Data Pipelines, and Transport Domain Deliverables for Traceability and Transparency in the Supply Chain
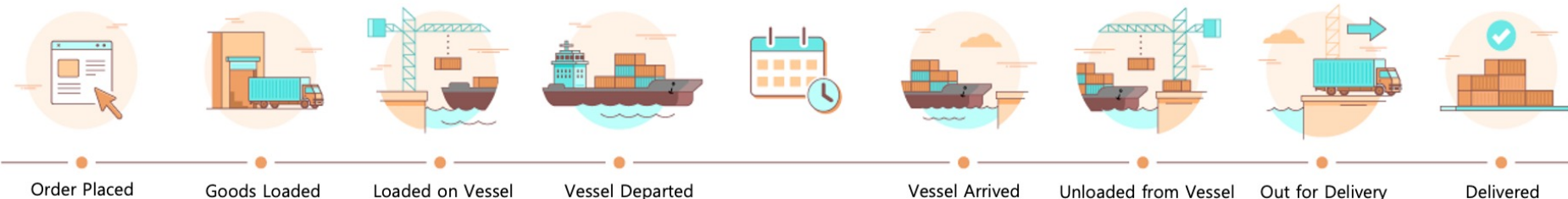
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What is a Data Pipeline?

Order Placed — Goods Loaded — Loaded on