



Project Proposal

Configuring the Information Pipeline and Multi-Modal Transport (MMT) reference data model for air-cargo and road transport

UN/CEFACT Transport & Logistics Domain

Bangkok - 28 September 2016

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This presentation to the UN/CEFACT Transport and Logistics Expert Domain (Bangkok, 28 September 2016) includes a proposal to use the Information Pipeline and UN/CEFACT Multi-Modal Transport Reference Data Model (MMT) to model two real-world air-cargo trade lanes (import of art objects and perishables into Europe) as show cases with the objective to create a common insight how different data models such as WCO, UCC, SCRM and IATA Cargo-XML can fit together.

Project

- Find sponsorship
- Model two real-world air-cargo trade lanes
- Leverage MMT, Information Pipeline, WCO/UCC and Cargo-XML
- Implement
- Paperless
- Multi-modal air-cargo trade lanes
- Enter/exit/transit Europe

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The objective of today's presentation is to get the support of the UN/CEFACT Transport and Logistics Domain Expert team for a project to create show cases in order to understand how the industry can level the Information Pipeline, MMT, SCDRM, WCO/UCC and Cargo-XML data models to implement paperless multi-modal air-cargo trade lanes that enter/exit/transit Europe

Background

National Single Window for Logistics



Fine Art and Luxembourg Freeport



e-CMR BeNeLux



Digital Europe for Transport and Logistics



Rudy Hemeleers has been 11 years CTO/CTO of Cargolux Airlines. Since 2005, he created his own management consulting company with a focus on harmonizing trade lanes that enter, exit or transit Europe.

The EU-Gate Information Pipeline proposal for air-cargo trade lanes leverages input from 4 project domains:

1. The implementation of a national single window
2. The implementation an ERP-based transport and goods accounting process for the transport of fine art objects that enter/exit Europe through Luxembourg, or that are stored in a European Freeport.
3. The implementation of electronic consignment notes for cross-border road transport
4. The participation to multiple work groups within the European Commission's Digital Forum for Transport of Logistics (on behalf of Inland Navigation Europe), and COMEX, a European funded project that has as an objective to further integrate river information systems along inland waterway corridors

Focus on real-world trade lanes

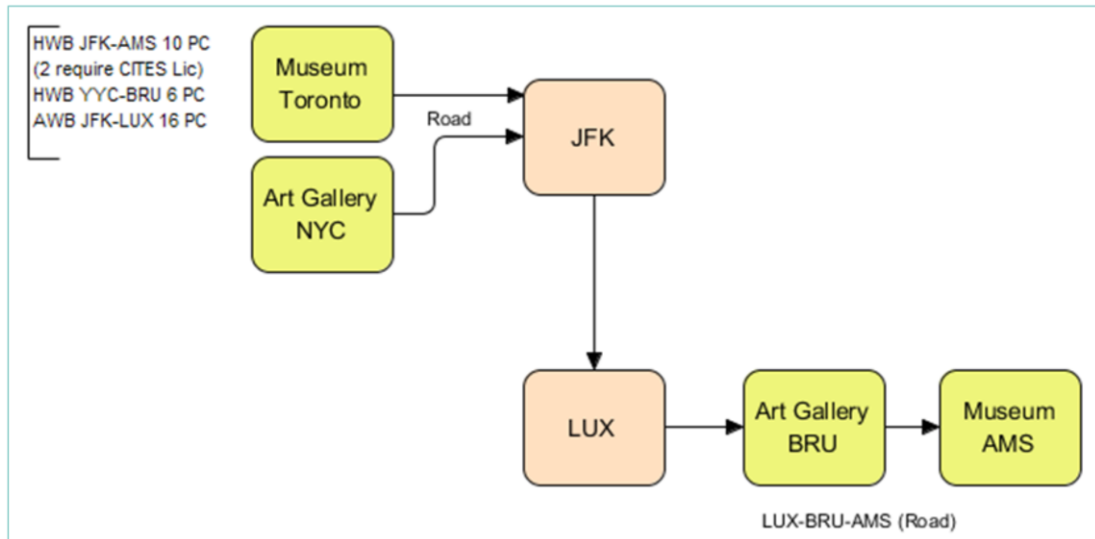
- Art objects from New York
- Perishables sent from Asia, Africa and Latin America to Europe

The project includes a focus on two real-world air cargo trade lanes:

1. The shipment of art objects, with particular attention to pre-arrival notifications, CITES export and import declarations, and the requirement for piece-level goods tracking
2. The shipment of perishables, with particular attention to the re-use of data that is available at the source of the supply chain.

