e-freight

Handbook

v4.0
## Document Status

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<th>Date</th>
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|   | Chapter 1: vision and mandate, updated electronic standards, governance (e.g. GACAG) |   |
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Disclaimer

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The model agreements and forms that are found in this handbook are the product of meetings and work by industry experts representing the entire airfreight supply chain. IATA considers these model agreements and forms to be the best manner through which stakeholders can send e-freight shipments. Although we consider these models to be useful in enabling e-freight, members and non-members alike are free to employ other agreements they consider to be more efficient and successful in accomplishing e-freight transactions. We welcome your suggestions and feedback for enhancement.

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Head, Cargo e-Business, IDFS
International Air Transport Association
33 Route de l'Aéroport, P.O. Box 416
1215 Geneva, 15 Aéroport, Switzerland
How to use this handbook

This handbook provides information on what e-freight is and how to implement it.

It provides explanations, guidelines, and best practices regarding the business process, standards, technology and implementation of e-freight.

If you are:

- Any industry stakeholder (airline, freight forwarder, shipper, ground handler, customs broker) intending to adopt e-freight in an airport where e-freight is already live: please refer specifically to Chapters 1 and 2.
- Any industry stakeholder (airline, freight forwarder, shipper, ground handler, customs broker) intending to participate in the initial implementation of e-freight in the first airport of a given country or special administrative area.
- Any other party with an interest in e-freight, the value to the industry, and the business processes, standards, technology and implementation methodologies supporting it. For these topics, please refer to the appropriate chapter(s) of the handbook as indicated below:

<table>
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This is not a definitive or binding document - formal texts, defining e-freight standards and recommended practices are contained in the appropriate Resolutions, Recommended Practices and Standards adopted by the IATA Cargo Services Conference and their references are to be found in the Combined Cargo Conference Manual (CCC) at the following link: www.iata.org/cargo-manual

The information provided in this document will next be updated in June 2013, taking into account the latest progress made relative to specific documents such as e-AWB and e-House Manifest, as well as the e-freight Roadmap towards paperless published by the Global Air Cargo Advisory Group (GACAG) in December 2012. Meanwhile, and in spite of changes that will reflect the most recent updates, most of the information provided in the document remains accurate and relevant. For any clarification, access the IATA resources at www.iata.org/e-freight or contact the e-freight project team at e-freight@iata.org

Any comments, suggestions or proposals for enhancements are welcome and should be directed to: e-freight@iata.org
Special Thanks

This handbook is the result of on-going work by many organizations and individuals from the air cargo industry.

Special thanks go to all the dedicated professionals who contributed to the initial definition and implementation of e-freight, and who made the publication of this handbook possible.

Special thanks are extended to members of:
- The GACAG e-Commerce task force.
- The e-freight Central Action Group (eCAG)
- The initial six pilots participants (Canada, Hong Kong, Netherlands, Singapore, Sweden, United Kingdom)
- The e-freight Management Groups (eFMG) in countries where e-freight is implemented or under implementation
- The e-AWB advisory group
- The Cargo Procedures Conferences Management Group (CPCMG)
- The Cargo Business Processes Panel (CBPP)
- The IATA FIATA Consultative Council (IFCC)
- The Cargo XML Task Force (CXMLTF)
- The Cargo Operations Advisory Group (COAG)
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Use of icons

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CHAPTER 1 INTRODUCTION TO e-freight

Section 1.1 About the e-freight project

1.1.1 Vision

At the time of initiation of the e-freight program, the air cargo industry still almost exclusively relied on paper-based processes to facilitate the domestic and international movement of freight. The average shipment generated more than 30 documents that were used and/or handled by the various parties involved: shippers, freight forwarders, ground handling agents, airlines, customs brokers, customs and other government authorities.

These paper-based processes were not cost-effective and did not serve well the key requirements of air cargo: quality, security and speed.

Therefore, the e-freight initiative was launched, with the vision of transforming the process of transporting cargo by air into a paperless process, where all the required information is exchanged electronically between the parties, both industry to industry and industry to government, and paper documentation will not be required any more.

This is an ambitious goal, encompassing complex legal, regulatory, technical and business process components, for a global and complex air cargo supply chain.

1.1.2 Program inception and evolution – 2003- 2012

Precursors:

Prior to the e-freight project, the concept of paperless transportation of air cargo had already been present via a number of initiatives:

- Cargo-IMP: the first EDI industry standard for data exchange, IATA Cargo-IMP, in the 1970s (initially intended for interline communication, then extended for communication between air cargo actors including forwarders and handlers).

- CPTP: in the 1990’s, an initiative named CPTP (Cargo Paperless Transportation Project) also championed the concept of paperless transportation and piloted some shipments with some documents removed on some trade lanes.

- Cargo 2000 (C2K): the initiative aimed at building a quality standard for air cargo also envisioned a future where the air cargo industry would be paperless and included in its master operating plan (MOP) some of the key components and messages that would be required in a paperless environment. Some of those were re-used by the e-freight project, which directly benefited from the work done by Cargo 2000.

Inception and evolution of the e-freight project to its present state:

In spite of the above initiatives, transporting air cargo remained very much paper-based, due to the regulatory environment, new demands for documentation due to enhanced security and safety focus, and historical limitations in system and technological capabilities.

- In 2003, an IATA internal innovation initiative identified paperless transportation again as an opportunity, and in December 2004, the IATA Board of Governors mandated IATA management to lead a project whose aim was to take paper out of the air supply chain. At that time, e-freight was formally defined as one of the initiative under the umbrella of the IATA overall Simplifying the Business Program (StB), aimed at improving the processes of air transportation.
In 2005 and 2006 program feasibility and scoping studies were carried out, which determined that the environment should now allow the project to be carried to completion. In particular, new information technologies, including internet, as well as new international regulatory environment (MP4/MC99) and customs standards (WCO Framework of Standards) were identified as key factors that should allow such an initiative to succeed.

In 2007 and 2008 a large pilot was conducted in parallel in six locations to prove feasibility and define the initial business process (Canada, Hong Kong, Netherlands, Singapore, Sweden, and United Kingdom). This led to the first paperless shipments being flown in November 2007.

Between 2009 and 2011, the project focused on two key tasks:

- Expanding the scope of trade lanes and locations where e-freight was feasible, from the initial six locations, via a focused advocacy effort targeting Customs authorities and governmental authorities worldwide.
- Designing and developing the missing business processes and standards to enable e-freight to be conducted for a progressively larger set of shipments and documents.

By the end of 2011, 42 locations (countries or administrative areas) were live on e-freight and more than 20 e-document standards had been identified and developed. This included new XML standards for most documents, preparing for migration from the old Cargo-IMP standard to Cargo XML standards.

**GACAG e-freight Roadmap:**

- As the program progressed, it became evident that all stakeholders from the air freight supply chain should share in the responsibility of removing documents. The Global Air Cargo Advisory Group (www.GACAG.org) was the natural forum to develop a common industry roadmap for the e-freight initiative. In 2012, IATA worked together with its partners in the GACAG, to develop an industry roadmap to achieve the vision of paperless air cargo transportation. The roadmap formally endorsed by all GACAG members and published in December 2012 which forms the foundation to manage the e-freight initiative moving forward.

### 1.1.3 The Roadmap towards paperless - 2013 and beyond

#### 1.1.3.1 “Three Pillar” Roadmap

In 2012 the Global Air Cargo Advisory Group (GACAG) developed a Roadmap to 100% e-freight which defines the approach, structure and targets for the e-freight program moving forward. The Roadmap outlines a shared end-to-end industry approach with clear leadership roles, around three core components, or Pillars:

- **Pillar I:** Engaging regulators and governments worldwide to create an ‘e-freight route network’ with fully electronic customs procedures and where regulations support paperless shipments
- **Pillar II:** Working collaboratively within the cargo supply chain to digitize the core industry transport documents, starting with the air waybill
- **Pillar III:** Developing a plan to digitize the commercial and special cargo documents typically accompanying airfreight today, in or outside of the ‘Cargo pouch’
1.1.3.2 The Principles to support the Vision

In support of the vision to build and implement an end-to-end paperless process for the air cargo industry, GACAG members have identified the following principles:

- Single data capture
- End-to-end supply chain approach
- Encompass customs, security and transportation related documents
- Include legal, regulatory, business and technology elements
- Rely on e-Document standards and common business processes aligned with international standard setting bodies (WCO, UN/CEFACT, ICAO, etc.)
- Allow paper to be present by exception
- Use existing industry EDI infrastructure where sufficient and upgrade where relevant
- Drive emergence of solutions that facilitate adoption by all parties of the supply chain
- Identify workable migration paths to full paperless processes

1.1.3.3 Roadmap targets

Pillar I: Global e-freight network

Pillar I aims at establishing and developing e-freight route network through advocacy and engagement of regulators and authorities where customs and regulatory environment allows for digitization of twelve core industry documents.

**2013 target:**

- To implement e-freight pilots in two of the four BRIC countries – BOARD target: There are a large number of countries not yet live on e-freight but the most significant are the four BRIC. To get the BRIC on the e-freight network by 2015, the process must be initiated early, and in 2013, the goal is to run pilots in at least two of them.
- Grow the trade lane coverage to 45% (from currently 33%). Other than BRIC, a number of locations are in the process of implementing the needed regulatory and e-Customs changes, and the goal is to grow the network of locations where e-freight is possible from 33 to 45% globally.

**2015 Target:**

- e-freight live in 80% world trade lanes
Pillar II: Removal of core transportation documents

Pillar II aims at digitizing the core industry transportation documents (such as air waybill, manifest and security declaration). This requires working collaboratively within the cargo supply chain.

Targets:
- 20% e-AWB by end 2013 on feasible trade lanes
- 50% e-AWB by end 2014 on feasible trade lanes
- 100% e-AWB by end of 2015 on feasible trade lanes

Pillar III: Removal of the physical document pouch

Pillar III is regarding the removal of physical document pouch which is an envelope that contains some commercially sensitive information on the shipment such as commercial invoices, packing list that will be used at destination by the freight forwarder/broker to complete the Customs declarations.

