



Effective **C**ontainer Inspection at  
**BORD**er Control Points

## User Perspectives and C-BORD Framework

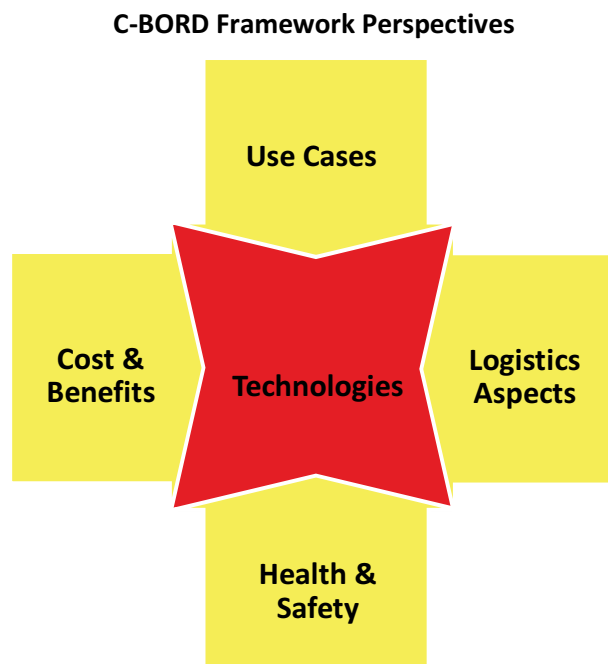
Efficient NII (non-intrusive inspection) of containerized freight is critical to trade and society since freight containers are potential means for smuggling, drug trafficking, and transport of dangerous / illicit substances. NII technologies used today cannot cope with all targets under all circumstances with equivalent efficiency. Against this background the overall aim of C-BORD is to increase detection of illicit or dangerous material in containerized freight and deliver new capabilities against critical operational requirements and constraints which include:

- Increased throughput of containers per time unit
- Reduced need for costly, time-consuming and dangerous manual container inspections
- Lower false negative and false positive alarm ratios

In order to reach its ambitious goals C-BORD develops five technology pillars to enable next generation container NII at EU sea and land borders: The C-BORD project brings them to a live field trial in three use cases under real conditions at different border control points.

The C-BORD Framework provides a systemic response to key questions - functional, practical, logistical, safety and financial - that are related to the deployment of innovative NII technologies at EU borders in the future.

It will guide the practical usage of solutions developed by C-BORD in specific sea-border and land-border settings after project completion and support the decision of how to combine technologies for different needs. For this purpose the Framework will in particular focus on five interlinked Framework Perspectives.



## C-BORD Technologies

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- C-BORD works on five complementary innovative NII technologies: Advanced Radiation Management, Tagged Neutron Inspection, Photofission, Sniffer and Next Generation Cargo X-Ray
- **The C-BORD Framework** will document the achievements of the project beyond state of the art of current reference technologies by addressing e.g. detection levels and false alarm rates

## C-BORD Use Cases

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- C-BORD brings innovative NII technologies to application in an actual port and hinterland environment
- **The C-BORD Framework** will collect information and lessons learned from these use cases
- Hereby it serves as a knowledge repository to formalize the findings from the trials and their preparation

## C-BORD Logistics Aspects

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- In future, container inspection at border crossings will increasingly be an integral and fully automated part of the logistical flow of goods, in particular in high-throughput seaports
- This creates entirely new challenges for the technologies involved but also for required logistics processes
- **The C-BORD Framework** will develop logistical concepts to integrate the five innovative C-BORD technologies into port and hinterland processes and point out solutions to automate and optimize the container inspection chain

## C-BORD Health & Safety

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- Meeting health and safety regulations is an indispensable prerequisite for a future deployment of innovative NII technologies at EU borders
- **The C-BORD Framework** will describe barriers related to health and safety regulations for a full scale implementation identified during the project and indicate ways to overcome them
- In this context the licensing procedure for the deployment of technologies in the use case trials serves as a best case approach to take into consideration all safety and in particular health risks

## C-BORD Cost & Benefits

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- More efficient and high-performance NII technologies have potential for significant benefits, e.g. due to better detection performance, but will also require substantial investment and involve high life cycle costs
- **The C-BORD Framework** will provide a cost & benefit analysis to support informed decisions about deploying innovative NII in future
- This analysis of cost & benefits will serve as an effective decision support for policy and decision makers when deciding on the optimal mix of NII technologies for their particular needs

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