



Douane
Belastingdienst



WCO T&I Forum Tokyo

**October 31st –
November 02nd
2017**

**THE EVOLUTION OF NON-
INTRUSIVE-INSPECTION-
PROCUREMENT**

13-11-2017



CONTENT

- **ECONOMICAL INFLUENCES**
- **BASIC REQUIREMENTS**
- **R&D NEW TECHNICAL DEVELOPMENTS**
- **SUPPORTING TECHNOLOGICAL DEVELOPMENTS**
- **COOPERATION INTERNALLY AND EXTERNALLY**



ECONOMICAL INFLUENCES:

- **COMPETITION BETWEEN PORTS**

Antwerp, Felixstowe, Gdansk

- **LEVEL PLAYING FIELD FOR CONTAINER TERMINALS INVOLVED**

Dutch Customs provided every container terminal which handles more than 1.5 million TEU's per year with their own X-Ray scanner.

- **CUSTOMS INSPECTION INTO THE LOGISTIC FLOW OF GOODS**

- **PREVENT UNNECESSARY UNPACKING**



BASIC REQUIREMENTS

- **TAILORMADE PURCHASE OF X-RAY SYSTEMS**

Considerations:

Single-view, dual-view, single-energy, dual-energy, automated scanner

- **QUALITY REQUIREMENTS**

High quality x-ray images are the basis for all technologies to be connected

- Penetration
- Contrast
- Spatial resolution
- Wire detection

- **CUSTOMS OFFICERS COMPETENCES**

Officers must be able to cope with all innovations



R&D NEW TECHNOLOGICAL DEVELOPMENTS

EXTERNAL DEVELOPMENTS (H2020 EU RESEARCH PROJECT)

- Sniffer technologies
- Neutron detection
- Photo fission
- Passive neutron/gamma detection

INTERNAL DEVELOPMENTS/NEEDS

- CT-scan algorithm development for cocaine, xtc
- Stimulating suppliers to develop non-existing new devices (Fruit pallet scanner)



SUPPORTING TECHNOLOGICAL DEVELOPMENTS (1)

