

Mutual Recognition of Personnel Certification as an aid to the globalisation of NDT

Mike Farley

Past Chair of ICNDT

Globalisation of industry

- Design, building and operation of plant equipment and machinery is “globalised”
- This true for all sectors where NDT is important
 - transport (for example cars, planes, trains and ships),
 - civil engineering (bridges),
 - energy infrastructures (oil & gas rigs and pipelines, wind turbines, power stations) and
 - manufacturing (steelmaking to composites to electronics).



Globalisation of NDT

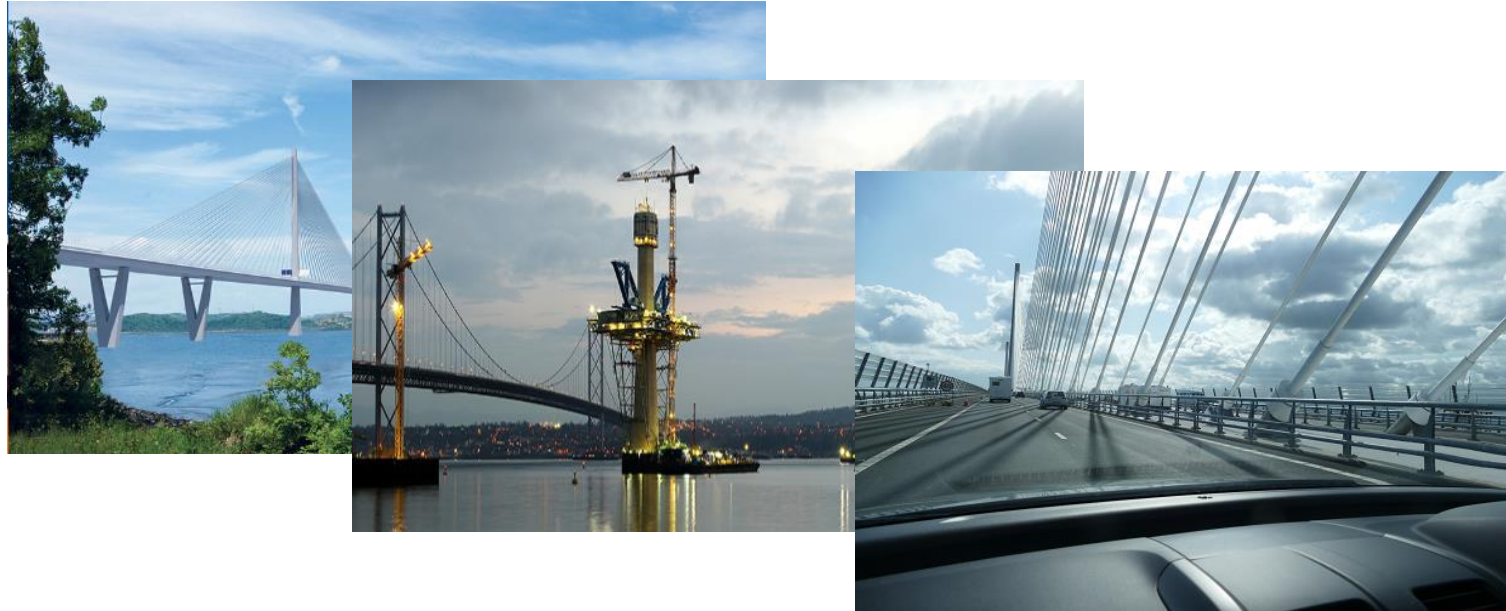
- Industrial companies procure equipment and materials from wherever is most cost effective, increasingly from emerging economies, using local NDT services working to the contract standards
- Safety, reliability and availability of structures, plant and machinery thus depends on the whole supply chain of companies and contractors all around the world, each with their own NDT personnel and equipment

ICNDT promotes an international NDT quality infrastructure that can facilitate globalised trade and this includes a system to allow recognition of personnel certification



