Customs Administration of the Netherlands
Tax and Customs Administration

Customs Administration of the Netherlands

Workshop - Strengthening Security

on Inland Freight Routes

Wim Visscher RE

Senior policy advisor / National AEO coordinator / IT-auditor

Customs Administration of the Netherlands

National Office of Customs in Rotterdam

Basic principles of EU project Core

- B2B project

- Business drivers:
  - cost savings
  - transparency
  - visibility
  - trade compliance
  - etc.

Consistently Optimised Resilient Secure Global Supply-Chains

- Important pillars:
  - data integrity (data of high quality from the source)
  - goods integrity (supply chain security)

Improving data quality

Data from the source

- Data from the originating process:
  - where the data were generated
  - from the provider that <u>has control of</u> and <u>knows what has happened</u>

Data quality (e.g. data integrity)
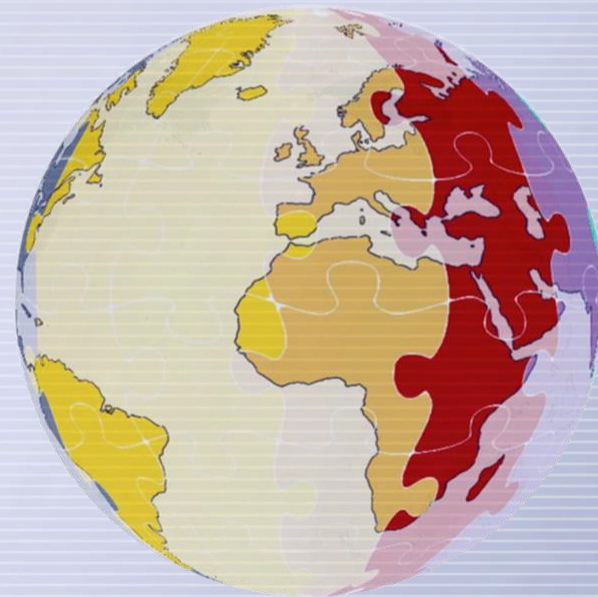
- completeness
- correctness
- timeliness