Case study : Fine Art from New York

A European forwarder specialized in Art Objects coordinates the shipment of a collection of 16 objects from galleries in New York and Toronto to exhibitions in Brussels and Amsterdam



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The Fine Art case study includes a shipment of 16 art objects by air from New York to Europe, 10 objects are sent from an art gallery in New York to Amsterdam (involving CITES export and import licenses); 6 objects are sent from a museum in Toronto/Canada to Brussels.

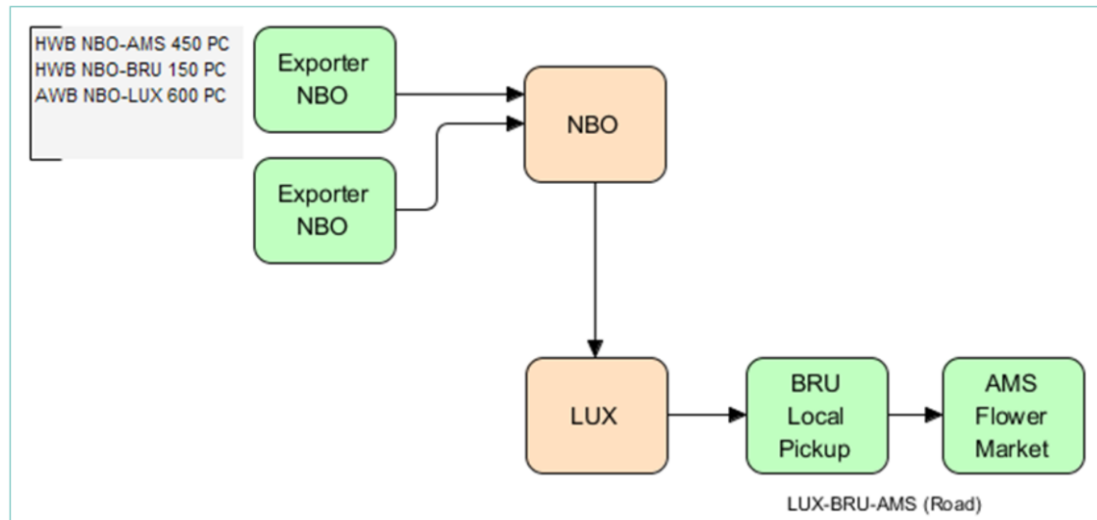
From Luxembourg, the 16 art objects are transported by road to Brussels a Museum in the Netherlands.

The case study includes:

- Two house waybills between the Luxembourg based forwarder and his (Swiss) customer
- One master air waybill between the Luxembourg based forwarder and the cargo airline to transport the art objects from JFK to LUX
- 4 road consignment notes. One to transport art objects from the art gallery in New York to the air-cargo handling agent at JFK, one to transport the other art objects from Canada (Toronto) to the air-cargo handling agent at JFK, one to transport 6 objects to an art gallery in Brussels (Temporary Import) and another one to move the other 10 objects from Luxembourg to the Museum in Amsterdam

Case study : Flowers from Kenya & Colombia

An export forwarder consolidates flowers exports with destinations in Belgium (local pickup at Brussels Airport) and the Netherlands (Flower Market)



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Forwarders & Partners

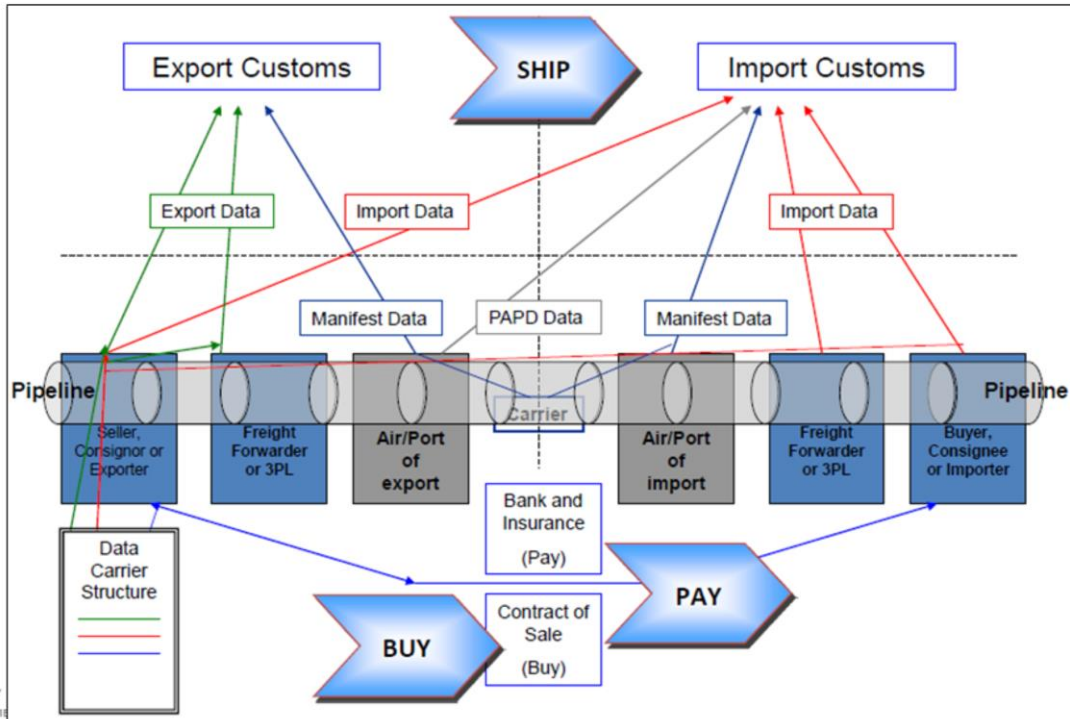
The Perishables case study includes a shipment of flowers from two flower farms /exports to a distributor in Belgium (with local pick-up at Brussels Airport) and to a flower market in the Netherlands.

