

Building NDT personnel certification systems

Rachad ALAMI



CNESTEN



COMEND

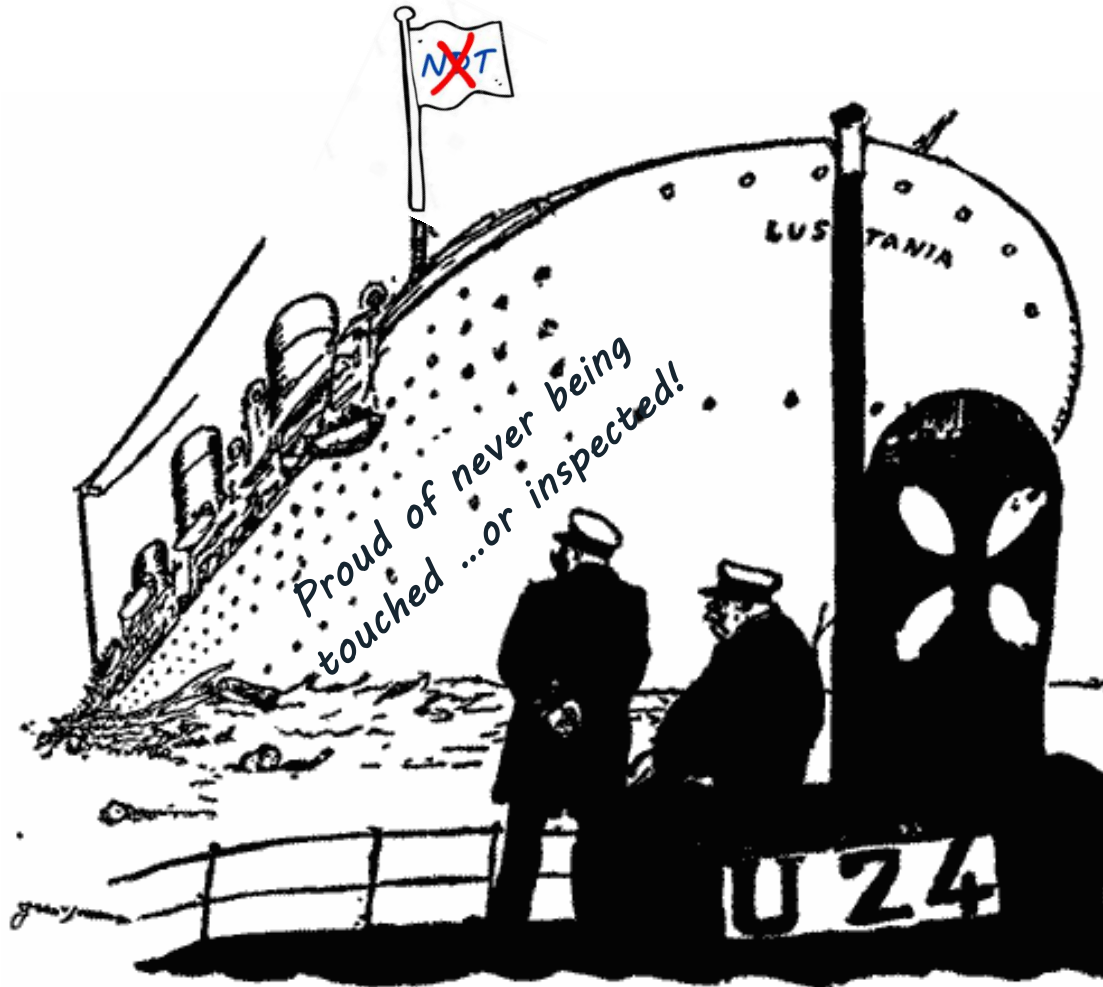
International Atomic Energy Agency Scientific Forum

ATOMS IN INDUSTRY

Radiation Technology for Development

15–16 September 2015, Vienna, Austria

Building NDT personnel certification systems



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Building NDT personnel certification systems

- 1967: International Committee for NDT (ICNDT) by 16 industrial countries.



- Since then :



France



Spain



Italy



Morocco

- Training & Certification are carried out according to national & international standards : ISO 9712, EN 473 standards....



Building NDT personnel certification systems



COMEND (Moroccan Confederation for Non Destructive Testing)



CNESTEN: Maamora Nuclear Research Centre is hosting the COMEND Exam Centre

Technology (Industrial applications)
&
COMEND Exam Centre



- Reactor
- Radioactive waste management
- Health & Life Sciences
- Natural resources
- Environment, Radiological safety & Security

25 Hectares, > 25.000 m² laboratories



Training & certification examination can be provided in French, English or Arabic



80 – 100 domestic and foreign NDT inspectors are trained and certified by the CNESTEN each year



Direct impact: Number of private NDT companies : from 2 in 1999 to > 60 in 2014 !



