete	See 9 below	
2	Promote sessions at World and Regional Conferences on Case Studies which demonstrate the value of NDT <ol style="list-style-type: none"> <li>1. APCNDT</li> <li>2. ECNDT</li> <li>3. PANAM C NDT</li> <li>4. 20<sup>th</sup> WCNDT</li> </ol>		IEC SK Babu David Gilbert Terry Clausing Younho Cho			
3.	Map multinational external bodies and websites that have interests in NDT and make them aware of ICNDT	3000 euro	IEC / professional support		Remains important	Work underway by Tony Wooldridge
	Plan more proactive involvement in key external organisations (ISO, IIW, IAEA, CEOC International, ISCM, WCI, WNO)		Nominate representatives		IAEA, ISO, WINS, WCI, ISCM under way – see below; IIW to be progressed; CEOC left to EFNDT	
	Plan more proactive involvement with Regional groupings of NDT societies (AFNDT, APFNDT, EFNDT, PanAmFNDT.....).		IEC		Underway. See Action plan 7.	
	ISO –liaison membership of TC135: NDT liaison membership of TC108: Condition Monitoring		Farley Farley	Complete Complete	Accepted ,April 2013 .Rep nominated by CM Group (WG6) is Terry Clausing	
	IIW		Alexander Mullin	Nov 2016	Draft cooperation basis was prepared and send to MF for review in PGP	

	IAEA: Review IAEA's activities and plans		IEC			
	CEOC International					Liaison left to EFNDT
4	Build on progress to date and establish an <i>upgraded</i> website, linked to members websites, to provide an intelligent NDT information portal.		SB/Working Group	On-going development	Priority for early completion	
5.	Wikipedia - ensure quality input (English and other languages) and links to "approved" sites. Create ICNDT page.		WG2			
	- Seek volunteer "champions" via ICNDT Journal and website, offer rewards/ payment?		Gilbert	On going	Group started work Paper by Pranay Wadyalkar shows importance of this task. <b>Progress?</b>	
6.	Add NDT and Diagnostic Technologies as a strapline to our letter head – - Trial this without commitment - Survey involvement of ICNDT members in condition monitoring		IEC  Farley Gilbert/ Bond			Done at Prague GA. Publicise in NDT Journal.
9	Prepare report on NDT for Managers – possible collaborator IAEA		IEC/ professional assistance			
10	Collaborate with BINDT action to assess total market and employment in NDT, CM and SHM		IEC	Delayed by BINDT to 2017		

### ACTION PLAN 3: QUALIFICATION AND CERTIFICATION

Task Group Leader: Alexander Mullin Task

Group: WG1

Document title	Revision Date	Revised by	Scope of revision	Circulated to WG1
WG1-03_Action Plan	15/07/2016	A Mullin	Updated following ICNDT mtgs in Munich at 19 <sup>th</sup> WCNDT	

X	Action item / project	Cost €	Who?	When?	Progress / remarks	IEC decision
	<b>COMMITTEE ADMINISTRATION</b>					
1	Regularly review and update the Group's objectives (this Action Plan).	Nil	WG1 Chairman	at each physical meeting	Updated after ICNDT GA 16.06.2016 in Munich	
2	Regularly review and update (if required) the Terms of reference	Nil	WG1 Chairman	Ongoing task (without deadline)	ToR revision 2013-11-20 is valid.	
3	Periodically review and refresh membership to ensure global representation	Nil	WG1 Chairman	Ongoing task (without deadline)	After SLC meeting new members were approved: André Charbonnier (Cofrend) Mirmajid Ghaemi (Iranian Society for NDT) Bjørn Pedersen (Danish NDT Society)  It was agreed that Patrick Fallouey will remain as Honoured member of WG1  10 members were reappointed in June 2016 by IEC	