IATA developed some industry standards to enable the replacement of physical pouch by electronic messages.

In the new GACAG Roadmap, it is the responsibility of the International Federation of Freight Forwarders Associations (FIATA) and Global shipper forum (GSF) to define a plan and lead the adoption of "e-pouch". IATA will continue to provide methodological support in achieving the vision.

1.1.4 e-freight Business Case

1.1.4.1 Overview of industry benefits

The e-freight industry business case benefits are based upon the following key criteria:

- **Cost Savings**: the decrease in document processing & document transportation costs
- **Speed**: the ability to send shipment documentation before the cargo itself can reduce the industry cycle time by an average of 24 hours
- **Quality and Reliability**: 
  - Electronic documents auto population – allowing one time electronic data entry at point of origin reduces delays to shipments due to inaccurate or inconsistent data entry
  - Electronic documents cannot be misplaced so shipments will no longer be delayed because of missing documentation
- **Visibility**: electronic documentation allows for online track and trace functionality
- **Simplicity**: as all supply chain stakeholders follow the same e-freight process and messaging standards the air cargo process will be globally uniform and simpler to execute
- **Regulatory advantage**: the existence of an e-freight process already in use will encourage countries to build any new e-customs requirements around these standards
- **Environmental**: e-freight will eliminate more than 7,800 tons of paper documents, the equivalent of 80 Boeing 747 freighters per year

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1 Trade lanes covered by Montreal Convention 1999 or Montreal Protocol 4 (MP4)
1.1.4.2 Detailed industry benefits

In 2009, an initial analysis of expected benefits of implementing the e-freight initiative was conducted, on the basis of transition from paper based processes to electronic processes for a core set of customs, transportation, and commercial documents. According to this model, the total annual net benefit of the project once 100% e-freight is achieved is US$4.9 billion.

Overview of the model:

In the e-freight business model, the net benefits for the industry, is calculated over a period of eight-years, with Year 1 being 2008. The model covers this time period as the industry evolves from its current capability to the implementation of 100% e-freight capability and the increase in the percentage of e-freight shipments versus the total number of shipments, referred to as penetration.

Key assumptions in the business case model:

- It does not assume the removal of all documents in the e-freight supply chain but only a core set of documents (Invoice, Packing List, all Customs declarations and release on export and import, Air Waybill, House Manifest, Flight Manifest)

- The technologies used for the exchange of messages and documents are integrated messaging using a mix of XML, data entry onto web portals and e-mailing and scanning of documents. It is important to note that the model is based on the migration of the Cargo IMP standard messages to Cargo XML message standards

- It assumes that the starting messaging quality for the exchange of the master air waybill is 65%, as measured by the Message Improvement Program (MIP), and that quality will increase to 75% by Year 3

- The penetration is calculated as a function of the estimated global capability of airports to implement e-freight. It is assumed that the top 100 airports accounting for approximately 85% of the total airfreight volume will be live by Year 4. It is also assumed that the penetration of e-freight (i.e., the percentage of the total shipments at these enabled airports) lags airport capability by two years. The penetration indicator therefore has the net effect of reducing the total savings until 98% capability and penetration is reached in Year seven.

To read more on the assumptions that formed the basis of e-freight and to download e-freight Business Case (xls) and Cost Benefit Calculator (xls) (Visit www.iata.org/efreight/)

Industry Savings:

There are five key savings identified in the business case:

- **Document processing** - by migrating to a paper free process for the documents in scope, there are cost savings associated with less manpower to physically handle the document process and less data re-entry.

- **Delivery Time Shortening** - the ability to send shipment documentation before the cargo itself can reduce the end-to-end cycle time by an average of 24 hours. This results in a considerable amount of decrease in the cost of capital to finance goods in transit when 100% e-freight is implemented.

- **Inventory Savings** – The value of inventory kept as “buffer stock” is 12% of the value of goods sold. A quarter of this “buffer stock” is held because of the unreliability of transportation. By introducing e-freight, it is estimated that this will reduce this buffer stock level by 22% based on improvements in reliability.
- **Customs Penalties Reductions** - as the industry migrates to electronic document and data submission, the data errors are reduced and thus there is an approximately 53% reduction in customs penalties due to incorrect data submission.

- **Increased Market Share over other modes of freight** - e-freight will make the air cargo industry more competitive, resulting in a conservative 1% market share increase over other modes of transportation, i.e. sea freight.

The Business case study also considers that there are costs to the industry of migrating to e-freight. The expenses incurred are based on the industry migrating to new technologies to deliver the benefits of e-freight. This means that some stakeholders that currently have a capability to exchange messages will have to upgrade their systems to exchange XML messages, whilst other industry stakeholders will have to procure the capability to exchange messages.

The technology solutions include integrated messaging, web portal and scanning and the percentage of e-freight transactions are 30%, 50% and 20% respectively.

The model has a five-year investment period plus three years to fully realize the effects of depreciating the investment in XML messaging software.

In its initial assessment, the business case concluded that e-freight, when fully implemented, could represent as much as US$4.9 billion in savings and benefits for the air cargo supply chain.

In 2012, a further review of the business case with the World Economic Forum, identified additional potential benefits, and concluded that the total benefits of paperless supply chains, including benefits to shippers using air cargo as a mode of transport, could represent upwards of US$12 billion when fully implemented. (Visit: [www.iata.org/efreight/](http://www.iata.org/efreight/))

### 1.1.4.3 Industry Stakeholder Value Proposition

In order to help airlines and freight forwarders to assess their own business case the overall business case explained above has been used as the basis to create cost benefit calculators for a various set of stakeholders.

- An airline that is self-handled
- An airline that is handled by a ground handling agent
- A freight forwarder

The models include key cost and benefit criteria including manpower, the cost of messaging and archiving of electronic messages. It is recommended to read though the instructions and assumptions to help prepare a business case. The model is built on feedback from key airlines and freight forwarders that have helped determine the business drivers in document processing and electronic messaging. Please note that this is **not** an exhaustive list of drivers as each business will have its own document processing model, but it does provide a comprehensive guideline. The model can be found at the following link: [http://www.iata.org/efreight](http://www.iata.org/efreight)

In addition, at the beginning of 2011, e-freight case studies were conducted with industry participants to illustrate the benefits of e-freight implementation. The case study shows that on implementing 100% e-freight, an airline can achieve up to 48% of productivity gains whereas a freight forwarder can achieve ~40% of productivity gain by removing paper documents and its processing, out of cargo supply chain.

These case studies can be accessed through IATA website using following link: [http://www.iata.org/efreight](http://www.iata.org/efreight)
1.1.5 Implementation approach

a. Proving feasibility and designing core business processes via initial pilots:

To prove that e-freight is feasible, define the scope of documents and develop the foundation for the e-freight operational procedures (IATA e-FOP), IATA, together with industry stakeholders, conducted a set of pilots in 2007 and 2008.

In each of the six pilot locations the project mapped the As-Is business process and defined the To-Be (e-freight) industry business process. The e-freight implementation in the six pilot locations was successfully achieved on November 5th, 2007. After this initial go-live, the pilot locations were used as a continuous test bed to prove e-freight feasibility for a larger set of shipment types, as well as identifying the future changes required in air cargo industry business processes and standards needed to make e-freight scalable.

The e-freight business processes are documented in the e-freight operational procedures (e-FOP) which are amended when appropriate, for example, with the addition of new electronic document standards and processes. They are accessible on the IATA website at www.iata.org/e-freight.

b. Creating an e-freight Network and digitizing documents through the GACAG Three Pillar Roadmap:

i. Creating a Network where Customs declarations and release are electronic and where regulatory environment supports paperless operation for a set of documents (Pillar I):

The first Pillar is about establishing and developing through advocacy and governmental engagement a network of locations where Customs are electronic and other documents can be exchanged electronically.

An ‘e-freight’ location or airport is defined as a location where at least the following criteria are met:

- Goods and Cargo Customs declarations and release are electronic for export and import
- The location has ratified MC99 or MP4 treaties or has an equivalent national legislation
- The location does not require original paper documents to be presented in support of declarations, for at least commercial invoices and packing list
- The location’s national legislation supports electronic archiving, including for tax or other purposes, for all documents listed or referred to in the above points

For locations that meet all the criteria above, it is possible to operate on an end-to-end paperless basis for at least general cargo, when shipping freight between these locations. Special cargo may still have some documents that need to be transported (DG declarations, CITES, Certificate of Origin, etc.)

Some locations may meet some but not all of these criteria. In this case, they are not considered full e-freight locations by the project, but can still offer opportunities for stakeholders to remove some of the documents. In particular, it may be possible to remove the core transport documents (air waybill) between locations that support it, even if those locations do not yet support removing other documents, such as invoice or packing list.

To help industry stakeholders decide which documents can be removed on which trade lanes, IATA maintains an updated list of locations and airports with detailed information regarding their status on the online tool called the e-Cargo Matchmaker accessible at www.iata.org/e-freight.
ii. **Removing Core transportation documents (Pillar II):**

The second pillar aims at removing the core transport documents. This includes specific digitization projects, within the context of the overall e-freight program, for the following documents:

- Electronic Air Waybill (e-AWB)
- Electronic House Manifest (e-HM)
- Electronic Consignment Security Declaration (e-CSD)
- Electronic Flight Manifest (e-FM)

Each of these documents are included in the scope of this Handbook, however, further information on standards, benefits and implementation methodologies may be found in dedicated sections on the IATA website at ‘www.iata.org/e-freight’.

iii. **Removing Commercial Documents (Pillar III):**

In addition to the transport documents mentioned in Pillar II, Air Cargo shipments are traditionally accompanied by a “pouch” of documents transporting commercial documents such as invoice and packing lists, as well as special cargo documents such as CITES or Certificates of Origin, that will be used at destination by the freight forwarder/broker to complete the Customs declarations and other purposes.

These pouches are transported by the airlines together with the freight.