UNIFIED FILE FORMAT

- Dutch Customs version
- WCO version

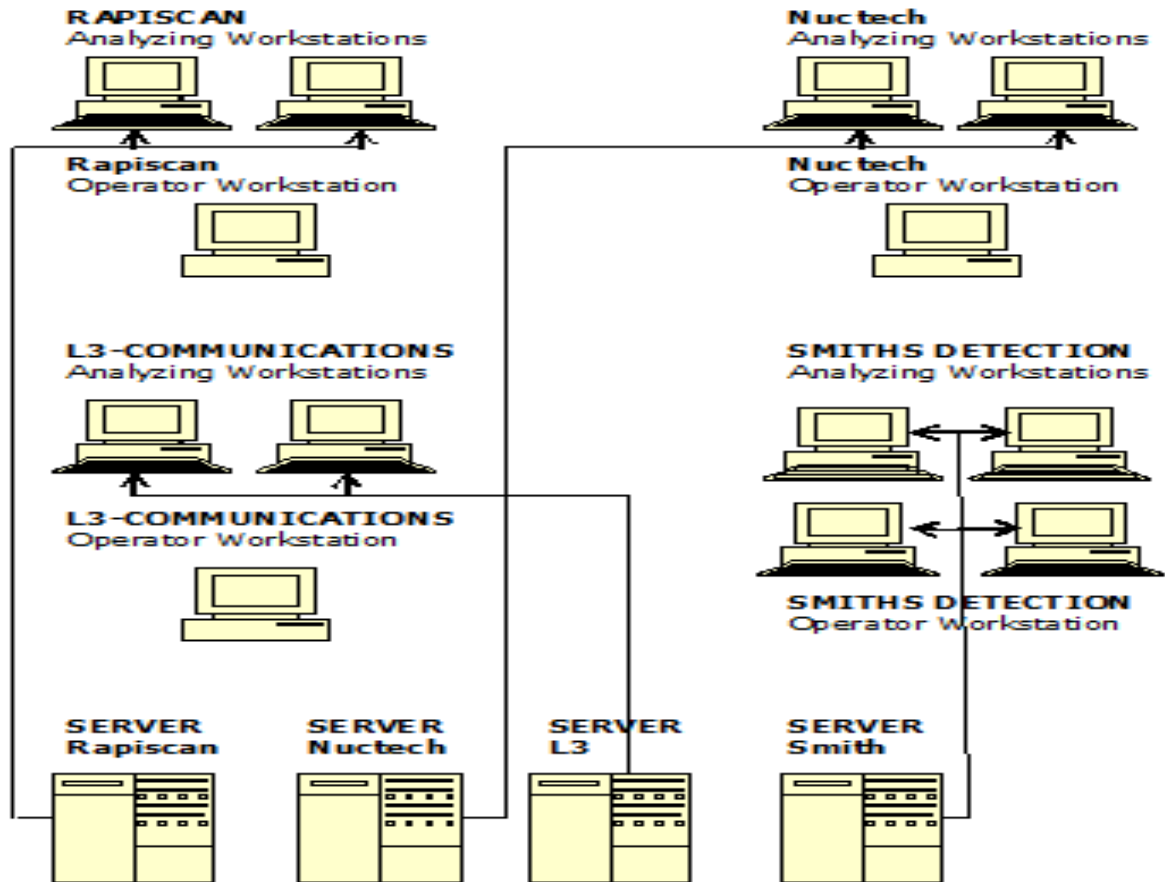


UNIFIED FILE FORMAT DUTCH CUSTOMS





OLD SITUATION





NEW SITUATION

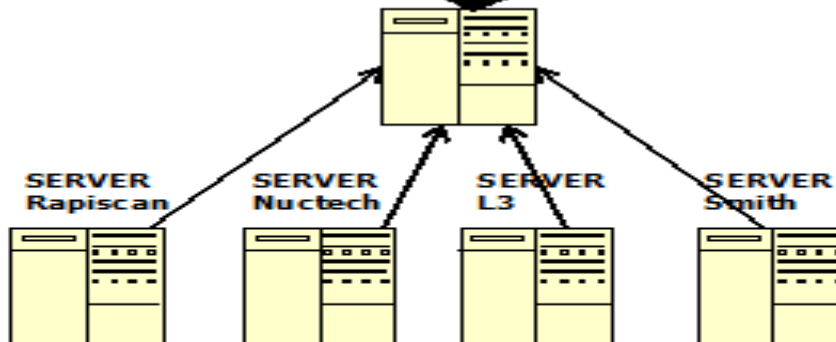
INTEGRATED OPERATOR WORKSTATION



GENERAL ANALYZING WORKSTATIONS (UNIFORM X-RAY FORMAT)



CENTRAL SERVER (CREATING UNIFORM FORMAT)





UNIFIED FILE FORMAT WCO

GOAL: DEVELOPING A WORLD WIDE STANDARD FOR X-RAY IMAGES

- To allow interoperability of different NII equipment from different manufacturers;
- To allow exchange of images within and between Customs administrations;
- To allow the development of a database or library of images – a more long term goal;
- To assist in training of the image analysts



SUPPORTING TECHNOLOGICAL DEVELOPMENTS (2)

AUTOMATED THREAT RECOGNITION

- Supplier and scanner specific (starting point)
- Supplier and scanner independent (end goal)



AUTOMATED THREAT RECOGNITION

SUPPLIER AND SCANNER SPECIFIC

- Each supplier is developing ATR's configured for their own scanner
- ATR's are working based on the geometry of the scanner
- ATR's are send together with the x-ray image to a central server

SUPPLIER AND SCANNER INDEPENDENT

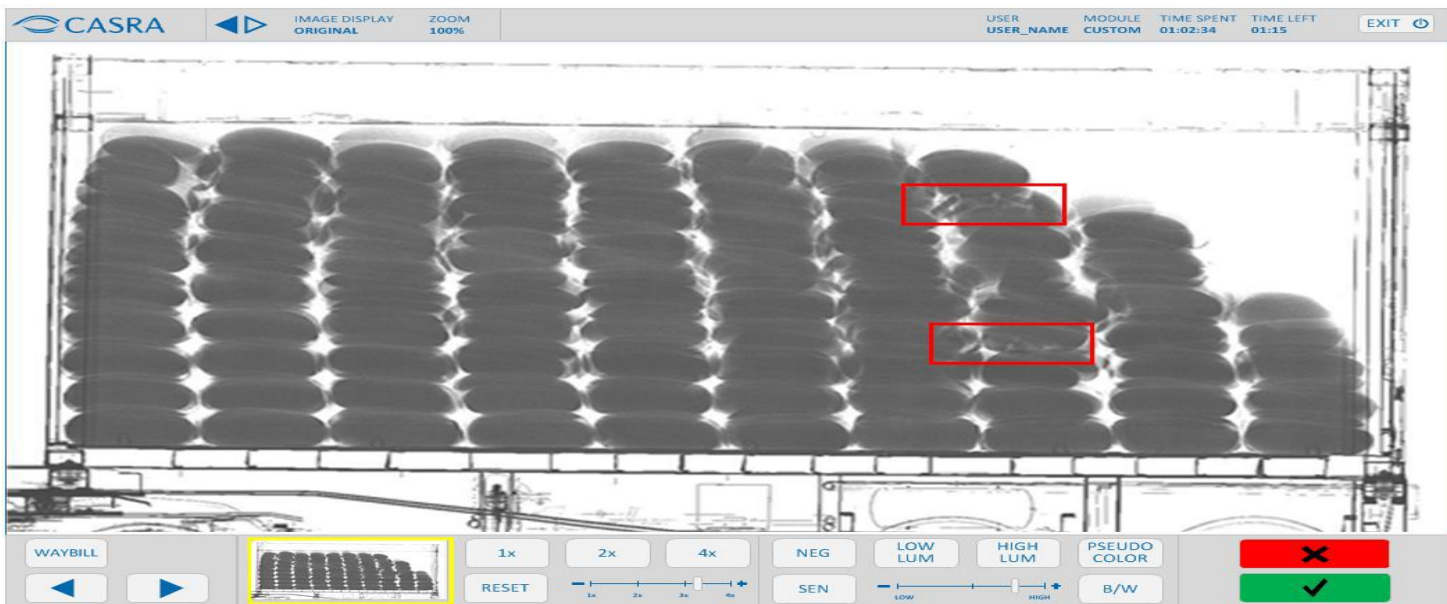
- ATR's are installed in central server
- Central server will select an ATR's depending on the type of cargo to be analysed
- Central server will select additional technologies



SUPPORTING TECHNOLOGICAL DEVELOPMENTS (3)

HIGH ENERGY SYSTEM TRAINING

- One year pilot with use of training simulator to create own library of training images.
- Inserting threats into training images





COOPERATION INTERNALLY AND EXTERNALLY

COOPERATION INTERNALLY:

- Within Dutch Customs cooperation between employees responsible for purchase and scientifically skilled employees from Dutch Customs Laboratory.
- Pragmatic – Scientific

COOPERATION EXTERNALLY:

- Customs Laboratories European Network
- Customs Detection technology Project Group
- H2020 projects



Thank you for your attention

Questions?

