The Changing Role of Customs

Customs Processes

aligning with

Supply Chain and Information Management

Frank Heijmann, Customs Administration of The Netherlands*

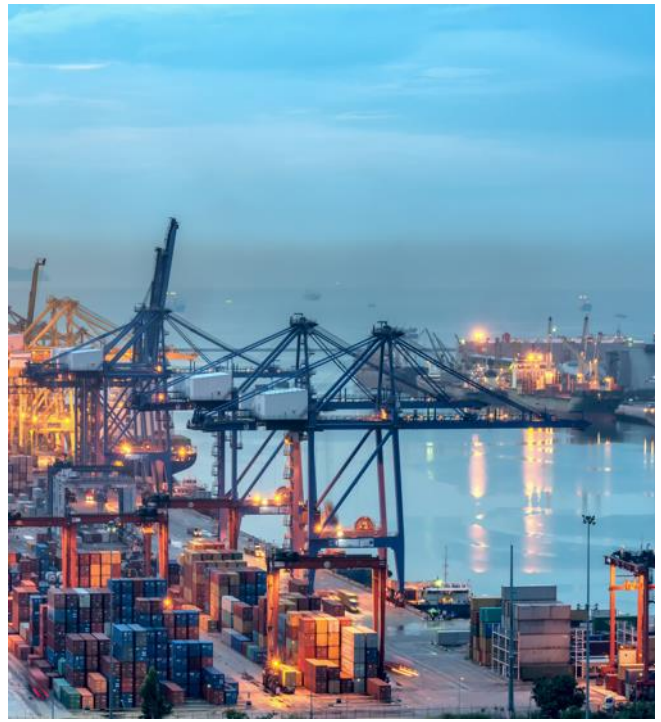
Yao-Hua Tan, Delft University of Technology

Boriana Rukanova, Delft University of Technology

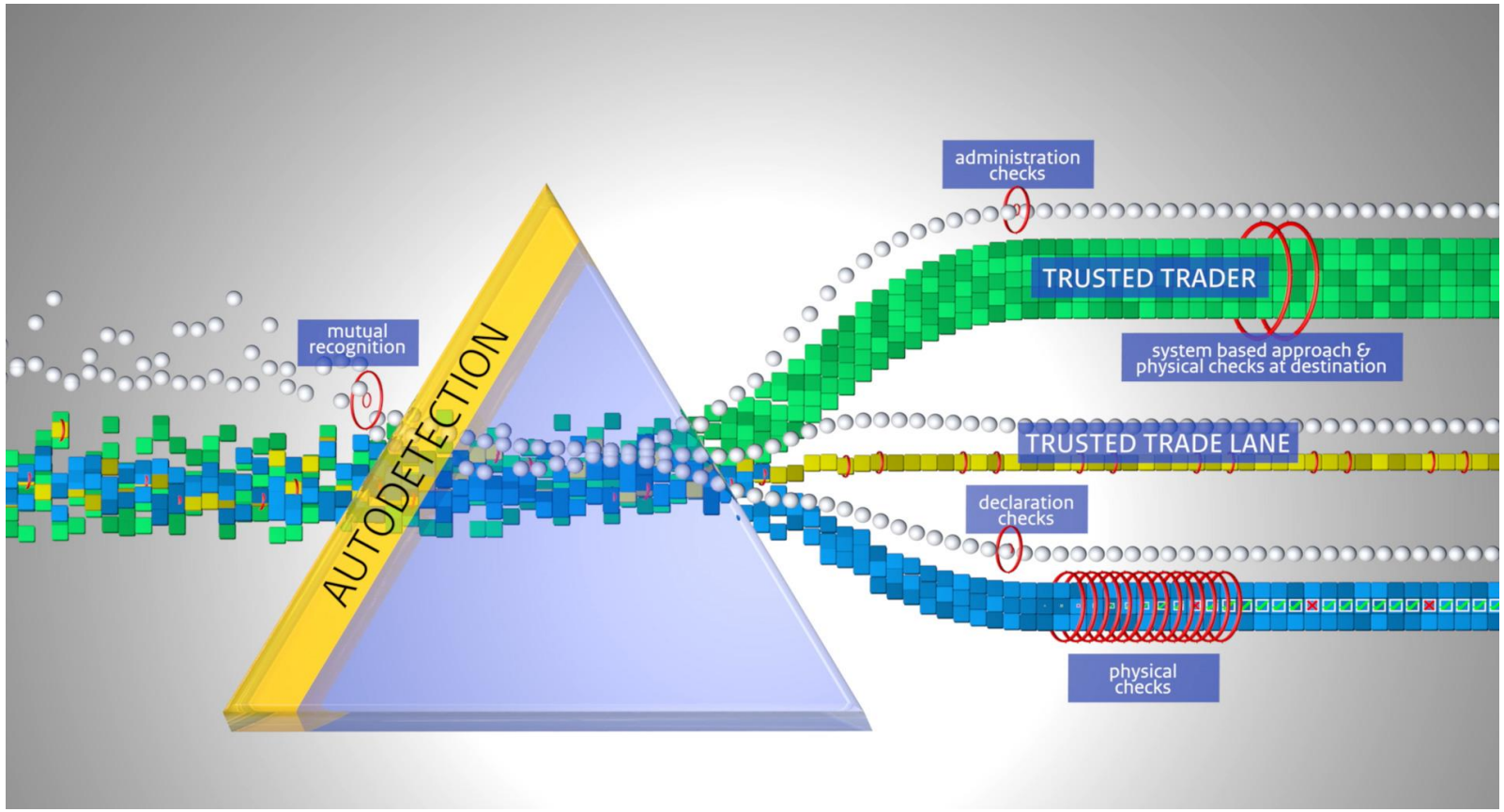
Albert Veenstra, Rotterdam School of Management