The case study includes:

- Two house waybills between the Export forwarder and his Belgian and Dutch customers
- One master air waybill between the Export forwarder and the cargo airline to transport the perishables from Nairobi/Bogota to LUX
- 4 road consignment notes. Two to transport flowers from the flower farms to the air-cargo handling agent at NBO/Bogota, one to flowers to Brussels and another one for the transport of the second flower shipment to the Netherlands

Information Pipeline

Data is captured at source and re-used along the supply chain



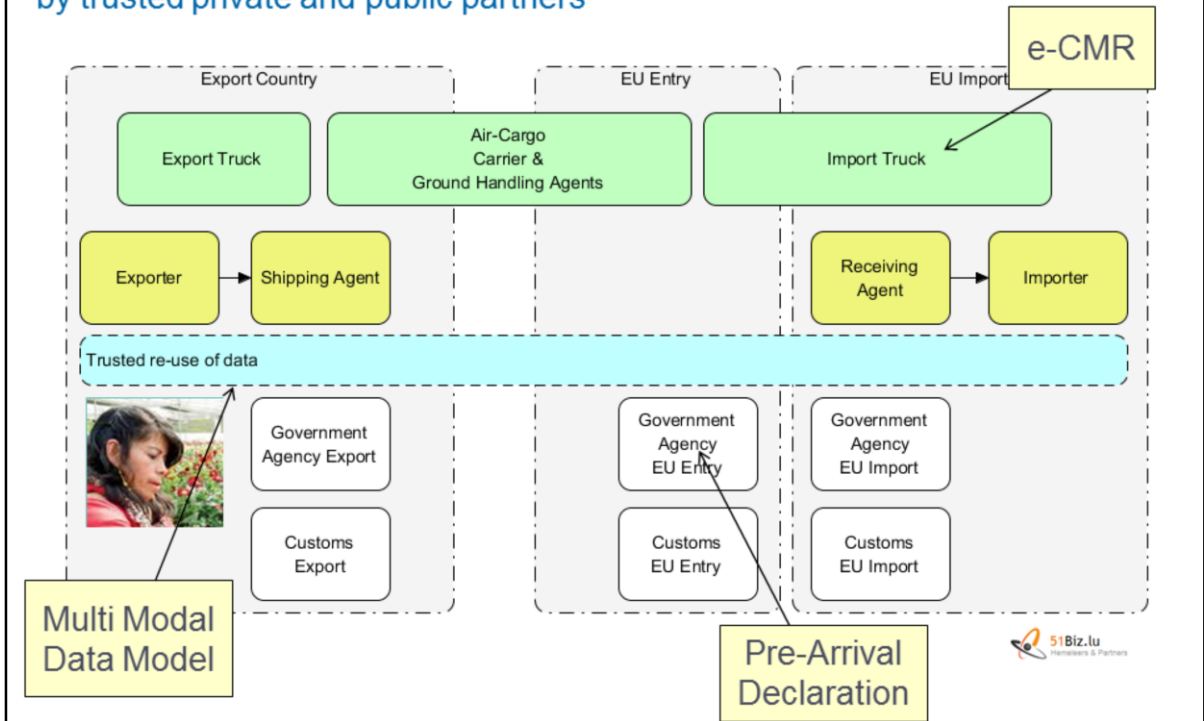
The approach for the project will fully leverage the experience that has been acquired through the EU FP7 CORE project and its work package WP10 introducing the information pipeline.