Vessel — Vessel Departed — Vessel Arrived — Unloaded from Vessel — Out for Delivery — Delivered
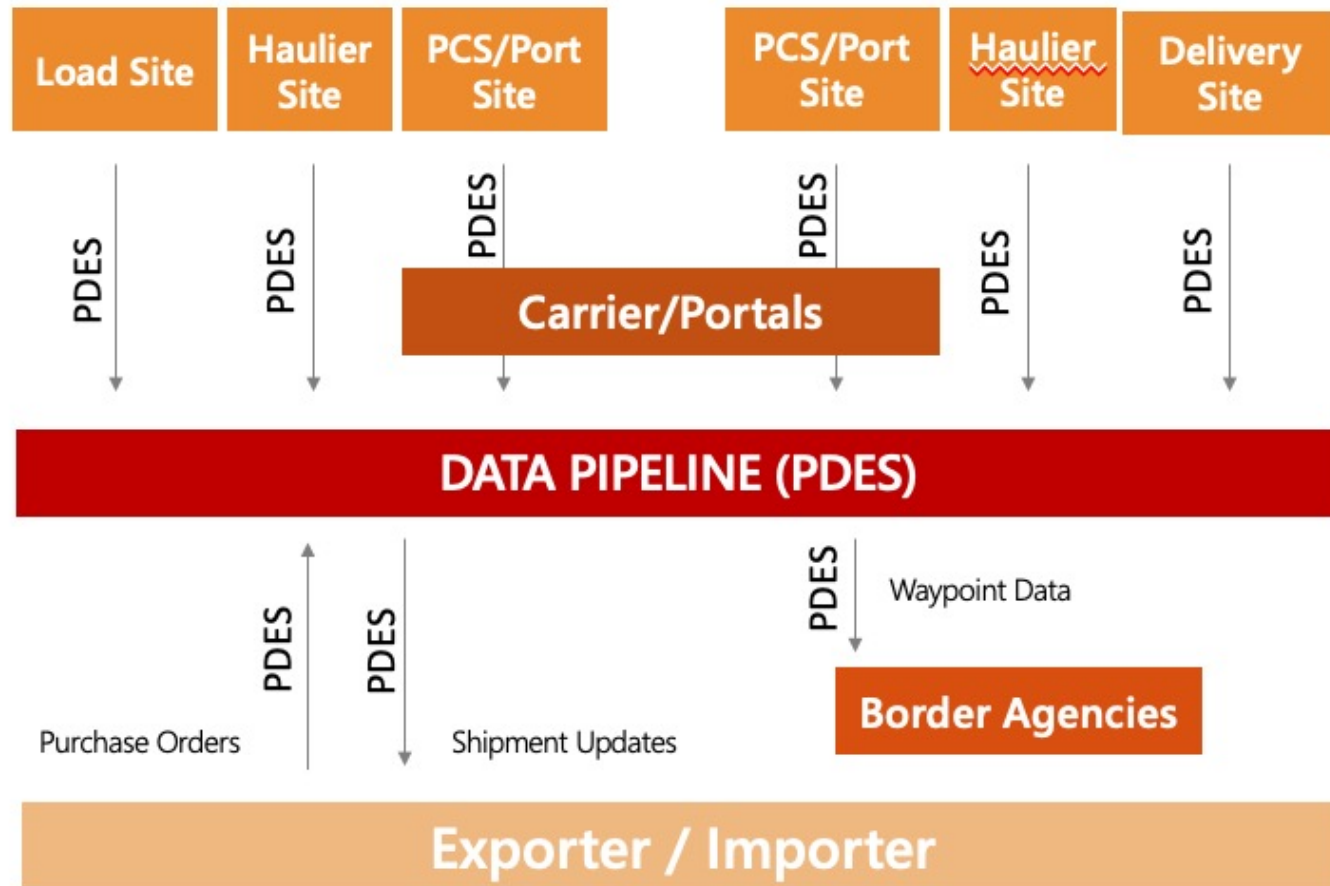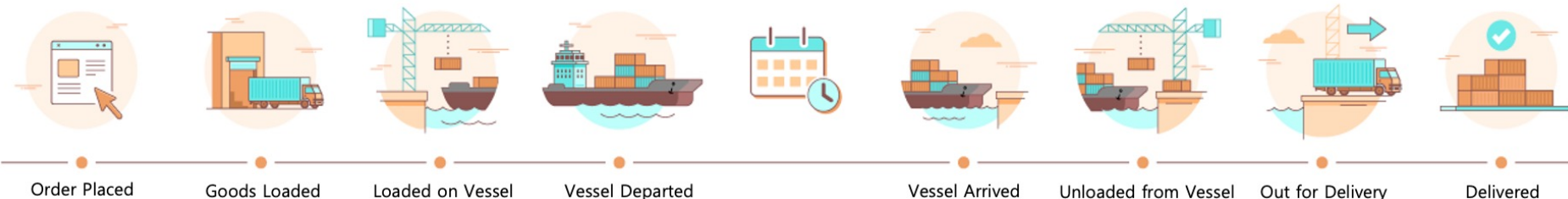
- Electronic **record of data** about the goods and movement built up from the supply chain