ICS 1.0

Missing data
Incomplete data
Unclear data

The goal

No missing data
Clear data
Source known

CORE

DATA PIPELINE

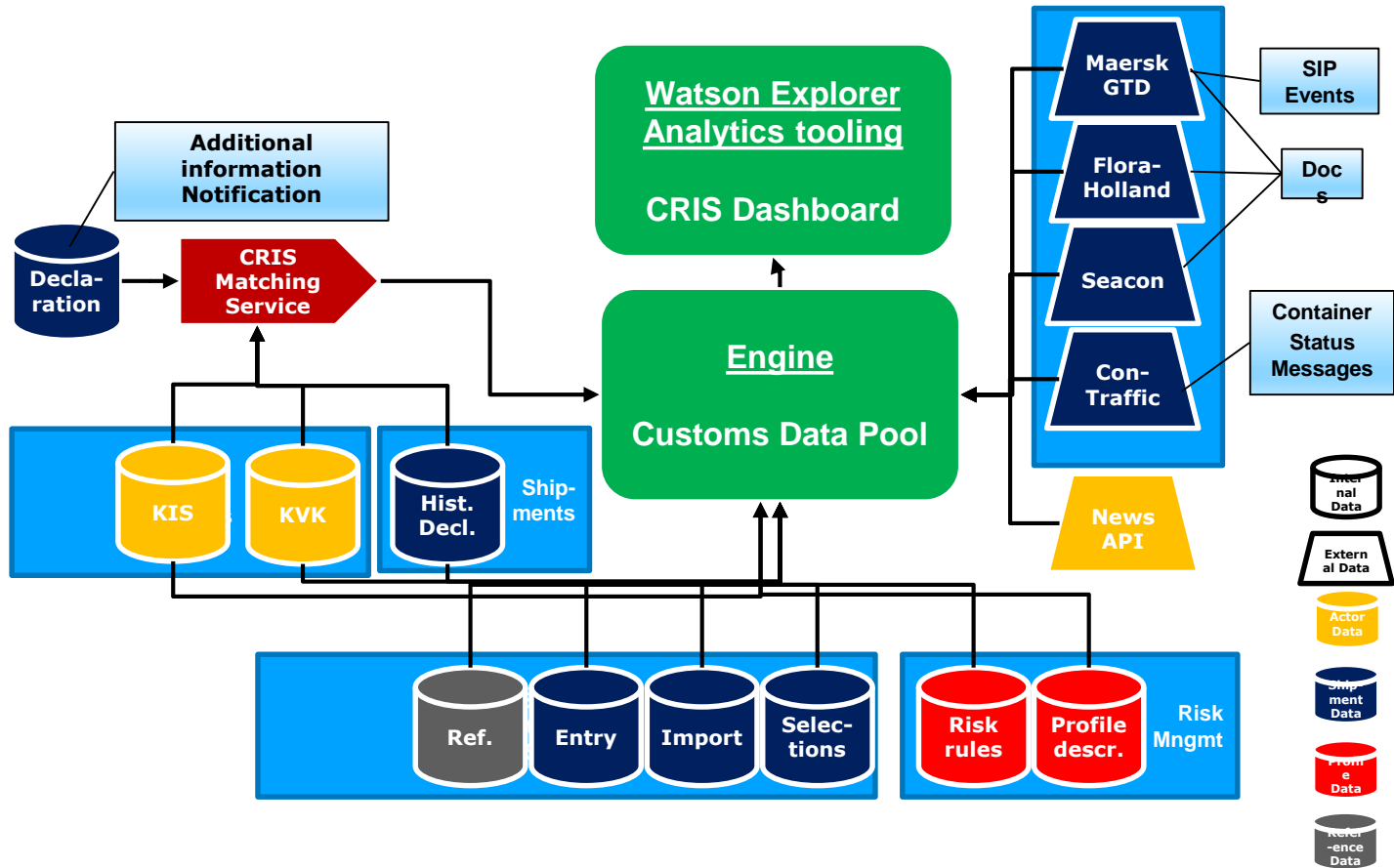| Exporter | Warehouse | Forwarder | Terminal | Shipping line | Terminal | Forwarder | Warehouse | Importer |

Customs dashboard

Improve efficiency by:

- Presenting additional supply chain data from various other sources together with existing data (e.g. declarations)

- Risk analysis and detection based on accurate data of high quality:
  - identify shipments that are high-risk as early as possible
  - identify shipments that are low-risk
  - contribute to reduce inspections => facilitation

CRIS – Customs Real Time Information System

Additional information Notification

Decla-ration

CRIS Matching Service

Watson Explorer Analytics tooling

CRIS Dashboard

Engine

Customs Data Pool

Maersk GTD

SIP Events

Flora-Holland

Docs

Seacon

Con-Traffic

Container Status Messages

News API

KIS

KVK

Hist. Decl.

Ship-ments

Ref.

Entry

Import

Selec-tions

Risk rules

Profile descr.