PROFILE

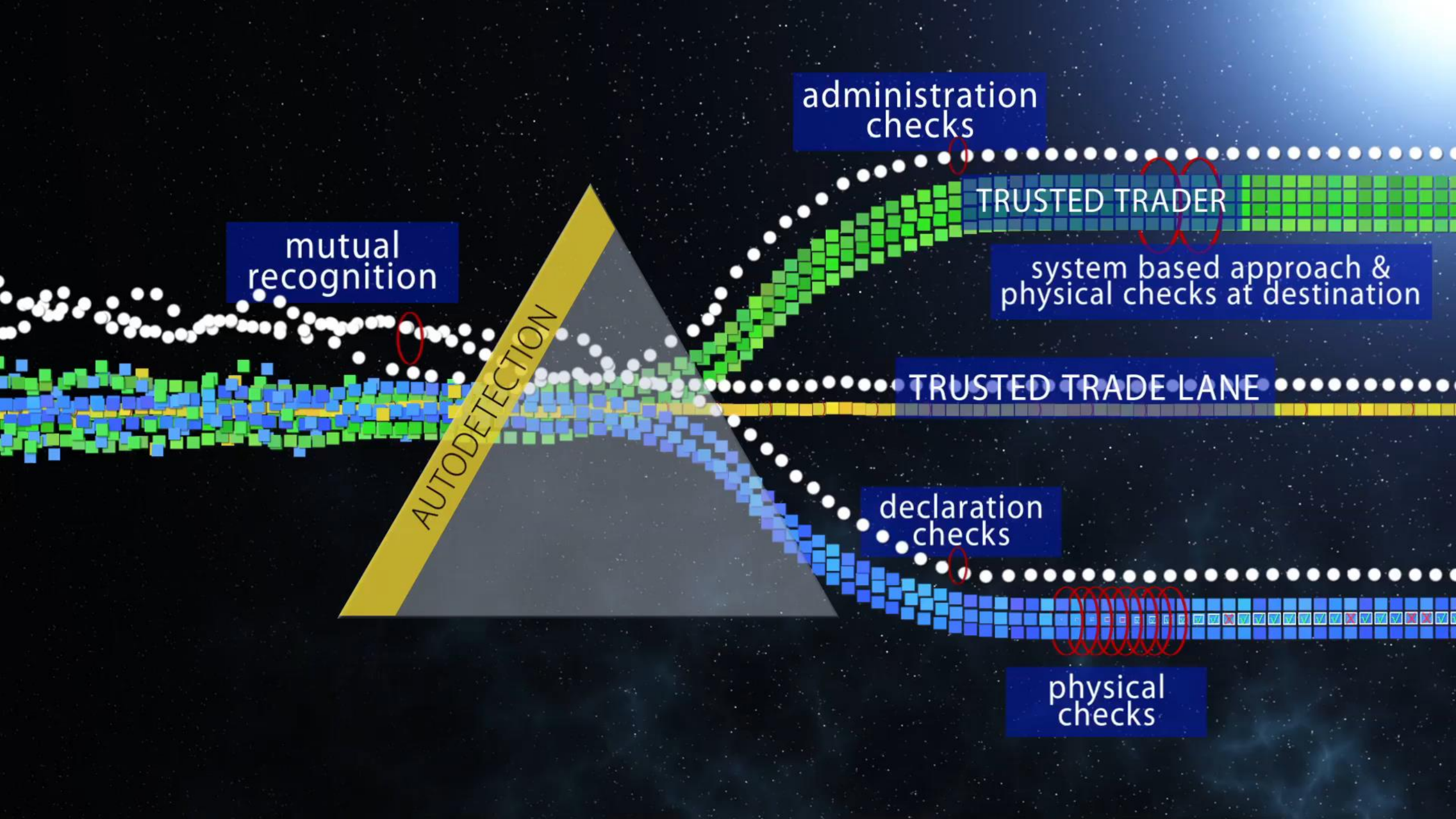
A project funded by the European Union's Horizon 2020 research and innovation programme under the Grant Agreement No 786748.



Pushing Boundaries Vision



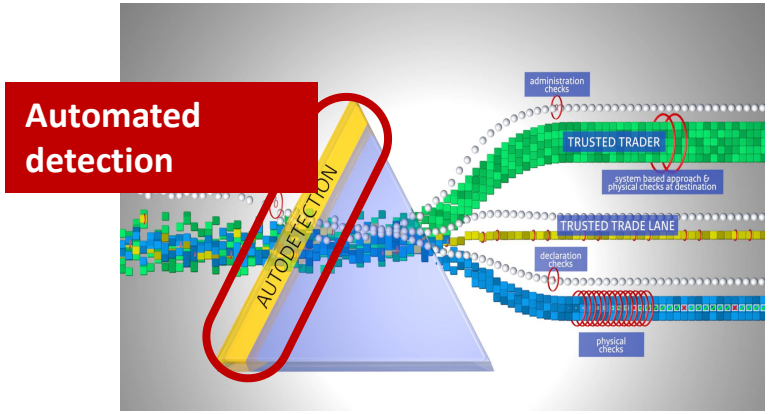
Source: Customs Netherlands (2020). Pushing boundaries: Future vision for customs supervision: principles, developments and results. White paper, Customs Administration of the Netherlands.
See also: https://youtu.be/iiNKkIBO99k


administration checks
TRUSTED TRADER
system based approach & physical checks at destination
mutual recognition
AUTODETECTION
TRUSTED TRADE LANE
declaration checks
physical checks

