ENTRANCE

Efficient risk-based inspection of freight crossing borders without disrupting business

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Context, objectives & activities

Alessandro Iovene, CAEN SpA – 15/11/2022

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 883424

ENTRANCE's "raison d'être"

- Development and validation of a **comprehensive user-based toolbox for risk-based non-intrusive inspection** (NII) of cross-border **freight movements**, with particular focus on the EU borders
- Enhancement of **border security practitioners' capabilities** to protect society against a **wide range** of dangerous and illicit materials with **minimum disruption of cross-border flow of goods**

OBJECTIVES

1. Delivery of a **user-based ENTRANCE Toolbox** with well-understood benefits and costs
2. Enhanced existing **risk-assessment solutions**
3. Improved detection of **contraband hidden in high-density cargo**
4. Enhanced **detection of a larger number of threat materials** with lower disturbance of the flow of goods
5. Establishment of a **trans-European Radiation Portal Monitors (RPM) network** for passive detection of illicit nuclear and radioactive materials
6. Validation of the ENTRANCE Toolbox at the EU Customs Union border **through practitioner-led field trials**
7. Optimisation of project dissemination & exploitation activities **to ensure future uptake of project results**

Building on previous H2020 research

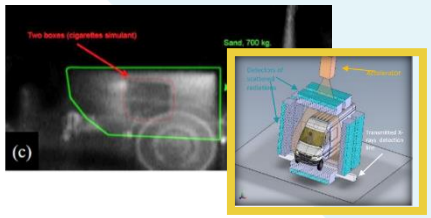
Background

ENTRANCE will further develop and integrate C-BORD NII technologies :