Risk Mngmt

Internal Data

External Data

Actor Data

Shipment Data

Profile Data

Reference Data
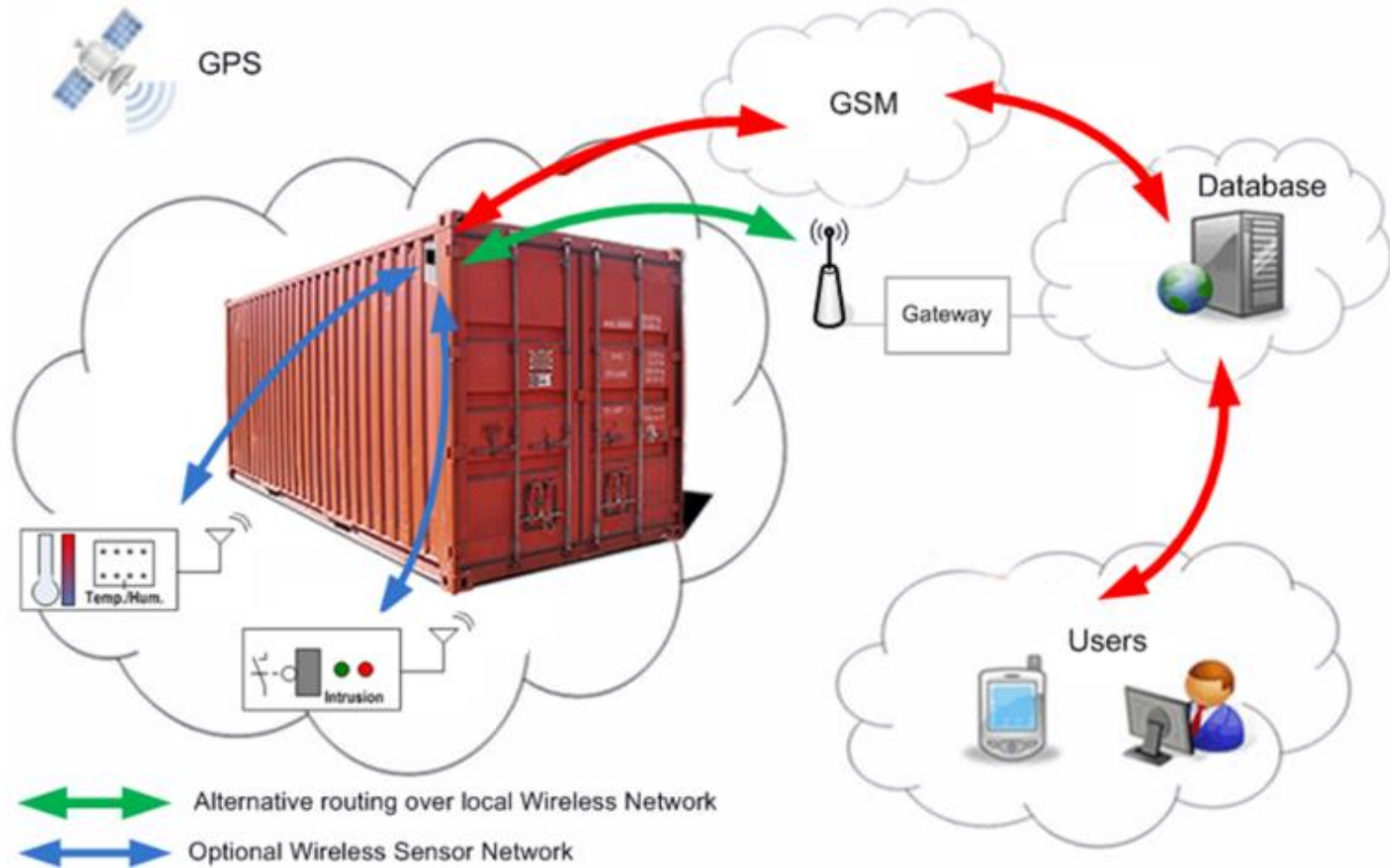
PROTECT

COMPETITIVENESS

Goods integrity

Integrity of the goods flow:

Ensuring the integrity of the goods flow by using:
- CSD's (container security devices)
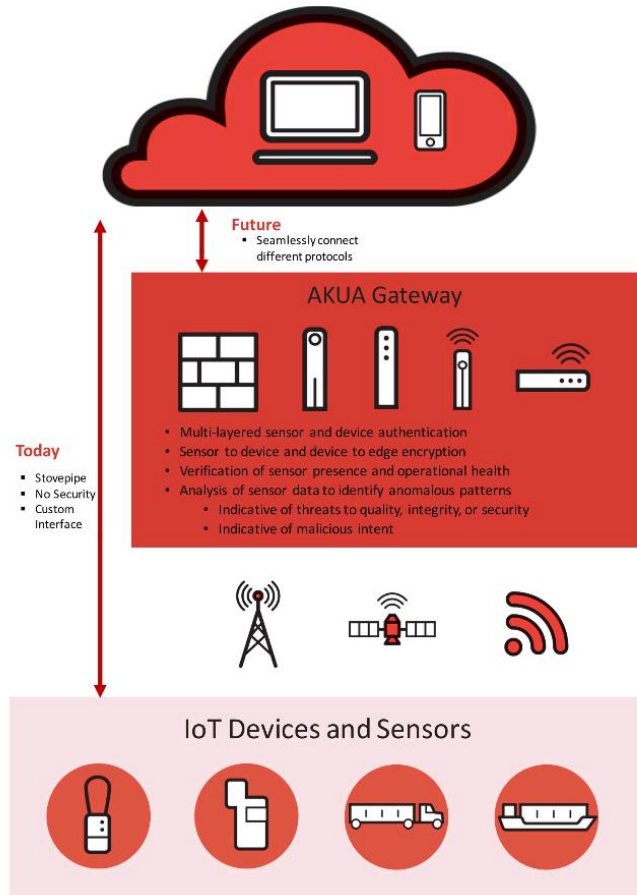- or equivalent measurements