NDT in Moroccan industry



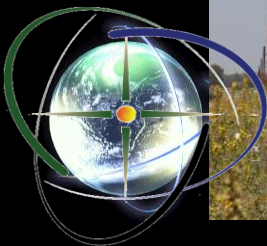
Railways



Aeronautics

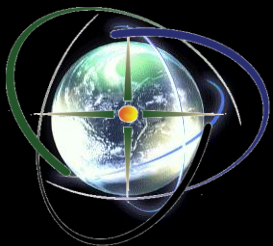
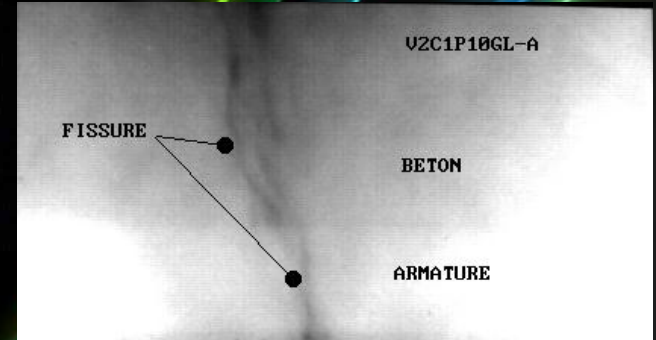


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NDT in Moroccan industry



Civil works

NDT in Moroccan industry



Paper industry



**Sugar companies
(> 15 plants)**

Petrochemical industry



Cement industry



Phosphate industry



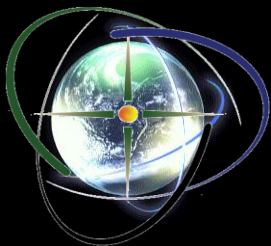
Chemical industry



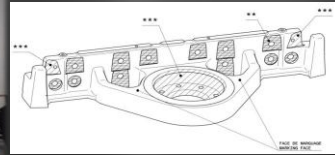
Mines



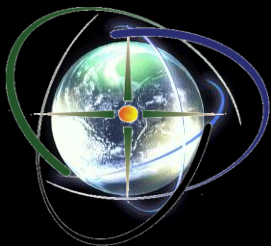
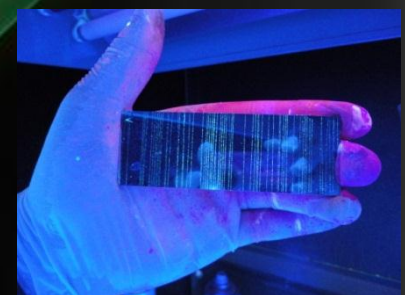
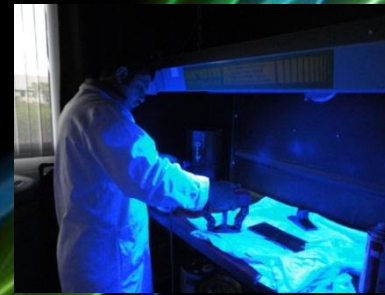
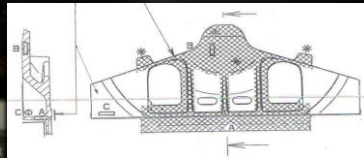
Steel industry