4	Define timetable for actions that should feed into the systematic review of ISO 9712		WG1 chair/Sharon Bond			
<b>A</b>	<b>COMMUNICATION AND KNOWLEDGE SHARING</b>					
<b>A1</b>	Establish lines of communication with Qualification and Certification group(s) in ICNDT regions (Africa, Europe, America, Asia) with a view to co-ordination of activities. Responsible WG1 member(s) to provide written report of regional meetings for circulation to WG1 members.	Nil	See remarks column	Ongoing task (without deadline)	Asia Pacific – S K Babu, P Milligan EFNDT – M Purschke, R Rodriguez Africa – H Jansen Pan-America - João Rufino Teles Filho, P.K. Yuen	
<b>A2</b>	Seek , maintain or re-establish liaison and/or Observer status with relevant					
	a). ISO TC135 SC7 and relevant WG	Nil	M Farley A Mullin	Ongoing task (without deadline)	ICNDT WG1 has official SC7 liaison status. ISO/TC 135/SC 7/WG 9 Revisions of training guidelines	
	b). International Accreditation Forum (IAF).	Nil	SK Babu	Ongoing task (without deadline)	SK Babu provides the liaison between ICNDT WG1 and IAF.	
	c). ISO/CASCO WG30 (revising ISO/IEC 17024)	Nil	SK Babu, Nicole Scutt assists.	To be decided	ISO/CASCO WG30 disbanded	
	d). ASME and similar bodies on NDT personnel qualification matters	Nil	ASNT representative	Ongoing task (without deadline)	T Clausing provides liaison	
	f). International Atomic Energy Agency (IAEA)	Nil	M Farley	Ongoing task (without deadline)	Formal liaison with IAEA re-established with a view to co-operation on several matters. See A3 below	
<b>A3</b>	<b>IAEA</b>					
<b>A3.1</b>	Plan programme of joint workshops		M Farley	Ongoing task	Draft plan programme of joint workshops in cooperation with P Brisset	

<b>A3.2</b>	Identify project ideas for global benefit		M Farley	Ongoing task	Cooperate with P Brisset on this matter	
<b>A4</b>	To keep up-to date directory of NDT personnel certification bodies, with scopes of compliance, numbers of persons certificated and certificates issued, etc.	Nil	S K Babu	Ongoing task (without deadline)	Directory published on the ICNDT web site should be kept up-to-date.	
<b>A5</b>	Provide assistance for developing countries seeking to establish national certification schemes.	Nil	P Milligan	Upon request	Procedure published in ICNDT Guide	
<b>A6</b>	Plan and organise a regular (annual or biennial) workshop on qualification and certification topics, inviting guest speakers with specialist knowledge/experience	Nil	WG1 Chairman	as required	Q&C workshop is going to be held at APCNDT in Singapore November 2017 Also see A10	
<b>A7</b>	Provide new and interesting material on qualification and certification in order to keep the ICNDT website updated.	Nil	D Gilbert / WG1 Chairman	Ongoing task (without deadline)	WG1 members are responsible to forwarding matters of interest through WG1 chairman to D Gilbert	
<b>A8</b>	Identify possibility to create unified body of knowledge based on gap analysis between TR 25107, CP106 and Tec.Doc 628	Nil	S K Babu	Awaiting developments in ISO TC 135 SC7 WG9	ISO is proceeding with revision of TR 25107, under WG9 of SC7. ICNDT should participate in particular subgroups.	
<b>A9</b>	Organise periodical meetings with ASNT to discuss personnel certification matters	Nil	WG1 Chairman M Farley	Ongoing task	Next meeting is to be decided	
<b>A10</b>	Seek opportunities for engagement in the Middle East, including organising a WG1 meeting and workshop at a conference there.	Nil	WG1 Chairman M Farley	September 2016	Action suspended	
<b>A11</b>	Establish liaison with ICNDT WG6 in terms of CM personnel certification	Nil	P Milligan	Ongoing task		
<b>B</b>	<b>GLOBAL HARMONISATION AND RECOGNITION</b>					
<b>B1</b>	Review and update the ICNDT Guide and Recommendations on NDT personnel Qualification and Certification.	Nil	D Gilbert, WG1 members	Ongoing task	ICNDT Guide to Qualification and Certification updated and published in June 2016 to WCNDT 2016	

