

# European Union Customs approach towards the use of modern technologies



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# My topics for today

- 1. Changing role of Customs.**
- 2. EU Customs in one minute.**
- 3. EU customs approach towards the use of modern technologies.**
- 4. Optimal use of detection technology**
- 4. Research and Innovation.**
- 5. Challenges in supply chain security.**

# The Role of Customs

**Traditionally Collection of  
Duties and Taxes**

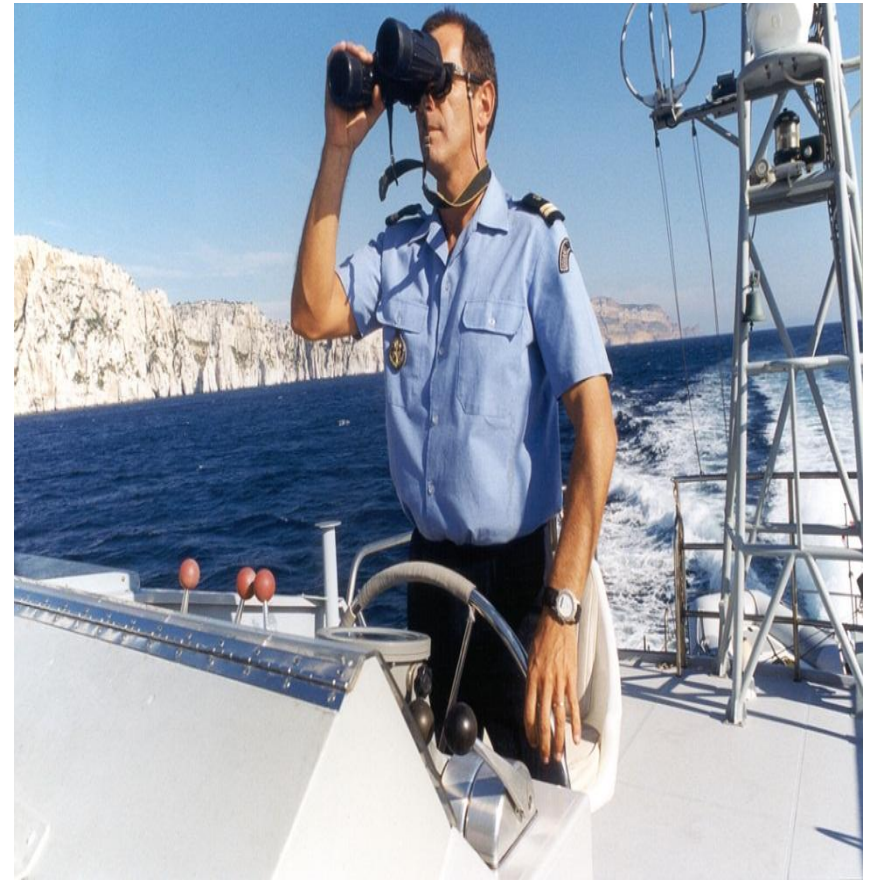
*Broadened to:*

**Controls for safety and security**

**Security of Supply chain**

**Trade facilitation**

**Use of modern technologies**



## **Use of modern Technology - EU Policy and Approach**

Technology and equipment are cornerstones to enable modern customs administrations to tackle the challenges of the rapidly changing 21<sup>st</sup> century operational environment.

Customs administrations are encouraged to take advantage of emerging technologies to enhance security in the supply chain.

NII and radiation detection equipment is necessary to inspect high-risk containers quickly without disrupting the flow of legitimate trade.

Customs community should monitor R&D of technologies and innovations and monitor the benefits customs can extract from its usage.

# The International Dimension

Standard 3 of WCO SAFE states that NII equipment and radiation detection should be available and used for conducting inspections.

WCO strategic vision on customs for the 21<sup>ST</sup> Century encourage administrations to fully exploit the potential of emerging technologies.

## **EU - US joint statement of Supply Chain security calls to:**

Extend and intensify cooperation on technology (incl. R&D, sharing best practices, opportunities for common certification practices and contributing to setting of international standards)

Collaborative testing of new emerging technologies toward the goal of identifying those that meet internationally agreed standards

Border Monitoring Working group (DOE/SLD, DHS, DNDO, TAXUD, JRC , IAEA)  
→ main focus on Radiation and Nuclear Detection

## Customs Detection Technology Expert Group

Consists of Customs detection technology experts from 11 MS and Turkey.

(Austria, Denmark, France, Hungary, Ireland, Italy, Lithuania, the Netherlands, Slovakia, Spain, the United Kingdom and Turkey)

Chaired by DG TAXUD,  
Risk Management and Security Unit.



# Customs Detection Technology Expert Group

## *MAIN OBJECTIVES*

Platform for sharing information between customs technology experts

Issue Threats and Technology solutions document that will look into the currently available technologies that can be used for custom controls.

Explore the possibilities to create a common training tool for screeners to improve image interpretation

Encourage the participation in **relevant research projects for the purpose of advancing the state** of the art detection technology applications.