NDT in Moroccan industry



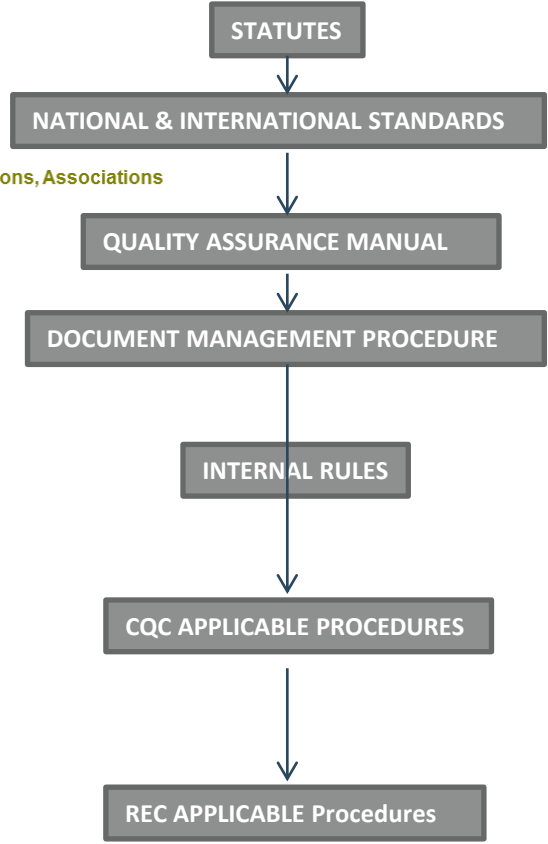
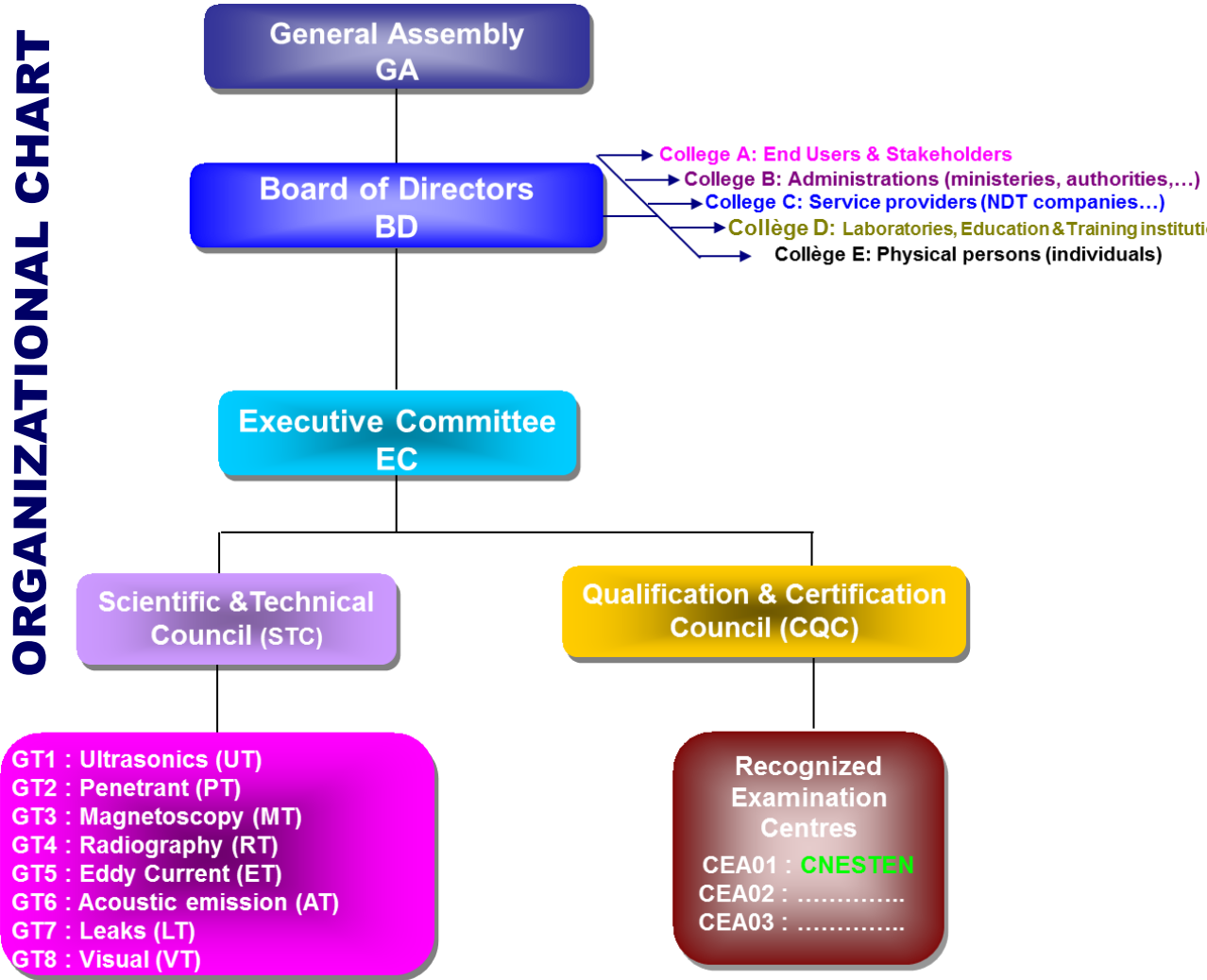
Various tests in laboratories



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ORGANIZATIONAL CHART



Quality Management System

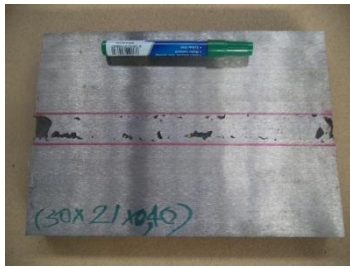
- 1996: start building the system
- 2000: 1st audit by COFREND auditors
- 2001: 1st exam session RT 1