In the Roadmap adopted in December 2012, it is the focus of Pillar III to define a plan to fully digitize this document pouch over time. Pillar III will also focus on other special documents transported outside of the pouch such as the Shippers Declaration for Dangerous Goods (SDDG). The scope of countries where it is already possible to digitize the pouch for a set of commercial or special cargo documents is part of the e-freight information available in the ‘e-Cargo Matchmaker’ tool, accessible at www.iata.org/e-freight

### 1.1.6 Scope

#### 1.1.6.1 List of documents in scope

The e-freight project team considered the removal of documents across the supply chain that facilitate the movement of freight and are either supported or can be supported by an agreed international electronic messaging standard.

The key documents that are part of the focus of the e-freight program as of January 2013 appears below.

- **Documents in scope of Pillar I**
  1. Export Goods Declaration
  2. Customs Release Export
  3. Export Cargo Declaration
  4. Import Cargo Declaration
  5. Import Goods Declaration
  6. Customs Release Import

- **Documents in scope of Pillar II**
  7. House Manifest
  8. Master Air Waybill
  9. Flight Manifest
  10. Consignment Security Declaration

- **Documents in scope of Pillar III**
  11. Invoice
  12. Packing List
  13. House Air Waybill

---

Core Commercial Documents:
To implement e-freight within a practical timescale the project has defined the parameters of an e-freight transaction as an airfreight consignment where:

- Goods and cargo declarations and releases are generated electronically on both export and import.
- None of the trade and transport documents in scope (see list above) are needed by customs, or other governmental agencies in original paper format in support of import or export cargo or goods declarations.
- It is allowed by local law or regulations to archive all of the in scope trade, transport and customs documents in the format of an original electronic document or record for future access and/or audit (i.e. not required to archive in paper format).
- Where core in scope documents are required by customs or other governmental authorities in paper format, for customs controls, audit checks, or any other legislative purposes, local regulations allow production of the paper format from the original electronic document or record.
- None of the core trade, transport, or customs documents in scope (see list above) are transported in paper form:
  - o between the forwarder and the carrier or the carriers contracted handling agent at origin,
  - o by the carrier(s) or the carriers contracted handling agents from origin airport to destination airport
  - o between the carrier, or the carriers contracted handling agent and forwarder (or customs broker) at destination
- The electronic air waybill (i.e. e-AWB) is used between the origin forwarder and origin carrier, as the contract of carriage under which the airfreight consignment is transported.

Note: An exception to the above is when a paper copy (not an original) of one of the core documents in scope is used by local stakeholders to perform the role of a local document which is not in scope of e-freight (for which there is no international agreed standard). An example of this is where stakeholders at airport of destination or origin may use one of the documents in scope (in copy form) to serve as means of pickup or delivery.

SDDG/SLI: The exchange of electronic information in lieu of paper documents between parties in the supply chain may include a number of technological approaches depending on the individual stakeholders. These approaches are documented in Chapter 3 of this handbook.

### 1.1.6.2 Type of shipments in scope for e-freight

In addition to the scope of documents, it is important to define the types of shipments that can be implemented, as each shipment type will have a different process and supporting document.

Each shipment can be defined according to two dimensions:

- Type of freight (commodity)
- Type of transaction
**Type of freight: general cargo and special cargo.**

**Special cargo** is defined as freight where other government agencies (OGA), in addition to customs administrations, are involved in the permission to import and export goods.

The scope of e-freight includes both general and special cargo (specifically, dangerous goods, live animals, and perishables are included in scope). This does not mean that special cargo documents specifically relevant to these documents can be removed on all e-freight trade lanes, simply that it is possible to remove a core set of documents for these types of cargo (for example, air waybill, house waybill, house manifest, invoice, packing list). On many trade lanes however, as of January 2013, the special cargo documents associated with these types of cargo (for example, Shippers Declaration for Dangerous Goods, still needed to be transported in paper on most trade lanes. Details on what documents can be removed on what trade lanes appear on the e-Cargo Matchmaker at [www.iata.org/e-freight](http://www.iata.org/e-freight).

Prior to the implementation of special cargo in a particular location and on a particular trade lane, industry stakeholders need to ensure that there is no specific local regulation or practice preventing the implementation.

<table>
<thead>
<tr>
<th>Types of freight</th>
<th>Definition</th>
<th>In or out of scope?</th>
</tr>
</thead>
<tbody>
<tr>
<td>General cargo</td>
<td>Any cargo where the clearance and release processes involves no OGA</td>
<td>In scope</td>
</tr>
<tr>
<td>Special cargo:</td>
<td>Special cargo requires the involvement of OGA as well as customs for the clearance and release of the goods</td>
<td>In scope*</td>
</tr>
<tr>
<td>Dangerous Goods, Perishables, Live Animals</td>
<td>Special cargo requires the involvement of OGA as well as customs for the clearance and release of the goods</td>
<td>Out of scope</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Types of transaction: direct, transit, transshipments, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of transaction</td>
</tr>
<tr>
<td>Point-to-point shipments</td>
</tr>
<tr>
<td>Transit (FROB)</td>
</tr>
<tr>
<td>Transshipment – through carrier gateway/hub (same airline)</td>
</tr>
<tr>
<td>Transshipment – through carrier gateway/hub (different airline, i.e. interline)</td>
</tr>
</tbody>
</table>

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*Special cargo documents such as Shippers Declaration for Dangerous Goods (SDDG) may still need to be transported in paper. The list of countries that accept electronic SDDG will be communicated via the IATA e-Cargo Matchmaker on-line tool starting on the second half of 2013. The list of locations where e-freight is possible for point-to-point, FROB, transshipments and other types of shipments can be found using the IATA e-Cargo Matchmaker on-line tool (see: [www.iata.org/e-freight](http://www.iata.org/e-freight)).*
<p>| <strong>Transshipment</strong> – through freight forwarder gateway/hub | The unloading of cargo from one means of transport and loading to another means of transport for onward carriage through freight forwarder gateway/hub | In scope³ |
| <strong>Origin freight forwarder different from destination freight forwarder (OFF-DFF)</strong> | Shipments where the origin and destination freight forwarders do not share the same IT systems for the storage and transfer of electronic data, or for the receipt transfer, and archiving of electronic documents | In scope |
| <strong>Destination freight forwarder to broker handover/turnover shipments</strong> | Shipments where the destination freight forwarder is instructed by the buyer to handover the goods to a third party, and make documents available to that third party – Commercial Invoices, Packing List, Certificate of Origin if relevant and any other document for clearance (or the third party may directly have received the documents from the origin freight forwarder or shipper), for that party to undertake the final clearance and delivery of the goods, where allowed for in the applying INCO term of sale | In scope |
| <strong>Direct shipments – freight forwarder acts as booking agent</strong> | Shipments where the freight forwarder acts as a booking agent for the carrier | In scope |
| <strong>Letter of Credit shipments</strong> | Shipments where a Letter of Credit is involved in the transfer of title for the goods | Out of scope. (Targeted for future version of the e-freight business process and standards) |
| <strong>Airline internal shipments</strong> (also called CoMat or referred to as service AWB) | Shipments (usually catering or AOG) where the shipper is the airline itself and where they also are their own freight forwarder at origin. At destination usually a regular freight forwarder is used. The flows are to the main (technical) hubs. The master AWB used is called service AWB (and is not used as a contract but operational document) which means there are no costs involved. Typically aircraft spare parts, or catering | In scope |
| <strong>Non-commercial shipments</strong> | Shipments not subject to a commercial transaction between the exporter and the importer (e.g. moving some personal effects, company material) | Targeted for next version of the e-freight business process and standards. Carriers may in the interim ship under e-freight conditions |
| <strong>Domestic shipments</strong> | The place of departure and the place of destination are within the same customs territory, and the shipment is not subject to any customs controls | In scope |
| <strong>Direct shipments – shipper books direct with the carrier</strong> | Shipment where shipper books direct with the carrier | In scope |</p>
<table>
<thead>
<tr>
<th>Postal freight</th>
<th>Airmail shipments where a postal air waybill number has been associated with the mail delivery bills</th>
<th>Out of scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intra-customs shipments</td>
<td>Shipments that originate in one country and terminate in the same/another country where the movements are within one Customs regime.</td>
<td>In Scope (for more details visit <a href="http://www.iata.org/e-freight">www.iata.org/e-freight</a>)</td>
</tr>
</tbody>
</table>

### 1.1.6.3 Locations in scope for e-freight

**Location:** a country, territory, special administrative region or any other signatory to the Warsaw convention as amended by the Montreal Protocol 4 or the Montreal Convention 99 (MP4/MC99).

The e-freight team is supporting all locations with cargo volumes.

The locations where the government is willing to support e-freight, has the appropriate legal framework in place and is able to support the technical and business process requirements (i.e. all the locations that passed both the High Level Assessment (HLA) and the Detailed Level Assessment DLA) are in scope of the mandate given by the IATA Board of Governors – refer to appendix 1 of this handbook.

In the 3 pillars approach a participant can select the type of documents (Regulatory documents, transport documents or commercial documents) they want to digitize, based on the information made available by IATA, through ‘e-cargo Matchmaker’. This is an online tool which provides information regarding detail status of the location in terms of its capability to digitize paper documents. (See: [www.iata.org/e-freight](http://www.iata.org/e-freight))

**Note:**
In order for e-AWB to be feasible between an origin and destination, both should be parties to the same convention (MP4 or MC 99), or, in exceptional cases, have national legislation equivalent to the MP4 or MC99 convention.

**Note:**
Shippers and carriers are nonetheless reminded that e-freight is a discretionary program, and it is up to shippers and carriers alike, based on their internal legal analysis, to determine how they should ship and document cargo to and from any endorsed e-freight destination.

IATA provides recommended tools for accomplishing e-freight transactions such as Cargo-IMP messaging and model EDI Agreements, and through its endorsement of particular destinations, confirms that the governments of such destinations will accept the use of these tools at their borders.