## **Document No. TAXUD/B2/058/2012**

### **Threats and technology solutions**

The purpose of the document:

- to provide for each mode of transport an overview of types of threats, together with the corresponding available technology solutions,
- to demonstrate the enormous range of technological possibilities that exist between threats and their detection by relevant technologies



# Report on threats and technology solutions

Concerning technology

**How to use technology**

**Safety procedures**

**Relevant training**

Human element

**Motivation**

**Radiation safety**

**Radiation monitoring**

# Report on threats and technology solutions

- ***Technology solutions***
  - Existing international standards
  - Technology definitions
  - Emerging technologies
  - Optimal use of detection technology
  - Financial categories
  - Additional costs
  
- ***Table with the combination of threats, threats situations and available technology – with the indication of suitability***



Type	Modality	Threat	X-ray transmission: high energy	X-ray transmission, low energy	X-ray backscatter	X-ray diffraction	Gamma ray transmission	Infrared spectroscopy	RAMAN spectroscopy	X-ray fluorescence	Colorimetric tests	IMS trace detection	Canine trace detection	SIFT-MS trace detection	Radiation detection and monitoring	Spectrometric radionuclide identification	Terahertz passive	Millimetre wave passive	Millimetre wave active	Optic (fiber) Camera	Ultra sonic detection	Gamma backscatter	IR Camera	UV/Vis Camera	Metal detection	
Road	Baggage	Beverages		x	x	x	x		x												x	x				
Road		Cigarettes		x	x		x						x									x	x			
Road		CITES		x	x		x						x									x	x			
Road		Currency		x	x		x						x									x	x			x
Road		Drugs, precursors		x	x	x	x	x	x			x	x	x								x	x			
Road		Evasion of tax and duties		x	x			x			x											x	x			
Road		IPR																								
Road		RN						x								x	x									
Road		Weapons, explosives		x	x	x	x				x	x	x	x								x	x			x
Road	Freight	Beverages	x	x	x		x		x																	
Road		Cigarettes	x	x	x		x						x								x					
Road		CITES	x	x	x		x						x								x					
Road		Currency	x	x	x		x						x									x				
Road		Drugs, precursors	x	x	x		x	x	x			x	x	x								x				
Road		Evasion of tax and duties	x	x	x		x				x											x				
Road		IPR																								
Road		Oil	x	x			x																			
Road		RN	x	x			x									x	x							x		
Road	Weapons, explosives	x	x	x		x				x		x	x													
Road	Waste	x								x					x	x									x	
Road	Passengers	Beverages															x	x	x							
Road		Cigarettes											x				x	x	x						x	
Road		CITES											x				x	x	x							
Road		Currency											x				x	x	x						x	
Road		Drugs, precursors										x	x	x			x	x	x						x	
Road		Evasion of tax and duties															x	x	x							
Road		IPR																								
Road		Oil																								
Road		RN														x	x									
Road	Weapons, explosives									x	x	x	x				x	x	x						x	
Road	Vehicles	Beverages	x																							
Road		Cigarettes	x	x	x								x										x			
Road		CITES	x	x	x																					
Road		Currency	x	x	x																					
Road		Drugs, precursors	x	x	x							x	x	x										x		
Road		Evasion of tax and duties	x	x	x																					
Road		IPR																								
Road		Oil																								
Road		RN	x													x	x									
Road	Weapons, explosives	x	x	x								x	x													

# Customs Detection Technology expert Group

## WORK IN PROGRESS :

**Drafting of "*Where we want to be with detection technology*" paper.**

**Launched discussions to provide guidance to MS for an optimum detection architecture taking into account volumes of trade, modes(s) of transport and main threats.**

**Exploring the possibilities to use the Programme and Information Collaboration Space (PICS) platform to create EU scanning image library and platform to share best practices, seizures, trends and technical specifications or requirements of detection equipment.**

**Prepare training programme for customs officers on Radiation and Nuclear detection in collaboration with the Joint Research centre (JRC).**

**Provide customs end user requirements for future Security Research agenda under the Horizon 2020 programme.**

## Radiation Detection Portals in Mega-ports

EU Customs operate radiation detection portals in main ports, airports and land border crossing points under the Mega-ports initiative

Main objective is to check as much as containers possible regardless of their destination

Established to prevent from importation of radioactive material by terrorists

Very useful during to detect contaminated containers from Japan during Fukushima crisis

Detection of various contaminated items (often Co-60)

## **Optimal use of detection technology**

Identify the most suitable and available technology taken into account new emerging applications

Establish appropriate technical requirements in the procurement process

Providing adequate infrastructure for scanning, inspection etc. activities

Establish rigorous testing and evaluation protocols

Selecting and training of suitable operators, including refresher trainings

Ensure optimal selection of targets through use of existing systems including risk analysis, profiling and intelligence

**Detection technology becomes only an effective tool when combined with a capable human operator**

# Some EU funded security research projects relevant to customs (FP 7 / HORIZON 2020)

CASSANDRA

CONTAIN

MODES

Research on "automated" comparison of x-ray images for cargo scanning with reference material

Large scale Demonstrator on logistics and supply chain security, expected to start in January 2014

# FP 7 Project ACXIS

New project to develop Automated Comparison of X-ray Images for Cargo Scanning.

## Expected deliverables:

Manufacturer independent software for automated image analysis

Database of reference X-ray images of real historic detections, illegal cargo mock ups and legitimate cargo

Standardisation tool for cargo scanner images to facilitate the exchange of images

Training simulator for customs.



# Challenges in supply chain security 1/2

Improvement in the exchange of intelligence and information at all levels (national, EU , EU services and other agencies)

International co-operation including harmonisation, standardization and interoperability of data and security systems

Use of new emerging technologies and high efficiency tools to support Customs controls

Detection capability and performance standards

Improve detection capability of shielded nuclear material

## Challenges in supply chain security 2/2

Improve detection capability of containerized biological or chemical agents

Identify training needs for X-Ray operators and officers using Radiation and Nuclear detection equipment

Procurement and financing of equipment

What will be new risks and threats requiring to secure supply chains in 2020?

How to protect the EU and its citizens against these new threats?



**Thank you for your attention!**

**Questions?**

**DG TAXUD**

**Unit B.2 Risk Management and Security**

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