



*The World Organisation for NDT*

# **Personnel certification – does it ensure NDT reliability?**

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Disclaimer –contains author's personal views as well as information from ICNDT

## Does Personnel Certification ensure NDT Reliability?

Answer:

- **Personnel Certification is necessary but not sufficient**
- **Properly used, Personnel Certification is an important link in the quality chain**
- **Inadequately used, Certification of NDT Personnel can be a very weak and dangerous link**



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# NDT QUALITY CHAIN



## Qualification and Certification of NDT personnel - history

- Categorisation of personnel as Level 1, 2 and 3 has been universally adopted
  - **SNT TC 1A, ISO9712, EN 4179/ NAS410**
- ICNDT's original Training Guidelines WH35 first approved in Las Vegas in 1985 have been widely adopted as the Training Syllabi for Levels 1, 2 and 3:
  - **These define the syllabi for the NDT Methods for which certification is offered**
  - CP105 specified in SNT TC 1A
  - ISO TR 25107 developed by ISO/CEN is referenced in ISO9712
- A unified global third party standard **ISO 9712** was agreed in 2012, replacing EN473 and ISO 9712 2008. **ISO 9712** is now being reviewed.
- **ISO 17024** is widely used as the standard against which Personnel Certification Bodies are accredited
- For aerospace **EN4179/ NAS 410** certification uses company certification supervised by an independent Responsible Level 3 and recognised training/examination organisations.



## Qualification and Certification of NDT personnel

- Market place is split between
  - Central /Third party certification compliant with ISO 9712 and
  - Central /Third party certification *not* fully compliant with ISO 9712 and
  - Company/Employer based certification in accordance with SNT-TC-1A or CP189 using ASNT Level 3s
  - In aerospace, EN4179/NAS410
- Trend is in the direction of Third Party but some company certification is excellent
- There are around 200000 ISO 9712 certificate holders world-wide

## Qualification and Certification of NDT personnel – third party/central

### ■ Central /Third party certification *compliant* with ISO 9712 2012

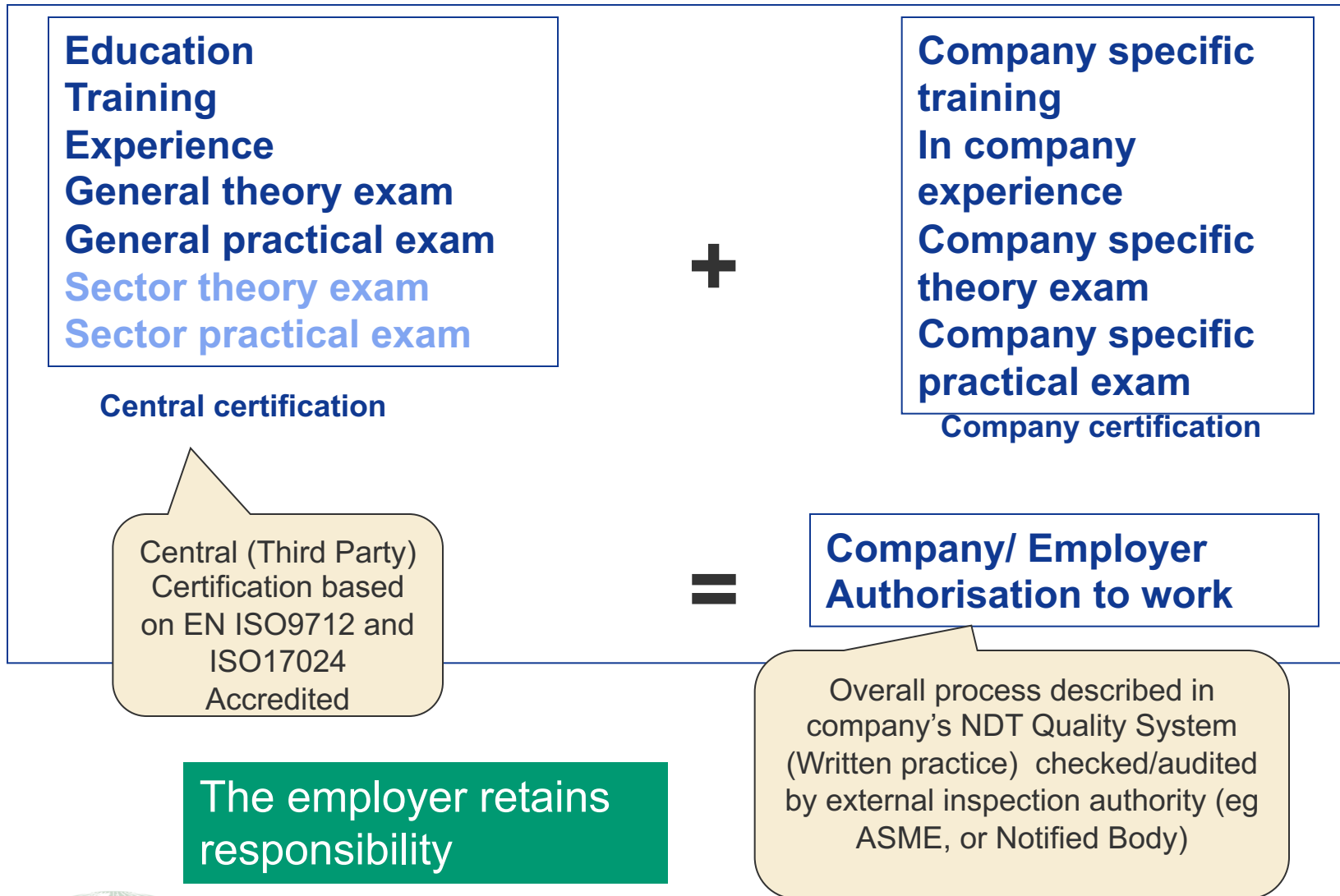
- There are numerous *national* certifying bodies (30+) offering third party certification to ISO9712 (including ABENDI in Brazil, SAIW in Africa, PCN in UK, DGZfP in Germany, COFREND in France)
- Most of these schemes offer certification for specific product or industry sectors and all require both theory and practical exams