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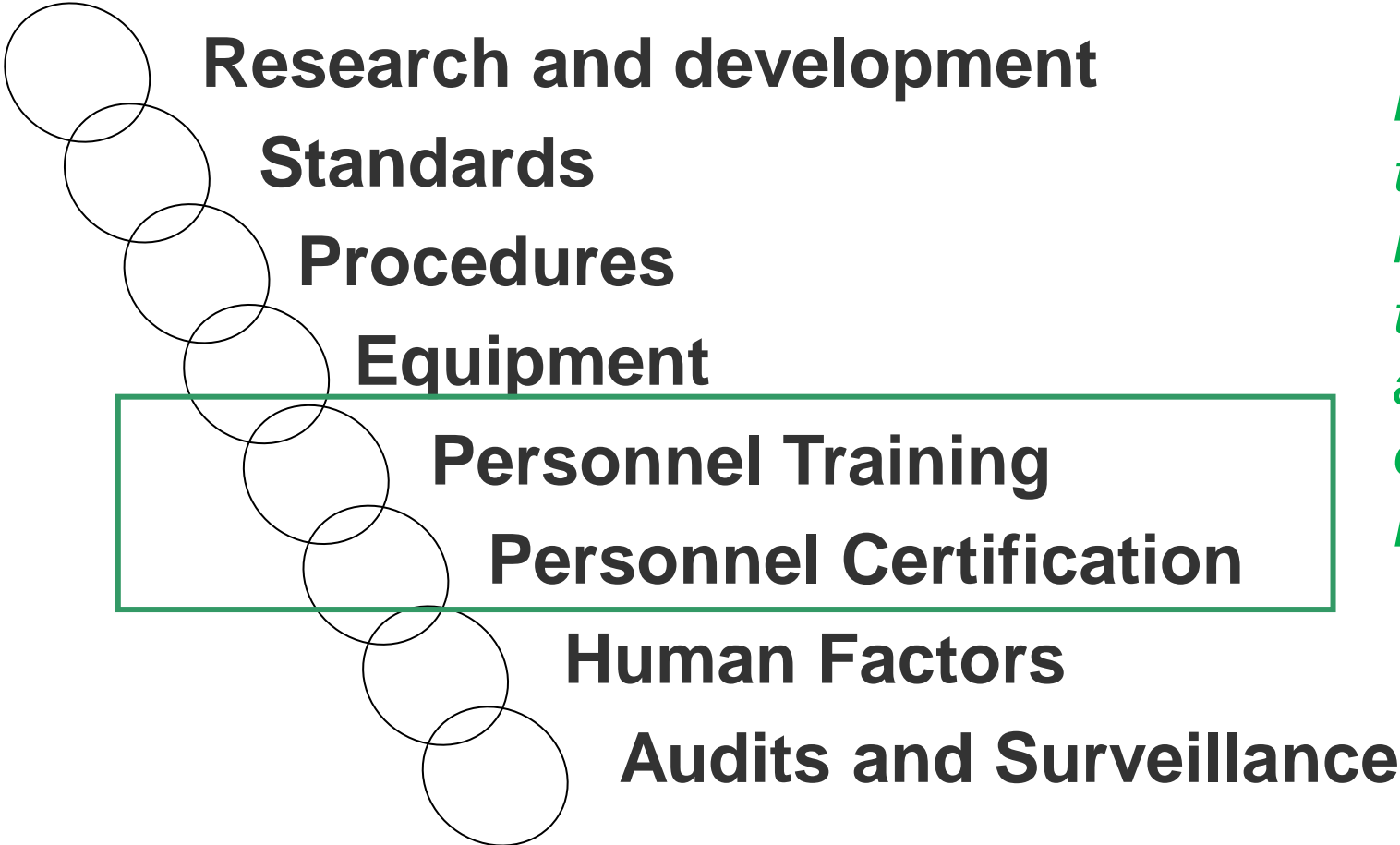
Example of Globalisation in Scotland – the Forth Replacement Crossing



- Replacement bridge, opened 30th August 2017
- Cable-stayed bridge, longest three tower bridge in the world
- Global project
- Steel deck and tower units fabricated in China
- Site construction by East European labour
- *All NDT (China and UK) used PCN certificated personnel*
- *Structural health monitoring system incorporated from new*

ICNDT activities relating to Personnel Certification

NDT quality chain is very dependent on personnel certification



Motivation of technicians is vital to the achievement of quality in NDT

ICNDT activities relating to Personnel Certification –we need

- NDT Certification that we can rely on all around the world
- Certificates gained in one country need to be valid/recognised world-wide
- Correct implementation of both Third Party certification and in-company programmes (SNT-TC - 1A)
- Best practice is a combination of Third Party (ISO9712) and the employer fulfilling his obligations through a company programme in accordance with his written practice (ie Driving licence plus company specifics)
 - ***See the latest version of the ICNDT Guide***
- and Harmonisation and Mutual Recognition of similar Certification schemes