<b>B2</b>	Develop Recommendation for administering practical examination	Nil	S K Babu Ad hoc group	Ongoing task	Completed	
<b>B3</b>	Participation in maintaining of ICNDT Examination question bank (EQB)	Nil	WG1 members	Ongoing task	Functions of WG1 are defined in OP-23.	
<b>B4</b>	Develop the table of ISO standards used for NDT of different products.	Nil	WG1 Chairman WG1 members	Ongoing task	Table should be kept up-to-date.	
<b>B5</b>	Consider substitution renewal by recertification	Nil	R Holstein	Ongoing task	Ad hoc group created with Ralf Holstein as a Chair	
<b>B6</b>	Clarification of functions and responsibilities of Certification body – Authorised Qualification body – Examination center	Nil	WG1 Chairman WG1 members	as required	Final draft will be discussed in Singapore 2017	
<b>B7</b>	Prepare ICNDT guidelines on the impact of Human Factors on reliability of NDT executed by certificated personnel.	Nil	TBD	Ongoing task	Action suspended as ICNDT International Specialist Group on the same matter is going to be created	
<b>B8</b>	Survey of job-specific training and certification being carried out to supplement ASNT and ISO 9712 certification	Nil	H Jansen	Ongoing task		
<b>B9</b>	Discussion on how to deal with “experience requirements” in ISO 9712 leading to recommendations to ISO TC 135 SC7	Nil	P Milligan	Ongoing task	Draft will be discussed in Singapore 2017	
<b>B10</b>	Develop recommendation for grading of practical examination.	Nil	WG1 Chairman WG1 members	Ongoing task	Draft will be discussed in Singapore 2017	
<b>B11</b>	Interpretation of ISO 9712:2012 Table D.1 “Guidance on the percentile weighting for practical examination of Levels 1 and 2” for different NDT methods.	Nil	Nicole Scutt	Ongoing task	Draft will be discussed in Singapore 2017	
<b>B12</b>	Harmonisation and recognition - risk and opportunity analysis	Nil	PK Yuen	Ongoing task	Discussion paper shall be prepared and circulated to the members	

<b>B13</b>	Review options for training and certification in civil engineering and opportunities for ICNDT to add value	Nil	WG1 Chairman WG1 members	Ongoing task	Organize review of certification in civil engineering among PCBs	
<b>B14</b>	Update of XLS which compares implementation of ISO9712 by different PCBs	Nil	WG1 Chairman	End of 2016	Organize updating of XLS	
<b>B15</b>	Establish Task Group to discuss if NDT Societies/PCBs could assess and approve employers' certification to ICNDT requirements	Nil	Gerald Idinger	October 2016	Ask WG1 members to join Task group	
<b>B16</b>	Establish Task Group to discuss if NDT Societies/PCBs could establish an expert group to oversee the inspection qualification activities	Nil	Rodolfo Rodriguez	October 2016	Ask WG1 members to join Task group	
<b>B17</b>	Discuss possibility to set up a register of approved independent L3's (or CM Category 3s or 4s) with available to control NDT/CM activities on-site	Nil	WG1 Chairman	October 2016	Ask PCBs about availability to provide information regarding certificated L3's who are available to control NDT/CM activities on-site	
<b>B18</b>	Review options for ICNDT Certificates based on MRA Schedule II bodies	Nil	SK Babu	End of 2016	Prepare discussion paper and circulate to the members	
<b>B19</b>	Develop Recommendations for improvement of ISO 9712	Nil	WG1 Chairman WG1 members	March 2017	Recommendations will be drafted and transmitted to ISO TC 135 SC7	



### ACTION PLAN 3B: Certification Executive Committee

- **Chair:** Harold Jansen (from June 2016) **Vice-Chair:** **Secretariat:** Tony Wooldridge
- **Members:** Gerhard Aufricht (alternate Idinger), Matthias Purschke, Alexander Mullin, Harold Jansen, Nori Ooka, Joao RufinoTeles