By ensuring that an endorsed location is a signatory to either MP4 or MC99, IATA can review the acceptability of e-AWB. However, such endorsement does not affect in any way the pre-existing legal regime with regard to liability or the particular requirements that cargo insurance carriers may have when cargo is transported to and from those destinations. The determination how liability and insurance issues should be resolved continues to be the responsibility of the carriers and shippers.
How to check the status of a given location

Please use the e-cargo Matchmaker to find out the current status of locations and their particularities: (see http://www.iata.org/e-freight)

There are various possibilities for a location to adopt digitize key documents (i.e. Green status):

- The location has e-AWB enabled.
- The location is e-freight Domestics enabled
- The location is export Goods/Cargo Declaration enabled
- The location is import Goods/Cargo enabled
- The location is transshipment enabled
- The location accepts digitized commercial documents
- Or a combination of the above

More information regarding the status of a location may be obtained by sending an e-mail: e-freight@iata.org

1.1.7 Stakeholders

All the key stakeholders of the air supply chain are in scope for the e-freight project.

1.1.7.1 Shippers

The shipper is the organization whose name appears on the air waybill or in the shipment record as the party with the airline(s) for carriage of goods. The term is equivalent to the term “consignor”. They are the originator of three of the documents in scope: Invoice, Packing List and Certificate of Origin.

1.1.7.2 Origin & destination freight forwarders

The freight forwarder is the party that arranges the carriage of goods and the associated formalities on behalf of a shipper. The forwarder often acts as the clearing agent for the customs release of goods for both import and export.

1.1.7.3 Export & Import customs

Export and import customs is the government service that is responsible for the administration of customs law and the collection of duties and taxes and which also has the responsibility for the application of other laws and regulations relating to the importation, exportation, movement or storage of goods.

Customs’ business processes and technology allow the electronic exchange of documents or information in lieu of paper documents.
1.1.7.4 Ground handling agents (GHA)

The GHA is authorized to act for or on behalf of the carrier for accepting, handling, loading/unloading, transit, or dealing with cargo, passenger and baggage.

The GHA is the acceptance agent for both freight and documents in the supply chain.

1.1.7.5 Origin & destination airlines

The origin carrier is the participating airline over whose routes the first section of carriage is undertaken or performed.

The destination carrier is the participating airline over whose routes the last section of carriage is undertaken or performed, or the airline which delivers the consignment to the consignee whether or not that airline has participated in the carriage (for the purposes of determining the responsibility for collecting charges and disbursement amounts)

The airlines are the key communication facilitator between freight forwarder, shipper, consignee and customs, and transport the documentation.

1.1.7.6 Customs agents/brokers

The customs broker is an agent or representative or a professional customs clearing agent who deals directly with customs on behalf of the importer or exporter.

1.1.7.7 Consignees

The consignee is the organization whose name appears on the air waybill or in the shipment record as the party to whom the cargo is to be delivered by the airline or its agent.

1.1.7.8 Other stakeholders

Freight Forwarder Associations (FFA)
Local FFAs are involved wherever possible in the implementation in new locations to ensure the needs of the Small to Medium Enterprise (SME) freight forwarders are considered.

Customs Brokers Associations
Local Customs Brokers Associations are involved wherever possible in the implementation in new locations to ensure the needs of the customs brokers are considered.

Shippers Associations
Local Shippers Associations are involved wherever possible in the implementation in new locations to ensure the needs of shippers are considered.

IT Solution Providers
IT solution providers develop information management tools and provide services for supply chain stakeholders to automate, streamline and integrate their business processes. They provide computer software, hardware and networking solutions, consulting, maintenance and IT/process outsourcing services.

Software solutions include management systems to operate core business activities, middleware technology to integrate with other applications or partners, integration platforms to route and translate messages between partners and web-based applications used as a service.
Supply chain stakeholders may procure IT services from external companies or from internal IT departments.

**IATA**

The e-freight project team in IATA is responsible for driving e-freight by:
- Developing relevant approaches and global implementation plan to drive the implementation of the e-freight program objectives as set by its governance bodies
- Defining standards, solutions, tools,
- Engaging key industry actors,
- Providing knowledge, support and training to local stakeholders
- Generally driving the initiative

### 1.1.8 e-freight Governance and Industry Leadership

E-freight is an initiative by the supply chain, for the supply chain. It is therefore necessary to have a guiding coalition to implement e-freight in accordance with the mandate.

The industry leadership for e-freight, strategic guidance, and technical work required for its implementation is facilitated and/or provided by a set of industry bodies as below:
- GACAG Steering Committee and GACAG e-Commerce Task Force (ECTF): provide overall industry guidance and strategy, support and endorsement of the overall vision
- E-freight Central Action Group: drives the implementation of the vision via the definition of appropriate strategies, and advises on targets and deliverables
- Individual Working Group and Task Forces, either as part of the initiative itself, or part of the larger IATA governance, which drive implementation of specific e-Documents, development of specific standards, or specific advocacy activities (see below)

#### Other industry working groups supporting e-freight

| Cargo XML Task Force (CXMLTF) | XML standards |
| Cargo Operations Advisory Group (COAG) | Paperless standards for freight acceptance and release |
| Customs Action Group (CUSAG) | Advanced Cargo Security |
| Vendor Action Group (VAG) | Engagement with vendors |
e-freight Industry Leadership

Industry Guidance/co-ordination

GACAG e-Commerce Task Force (ECTF)

e-freight Central Action Group (eCAG)

e-freight program Governance

Network development

e-freight local Support Groups (Brazil, Russia, India, China,...)

e-AWB Advisory Group

e-CSD Task Force

e-House Manifest Task Force

e-Flight Manifest TF?

Core transport documents

Commercial and special docs

LAPB (Health Certificate)

Document specific or advocacy groups

e-AWB: electronic Air way bill

e-CSD: electronic Consignment security declaration

e-SDDG: electronic Shippers Declaration for Dangerous Goods

LAPB: Live Animals and Perishables Board

TF: Task Force
CHAPTER 2  HOW TO ADOPT e-freight

This section is intended to guide individual stakeholders (airlines, freight forwarders, shippers, ground handling agents, customs brokers) through the process of e-freight adoption for feasible documents.

Feasible documents

The focus of e-freight is to allow for the paperless transportation of air cargo from shipper to consignee. The list of documents that are part of the overall e-freight initiative is listed in chapter 1. The list of documents that can be digitized in a given location or on a given trade lane (i.e. do not need to be transported with the freight, and can be archived electronically for further reference) is maintained by IATA and made available to e-freight participants via the on-line application ‘e-Cargo Matchmaker’ (see: http://www.iata.org/e-freight )

Even if all documents in scope of e-freight are not accepted yet in a given location, stakeholders can still gain benefits by digitizing some of the documents that are already acceptable in a given location. In particular, IATA strongly recommends that airlines, forwarders and ground handlers, start with the implementation of e-AWB as the first step towards full e-freight implementation.

The remaining paper documents can then be digitized when it becomes feasible for the location.

Note:

In order to make the decision to implement e-freight in full or in part, it is recommended to understand:

- The overall scope, approach and business benefits of e-freight (see Chapter 1 of this handbook)
- The status of the targeted location(s) and airport(s), using the e-cargo Matchmaker application (see: http://www.iata.org/e-freight ).

Throughout the implementation, you can also refer to the Handbook for:

- The recommended business process and standards of e-freight (see Chapter 3 of this handbook)
- The technical integration options and requirements (see Chapter 4 of this handbook)

The methodology below should be followed to implement e-freight in a live airport:

Step 1: Select the document(s) you want to digitize
Step 2: assess your technical readiness and identify your gaps if any
Step 3: decide how you will conduct e-freight in your operations and write your internal e-freight operational procedures (e-FOP)
Step 4: decide with what partner and on what trade lanes you want to start e-freight
Step 5: close your gaps if any and get ready to start
Step 6: start!

The detailed description of the above steps to adopt e-freight is given in Section 2.1 to Section 2.6 below.
How to use IATA resources to implement e-freight:

This implementation process is self-led by the stakeholder but IATA provides a set of online resources to guide you:

The e-freight section of the IATA public website provides you with:
- Online Matchmaker tool about where e-freight is already live and which airlines are already live on e-freight
- e-freight fact sheet: vision and mandate, business case,
- Information and documentation about adopting e-freight
- Scorecards about where e-freight is already live and which airlines and forwarders are already live on e-freight
- Capability matrix: information about IT functionalities to support e-freight and solution availability.

To access this information, visit: www.iata.org/e-freight

The Cargo Tracker Newsletter provides regular updates on IATA Cargo initiatives.

To register to receive these newsletters, visit: www.iata.org/optin

The e-Cargo Business team from IATA can provide you with ad-hoc support.

To contact us, use the following e-mail address: e-freight@iata.org

Section 2.1 Select the document(s) you want to digitize

2.1.1 List down and select feasible document(s) to be digitized

The documents generated in the transportation of air cargo are broadly categorized into three main categories namely, regulatory related documents, trade related documents and commercial documents. Some of these documents to be generated electronically, require a regulatory legal framework in place (such as local laws allowing for electronic contracts and transaction), whereas remaining other documents can be digitized without any such requirements.

IATA recommends you to use ‘e-cargo Matchmaker’ on IATA website (see: www.iata.org/e-freight), which is an online tool to find out the current status of locations and their particularities with respect to the feasibility to digitize paper documents. Now out of this list, select the document(s) you want to digitize in your operations.

How to know which digitized document are feasible and where

e-Cargo Matchmaker is available on the IATA website. This contains a list of locations and airports indicating the digitization status of specific key documents in that location/airport. To know more about the list, refer to the IATA public website: www.iata.org/e-freight
Section 2.2  Assess your technical readiness and identify your gaps (if any)

2.2.1 Use the IATA on-line self-assessment questionnaire

IATA has created a self-explanatory questionnaire to assess your technical readiness and identify your gaps if any. You should first go through it to make an initial assessment.

The questionnaire:
- Is specific to the type of stakeholders (airlines, freight forwarders, ground handlers, shippers)
- Encompasses the various ways to do e-freight (full EDI, portal, partial EDI complemented by scanning)

Please find the self-assessment questionnaire on the IATA public website: www.iata.org/e-freight

2.2.2 Decide how you will close your technical readiness gaps (if any)

Once you have conducted your readiness assessment, it is recommended that you decide how you will close any identified gap(s).

Typically the gaps can cover the following areas:
- Ability to exchange electronic messages (EDI) between you and your supply chain partners
- Ability to store electronic information in-house
- Ability to exchange scanned documents within your organization or with your business partners

You may select to close these gaps internally with your own in-house IT resources, or you may want to request the help of a 3rd party Technology Company.