Goods integrity

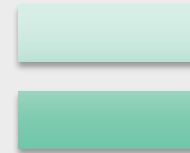# Goods integrity

Customer Dashboard and Big Data Analytics

Future
- Seamlessly connect different protocols

AKUA Gateway

- Multi-layered sensor and device authentication
- Sensor to device and device to edge encryption
- Verification of sensor presence and operational health
- Analysis of sensor data to identify anomalous patterns
  - Indicative of threats to quality, integrity, or security
  - Indicative of malicious intent

Today
- Stovepipe
- No Security
- Custom Interface

IoT Devices and Sensors

Trusted Trade Lane Solution

Data Integrity
(data pipeline)

+

Goods Integrity
(smart seal)

=

Design for Security

Facilitate smart en secure trade lanes

Facilitating smart en secure trade lanes:

Possible for smart and secure trade lanes where:
- ➤ commercial reasons are leading for using data from the source
- ➤ ensuring the integrity of the goods with:
    - ▪ CSD's or
    - ▪ Equivalent measurements

Global Trade Digitalization

TRADELENS

DIGITIZING THE GLOBAL SUPPLY CHAIN

TradeLens is an open and neutral industry platform underpinned by Blockchain technology, supported by major industry players.

TAKE A TOUR ▶   GET IN TOUCH

Key Challenges

Banks	Importers and Exporters	Carriers	Forwarders	Ports	Authorities
Manual, paper-based processes. Lack of Real-Time information.	Excess Inventory. Manual, paper-based processes. Duplication of Administrative Process.	No single version of "the Truth". Manual, paper-based processes.	Manual Data Collection. Manual, paper-based processes.	Collection and Delivery Black Holes. Sub-optimal stack placement. Manual Data Collection.	False Positives. Lack of visibility pre-manifest. Lack of visibility into land movement before/after ocean transport.