Action item / project		Cost €	Who?	When?	Progress / remarks	IEC decision
<b>001</b> <b>2012-04-15</b>	Contact all ICNDT members with the following aims: <ul style="list-style-type: none"> <li>• Request signature on Schedule 1 of MRA</li> <li>• Survey expected signing of MRA and requests for assessment of PCB where accreditation unavailable.</li> <li>• Survey extended to include PCB CA and EQB systems</li> </ul> Promote registration of PCBs with the MRA, esp Europe Need focus on countries	Nil	Shipp	Completed.	At 08/07/2016 40 signatures of Sch 1 and 12 registrations complete	
<b>002</b> <b>2012-04-15</b>	Maintain Business Plan for MRA PCBA and EQB	Nil	Wooldridge	06.06.2016	Utilize the next Certification conference in Vienana to encourage MRA signatories and provide certificates to PCB fulfilling Schedule II requirements	
<b>003</b> <b>2012-04-15</b>	Establish Assessor Register and arrange assessor training at next regional conference	Nil	Shipp Fallouey Jansen	Initiated 2012-07-18 Ongoing.	Six assessors (three lead, three support) were agreed at Zagreb.  Additional Lead Assessor appointed for ABENDI ausit	
<b>004</b>	OP 24 – Complaints and appeals (extracted from appendix in Issue 1 of OP19 but ow covering all ICEC activities)		Shipp	Published	Approved	
<b>005</b>	OP23 (EQB): Plan for future development – adding and modifying questions, database software, etc)		Shipp	Pending	Questionnaire circulated and analysed.	
<b>006</b>	Development of EQB, taking account of results of Questionnaire. Add Questions on Phased Arrays?	£???	S K Babu / G Aufricht		Working Group led by Tony Wooldridge set up to review recommendations	

## **ACTION PLAN 4: EDUCATION AND RESEARCH**

**Task Group Chair:** Prof. Younho Cho, Korean Society for NDT

**Group: WG 3:**

Dr Tony Erhard, Germany, Vice-Chair

Prof Krishnan Balasubramanian, ISNT India

Ekaterina Cheprasova, Russian Society for NDT

Dr Uwe Ewert, BAM, Germany

Prof Steve Holland, Iowa State University, USA

Mr Harold Jansen, SAIW, South Africa

Dr Manfred Johannes, SAINT South Africa

Prof Marc Kreuzbruck, University of Stuttgart, Germany

Prof Vjera Krstelj, Croatian NDT Society

Prof Norbert Meyendorf, Iowa State University, WFNDEC

Dr Serge Dos Santos INSA, France

Mr Kevin Smith, ASNT, USA

Prof Robert Smith/ Keith Newton, BINDT, UK

Prof C. Xu, China

	Action (What)	Cost (€)	Who?	When?	Progress/ Remarks	IEC Decision
1	<p><b>Set up a plan of meetings to be held – at least one physical meeting/year and one internet meeting</b></p> <p>2017 – APCNDT</p> <p>2018 – ECNDT 2019 – QNDE?</p> <p>2020 - WCNDT</p>		IEC			
2	Set up biennial meeting of bodies interested in the “research agenda” in NDT along lines of Durban workshop, including IIW, IAEA and NDT Academia..ASME PVP, PRCI, EPRI NDE Centre, IIW		Manfred Johannes	1 <sup>st</sup> held at ECNDT Prague	To be further considered	
3	Continue to promote register of NDT Research Bodies on ICNDT website, with target of 20 bodies by year-end		Younho Cho/ professional support?  IEC	Dec 2016  ?? await progress on above action	3 bodies are registered at this moment	
4	<p>Update of ICNDT Guide on Education in NDT</p> <p>Draw up a list of Universities organising courses in NDT and CM categorising them as in the guide</p> <p>Draw up list of NDT text-books with commentary on their level</p>		? David Gilbert	2018?	Makes sense to organise a Workshop similar to that in Mumbai. Organise at Gothenberg conference?	
5	Promote ICNDT Guide on NDT Research		Farley			

	Action (What)	Cost (€)	Who?	When?	Progress/ Remarks	IEC Decision
6	Sponsor International Specialist Groups, each hosted by a Member or other organisation <ul style="list-style-type: none"> <li>a) Full matrix capture</li> <li>b) Terahertz imaging</li> <li>c) Microwave</li> <li>d) Magnetic memory method</li> <li>e) NDT of Art</li> <li>f) NDT reliability</li> <li>g) Non linear UT</li> <li>h) Guided Wave Ultrasound</li> </ul>		<ul style="list-style-type: none"> <li>a) BINDT</li> <li>b) BINDT</li> <li>c) ASNT</li> <li>d) RSSNDT</li> <li>e) BINDT</li> <li>f) DGZfP</li> <li>g) DGZfP</li> <li>h) KSNT</li> </ul>		Websites pages to be set up.	
7	ICNDT Guide on importance of NDT and NDT research Promote more widely		Farley		Based on Prague workshop. Published 2015. Consider update in two years.	
8	ICNDT monographs				Action abandoned	
9	NDT Academia Set up web-place on ICNDT site for advertising of Professorships, Fellowships and Studentships		Secretariat			
10	WFNDEC Maintain link		Norbert Meyendorf			