- Data can be provided in 'snippets' at various **waypoints**

- The person **who knows the information to be true** should provide the data

- Those who need the information should have **access to those data fields** to perform their role

- Capture tracking data to satisfy supply chain visibility requirements

- Whitepaper at https://unece.org/fileadmin/DAM/cefact/GuidanceMaterials/WhitePaperDataPipeline_Eng.pdf

Right Data, Right Place, Right Time

Timing and Availability of Data

Order Placed • Goods Loaded • Loaded on Vessel • Vessel Departed • Vessel Arrived • Unloaded from Vessel • Out for Delivery • Delivered

Pipeline Data

- Available Much Earlier (at point of loading -30 days)

- Accurate, as used in the supply chain to automate process and create efficiency

- Complete, contains sales contract data such as:
  - **Buyer**
  - **Seller**
  - HS Code
  - **Country of Origin**
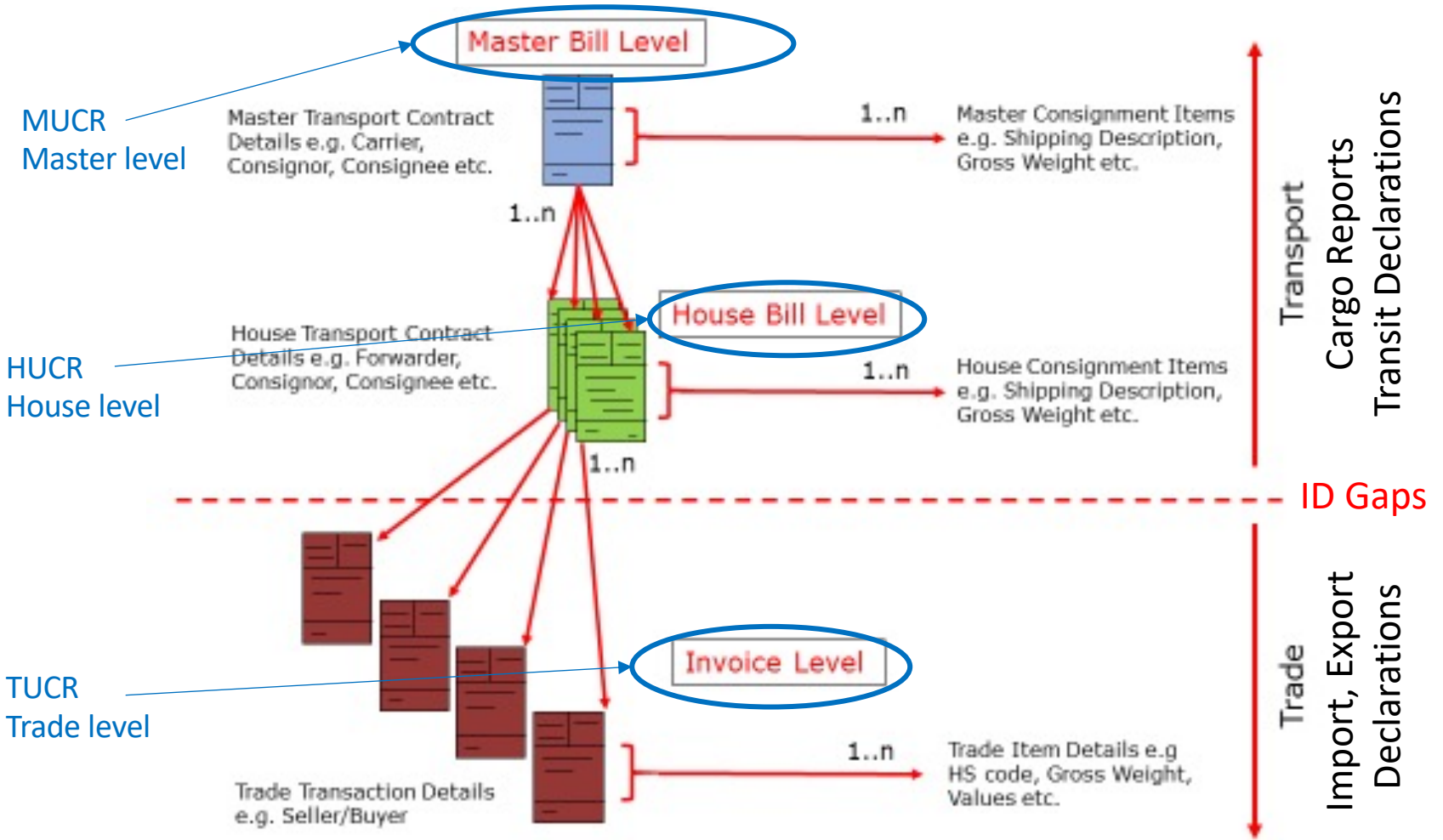 - Description of Goods

Manifest Data

- Available 48 hours prior to arrival (or less)

- **Poor Quality**, has typically been 'watered down' to reduce work, satisfy insurance requirements (S.T.C), hide data from prying eyes

- **Incomplete**, doesn't always contain key data for risk analysis

Business Case

- Hazelnuts from Azerbaijan (HS:08022100) – 100% document check, 10% physical inspection requirement.
- Description of goods (Nuts) and short HS code on manifest.
- **ALL** 'nuts' from Azerbaijan stopped as description is not clear enough
- **£1 million** year saving for this case alone
- Correct data **de-risks** trade route, allows resource to focus on unknown

Identification of Goods (MUCR, DUCR, TUCR)

MUCR
Master level

HUCR
House level

TUCR
Trade level

Master Bill Level

Master Transport Contract Details e.g. Carrier, Consignor, Consignee etc.