- 2002-2006: Implementation of other methods and levels

Remarque:
1st Generation of level3 Comend designated among level3 COFREND



Building NDT personnel certification systems: Morocco - Other African countries (IAEA supported) cooperation



Designing &
Manufacturing
Exam Samples
locally

Addis Ababa, July 2015

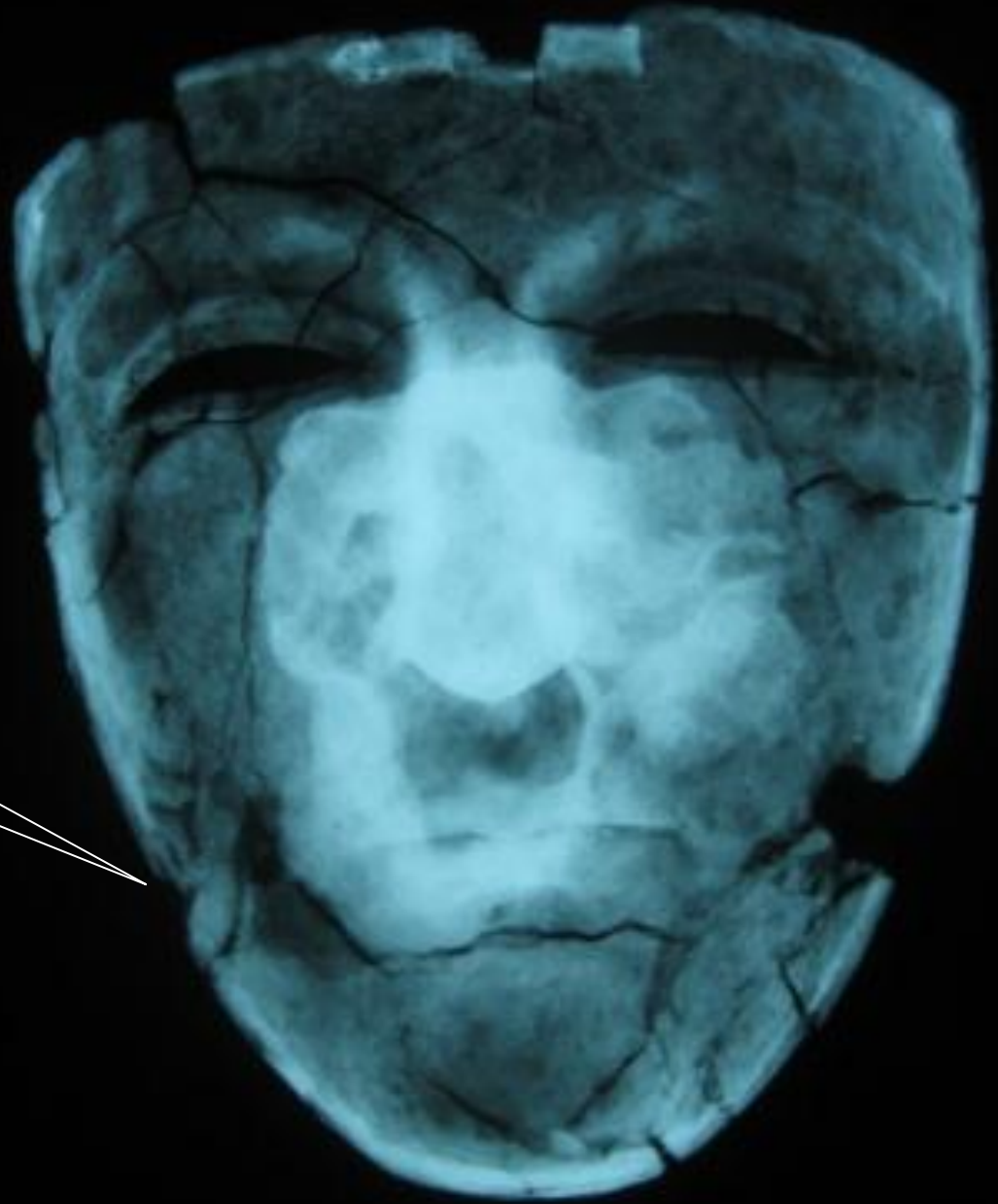
MIDI: Metal Industry Development Institute



CNESTEN

When NDT is performed by certified personnel, sometimes it becomes...art!

Why are you
looking at me ?



Ministry of Culture-CNESTEN

NDT in the service of Moroccan
cultural heritage preservation



*Gallic helmet in bronze - Volubilis
Roman period (60-80 a. c.)*

Archeological Museum in Rabat



Thank you!