## ACTION PLAN 5: Radiation safety and protection

**Chair:** Matthias Purschke      **Group:** Ms Barbara Solter/Richard Sonsbeek/ Etienne Martin/ BINDT rep

5.1	Liaison and support to IAEA- providing advice on behalf of the wider NDT industries					
5.2	Liaison with WINS related to security of Radioactive sources					
5.3	Liaison with WCI <ul style="list-style-type: none"> <li>• Decision needed on opportunity to present a paper at the 9th International Conference on Isotope (ICI) which will be held in November 2017, in Qatar with the emphasis on the use of isotopes in NDT.”</li> </ul>				The action withheld as the conference dates clash with 15 APCNDT.  Frurther opportunity to be determined.	

## ACTION PLAN 6: Condition Monitoring

Co-chairs: Terry Clausing (ASNT) and Prof Len Gelman (ISCM)      Secretary: David Gilbert/Cindy Bailey

Group: Paul Rand (AINDT, alternate Peter Milligan); Dr. Gábor Pór (Marovitz Hungary), Florian Raddatz / Jens Prager (DGZfP); Dr Peter Tscheliesnig (OGZfP); Prof WonTae Kim (KSNT, alternate Prof Younho Cho); Prof Mehdi Behzad (Sharif University of Technology, IRNDT TBC), Nadine Martin (ISCM), Leon Swedrovski (ISCM); Aleramo Lucifredi (University of Genoa, ISCM); Renata Klein (RK Diagnostics, ISCM). Corresponding members: Cameron Sinclair, Lars Schubert.

Status of Action Plan: based on results of 1<sup>st</sup> WG meeting in Oxford on 9<sup>th</sup> June 2015.

	Action (What)	Cost (€)	Who?	When?	Progress/ Remarks	IEC Decision
<b>1</b>	Conferences and Workshops					
	a. 19 <sup>th</sup> WCNDT Munich 2016 – encourage CM participation		<b>LG/TC</b> and members		Complete	N/A
	b. Workshop on CM education and certification				Munich Workshop combined with NDT and focussed on elearning	
	c. ICNDT Workshop at ISCM in Paris 10- 12 Oct 2016		TC		Topic?	
	d. ISCM World Conference in London, UK in 13-16 June 2017 (+CM/NDT cross-forum ) –group to support event		All	Action mid 2016		
	e. ICNDT Workshop?					
	f. 20 <sup>th</sup> WCNDT Korea 2020 – seek strong CM participation		<b>TC/Wontae Kim</b>	Meeting in Seoul in August 2016	Meeting completed	
<b>2</b>	Create register of research organisations in CM and Diagnostic technologies – circulate proforma to collect info and publish on ICNDT and ISCM websites		David Gilbert	ASAP		

	Create related Glossary of Terms (CM, PM, SH, DT ....) referencing ASTM's		<b>Florian Raddatz</b> /TC/ Cameron Sinclair	Target completion for ASNT conference 2015		
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	<b>Action (What)</b>	<b>Cost (€)</b>	<b>Who?</b>	<b>When?</b>	<b>Progress/ Remarks</b>	<b>IEC Decision</b>
<b>3</b>	ICNDT/ ISCM Guide to Certification in NDT (and Condition Monitoring) -		<b>Peter Milligan</b> / Peter Tscheliesnig/ Terry Clausing/	Target completion for ASNT conference 2015	Published June 2016.	
	Survey members about training and certification in CM different countries		<b>Peter Milligan</b> / Wendy Poole (BINDT)	ASAP		
<b>4</b>	ICNDT Guide to Education in CM and DT – the workshop in 1b will be designed to collect information and produce Guide. Volunteer author needed or need approval to incur cost	??	TC/LG/ Gabor Por	Action fto follow 3b.		
	Prepare a paper for the two Certification committees in ISO recommending that at Level 3 awareness of the other should be included as a topic.		LG	Action for 2016		
<b>5</b>	Representation on ISO TC 108 SC Condition Monitoring -		<b>TC/WTK</b>	Mtg in Sydney March 2016 Next mtg: ??	Terry Clausing nominated. alternate is Prof Wontae Kim	
<b>6</b>	CM/NDT Publications – review existing publications and needs				???	
	International Journal of CM – internet publication, free to members of ISCM and BINDT		LG	2016	WG to organise a special issue on NDT for the CM community	
			<b>DG/LG</b>	2015	Consider model of availability	