Automated Detection

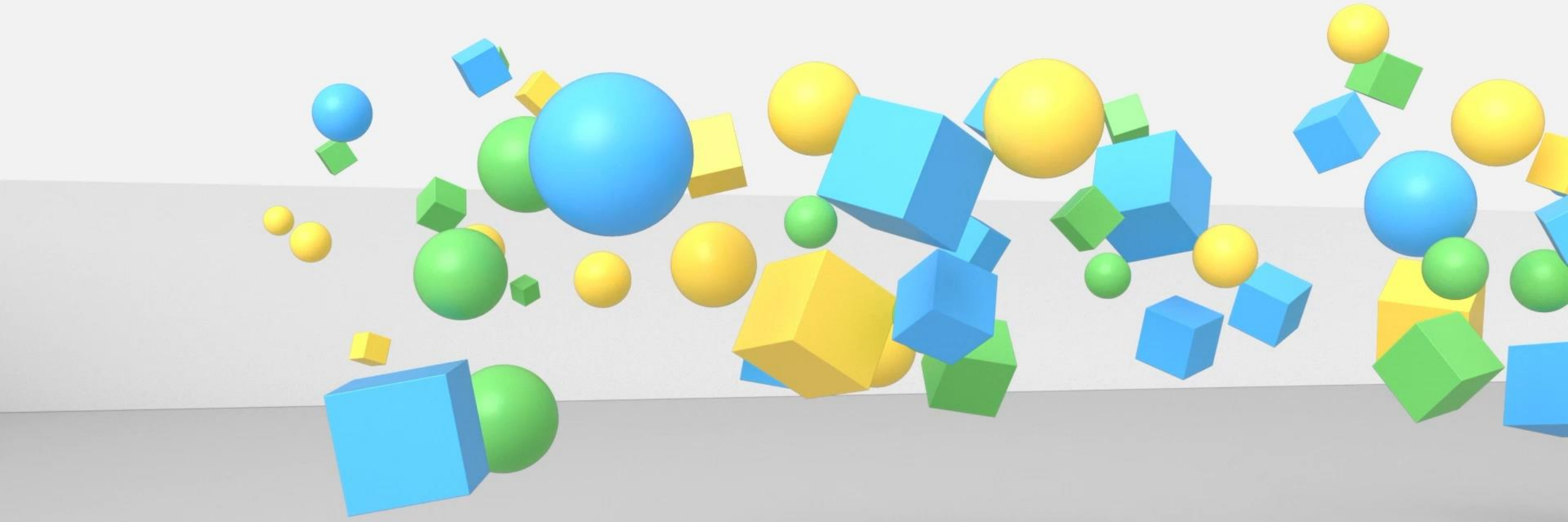
Automated detection

- Aviation and maritime '**virtual networks**': radar images
- **Nuclear detection gates**
- **Non-intrusive scanning equipment** and algorithms
  - **Artificial intelligence** systems that assess scanned images and signal irregularities
  - Predictive models for goods scans
- **Infrastructure**
  to store, collect and process sensor data