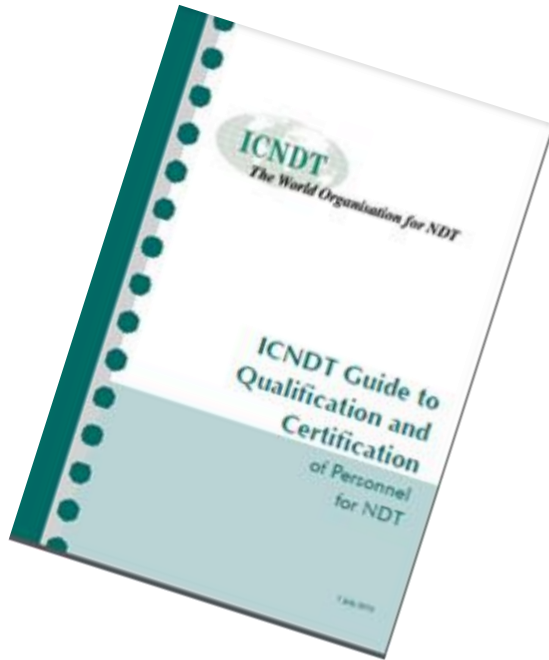
Memories

- Mid 1970's, in UK constant complaints from technicians and industry about industry asking for numerous similar, but separate certifications ... Expensive, time-wasting and de-motivating. ..led to their amalgamation in PCN
- 1989, my first WCNDT conference in Amsterdam, there was huge pressure for harmonisation and mutual recognition of certification in different countries This led to a common syllabus and to EN473 and ISO 9712 standards for personnel certification
- In the early 90's, there was a belief that a common standard would bring harmonisation , and that mutual recognition would follow.
- Some bilateral recognitions developed but nothing like fast enough and not efficient, a Multilateral Agreement was needed

EFNDT Multilateral Recognition Agreement (MRA)

- By the early 90's where most countries in Europe had EN473 - compliant schemes
- In 1994, EFNDT developed a Multilateral Recognition Agreement, with Accreditation to ISO17024 as a pre-requisite and either EN473 or ISO 9721 as the underlying standard
- By 2013, the EFNDT MRA had 29 signatories (Schedule 1) which each agreed to recognise the certification provided by 22 Certification Bodies (Schedule 2)

Some important activities of ICNDT 2008 - 2013



Successfully lobbied at WCNDT Shanghai in 2008 for a new single standard to replace EN473 and the old ISO 9712, leading to ISO 9712:2012

Revised ICNDT Guide to reinforce key messages in the new ISO EN9712 2012

ICNDT Multilateral Recognition Agreement on Personnel Certification*

ICNDT PCB Conformity Assessment* (alternative or supplement to Accreditation)

ICNDT Examination Question Bank for ISO 9712*

*Launched in 2013 at the European Certification Conference in Croatia

ICNDT Multilateral Recognition Agreement (MRA)

- NDT Societies sign and thereby agree “to promote the recognition and acceptance of the certification issued by PCBs registered under the ICNDT MRA”.
- Details are in the ICNDT Operating Procedure OP19, largely based on its EFNDT predecessor and learning from the experience in EFNDT (from 1994)
- Registration depends on a PCB having an external endorsement to ISO 17024. This can be Accreditation by an AB which is a member of EA or IAF or an ICNDT PCB Approval.
- Nine ICNDT member societies from Europe, Asia Pacific and Pan-America had signed Schedule 1 before the launch event in Croatia in 2013
 - Australia, China, Brazil, India, Malaysia, Russia, Ukraine, Korea, Singapore
- There were 10+ more signatories during the conference
 - Austria, Bulgaria, Croatia, France, Germany, Israel, Japan, Serbia, South Africa, Spain, UK

Master Schedule 1: Signatories to the ICNDT MRA

Commitments of Signatories

The organisations listed below have signed the ICNDT Multilateral Agreement on Recognition of NDT Personnel Certification and have thereby agreed to:

- commit to the pursuance of the objectives of the MRA;
- promote the recognition and acceptance of the certification issued by PCBs registered under the MRA (see Schedule 2);
- assist other interested parties by giving a clear overview of the NDT personnel certification activities in its own country;
- provide other parties with non-confidential information on the certification scheme(s) operated by PCB registered under this Agreement, and
- 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.

Liability

1. ICNDT accepts no liability for the use of certification awarded by Registered Personnel Certification Bodies. In accordance with the international standard EN ISO 9712, the responsibility for the quality of NDT rests with the employer of the certificated person.
2. The ICNDT MRA and Personnel Certification Body assessment systems are subject to the jurisdiction of Austrian law.