	Insight –annual August issue		DG	By Dec 2015	WG to initiate papers on CM for an NDT audience	
	Condition Monitor –digital publication		DG		Consider using for “NDT for Condition Monitoring community” articles	
	On-line journal Case Studies in NDT (ed Bernd Kohler)		Florian Raddatz		Seek opportunities for papers to demonstrate value of CM both in this Journal and above Journals.	
	<b>Action (What)</b>	<b>Cost (€)</b>	<b>Who?</b>	<b>When?</b>	<b>Progress/ Remarks</b>	<b>IEC Decision</b>
<b>7</b>	CM/NDT CPD (Continuous Professional Development)		LG/TC	2016	Action to be considered in the light of 1b Need for CPD for CM trainers to be considered.	
<b>8</b>	CM/NDT joint grant application with ICNDT/ISCM involvement as a dissemination partner (eg EU Project Horizon)		All		Agreed to be open for ideas	No commitment without IEC approval
<b>9</b>	Joint CM/NDT cross-forums: plan first for ISCM World Conference in 2017.		LG/TC	2016		
<b>10</b>	Review of need for Standards for on-line monitoring				Actions to be considered at next meeting	
<b>11</b>	Administration- circulate updated joint TOR incorporating refs to ISCM and SHM.	Aug 2015	<b>MF/LG/TC</b>		Sent to TC/LG 22/04/2016,	



## ACTION PLAN 7: ICNDT Management and Administration

Chair: Sajeesh Kumar Babu

Group: Mike Farley, Gerhard Aufricht, David Gilbert

	Action (What)	Cost (€)	Who?	When?	Progress/ Remarks	IEC Decision
1	Clarify responsibilities of the officers	Nil	Farley, Group	Oct 2017	Await the implementation of the re-organisation	
2	Clarify and publish structure (and membership) on the website	Nil	Farley, Gilbert	Oct 2017	MF, will now wait for reorganisation	
3						
4	Prepare a four-year timeline to assist management of actions	Nil	S K Babu, Gilbert	July 2016	Complete and circulated to IEC	
5	Review and update Operating Procedures	Nil	Group		Complete	
6	Revise organisation and fee structure to improve coordination with Regional Groups 1. Draft update of constitution 2. Draft updates of OPs	Nil	Farley +IEC	GA 2017  Task Group in Oct 2016, Feb 2017. PGP in Nov 2016	Paper v10 approved in Munich  Proposed revised Constitution (V4) and OPs 3, 8, 12, and 15 were approved and are ready after editorial check to be submitted to the GA for approval. OP2 and OP5 to be reviewed 13 <sup>th</sup> Feb.	

## **7. SUMMARY**

A thorough review of ICNDT's activities and the opportunities has been completed. Key strategies have been identified and Action Plans drawn up with the immediate priorities being those "quick-wins" which can be achieved at modest cost.

The Strategic Plan is a "live-document". It will be subject to further elaboration and remains open for comment and revision by the Membership through the General Assembly and Policy and General Purposes Committee..

## **8. ACKNOWLEDGMENT**

The Chairman and Executive Committee thank the individuals who have given time and effort to the preparation of this plan by their participation in meetings and drafting work.

## **9. FURTHER INFORMATION**

Please contact the ICNDT Secretariat ([david.gilbert@bindt.org](mailto:david.gilbert@bindt.org))