IATA has engaged with a list of companies through the IATA Strategic Partnership Program who may provide solutions for you. The list of current participants can be found in the technology chapter of this Handbook (Chapter 4). Whether you close these gaps internally or with the help of a third party, the technology chapter of this Handbook can help you understand the technology requirements in more details.

More details about closing gaps are provided under section 2.4 of this Chapter.
Section 2.3  Decide how you will conduct e-freight and write your internal e-freight operational procedures (e-FOP)

2.3.1 Prepare your internal e-freight Operational Procedures (e-FOP)

Implementing e-freight may require changes in your current business process.

The objective of writing your internal e-FOP is to define the operational procedures that will be put in place in your company to support e-freight.

Those operational procedures need to be aligned with:
- The generic process and procedures defined by IATA (see the generic IATA To-Be business process and e-FOP available on the IATA public website)
- The specific rules or limitations that apply to the locations you are targeting for export and import (see the e-freight Detailed Locations Status Report using e-freight Matchmaker on the IATA’s e-freight webpage)

For stakeholders that are already participating in e-freight in another location, please liaise with your Head Office to obtain the e-FOP defined for your company.

After having written your own e-freight operational procedure, you must validate your internal e-FOP through the dry-run tests. This is a form of walk-through where the steps of your e-FOP are validated one by one. Follow a shipment step by step using the steps of your drafted internal e-FOP.

Check that the export and import processes at your own station, as documented in your drafted internal e-FOP, are:
- Practical and operationally feasible for your operational staff
- Supported by current operational IT systems. If not, identify the technical gaps that need to be addressed
- Supported by existing messaging capabilities. If not, identify the messaging capability gaps
- Compatible with the import and export processes of stakeholders in other e-freight locations with whom e-freight is to be bi-laterally implemented
- Compatible with partners e-FOPs

You can then finalize your internal e-FOP according to the results of your dry-run tests.

2.3.2 Identify the changes required in your business process

In parallel to drafting your internal e-FOP, changes required in your current business process must be identified:

The most common changes required in companies’ business processes include:
- **Document handling:** currently, most stakeholders have a process that relies at least partly on paper: paper documents are created, printed and handed from one party to another, mostly following the physical flow of the freight. In e-freight, several (possibly all) of these steps are removed and replaced by electronic data exchange.

- **Exchange of messages and electronic data:** currently, many stakeholders may not (or only partially) rely on electronic exchange of information to facilitate the transit of the freight. In e-freight, this becomes the primary mode of exchange of information and stakeholders need to ensure they prepare their operation for this
change. There are two EDI message standards available, Cargo-IMP and Cargo-XML. Stakeholders can use any of these on the basis of their capability and that of their partners in the Supply Chain. IATA recommends adopting Cargo-XML whenever possible, either as the first standard used if a given stakeholder was not using Cargo-IMP before, or migrating from Cargo-IMP to XML is C-IMP was used before. Cargo-IMP will be sunset at the end of 2014, which means that IATA will not be maintaining the standard any more, and it is anticipated that Cargo-XML messages will gradually replace Cargo-IMP will all stakeholders. It will still be possible for stakeholders using XML to interface with those using Cargo-IMP via the services of message translators, either built in the stakeholders own systems, or provided by third party message brokers (Cargo Community Systems).

- **Archiving of documents:** in locations where e-freight is live, it is not necessary to archive the core documents in scope under paper format. Stakeholders may decide to take advantage of this by changing the archiving process and migrate from paper to electronic archiving. In doing so, they need to ensure that any local e-commerce legal requirements on archiving are followed.

- **Performing ancillary functions:** the implementation of e-freight focuses on the steps linked with the transportation of freight from origin to destination. Some of the documents used to facilitate transportation may also be used for other functions. For example, the paper air waybill may be used for the process of invoicing. If this is the case, stakeholders need to ensure that they can replace it with a process that utilizes electronic data, or paper copies of electronic documents.

**Section 2.4  Decide with what partners and on what trade lanes you want to start e-freight**

Once you made the decision to change your current operational procedures and build your technical capability to implement e-freight, it is key to decide on which trade lanes and with which partners you will actually operate e-freight shipments.

To help you select the trade lanes and the business partners, through e-Cargo Matchmaker IATA provides lists of e-freight capable airlines and freight forwarders, the e-freight capable locations and airports, and the valid transit points you can use.

**How to select the international trade lanes on which you will implement e-freight**

e-Cargo Matchmaker is available on the IATA website. This contains a list of the e-freight capable locations. Also this tool is helpful to know where it is feasible to do full e-freight and where it is possible to implement only a set of documents. To know more about the list, refer to the IATA public website: www.iata.org/e-freight
How to select the partners you will implement e-freight with

e-Cargo Matchmaker is available on the IATA website. The Matchmaker report contains:

- Airline e-freight status by Origin Airport
- Airline e-freight status by Destination Airport
- Freight Forwarder e-freight status by Origin Airport
- Freight Forwarder e-freight status by Destination Airport
- Ground Handling Agent e-freight status by Airport

If your partner is not listed in e-Cargo Matchmaker, IATA recommends you to check with them regarding their digitized document capability. To know more about the list, refer to the IATA public website: www.iata.org/e-freight

How to check the transit status of an airport

If the trade lanes you have selected involve the use of one or several transit points (i.e. an en route stopping place where the freight remains on board (FROB), you need to ensure that those transit points you select are acceptable for e-freight shipments. You can find a list of valid transit points on the e-Cargo Matchmaker online tool on the IATA public website: http://www.iata.org/e-freight

Note that:

- The status is updated on a regular basis based on information received from local customs authorities
- The transit airports assessed so far by IATA are the ones that have been identified by the e-freight stakeholders as key in their current business activities

If you do not find a transit airport status you require then IATA encourages you to conduct an assessment of the locations suitability as a transit location by seeking the information from appropriate local customs through the Transit questionnaire and share outcomes with the e-freight project team by e-mail: e-freight@iata.org

How to promote e-freight to your business partners

IATA has created some materials that can help you promoting e-freight to your business partners and customers:

- The e-freight case studies
- The e-freight Fundamentals presentation

Those materials are available on the IATA public website: www.iata.org/e-freight
Section 2.5  Prepare your operation

2.5.1 Close your technical gaps

As an individual stakeholder, you might have identified technical gaps that need to be addressed in order to implement e-freight.

Those gaps could be filled in one of the following three ways:

- Internal developments with in-house staff resources
- Outsourced developments with the help of IT solution providers and/or IT consulting companies. The list of the IATA Strategic Partners, who may provide you with adequate solutions, appears in Chapter 4 of this handbook.
- Acquisition of third party IT solutions already capable of supporting your e-freight implementation

Key success factor:

In case you are addressing your technical gaps by developing capability internally, IATA recommends that you follow the below methodology (inspired by standard Design/Build/Test best practice):

1. **Design:**
   Define the design scope for technical capability using the following steps
   - Document the data extraction and integration flows that will be required in e-freight and the system changes that will occur based on your current capabilities and gap analyzed in the previous steps
   - Define the user acceptance test (UAT) scenarios that need to be successfully passed to consider systems ready for go-live by the user. These scenarios will be used to conduct the UAT after the technical build has been completed.
   - Define test entry and exit criteria. They describe what needs to be completed to start testing (technical tests sign-off, UAT sign-off, system availability, etc) and what needs to be achieved to complete the tests (test execution, no high severity open items, agreed plan to close open items, signed off tests).

2. **Build:**
   Conduct the technical build according to the design scope defined.

3. **Test:**
   Execute the technical testing of your new or updated technical interfaces for e-freight:
   - Unit tests to control those messages extracted from the sender’s system match the requirements and that files are properly integrated into the receiver’s system. No data exchanges are tested at that point.
   - Integration tests to focus on the technical exchange of data between the sender’s system and the receiver’s system, through a hub or directly. Check that data are extracted, mapped, routed and delivered as described in the technical specifications.
   - Non-regression tests to ensure the correct functioning of the existing system whenever a new build is deployed. They can be executed as part of the regular test cycle (assembly, integration) when any build gets delivered to the test environment. Therefore no exclusive plan needs to be created. The regression test scripts will be selected from the integration test repository.
   
   Execute the functional tests: the user acceptance tests (UAT)
2.5.2 Ensure your data readiness

This step is about ensuring that you have put in place the right technical capabilities and also business process to exchange data with the required quality levels along with your business partners.

For FWB/XFWB and FHL/XFHL messages:

These are the sets of messages used in Cargo IMP (three later messages starting with letter F) or in Cargo-XML (four letter messages starting with letter X) to transmit data between supply chain partners in a predefined standard. More detail definition on individual messages is provided in Chapter 3 - Business Processes and Standards.

If your e-FOP call for the exchange of FWB and FHL messages between your organization and your partner organizations (this will be the case for most airlines and shippers/forwarders), then the IATA Message Improvement Program (MIP) will provide you with critical help to ensure data readiness, that is, your ability to exchange these messages with the proper message penetration and quality.

If you are an airline implementing e-freight, participation to the IATA MIP program is mandatory. If you are a freight forwarder, then you can register with IATA so as to receive regular MIP report that will provide you with your current data quality performance on FWB and FHL.

The e-freight Message Improvement Program (MIP) is a program by which airlines and freight forwarders monitor the penetration and accuracy of the FWB, FHL, XFWB and XFHL messages they exchange.

How to participate in MIP

Read the MIP strategy document available on the IATA public website: www.iata.org/e-freight

I. Formally agree to it by sending an email to the IATA MIP contact mip@iata.org

II. Appoint an MIP contact in your organization and share their name, position, address, phone, fax and email for publication in the MIP contact list

III. Carriers: confirm the date when first MIP files will be submitted (the deadline for submission is the 15th of each month for previous month activity).

IV. Freight forwarders: provide us with the list of your IATA agent numbers / names in all locations (for report consolidation)

V. When personalized MIP reports are distributed monthly (around the 20th of each month) start investigating and addressing frequent issues with partners (carriers, freight forwarders, IT solution providers, internal IT services...)