Real life access to container events
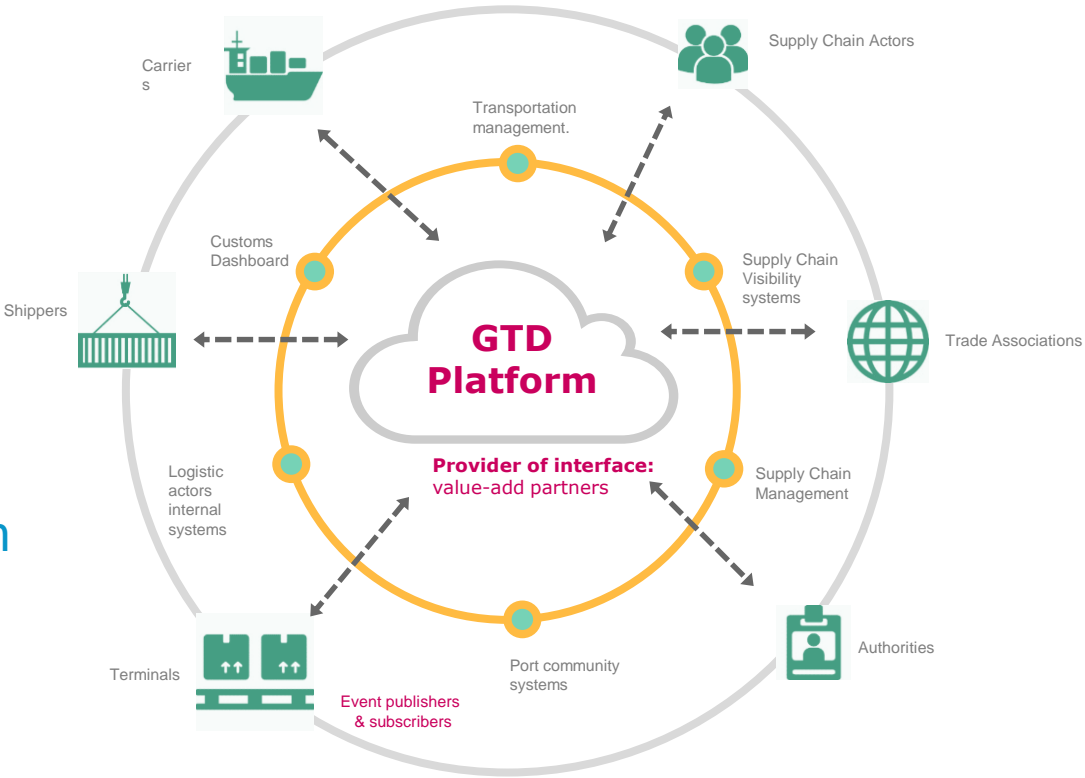
Types of events

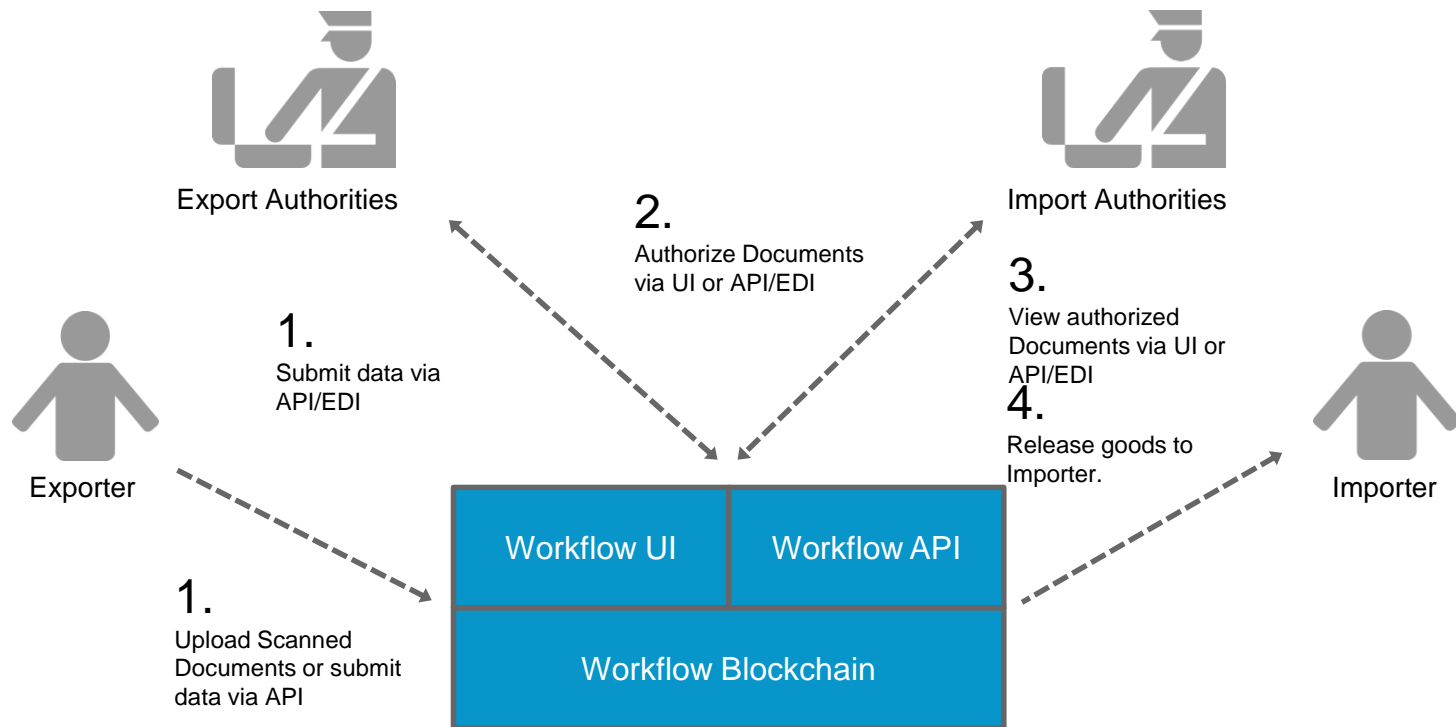|				
Start Container Tracking	Container stuffed	ATD container from port	Estimated Gate out	Pre-paid invoice available
Update Harmonized system code	Verified Gross Mass	ETA container at port	ETA full container at warehouse	Collect invoice available
Container Type	Container sealed	Route changed	Gate out empty	Packing list available
Duns number	Shipping instructions	Temperature read	Gate out full for import	Phyto certificate approved
Booking Confirmed	Full container ready for pick up from warehouse	Temperature set point changed	ATA full container at warehouse	Entry summary declaration approved
Empty container ready for pick up	Full container picked up from warehouse	Container discharge estimated	Seal removed	Import declaration cleared
Empty Container Picked Up	Shipment split	ATA container at port	Container de-stuffed	Export declaration cleared
Link container no to tracking ID	Estimated gate in	Empty container discharged	Empty container ready for pick up at import warehouse	Container arrival notice
De-link container with tracking ID	ETD container from port	Full container discharged	Empty container picked up from import warehouse	Certificate of origin available
ETA empty container at warehouse	Geofence out	Container pre-cleared	Empty container arrives at empty depot	Approved Freight Release
Geofence In	Gate in empty	Container selected for inspection	Container tracking ended	EUR1 available
ATA empty container at warehouse	Gate in full for export	Container commercial release	Dangerous goods declaration available	Other Event
Estimated time for full container pick up	Empty container loaded	Customs release	Bill of lading available	
Container Device Started	Full container loaded	Next mode of transport	Commercial invoice available	