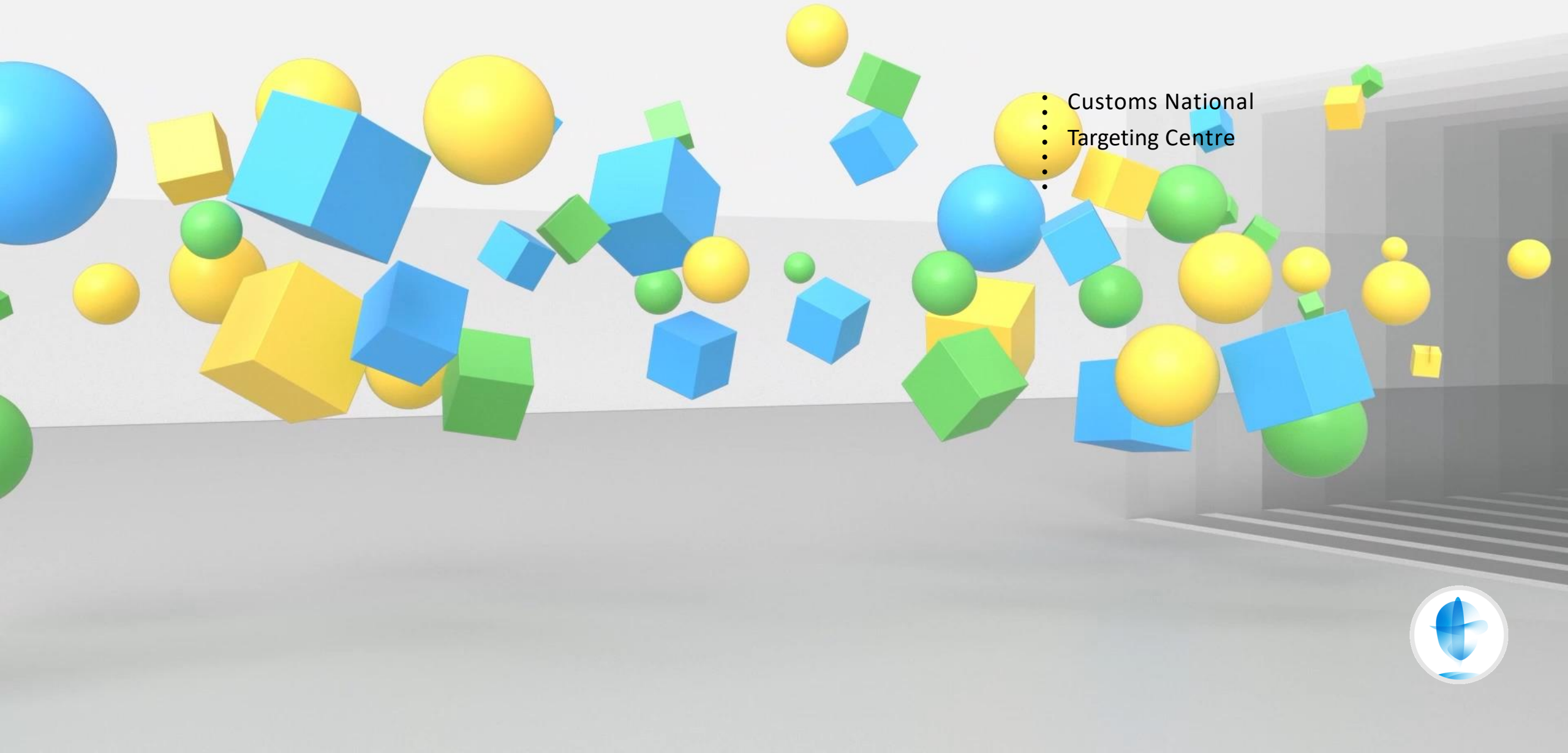
- **Projects** on X-ray scanning and detection technology Dutch Customs
  - C-BORD (*Effective Container Inspection at Border Control Points)*
  - *ACXIS (*Automated Comparison of X-ray Images for cargo Scanning
- Shifting (in parts) towards **100% inspections** based on state of the art technology.