An “information pipeline” is a web-based IT infrastructure that enables a seamless integration of all data elements from all different sources.

1. Data that becomes available along the pipeline can be re-used by those who are trusted and authorized
2. Up to 60-70% of all necessary data is expected to be available at the source of the pipeline when the goods are packed.

Information pipeline for multi-modal air-cargo

The “information pipeline” reference model, being introduced by the EU Core project, captures data at source to be re-used along the supply chain by trusted private and public partners



Multi-modal air + road, multiple border control agencies

Air-cargo trade lanes often include one or more road transports to bring the goods from the shipper to the air-cargo handling loading the goods, and one or more road transports to deliver the goods to the consignee, or to an other destination airport in case of transit shipments.

About all cross-border air-cargo shipments include multiple government agencies, located in multiple territories.

The 2 (rather simple) trade lanes that are modeled within the scope of this project include more than 20-25 supply chain partners:

- 2 exporters, 2 importers
- 2-3 cargo agents
- 1 air carrier
- 3 ground handling agents of the air carrier
- 2-3 cargo agents
- 4 road carriers
- 6-8 government licensing and control agencies

Digital trade lanes are challenging

1. Large number of actors and systems
2. Multiple data standards
3. Further need for harmonization of regulation
4. Transport and logistics is complex
5. How do we trust digital signatures? IT systems
6. Data modeling jargon can be complex
7. EU Single Window

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The experience acquired through the CORE Information pipe line learns that digital trade lanes are challenging

1. There are a large number of actors and thus systems that need to be coordinated
2. Multi-modal trade lanes involved multiple data standards.
3. Any roadmap includes the need to further harmonize regulation, for example to use paperless transports
4. Transport and logistics flows are complex to understand and thus harmonize and standardize
5. One particular question returns: how do we trust digital signatures and IT systems
6. How can we create a dialog between logistics and data modeling experts
7. How can we go forward whereby a single window solution are fragmented between public and private, between European and Member State stake holders?

Digital trade lanes are opportunities

1. Reduce administrative costs
2. Improved security
3. Improve quality of information, less errors
4. Better planning for "control tower"
 - a. More reliable predictability of arrival times
 - b. Have information to assess alternative transport modes, routes
 - c. Better use of capacity of carriers, warehouse- and hub managers
5. Combat frauds

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The ambition of the project should also include the ability to demonstrate that digital trade lanes are opportunities

1. To reduce administrative costs (for example estimated 4.5 € per CMR, 25% for administrative costs related to transport)
2. Increase security as better information is available to allow control agencies to target specific shipments and transports
3. Information pipelines re-use information that is provided by the owner of information. This better quality of information will result in less errors
4. Digital trade lanes enable transport organizers to introduce "control tower" concepts that allow much more intelligent planning
 1. Better planning and thus predictability of arrival times
 2. Have information available to compare cost and estimated time of arrival information considering alternative modes of transport
 3. Enable carriers to much better use their capacity
5. And of course, better information is by definition an important weapon to combat fraud in transport

Digital Initiatives are converging

- IATA Cargo iQ and Data Backbone
- WCO Data Harmonization and Single Window
- European Union Customs Code (UCC) and New Traces
- UN/CEFACT Multi-Modal Transport Data Model
- E-CMR electronic road consignment note
- CORE information pipeline

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The scope of the project will leverage several digital initiatives that are converging

- The airline industry strengthens its commitment whereby Cargo iQ includes an ambition towards increase the quality of its processes towards a more reliable end-to-end process (“Deliver as Promised”) and whereby the concept of a data backbone clearly has the potential to significantly reduce the number of documents and message interactions between air-cargo actors
- A large number of countries are implementing a Single Window and use the world customs organization (WCO) data model to harmonize and standardize business-to-government data interoperability
- The Union Customs Code (UCC) and Traces projects include very fundamental principles towards paperless declarations
- The UN/CEFACT multi-modal transport data model, based on the same UN/CEFACT core components as the WCO and UCC data models, includes all logistics and transport data elements
- The e-CMR enables an electronic road consignment note and electronic receipts when goods are accepted by the carrier and delivered to the consignee
- The CORE information pipeline concept is winning acceptance

Opportunity for UN/CEFACT

1. Federate harmonization towards common insight and standardization
2. Harmonize certification and control of cloud service providers
3. Harmonize access of government control authorities to information pipeline

The added value of the project for the UN/CEFACT Transport and Logistics Domain can be summarized as:

1. Federate harmonization efforts towards a common insight that is essential to create support for standardization
2. Understand the importance to integrate a large number of providers of digital services with a key challenge to harmonize certification and third party control
3. Harmonize the access of government control authorities to information that is in the pipeline