1..n — Master Consignment Items e.g. Shipping Description, Gross Weight etc.

1..n

House Bill Level

House Transport Contract Details e.g. Forwarder, Consignor, Consignee etc.

1..n — House Consignment Items e.g. Shipping Description, Gross Weight etc.

1..n

ID Gaps

Invoice Level

Trade Transaction Details e.g. Seller/Buyer

1..n — Trade Item Details e.g HS code, Gross Weight, Values etc.

Transport
Cargo Reports
Transit Declarations

Trade
Import, Export
Declarations

Customs View of trade and transport links (EU UCC)

Identification of Location(s)

ICC **Incoterms** could dictate the '**place of payment**' i.e. DAP, FCA

Represented by the **UN/LOCODE** in electronic exchange of data, **tracking messages report** and can trigger automated invoicing as an example.

UN/LOCODE **Child Codes** provide more granular detail (terminal or container facility)

Example: **Arrival at an ocean terminal** (SMDG) starts the ocean movement, **container return** at a inland container facility (BIC) closes the container cycle for that journey.
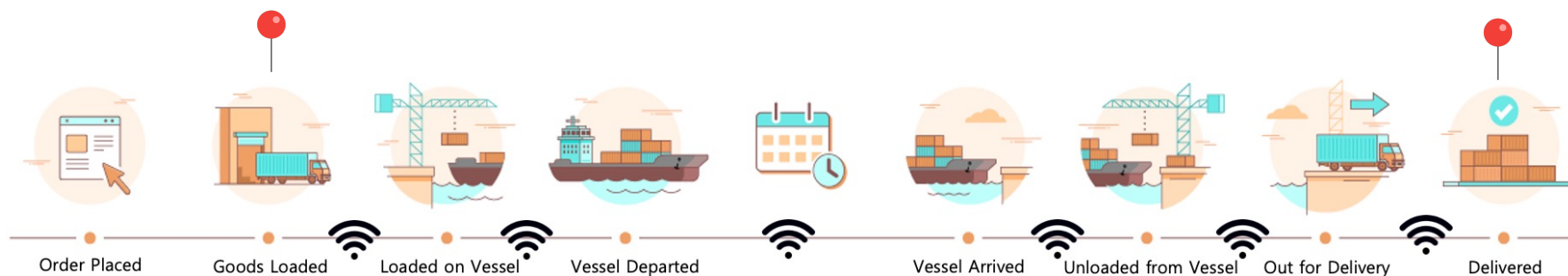
eCMR – International Convention

Greater Transparency

- Accurate data during transport

- Control and Monitoring of Shipment

- Access to Proof of pickup and Delivery

- Can be linked to eCall system for safety

Actionable Data

Order Placed · Goods Loaded · Loaded on Vessel · Vessel Departed · Vessel Arrived · Unloaded from Vessel · Out for Delivery · Delivered

Event Data

- Physical event takes place that is reported i.e. Loaded on Vessel

- Attestable events often used in contracts and letter of credit or KPI reports.

- Accurate, as used in the supply chain to automate process and create efficiency

- Gaps between the Events don't highlight what's happening between

Dynamic Data

- Smart Containers give certainty

- Reported **continually** from IoT devices

- Can be used to forecast or predict

- Useful for Temperature Sensitive Products (i.e. Cheese or Fish)

- Report concerns or identify early on to avoid issues i.e. Reefer temperature falling out of range

1 provider alone had **39 million tracking (IFTSTA)** events per month

Transport and Logistics

- **Data Pipelines** to provide transparency between buyer and seller and improve timing, availability and accuracy

- Origin and Destination **regulatory compliance** through transparency and tracking

- **Unique Identifiers** for goods and locations

- **eCMR** demonstrating traceability and transparency

- Actionable **tracking data** from pickup to delivery

Thank You

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**Building data driven supply chains,
UN/CEFACT Transport and Logistics Domain Co-
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