### ■ Other Central /Third party certification (*not fully compliant* with ISO 9712)/central

- Examples are
  - ASNT - Level 3, and more recently Level 2 (theory examinations)
  - ACCP – complies with ISO9712 2008 dramatically *modified* but ASNT BOD has decided future version will comply with ISO9712 2012
  - ANDE - ASME scheme for nuclear ISI based on highly specific practical examinations
  - API - Qualification of Ultrasonic Testing Examiners based on a hands-on, performance demonstration test

### ■ Some third- party certification is widely specified around the world eg ASNT Level 3, PCN Levels 2 and 3.

# Personnel Certification – back to basics



## Does Personnel Certification ensure NDT Reliability?

Personnel Certification is necessary but not sufficient

- Properly used, Personnel Certification is an important link in the quality chain
  - Needs to be part of an overall process described in company's NDT Quality System (Written Practice) checked/audited by an external inspection authority (eg ASME or Notified Body) or customer
  - Could be a process accredited to ISO17020 or ISO17025
  - Employer's role in assessing relevance of certification and experience to task to be executed is vital
- Inadequately used, Certification of NDT Personnel can be a very weak and dangerous link



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## Harmonisation in practice

### - Publication of comparison of implementation of ISO 9712 by ten PCBs

10 PCBs in 10 countries: Austria, Australia, Brazil, Canada, Germany, Russia, Spain, South Africa, UK, Ukraine took part in survey conducted by WG1 with the aim to define clause by clause how ISO 9712:2012 was implemented in these countries.