ICNDT Multilateral Recognition Agreement (MRA) , now 2024

47 National Societies, members of ICNDT

Argentina, [Australia](#), Austria, Belgium, Brazil, Bulgaria, Canada, China, Chinese Taiwan, Colombia, Croatia, Czech Republic, [Denmark](#), Finland, France, Germany, Greece, Hungary, [India](#), Iran, Israel, Italy, Japan, Kazakhstan, Lebanon, [Malaysia](#), Mexico, Morocco, Netherlands, New Zealand, Poland, Portugal, Romania, [Russia](#), Serbia, Singapore, Slovakia, South Africa, [South Korea](#), Spain, [Sri Lanka](#), Switzerland, Turkey, Ukraine, United Kingdom, Uzbekistan.

have signed the MRA and *thereby agreed to recognise the certification awarded by the Personnel Certification Bodies (PCBs) which are registered with ICNDT.* Currently 20.

Argentina Inst for Standards and Certificaion (IRAM)	Australian Institute for Non-destructive Testing (AINDT)	Associação Brasileira de Ensaaios Não Destrutivos Inspeção (ABENDI)	Czech TUV Nord	Chinese Society for Non-Destructive Testing (ChSNDT)
Chinese Taiwan, SNTCT	Finland, Inspecta Sertifointi Oy	Germany, Gesellschaft für Zertifizierung mbH (SECTOR Cert)	India (NCB of ISNDT)	Korea, KSNT (KPCN)
Malaysia, Dept of skills Development, DSD SPKM-NDT	Mexico, (IMENDE)	Poland, UDT Jednostka Certyfikująca Osoby (UDT-CERT)	Portugal, Associação de Laboratórios Acreditados de Portugal (RELACRE)	<i>20 PCBs (8 Asia Pacific, 1 Africa, 3 Pan America, 8 Europe) from 19 countries.</i>
Singapore, NDTSS	South Africa, (SAIW)	Sri Lanka, (CBNDT)	UK, British Institute of NDT – (PCN)	
Ukraine, (UkrSRINDT)				UK TWI Certification

In addition, we have

- Around 10 PCBs in the EFNDT MRA which meet very similar requirements and could transition to the ICNDT MRA
- We have other PCBs with ISO9712 schemes which are supportive of the same approach advocated in the ICNDT Guide and the ISO 9712 standard (eg ASNT , Canada)



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Advantages of MRA to PCBs

- Several newer PCBs found the process of application to join the MRA to be a very valuable learning experience
- There have also been benefits to PCBs from the disciplines involved in MRA renewal and annual updates
- PCBs call on the ICEC Sec for advice/back-up when faced with demands from their accreditors
- Several PCBs have used the ICNDT PCBA route as an alternate or supplement to Accreditation – very valuable
- There are Gaps in Schedule 2 because some European Certification Bodies have remained in the EFNDT Agreement and not yet registered with ICNDT.
- We need to consider as to how ICNDT and EFNDT MRA's might come together and avoid separate regional schemes

Advantages of the MRA to industry, employers and individuals

- Recognition in the MRA provides confidence to potential contract employers that the supplied technicians will be competent.
- MRA Schedule 2 members have the service backup from ICEC - if the certification body is on our schedule then the certificates should be universally accepted.
 - ICEC Sec has numerous examples eg Brazilian wanting to work on UK, Technicians from Europe justifying their certification for work in Canada, Malay and Sri Lankan moving to work on Australia.
 - ICEC also discovered bad practice when a Libyan Oil Co questioned a certificate carrying an ICNDT logo. Misuse of logo as the PCB was not recognised by ICNDT
- The ICNDT MRA provides a basis for the recognition of
 - Certificates gained from another PCB in the MRA
 - Training carried out as part of gaining certification from another PCB in the MRA
 - Experience accepted by another PCB in the MRA
 - Examinations taken at another PCB in the MRA
 - All above are possible at initial Certification, Renewal, or Recertification and when a candidate seeks to move up a Level, and can reduce the time, and cost for an applicant and their employer

Advantages of the MRA in a world of skills shortages

- Many times in the conference we have heard concerns about skills shortages and the fears that these will get worse due to the age profile of the existing work force
- But we have also heard about the pools of talent in some countries
- Already we depend on a mobile NDT workforce and I predict that one of the solutions for skills shortages will be the greater (and faster) mobility of people with certificated skills, making use of the ICNDT MRA

Concluding remarks

- We have systems in place through the ICNDT MRA to achieve harmonisation at a high level of quality
- The MRA provides the basis for recognition of certification
- But the dream of widespread mutual recognition is still unfulfilled
- To avoid unnecessary costs, wasting of time, frustration and demotivation we need Certification Bodies to find more opportunities to recognise training, experience, examinations and certificates gained in the other PCBs in our MRA Schedule 2.
- We need other bodies/codes (examples are ASME, EN4179/ NAS410, ANDE) to recognise ISO 9712 certification.
- Finally , If the MRA did not exist it would need to be invented and it will become more important as skills shortages worsen

- Thank you for your attention
 - Questions welcome

Mike Farley