For other messages besides FWB, FHL, XFWB and XFHL

The level of penetration and accuracy of other messages exchanged as part of stakeholders’ internal e-FOP is not tracked by the MIP program. In this case, it will be up to each stakeholder to confirm with their partners that they have put in place processes and systems that allow them to properly extract and integrate these messages with the right level of accuracy and data quality.
2.5.3 Train your operational personnel

Implementing e-freight will mean changing the current operational procedures to be compliant with the new procedures required to support e-freight and described in your internal e-FOP.

As soon as your internal e-FOP is defined and validated through the dry-run tests and the necessary changes in your operational procedures are implemented, it is time to make sure that the employees are trained and ready to work with e-freight shipments.

To train your staff, IATA recommends that you:
- Prepare appropriate training materials (using your internal e-FOP as a foundation)
- Organize the training session(s) by selecting the persons who need to be trained
- Run the training session(s)

2.5.4 Perform wet-run tests

Once the gaps are closed and users trained, you may wish to ensure that your operation is ready in accordance to your internal e-FOP. IATA recommends that you do this through wet-run tests, i.e. as coordinated trials on your selected trade lanes with your selected e-freight business partners.

This is done by using digitized documents for the transportation of freight but continuing to utilize paper versions in parallel. If the paper versions of digitized documents are not required for the transportation of the freight to destination the wet runs can be considered successful.

To perform your wet-run tests, IATA recommends that stakeholders:
- Plan the tests with partners (identify the wet-run shipments, set dates for the wet-run tests)
- Execute the wet-run tests. During wet-run tests, the shipment is transported as described in the location e-FOP. However, the paper documents are still transported.
- An appropriate tracking method should be used during the wet runs to track if the paper versions of the digitized documents are used and if so, for what purpose and by what stakeholders. The figure below shows an example of tracking methodology used to identify gaps (if any) in the process that led to the use of the paper documents.

- Close the identified gaps if any and update the internal e-FOP if necessary
2.5.5 Prepare your contingency plan

In order to ensure a smooth transition from a paper process to the e-freight process, we also recommend creating a contingency plan in case of go-live issues. Your contingency plan should include statement of how should possible failure in the communication be solved and who would be the key points of contact for your business partners.

2.5.6 Make the go-live decision with your trading partners

Once everything is ready (i.e. e-FOP defined, technical gaps closed, personnel trained and wet-run tests successful), you need to make the go-live decision and to agree on the go-live date in conjunction with your partners (airline, forwarder, shipper, customs brokers) on selected trade lanes.

Section 2.6 Start with your first live e-freight shipments!

2.6.1 Start e-freight

At end of step 4, you and your trading partners made the go-live decision and chose your go-live date to use digitized versions of some or all of the key documents in e-freight scope.

On the agreed date:

- Perform the first e-freight shipments according to the location e-FOP and to internal e-FOPs.
- Monitor the first e-freight shipments to confirm that they are successfully performed.
- Track and discuss together any identified issues to ensure they are addressed for subsequent shipments.

IATA does not report shipments as e-freight unless both the origin and destination airports are endorsed fully e-freight capable and e-AWB has been reported to be used on the shipments in question.

2.6.2 Report your shipments to IATA

If you are an airline, it is important that you report your e-freight shipments to IATA, so that we can have visibility of the adoption of e-freight and its various components by the industry.

The mechanism used to report is the IATA Message Improvement Program (MIP, described above) which serves both as message quality improvement initiative and as e-freight adoption tracking tool.

Airlines should report their e-freight shipments in MIP following these simple rules:

- Include ECC code for each shipment done with electronic contract of carriage (e-AWB)
- Include EAW code for each shipment without a document pouch

The detailed rules are explained in the relevant MIP guidelines document that will be provided to you when joining the MIP program.
How airlines report, and how IATA tracks e-freight shipments

**I – Expansion e-freight Network**
- Customs and Regulators

**II – Digitization Core Transport Docs**
- Airline
- Handler
- Forwarder

**III – Digitization Commercial Docs**
- Shipper
- Forwarder
- Airline

**Key measure(s)**
- e-freight capable countries and airports
- % of global trade lanes covered
- Status of specific docs
- e-AWB
- Industry penetration
- e-House
- Manifest
- e-Flight Manifest
- e-CSD
- Industry capability

**Tracking approach**
- Determined by IATA via assessment process and other advocacy efforts
- ECC codes entered by airlines in FWB/XFWB messages
- Self-declaration of capability by forwarders/airlines/handlers
- EAW code entered by forwarders in FWB/XFWB messages

**Reporting approach**
- Status of airports/countries reported by IATA in Matchmaker (e-freight overall and specific docs)
- ECC codes reported by Airlines in MIP reports
- Participants enter their status directly in Matchmaker
- EAW codes reported by airlines in MIP reports

*Status specific docs not always in the pouch (such as SDDG) will be tracked separately*
CHAPTER 3  BUSINESS PROCESS AND STANDARDS (BPS) SUPPORTING e-freight

Section 3.1  Introduction to Business Process & Standards

In order to replace paper with the use of electronic data it is necessary to have common and clear business processes and standards, which are the foundations of e-freight as well as e-freight Operational Procedures (e-FOP).

NOTE: The information provided in this section will next be updated in June 2013, taking into account latest progress made relative to specific documents such as e-AWB and e-House Manifest as well as latest e-freight Roadmap published by GACAG in December 2012. Meanwhile, most of the information in this chapter remains accurate and relevant. For any further detail or clarification, access the IATA web resources at www.iata.org/e-freight or contact the e-freight project team at e-freight@iata.org

In this section of the e-freight handbook you will find information on the:

- IATA Cargo To-Be business process which gives an overview of the air cargo supply chain
- IATA e-FOP which describes the tasks to be followed by the stakeholders involved in e-freight
- e-freight business rules which are the specifications of the new process and standards
- Standard electronic messages to be used under an e-freight environment

3.1.1 What are Business Process and Standards Objectives?

The first objective is to create an IATA e-FOP that allows the replacement of paper documents by electronic data and meet the following criteria:

- Fits into the cargo business process,
- Is aligned with international initiatives such as the World Customs Organization (WCO) as well as with other IATA initiatives such as Cargo 2000
- Meets the e-customs modernization programs that are being implemented in many countries.

The second objective is to define the standard electronic messages that will be exchanged between the stakeholders in an e-freight environment in order to remove paper documents.

3.1.2 Why define Business Process and Standards?

The e-freight business process and IATA e-FOP were developed with five principles in mind in order to maximize the benefits of stakeholders who join e-freight:

Simplicity

Ensuring that the e-freight project is aligned with one business process will prevent duplication and complexity.

For example, stakeholders who have implemented or plan to implement e-freight and Cargo 2000 will have one common business process that supports both initiatives.
e-freight aims at removing paper from the air freight supply chain whereas the Cargo 2000 is an industry initiative aiming at implementing a quality management system for the air cargo industry.

Scalability

Creating one standard for e-freight, agreed and followed by the industry, facilitates e-freight roll out.

For example, stakeholders in various e-freight locations must be aligned to one standard to be in a position to send and receive e-freight shipments.

Efficiency

Exchanging standard electronic messages instead of paper documents facilitate data exchange between the stakeholders and reduce costs related to development and integration of messages.

For example, freight forwarders who receive the standard electronic invoice from their shippers reduce integration costs, as only one agreed format would need to be integrated.

Quality

Replacing paper documents by standard electronic messages generated one time at source will increase the quality of the data transferred between stakeholders and communicated to customs.

For example, freight forwarders who receive the standard electronic invoice from their shippers will not have to manually key in data into their system, risking potential errors that will be transmitted to customs.

Reliability

The above-mentioned principles will result in consistent customer service.

Reminder: How do e-freight business process and standards bring benefits?

- ONE operating process
- ONE agreed standard
- ONE time data entry
3.1.3 How do we define Business Process and Standards?

The business process, the operational procedures and the standard electronic messages have been developed with the participation of subject matter experts involved in task forces, stakeholders from the e-freight pilot locations, from other industry initiatives as well as from IT solution providers.

The business process, the operational procedures and the standard electronic messages have been reviewed and endorsed by e-CAG and by industry bodies such as the IATA Cargo Services Conference (CSC).

They are published in this handbook to facilitate e-freight implementation.

Section 3.2 Where does e-freight fit in the cargo business process?

The IATA e-FOP must be an integral part of the overall cargo To-Be business process to ensure simplicity and scalability.

The IATA cargo To-Be business process gives an overview of the air cargo supply chain. Its intent is to describe the most frequent business scenario by presenting the process as a list of steps that must be performed in chronological order by the supply chain participants and the necessary standard electronic messages exchanged to replace paper documents.

As described in the section of this handbook related to implementation, the IATA cargo To-Be business process forms the basis of the To-Be business process for e-freight locations.

The IATA cargo To-Be business process can be accessed using the following URL: www.iata.org/e-freight

3.2.1 Who is involved in the IATA cargo To-Be business process?

The IATA cargo To-Be business process describes the overall tasks performed by the following stakeholders:

- Origin shipper or exporter
- Origin & destination freight forwarders
- Customs brokers
- Origin & destination carriers
- Ground handling agents
- Export & import customs
- Final consignee or importer

Notes: Customs brokers are in scope but not included in this business process because in some circumstances the freight forwarders, the shippers or the consignee can perform brokerage activities. Information related to customs brokers is provided in the appropriate business rules section of this handbook.
3.2.2 What are the steps of the IATA cargo To-Be business process?

The IATA cargo To-Be business process is a description of the end-to-end process (from shippers to consignees) of transporting cargo. It lists the process steps performed by the stakeholders and the standard electronic messages that may have to be exchanged.

The process steps are grouped into nine cycles:

- M01 Freight receipt from shipper
- M02 Truck load and depart for airport
- M03 Carrier receipt and ready for carriage shipment
- M04 Flight manifest and carriage
- M05 Freight arrival at destination airport
- M06-07 Freight collection by freight forwarder
- M08-09 Load and delivery to consignee

The documents in scope for e-freight as well as the milestones of Cargo 2000 are referenced within the IATA cargo To-Be business process.

