NEW TECHNOLOGIES FOR
THE FUTURE OF CUSTOMS;
BLOCKCHAIN AND DATA ANALYTICS

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Data Pipeline (Frank Heijmann, David Hesketh)

“Internet for Logistics” developed in EU research projects e.g. CORE, CASSANDRA, INTEGRITY, ITAIDE

- **Physical layer**
  - Country A: CARGO
  - Country B: CARGO
  - Port 1
  - Port 2

- **Organisational layer**
  - Consignor or Exporter
  - Freight Forwarder or 3PL
  - Container/Carrier
  - Freight Forwarder or 3PL
  - Consignee or Importer

- **3rd Country Regulation**
- **EU Regulation**

"Internet for Logistics" refers to the integration of logistics processes, including transport, storage, and delivery of goods. It emphasizes the importance of efficient and integrated operations across different countries and regions, adhering to both local and EU regulations.
Customs IT innovation

• “Get Data from the Source”; Customs should use more trade data to cross-validate accuracy of import/export declarations
  • Examples: invoice, purchase order, packing list

• Companies are willing and able to share their trade data via IT platforms with customs
  • if it provides them trade facilitation
  • Most companies use enterprise information systems (e.g. ERP)

• Trade data is available in IT systems of companies
  • Can be accessed by customs via IT platforms;
    • Government; e.g. port community systems, single windows
    • Trade: e.g. INTTRA, Descartes, GT-Nexus, SAP, IBM

• Examples of next generation IT innovations for customs
  • Blockchain
  • Data analytics
TRADELENS Blockchain IT platform developed by MAERSK and IBM in CORE project

Export

- Exporter / Consignor
- 3PL Service Providers
- Inland Transportation
- Port / Terminal
- Authorities

Import

- Port / Terminal
- Authorities
- 3PL Service Providers
- Inland Transportation
- Importer / Consignee

Not exhaustive list of Events tracked by platform

- ETA empty container at depot
- Container tracking ended

Future Offerings

- Packing List
- Export documentation
- Pre-paid invoice
- Shipping instructions
- Certificate of Origin
- ISF
- Dangerous Goods Declaration
- Customs Clearance
- Commercial Invoice
- Import documentation

Paperless Trade (Blockchain Network)

- Bill of Lading
- Advance declaration
- Pre-paid invoice
- Certificate of Origin
- ISF
- Dangerous Goods Declaration
- Customs Clearance
- Commercial Invoice
- Import documentation

Note: representative only; not all documents require Paperless Trade nor is this an exhaustive set of documents that could be processed by Paperless Trade
Benefits of Blockchain for Customs

• Blockchain platform is very suitable for sharing logistic events and documents among all parties in supply chains
  • Immutable: data cannot be changed
  • Secure: data cannot be read by competitors without authorization, but always accessible for customs

• Customs can use blockchain platform as data pipeline solution to collect extra business documents to detect fraud with customs declarations; examples
  • Electronic Pro-forma invoice
  • Electronic Packing list
  • Electronic certificates (e.g. origin, phytosanitary, veterinarian)

• Tradelens is now piloted with customs from Netherlands, Australia, Peru, Saudi Arabia
Benefits of Data Analytics for Customs

- Example: Check price on import declaration of e-commerce goods
  - by automated search of price of goods on e-commerce web sites (thousands!)

- Develop **Data Analytics** to do automated search of e-commerce web sites
  - Compute average price from these web sites
  - Support tool for customs targeting officer
  - Developed in EU research project PROFILE

- Blockchain and data analytics are piloted in the new **Customs Real-time Information** (CRIS) of Dutch Customs
  - This IT innovation can be developed by all countries in the world