Risk selection

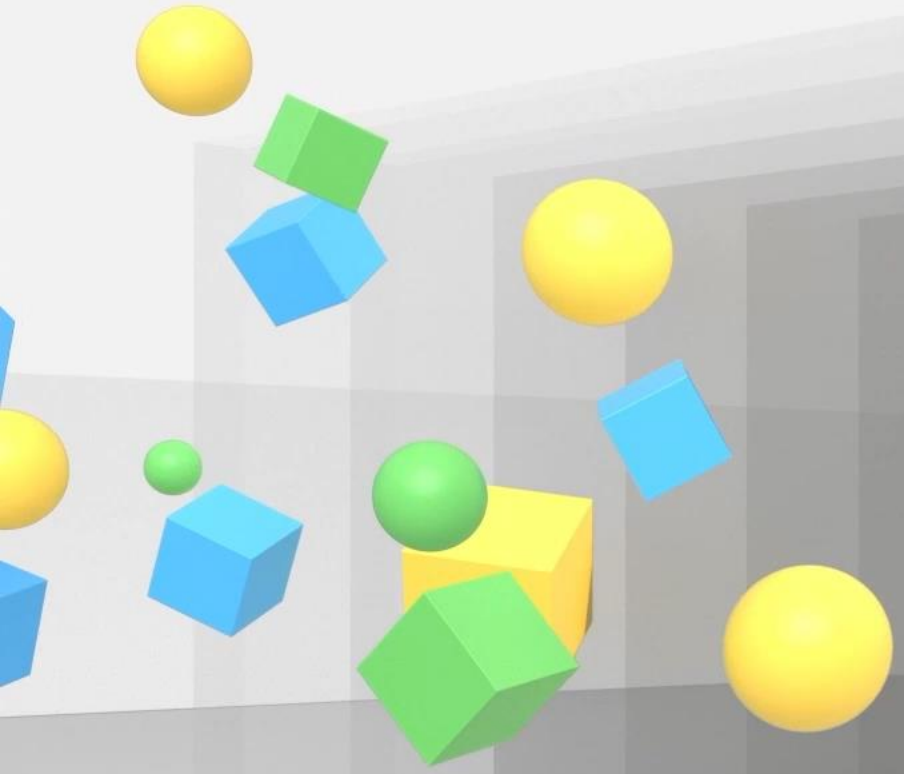


- Various checking instruments

collect - validate - process

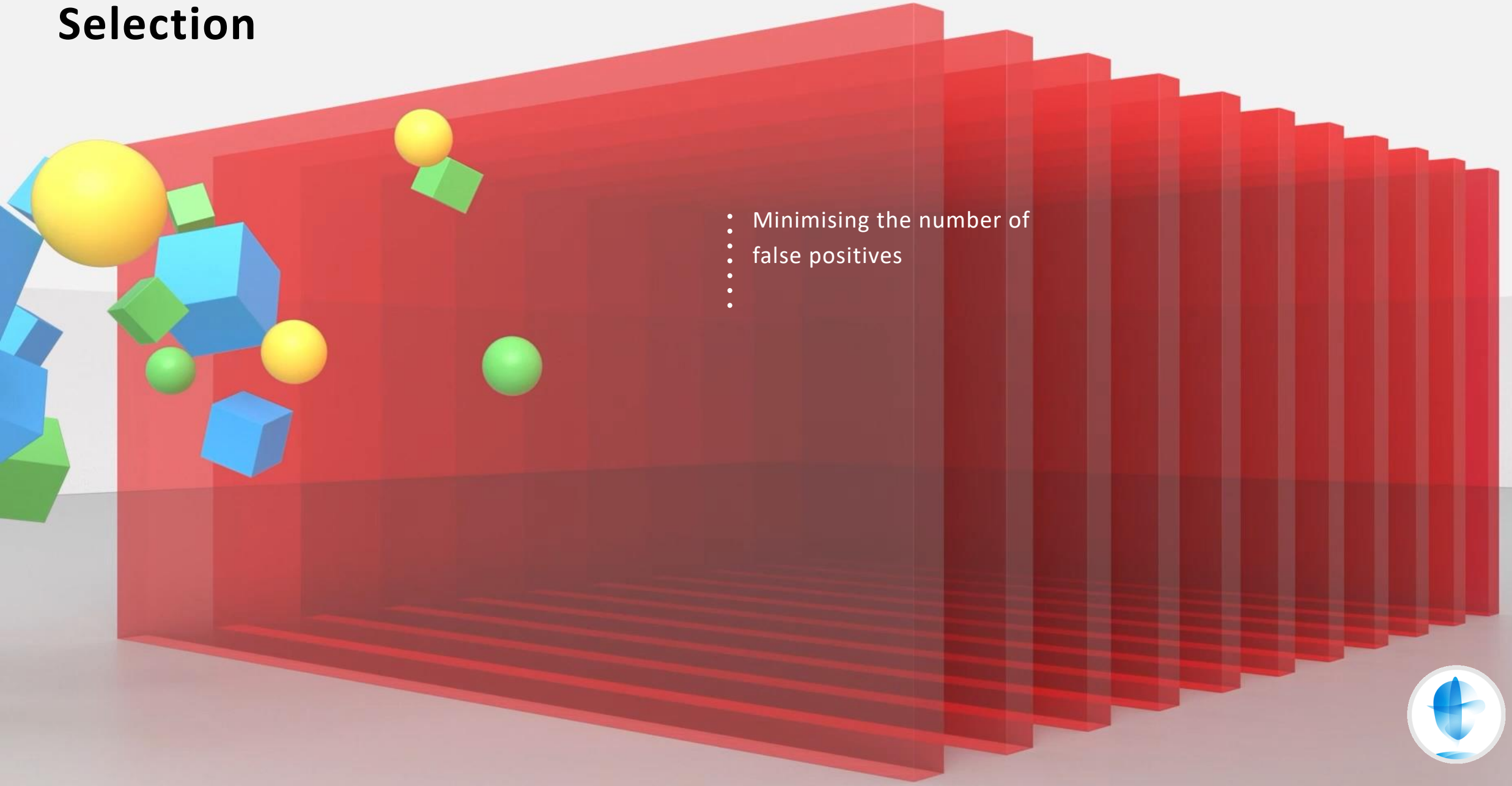


Data analyses



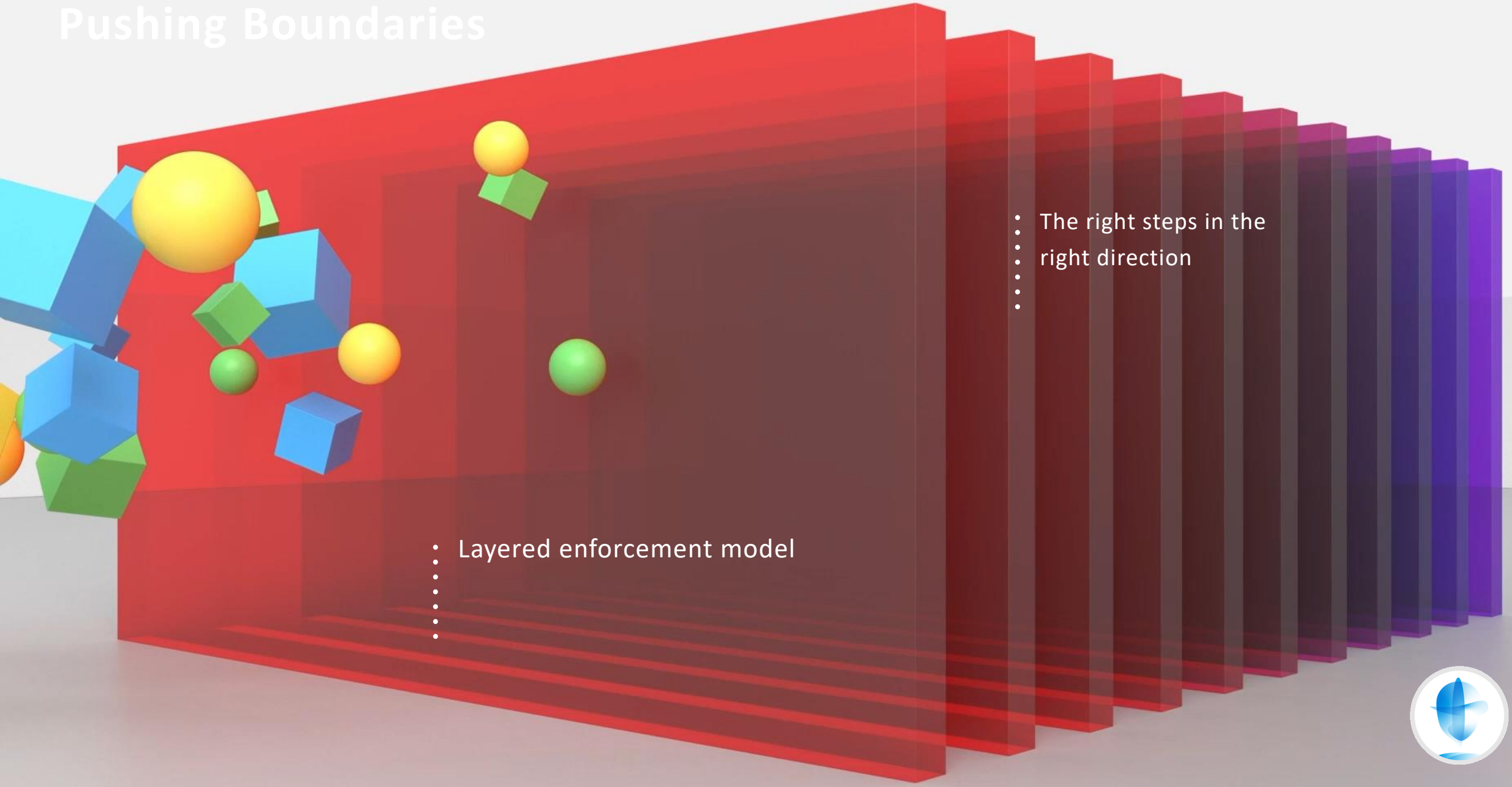
- Algorithms and filtering techniques

Selection



- Minimising the number of false positives

Pushing Boundaries