Important: The various IATA initiatives (e-freight, Cargo 2000 and Security) can be implemented in conjunction or independently. In this case only some of the electronic messages of the IATA To-Be business process should be implemented.

3.2.3 What are the operational procedures to follow under e-freight?

The e-freight Operational Procedures (e-FOP) describes in detail the tasks to be performed by the stakeholders involved in e-freight based on the IATA cargo To-Be business process.

Each of the tasks relates to one or more process steps listed in the IATA Cargo To-Be business process.

As part of the detailed description of the task, a clear definition is provided as well as how this task is performed under e-freight, and, if not yet available, the future application of the task. The To-Be business process steps are cross-referenced in the IATA e-FOP.

As described in the section of this handbook related to implementation, the IATA e-FOP is the basis to create the local IATA e-FOP that each local stakeholder involved in e-freight will have to follow.

Important: Acceptable local practices including local Customs requirements will be described in the local To-Be business process and local e-freight operational procedures.
The IATA e-FOP can be accessed at the following URL:

www.iata.org/e-freight

The relationship between the To-Be business process and the IATA e-FOP will be described in the implementation chapter of this handbook. It can be illustrated as follows:

Section 3.3 What information is exchanged in e-freight and how?

3.3.1 What are the documents removed in e-freight?

The intent of e-freight is to define and build an end-to-end paperless transportation process for air cargo. The process of transportation involves a large number of documents. At this stage of the initiative, 12 core documents have been identified as priority (distributed along the Three Pillars), with an additional 8 documents as second priority.

The diagram below describes the relations between the 12 core documents defined as priority:
The 12 core documents can be defined as follows:

3.3.1.1 **Invoice**

Document required by customs in an importing country in which an exporter states the invoice or other price (e.g. selling price, price of identical goods), and specifies costs for freight, insurance and packing and terms of delivery and payment for the purpose of determining the customs value in the importing country of goods.

3.3.1.2 **Packing List**

Document specifying the distribution of goods in individual packages.

3.3.1.3 **Export Goods Declaration**

Document by which goods are declared for export customs clearance.

3.3.1.4 **Customs Release Export**

Document whereby a customs authority releases goods under its control to be placed at the disposal of the party concerned (synonym customs delivery note).

3.3.1.5 **House (Freight) Manifest**

Document containing the same information as a cargo manifest and additional details on freight amounts, etc.

3.3.1.6 **(Master) Air Waybill**

Air waybill is a document made out by or on behalf of the shipper which specifies the contract between the shipper and carrier(s) for carriage of goods and which is identified by the airline prefix issuing the document plus a serial.

Master Air Waybill is a document made out by or on behalf of the agent / consolidator which specifies the contract between the agent/consolidator and carrier(s) for carriage of goods for a consignment consisting of goods originated by more than one shipper.

3.3.1.7 **House Waybill**

Document made out by an agent / consolidator which specify the contract between the shipper and the agent/consolidator for the arrangement of carriage of goods.

**Important:** The House Waybill is used for all modes of transport such as rail, sea, road and air.

3.3.1.8 **Export Cargo Declaration (Departure)**

Generic term, sometimes referred to as Freight Declaration, applied to the documents providing the particulars required by the customs concerning the cargo (freight) carried by commercial means of transport.

3.3.1.9 **Flight (Cargo) Manifest**

Details of consignments loaded onto a specified flight.
3.3.1.10 Import Cargo Declaration (arrival)

Generic term, sometimes referred to as freight declaration, applied to the documents providing the particulars required by the customs concerning the cargo (freight) carried by commercial means of transport.

3.3.1.11 Import Goods Declaration

Document by which goods are declared for import customs clearance.

3.3.1.12 Customs Release Import

Document whereby a customs authority releases goods under its control to be placed at the disposal of the party concerned (synonym customs delivery note).

3.3.2 Who is involved in e-freight?

Stakeholders involved in e-freight are the same as in IATA Cargo To-Be business process (see in Chapter 1 list of stakeholders)

3.3.3 What is the flow of information in an e-freight environment

The following business process overview describes the physical flow of goods/cargo as well as the information flow between the different stakeholders involved in the airfreight supply chain.

It describes a process whereby the freight forwarder consolidates shipments from various shippers into a single consolidation at origin and performs brokerage activities and delivery at destination.

Notes: Other scenarios are described in the business rules section of this handbook, such as a process whereby the freight forwarder is using a broker at destination or a direct shipment process with the freight forwarder acting as a booking agent and the consignee giving instructions to the customs broker/agent at destination.
In addition to the above overview the following flowchart describes the sequence of the 12 core documents exchanged between stakeholders that will be replaced under e-freight with the electronic exchange of data.

In blue are the customs related documents and in purple are the transportation documents.

Remark: The light blue is used for advance customs information that may be required in some countries. Double ended arrows imply a response.

**Note**: No information exchange is displayed in the cycle M08 and M09 “Load and delivery to consignee” as no document included in the scope of e-freight is exchanged.

**Important**: “Advance security risk assessment information / response” as well as the “conveyance report” are described in this process but are only required by some national customs authorities (e.g. US, Canada, India and EU). Implementation of these requirements is not described in this handbook. Details should be provided by the national Customs administrations.

### 3.3.3.1 M01 Freight receipt from shippers

The shipper sends electronically the Invoice and Packing List to the origin freight forwarder and to the Consignee. These documents are not printed anymore and not physically transported with the freight to the origin freight forwarder.
Note: Invoice and Packing List can be transferred using electronic data interchange or scanned images.

3.3.3.2 M02 Truck load and depart for airport

The origin freight forwarder, using the information received electronically from the shipper, will prepare and send electronically the export goods declaration to customs.

Customs will release the goods for export and notify the origin freight forwarders by electronically sending a customs release for export.

The origin freight forwarder will prepare the house manifest as well as the master air waybill and send them electronically to the origin carrier. The house manifest and the master air waybill are no longer printed and physically transported with the freight to the origin carrier.

Depending on the country and if not done by the carrier in M03, the freight forwarder may, on behalf of the carrier, submit advance security risk assessment information to destination customs. Customs will perform advance security risk assessment and depending on the results of the risk assessment and on the country, customs may provide an electronic response.

The origin freight forwarder sends the pre-alerts electronically to the destination freight forwarder to inform and allow the freight forwarder to prepare the customs clearance in advance.

The pre-alert is comprised of the Invoice, Packing List, the house waybill, house manifest and master air waybill.

Important: In case a customs broker is involved, the destination freight forwarder will transmit electronically the necessary information of the pre-alert to the customs broker as described in the business rules section of this handbook.

3.3.3.3 M03 Carrier receipt and ready for carriage shipment

The origin freight forwarder presents the shipment to the origin carrier who performs the necessary checks according Cargo Agency Conference Resolution 8334 to receive the freight as “ready for carriage”.

Important: The ground handling agent can receive the freight on behalf of the carrier as described in the business rules section.

In some countries the origin carrier (if not subcontracted to the origin freight forwarder as described in M02), will transmit advance security risk assessment information to destination customs. Customs will perform advance security risk assessment and depending on the results of the risk assessment and on the country customs may provide an electronic response.

3.3.3.4 M04 Flight manifest and carriage

The origin carrier transmits electronically to export customs an export cargo declaration and receives an electronic response from export customs to release the cargo for export.

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4. As per IATA’s Cargo Interchange Message Procedures 27th Edition
The origin carrier manifests the flight and transmits electronically at “wheels up” a pre-alert to the destination carrier. The pre-alert is comprised of the flight manifest as well as the house manifest and the master air waybill.

Prior to flight arrival some national customs authorities may require the destination carrier to transmit electronically a conveyance report indicating the flight identification and the estimated time of arrival.

Important: Some of the carrier’s activities can be performed by ground handling agents on behalf of the carrier as described in the business rules section of this handbook.

3.3.5 M05 Freight arrival at destination airport

At flight arrival the destination carrier transmits electronically to import customs an import cargo declaration and receives an electronic response from import customs to release the cargo to be delivered to the destination freight forwarder.

3.3.6 M06-07 Freight collection by freight forwarder

The destination freight forwarder will collect the freight and transmit electronically the import goods declaration (prepared in advance) to the import customs to clear the goods (physical and fiscal release).

Import customs performs risk assessment and depending on the results may request for additional information from the destination freight forwarder (e.g. Invoice, Packing List). These documents will be provided to import customs electronically or by exception on paper (print out from electronic records or electronic archives).

Important: When a customs broker is involved the customs clearance will be performed by the broker and not by the destination freight forwarder. The broker may be instructed by the freight forwarder or even by the consignee as described in the business rules section of this handbook.

Import customs may transmit a response electronically to the destination freight forwarder to release the goods for import.

3.3.7 M08-09 Load and delivery to consignee

When the goods are cleared the destination freight forwarder loads the truck and delivers the goods to the final consignee. No electronic documents within the scope of e-freight are being exchanged in that cycle.

3.3.4 What is the “logic” behind the electronic message for each document?

Each of the 12 core paper documents is replaced by one or more standard electronic messages that will be exchanged between the stakeholders. It can happen that one paper document is replaced by more than one standard electronic message – as for example an “acceptance” message may be required.

Important: To replace paper documents with electronic messages data quality has to be ensured. The Message Improvement Program is controlling data quality of some core messages.

The e-freight business process applies the “one time data entry at source” logic to increase efficiency by reducing manual data entry and improving
data quality. Thus the first stakeholder who is entering the information in his system will then transmit the data electronically to the next trading partner in the supply chain to avoid duplicate manual data entry and potential risk of errors.

**Important:** Data entry should be done once at source to reduce manual data entry and increase data quality.

For example, in the paper world, the shipper is keying information that will then be printed on the invoice that will then be transmitted physically to the freight forwarder who will again key in data manually into their own system. Under e-freight the shipper will transmit the invoice electronically to the freight forwarder who will integrate it automatically in his system. They will then be able to transmit again this data electronically.

