ELSE NUCLEAR: SOLUTIONS FOR THE CHARACTERISATION OF RADIOACTIVE WASTE

NEA Workshop
Giacomo Manessi, INFN Legnaro, 4th May 2017
The company

✅ Born in 1990
✅ Manufacturer of radiation detectors, not distributor
✅ 25 people
✅ Specialised in product customisation
✅ HQ in Busto Arsizio (VA), close to Malpensa airport
✅ Present with distributors and resellers in 20 countries
ELSE NUCLEAR instrumentation is currently installed and in operation, among the others, in the following research centers:

- Istituto Nazionale di Fisica Nucleare (INFN), different sites, Italy
- Extreme Light Infrastructure (ELI-NP), Magurele, Romania
- China Spallation Neutron Source (CSNS), Beijing, China
- Bhabha Institute, different sites, India
- Centro Nacional de Pesquisa em Energia e Materiais (CNPEM), Campinas, Brazil
- Paul Scherrer Institute, Villigen, Switzerland
Mobile stations

- Completely customisable item
- Conceived for 100% reliable use also in rough environments
- Probes connected to the ELSE NUCLEAR patented rate meters
- Modular electronics, easy to replace in case of failure
- Equipped with interlock level relays and test boards
- Available with SIL-III (Safety Integrity Level 3)

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Scanning system

- Completely customisable item
- Fast characterisation (PVT scintillators)
- Waste bags, tools, laundry, small objects
- 4 opening doors
- Pivoting and lockable wheels

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Scanning system

- Completely customisable item
- Fast characterisation (PVT scintillators)
- Bags filled up to 150 kg
- Removable detectors (remote use)
- WiFi data transmission

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Scanning system

- Completely customisable item
- Spectrometric characterisation (NaI)
- Containers up to 2 m³
- Monte Carlo characterisation
- MDA down to 0.04 Bq/g (900 s)
Scanning system

- Completely customisable item
- HPGe detectors (up to 4)
- Containers filled up to 3’000 kg
- Monte Carlo characterisation
- MDA down to 0.004 Bq/g (2500 s)
Software

- Proprietary software
- Centralised control of both ELSE NUCLEAR and non-ELSE NUCLEAR devices (area and air monitors, waste scanning systems, etc...)
- 10-year memory available with instantaneous and average dose rate / activity values
- Customisable reports can be generated on user’s request
THANK YOU FOR YOUR ATTENTION

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