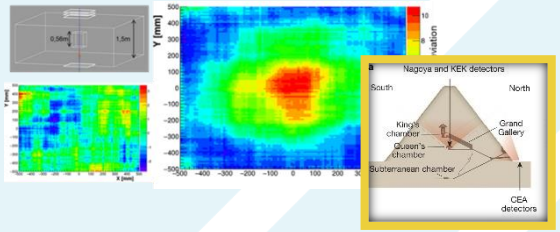
Technologies

Science

Scattered Radiation Imaging



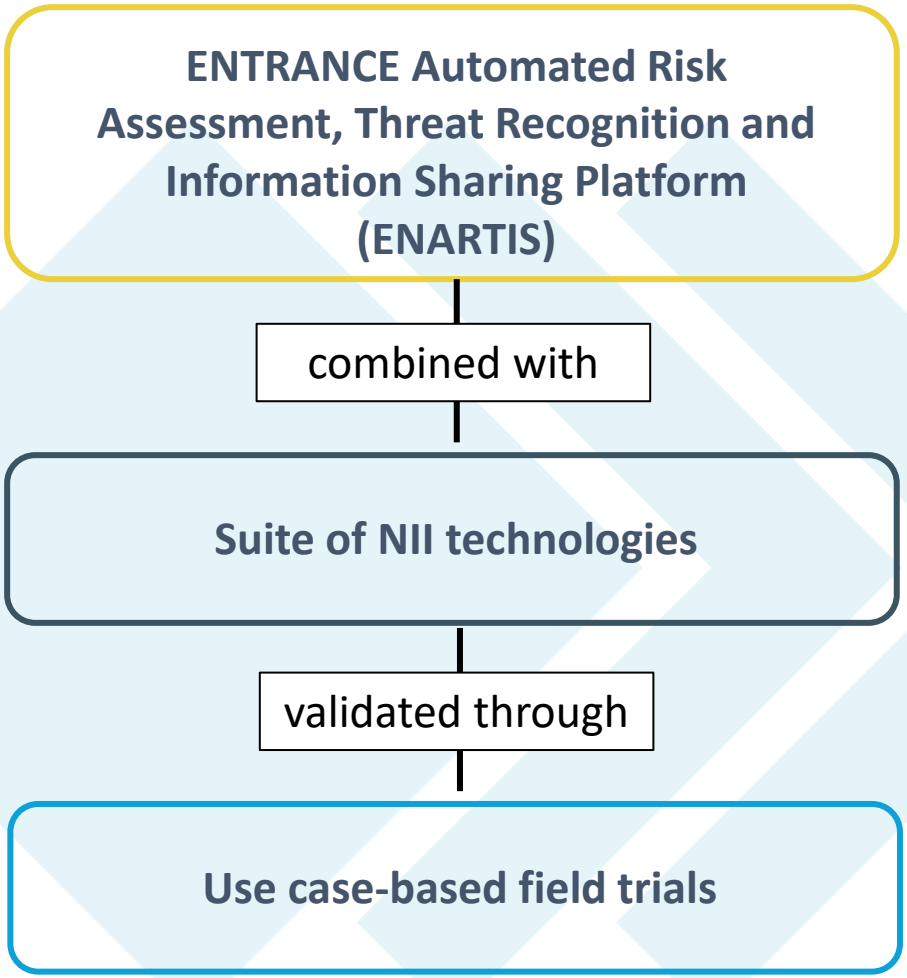
Muon diffraction image



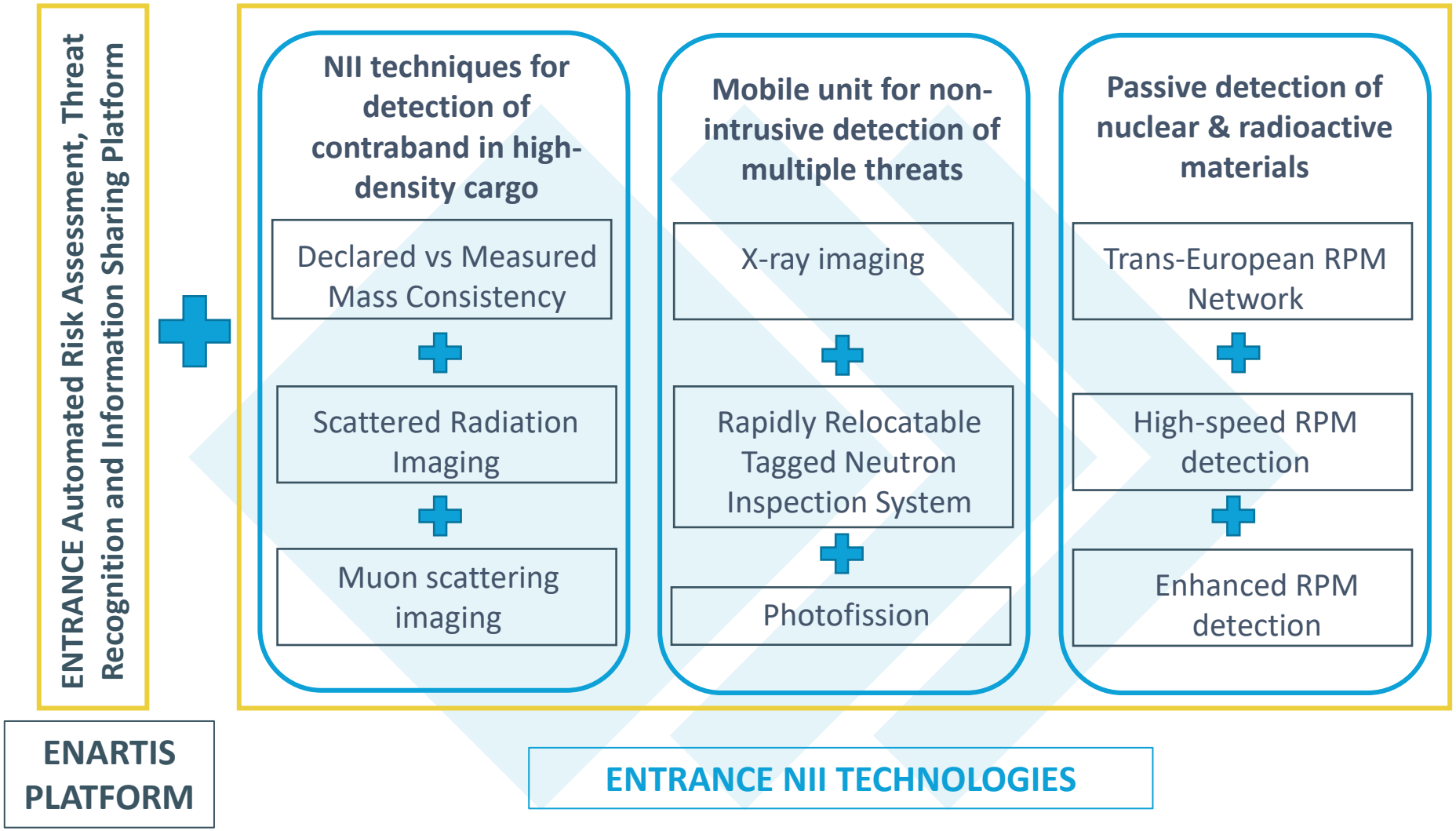
Mission

- *Enhance Threat Recognition and Information **Sharing Platform** (ENARTIS)*
- *Establish a **trans-European RPM network** for nuclear and radioactive (NR)*
- *Validate the ENTRANCE Toolbox at the **EU Customs Union** border with **practitioner-led** 3 field trials*

ENTRANCE Toolbox's overall concept



ENTRANCE Toolbox's components



Practitioner-based specifications, design & assessment

- Functional requirements for the ENTRANCE Toolbox based on:
  - findings about practitioners' needs and requirements
  - contextual analysis of the field trial settings
- Analysis of the needs, priorities and constraints faced by ENTRANCE practitioners through expert workshops
- Identification of current technologies' limitations and systems with ways to address them by ENTRANCE

ENTRANCE Field trials

- ENTRANCE Toolbox validated through a series of field trials at a number of Border Control Points (BCPs) on the Customs Union border
- Definition of 3 use cases (UC) tackling major challenges faced by the EU customs
- Performance of at least one field trial for each UC:
  - UC1: detection of contraband hidden in high-density cargo
  - UC2: mobile system for detection of broad range of dangerous materials (road and sea BCPs)
  - UC3: validation of the ENTRANCE Trans-European RPM network (road and sea BCPs)

Factsheet

- EU Horizon 2020 Research & Innovation action: **SU-BES02 – 2020 Technologies to enhance border and external security**
- Grant Number: **883 424**
- Start Date and duration: **36 months from 1 October 2020**
- Project Coordinator: **Guillaume Sannié (CEA, France)**
- Consortium: **17 partners from 8 countries**

Thank you for your attention!

To contact us: entrance-coord@eurtd.com