Global Trade Digitalization

An open, extensible platform for sharing shipping events, messages, and documents across all the actors and systems in the supply chain ecosystem**.**

GTD Platform

Provider of interface: value-add partners

Event publishers & subscribers

Carriers

Transportation management.

Supply Chain Actors

Customs Dashboard

Supply Chain Visibility systems

Shippers

Trade Associations

Logistic actors internal systems

Supply Chain Management

Terminals

Port community systems

Authorities

GTD Workflow Solution Overview

Export Authorities

Import Authorities

2.
Authorize Documents
via UI or API/EDI

1.
Submit data via
API/EDI

3.
View authorized
Documents via UI or
API/EDI
4.
Release goods to
Importer.

Exporter

Importer

1.
Upload Scanned
Documents or submit
data via API

Workflow UI	Workflow API
Workflow Blockchain	

GTD Workflow Technical details

- A Distributed Ledger ensures that data written to GTD is distributed to all member nodes.

- Consensus ensures that a network of known, trusted computers determines what information is written to GTD and prevents anyone from changing what has been written.

- Identity is based on certificates issued by a trusted authority, and only known machines may participate in consensus or maintenance of the ledger.

- Hash Functions are cryptographic "fingerprints" that allow a Blockchain to easily determine whether a file has been modified.

Blockchain for the enterprise is solving previously unsolvable problems

The attributes of blockchain technology are ideally suited for large networks of disparate partners. Blockchain establishes a shared, immutable record of all the transactions that take place within a network and enables permissioned parties access to secured data in real time.

Members of TradeLens gain a comprehensive view of their data and can collaborate as cargo moves around the world, helping create a transparent, secured, immutable record of transactions.