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CREATIF

Network of Testing Facilities for
CBRNE detection equipment



SEIBERSDORF
LABORATORIES



 **BAM**
Bundesanstalt für
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COTECNA



TNO innovation
for life

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Testing of RN detection equipment



- Main Results
- Round Robin
- Conclusions



Standards for Testing RN detectors



- IEC and ANSI standards are available for testing most kinds of detectors
- Adoption of standards by CEN/CENELEC possible (desirable) within a few years
- Not reinvent the wheel!
- Cooperation between IAEA, US, Europe implemented by ITRAP+10 project

Testing Facilities for RN detection



- 12 testing centers (8 countries) identified in EU
- some more metrological institutes (for verification of detectors) and military centers not yet covered
- Only few can use Special Nuclear Material (mandatory for testing acc. IEC TC42 standards)

Round Robin – RN detector testing why?



- **Improvement of test laboratories' performance**
identification of deficits, exchange of knowledge and best practise
- **Improvements of standards**
by regular application: improve maintenance and applicability of standards
- **Improvement of instrument performance**
stimulation of information exchange between end-users, manufacturers and test laboratories would allow more efficient performance testing leading to an improvement of instrument performance
- **Strengthening of trust to detection technology**
Accreditation and participation in intercomparison exercises will improve testing quality, testing results are reliable, this increases the trust in the tested detection technology and pushes its application

Round Robin – RN detector testing how?



- differentiate between the quality of testing and the quality of the instrument tested
- → intercomparison to find capabilities of participating testing centers = test the tester!
- existing accreditation systems require external evaluation of laboratory performance → intercomparison exercises need to be developed!
- First step: produce/make available testing results for common instruments based on published standards - interesting for stakeholders to know instrument performance

Round Robin – RN detector testing CREATIF results



- Find sponsor (e.g. EC, National Authorities)
- Agree on boundary conditions - M 0-4
(visitors, publication of results, funding scheme, time schedule)
- Invite testing laboratories and manufacturers - M 4-7
- Select, prepare, characterize reference instruments - M 4-10
- Select, adapt, transform test procedures - M 4-10
- Conduct testing of instruments - M 12-15
- Analyze, interpret, discuss test results - M 12-18
- **→ all steps described in detail in D.2.3.4**

Future for Testing - CBRNE



- Provide framework for regular testing of instruments (funding; e.g. ITRAP+10)
- Laboratory tests AND field testing (operational testing) desirable
- Provide platform to exchange knowledge and best practise for testing experts
- Support end-users by making available testing results