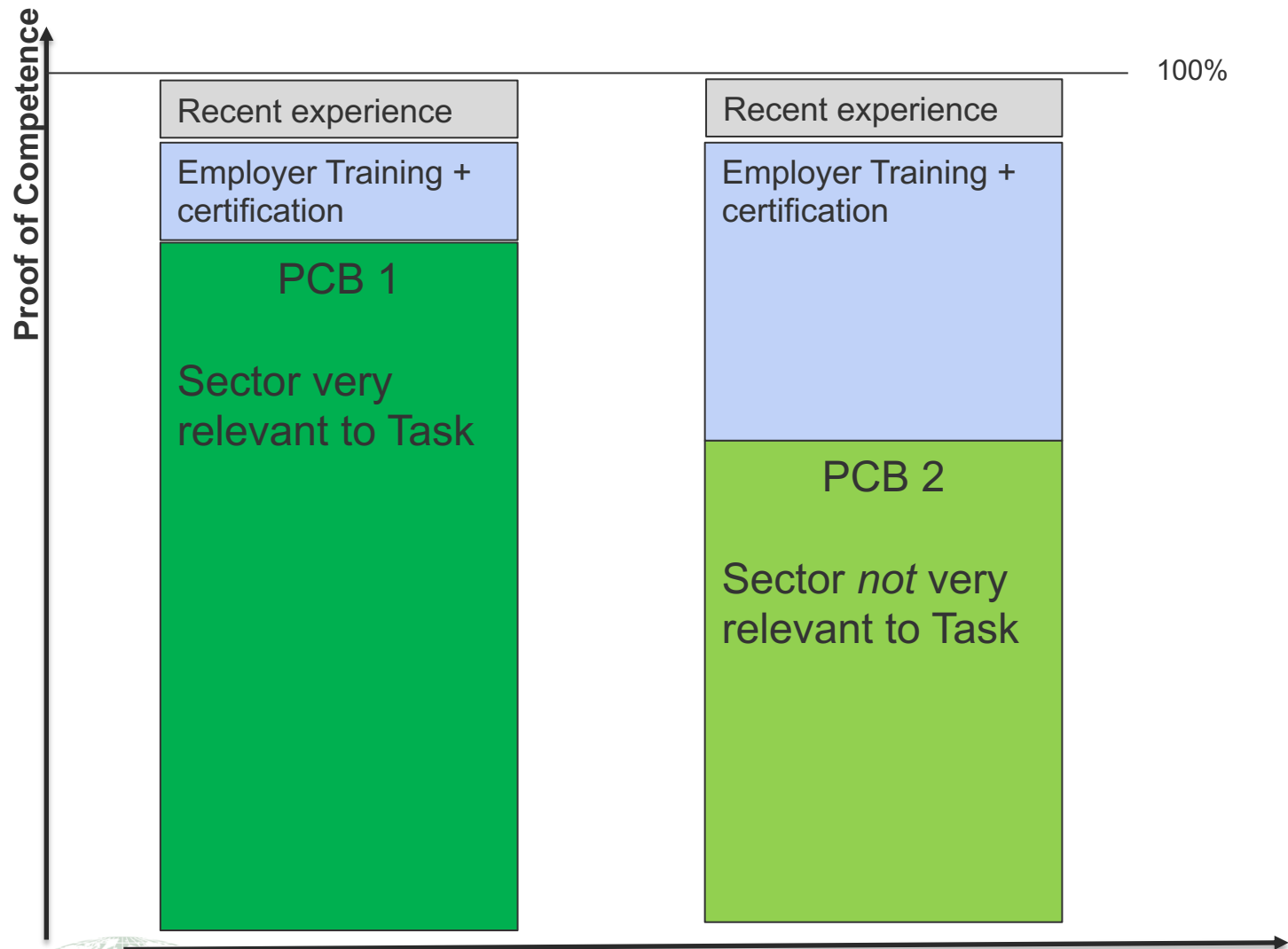
EN ISO 9712:2012	UK	Austria	Russia	Brasil	Germany	South Africa	Spain	Ukraine	Australia	Canada
3.9 examiner person certified to Level 3 in the method and product or industrial sector for which he is authorized by the certification body to conduct, supervise and grade the qualification examination	As per standard	we separete within the method between railway industry, standard application and aerospace				As per standard, included are exam panels reviewing & approving questions with papers authorised by Qualification Body (Part of C/B)			As per standard	
3.10 general examination written examination, at Level 1 or 2, concerned with the principles of an NDT method	As per standard								As per standard	
3.11 industrial experience experience, acceptable to the certification body, gained under qualified supervision, in the application of the NDT method in the sector concerned, needed to acquire the skill and knowledge to fulfil the provisions of qualification	As per standard					No Experience required prior to Qual Exam, as per C/B			As per standard	
	Meet requirements by allowing the candidates to sit the exam with no experience; but experience must be completed before certificate is awarded									

There are major differences between schemes that are compliant:

Sectors

Extent of practical examinations

## Differences should be compensated by the employer



## Does Personnel Certification ensure NDT Reliability?

- Properly used, Personnel Certification is an important link in the quality chain
- Improperly used, Certification of NDT Personnel can be a very weak and dangerous link
  - Procedures not tested
  - Employer fails to take his responsibilities properly
  - Task not within scope of Certification
  - Working conditions make task impossible
  - Fraud in Third Party and company certification
    - examples of fraud by a certification body, by individual NDT technicians and by customers have been uncovered by BINDT

## Some personal views for discussion

- Drop time-based requirements on training, rely on description of syllabus?
- Allow computer based e-learning
- Drop time-based requirements on experience, rely on much shorter, more precise requirements
- Reduce time between practical exams to 5 years
- Strengthen recommendations for “recent experience”, and trade tests to be considered by employer
- Accept that L3s need L2 certification to “practice”
- Develop an ISO version of SNT-TC-1A which properly recognises the place which Third party Certification can play
- More attention to prevention of fraud and international sanctions against those who commit

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**Thank you!**

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