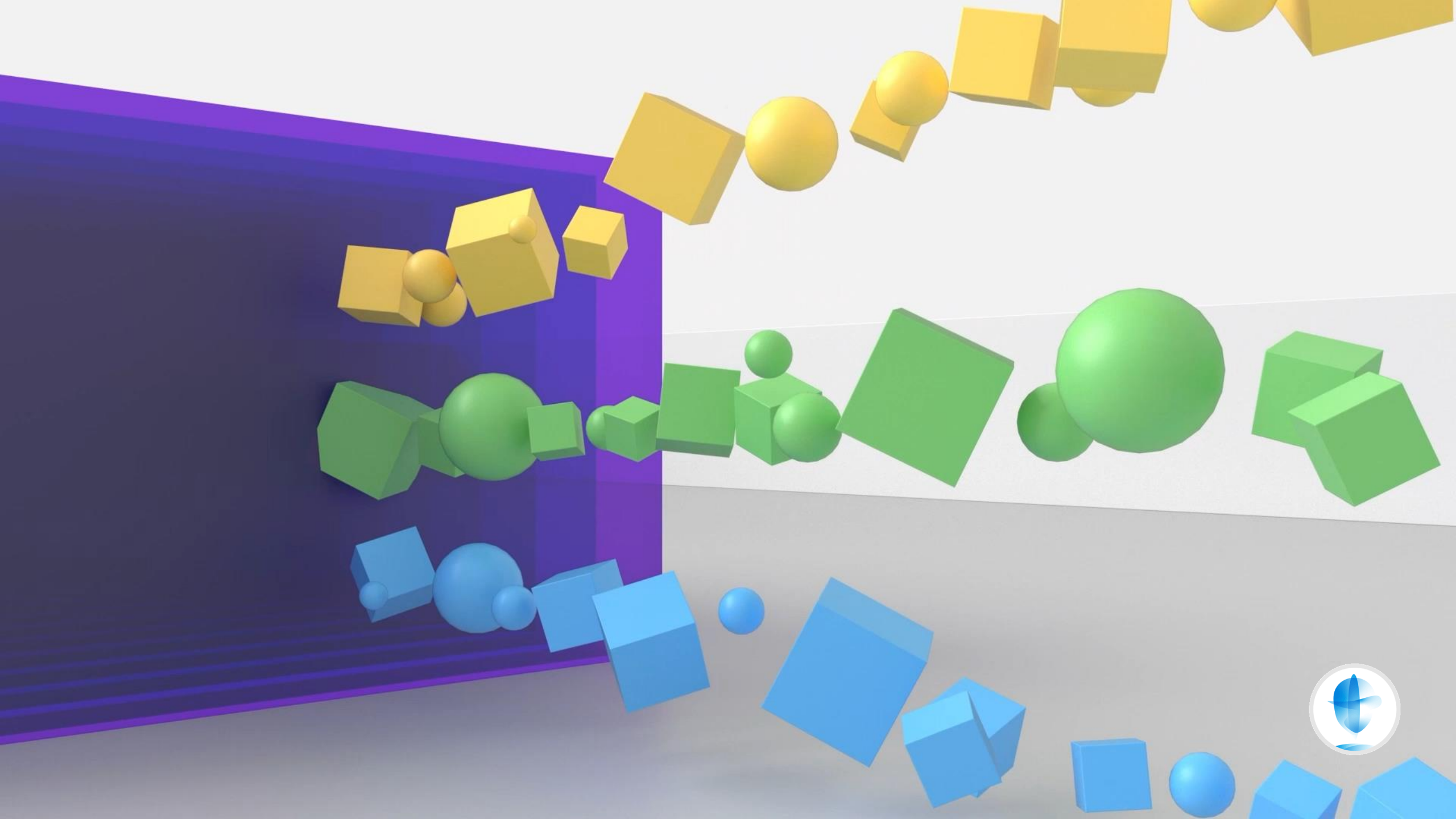


Flow of goods

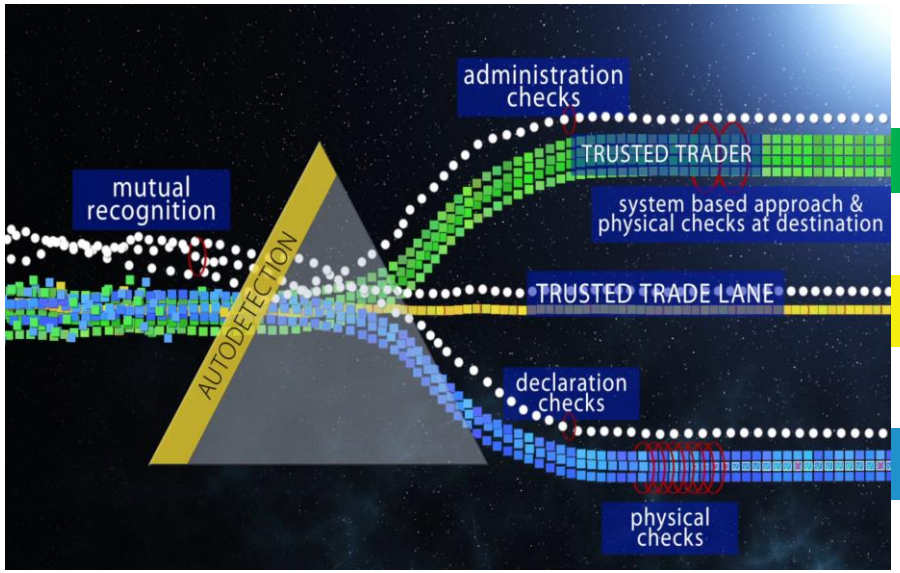
Smart and secure trade lanes

Proven reliable economic operators

Goods from unknown businesses



3. Green, Yellow and Blue Flows



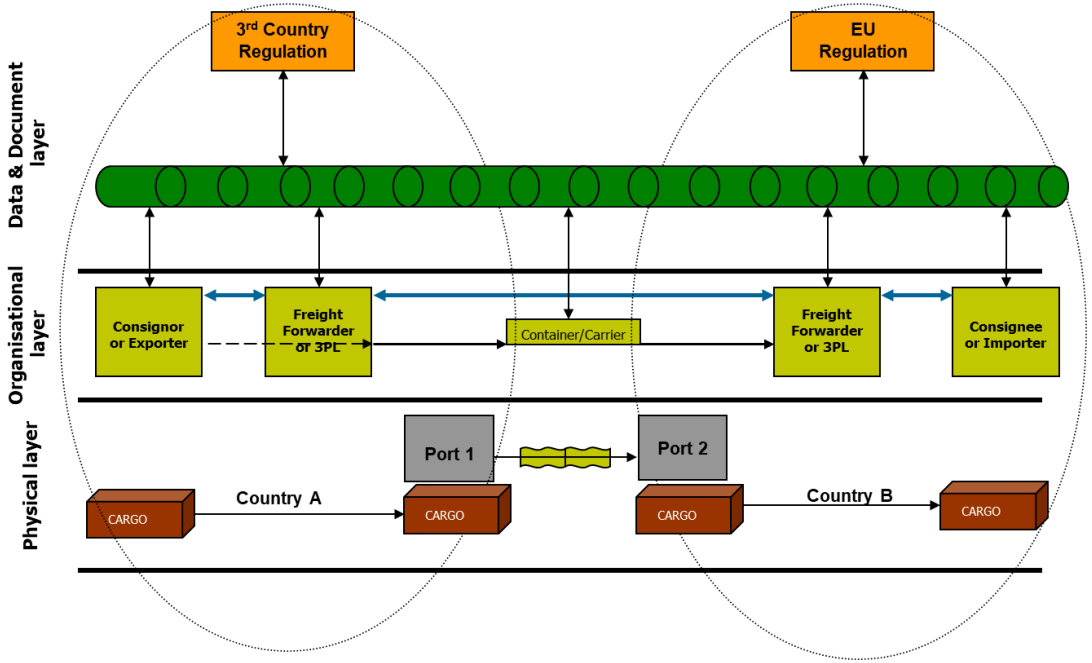
Green flows

Yellow flows

Blue flows

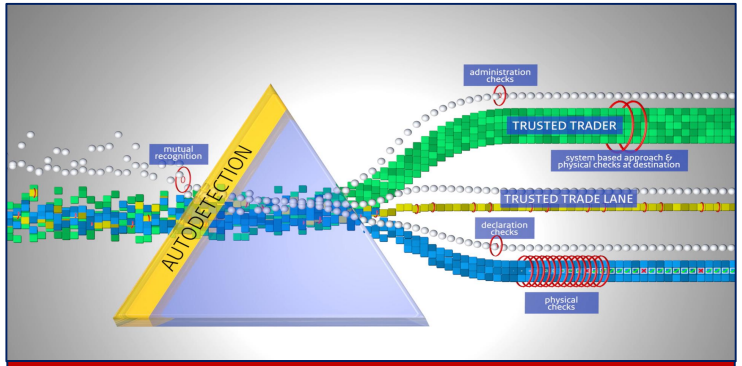
Data pipelines for the Yellow flows

(Data pipeline concept developed in a series of EU-funded innovation projects ITAIDE, INTEGRITY, CASSANDRA, CORE)



Hesketh/Heijmann (2010)

The Spot on the Horizon



Pushing Boundaries Vision

Enablers

- Automated detection
- Intelligence
- Data Analytics / Algorithms
- Yellow, Green and Blue lanes
- Coordinated Border Management

- Blockchain ?

Human Talent

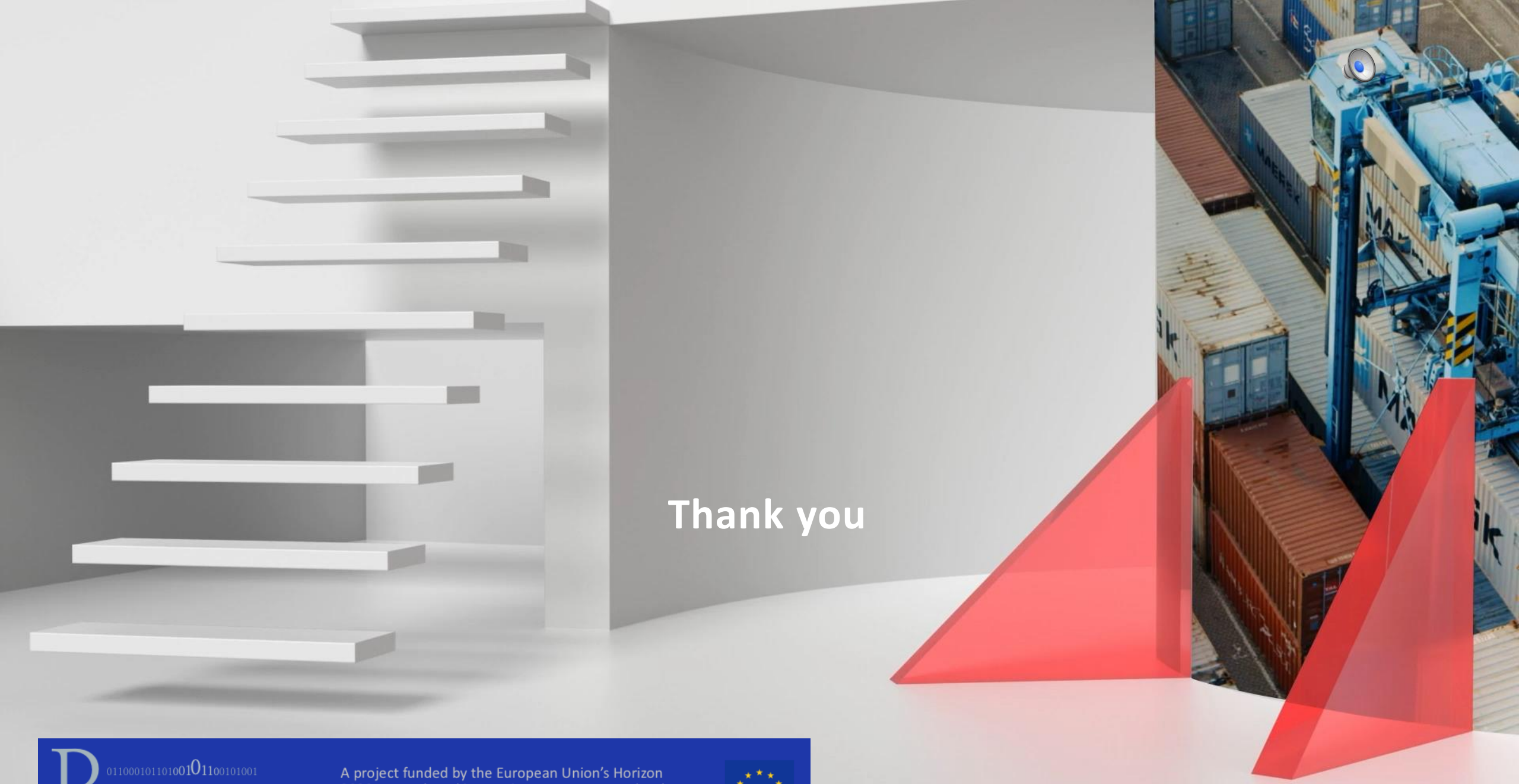
Customs education:

- Master
- Bachelor
- Associate
- Minor

Skills:

Supply Chain – IT – Compliance - Legal

Smart Enforcement-Smooth Logistics



Thank you

PROFILE

A project funded by the European Union's Horizon 2020 research and innovation programme under the Grant Agreement No 786748.