**Key success factors:** In addition to the reduction of manual data entry and increase of data quality, sending electronic information from origin to destination before arrival of the goods allows stakeholders to prepare the customs clearance in advance and expedites the delivery of the goods to end customers.

For example, in the paper world, the destination freight forwarder or customs broker is waiting for the aircraft arrival to get the necessary documents and prepare the customs clearance. Under e-freight the destination freight forwarder or customs broker receive a pre-alert electronically with the necessary information to prepare the customs clearance prior to arrival of the goods.

**Note:** As stated in the technology chapter of this handbook, IT solution providers or individual stakeholders may provide online web capabilities to involve all stakeholders.

Some stakeholders may be able to participate in e-freight by using scanning technology and will also achieve some of the e-freight benefits by transmitting scanned copies of paper Invoice and Packing List.

At some point stakeholders using scanning capabilities will have to migrate to electronic data interchange to achieve the maximum benefits of e-freight, using the standard messages and technologies as suggested in the e-freight handbook.

**Important:** Scanning is acceptable for some documents i.e. Invoice and Packing List.

### 3.3.5 Are printouts allowed under e-freight business process?

As the e-freight mandate is paper free, the documents may have to be printed from electronic records or electronic archives in a readable format by exception and at any time and any point in the supply chain if so requested, however the original paper documents are not needed nor physically archived.

**Important:** Some documents may have to be printed from electronic records or electronic archives in a readable format by exception at any time in the supply chain if so requested.
Section 3.4  What are the standard electronic messages for the core e-freight documents?

Each of the 12 core paper documents in the scope of e-freight is replaced by one or more standard electronic messages with an "agreed international standard" as defined by IATA, the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) or the World Customs Organization (WCO).

The 12 core documents are grouped into three categories; (iii) The Commercial and special cargo documents, (ii) the core transportation documents and (i) the customs documents (Pillar I).

For each of the 12 core documents it is recommended to migrate to the latest version of the electronic message standards to make sure that all data requirements can be supported.

Historically freight forwarders, airlines and handlers have used the IATA Cargo-IMP messages to exchange electronic messages. Limitations have been identified with Cargo-IMP which led to the decision to progressively migrate to a new Cargo-XML standard. IATA has published the first Cargo-XML standard in early 2013 and will sunset Cargo-IMP at the end of 2014.

Key success factor: It is recommended to migrate toward XML messages to reduce costs, facilitate communication over internet and increase adoption by all parties

3.4.1 Standard electronic messages exchanged in an e-freight environment

The following business process overview describes the physical flow of goods/cargo as well as the standard electronic messages exchanged between the different stakeholders involved in the airfreight supply chain.

It describes a process whereby the freight forwarder consolidates shipments from various shippers into a single consolidation at origin and performs the brokerage activities and delivery at destination.
Notes: Other scenarios are described in the section related to business rules of this handbook, such as a direct shipment process with the freight forwarder acting as a booking agent or a process whereby the freight forwarder is using a broker at destination.

In addition to the above overview, the following flowchart describes the sequence of the 12 standard electronic messages exchanged between stakeholders under an e-freight environment.

The customs documents are in blue and the transportation documents are in purple. The light blue is used for advance customs information that may be required in some countries.

Note: Cycle M08 and M09 “Load and delivery to consignee” have no document included in the scope of e-freight.

Important: “Advance security risk assessment information / response” as well as the “conveyance report” are described in this process but are only required by some national customs (e.g. US, Canada, India and EU). Implementation of these requirements is not described in this handbook. Details should be provided by the national Customs administrations.
The diagram below describes the relations between the core messages in scope:

3.4.2 Standard electronic messages related to trade

3.4.2.1 Background

The Invoice and Packing List documents had no agreed international electronic message standards widely used that include customs or other government agencies requirements that could satisfy the e-freight business process.

IATA and supply chain stakeholders created task forces to develop standards, with the aim to define cross-border, multi-modal and cross-industry standards using international agreed standards.

“The United Nations, through its Centre for Trade Facilitation and Electronic Business (UN/CEFACT), supports activities dedicated to improving the ability of business, trade and administrative organizations, from developed, developing and transitional economies, to exchange products and relevant services effectively. Its principal focus is on facilitating national and international transactions, through the simplification and harmonization of processes, procedures and information flows, and so contributes to the growth of global commerce. This is achieved by (…):

- Coordinating its work with other international organizations such as the World Trade Organization (WTO), the World Customs Organization (WCO), the Organization for Economic Co-operation and Development (OECD), the United Nations Commission on International Trade Law (UNCITRAL) and the United Nations Conference on Trade and Development (UNCTAD), notably in the context of a Memorandum of Understanding for a Global Facilitation Partnership for Transport and Trade;
- Securing coherence in the development of Standards and
• Recommendations by co-operating with other interested parties, including international, intergovernmental and non-governmental organizations.

In particular, for UN/CEFACT Standards, this coherence is accomplished by cooperating with the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), the International Telecommunication Union (ITU) and selected non-governmental organizations (NGOs) in the context of the ISO/IEC/ITU/UNECE Memorandum of Understanding (MoU).  

IATA and industry stakeholders defined the Invoice and Packing List standards based on the UN/CEFACT standards i.e. the UN/CEFACT Core Component Library (CCL) and the UNCEFACT XML Naming and Design Rules (NDR).

**Important:** The Invoice and Packing List developed are multi-modal, cross-border and multi-industry standards.

### 3.4.2.2 Invoice message

The Invoice message contains all the necessary trade information related to one shipment to primarily calculate the taxes and duties to be paid on arrival as part of the customs clearance process.

In many cases, the invoice contains packing information as well as the origin of the goods. In such circumstances the Packing List and the Certificate of Origin are not required.

The specifications of the Invoice can be accessed using the following URL:

[www.iata.org/efreight](http://www.iata.org/efreight)

### 3.4.2.3 Packing list message

The Packing List message describes the packaging information related to one shipment as well as the description and quantities of goods in each of the packages.

The specifications of the Packing List can be accessed using the following URL:

[www.iata.org/efreight](http://www.iata.org/efreight)

**Note:** All the code lists suggested in the Invoice and Packing List Specifications are describes in the Code List Specification.

The specification of the code lists can be accessed using the following URL: [http://www.iata.org/efreight](http://www.iata.org/efreight)

### 3.4.3 Standard electronic messages related to transportation

#### 3.4.3.1 Background

IATA has a long tradition in establishing standards and defining the necessary electronic messages for the air transport industry. Under the scope of e-freight only five transportation documents can be covered by electronic messages.

The specifications of these IATA standard electronic messages are described in the Cargo Interchange Message Procedures (Cargo-IMP) that can be accessed and purchased at the following URL: [www.iata.org/cimp](http://www.iata.org/cimp)

The equivalent IATA standard electronic messages developed in XML can be accessed at the following URL: [www.iata.org/cargo-xml](http://www.iata.org/cargo-xml)

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5 [http://www.unece.org/cefact/about.htm](http://www.unece.org/cefact/about.htm)
The Cargo-IMP Manual has been developed by IATA member airlines and the Air Transport Association of America (ATA) as the standard IATA/ATA Cargo-IMP. The purpose of these messages is to ensure uniformity, mutual understanding, accuracy and economy in data exchange between airlines and other cargo industry participants including agents, brokers and customs authorities.

3.4.3.2 House Waybill Data (FZB) message

The FZB message contains all the house waybill data.

The IATA Cargo-IMP House Waybill Data (FZB) message and its XML-equivalent XFZB digitalizes the house waybill document.

3.4.3.3 Consolidation List (FHL) message

The main objective of the FHL message is to provide a “check-list” of house waybills associated with a master air waybill.

A second type of FHL provides details of one house waybill consignment in order for the carrier to provide customs with advance information based on the house waybill information provided by the origin freight forwarder.

The IATA Cargo-IMP Consolidation List (FHL) message and its XML-equivalent XFZB digitalizes the house manifest document.

3.4.3.4 Air Waybill Data (FWB and FSU (RCS)) messages

The FWB message is used to transmit a complete set of air waybill data in accordance with the IATA Cargo Services Conference Resolutions.

An e-AWB (shipment record) will digitalize the paper air waybill. For that purpose the IATA Cargo-IMP Air Waybill Data (FWB) message will be confirmed by the Status Update (FSU) message with the RCS (Ready for Carriage Shipment) standard Cargo-IMP status code. Similarly, its XML-equivalent is XFWB and XFSU.

RCS: The Cargo-IMP standard code “RCS” definition is “the consignment has been physically received from the shipper or the shipper’s agent and is considered by the carrier as ready for carriage on this date at this location”.

3.4.3.5 Airline Flight Manifest (FFM) message

The FFM message provides the details of consignments loaded onto a specified flight.

The IATA Cargo-IMP Airline Flight Manifest (FFM) message and its XML-equivalent XFFM digitalizes the flight manifest document.

3.4.3.6 Error (FNA) message

The IATA Cargo-IMP error (FNA) message is used in order to notify the sender of a message that an error has been detected in a message.

3.4.3.7 Acknowledgment (FMA) message

If agreed between parties, the IATA Cargo-IMP message acknowledgment (FMA) message or the Cargo 2000 route map milestone (MUP FWB) message may be used to confirm the receipt of the FWB message.

Important: The Acknowledgment (FMA) message to confirm the reception of the FWB message is optional and will only be implemented if agreed between parties.
3.4.4 Standard electronic messages related to customs

3.4.4.1 Background

Uniform data requirements are key to customs control and are crucial to trade facilitation. For this reason the harmonization of data requirements for import and export, creation of common definitions and standardization of data content and its format are essential building blocks for the World Customs Organization\(^6\) (WCO) Data Model.

The Data Model forms the basis for the development of common electronic messages (Conveyance, Cargo and Goods declarations for import and export) on the basis of international standards such as UN/EDIFACT\(^1\) or XML\(^2\). This requires the development of common message structures for Conveyance, Cargo and the Goods Declaration (import, transit and export) that are compatible with relevant commercial information flows.

Following a request from the G7, the WCO took over the maintenance and management of the G7 initiative from January 2002 to advance the work into a global customs standard from which the WCO Data Model has evolved. Initially the G7 data set was simply renamed into WCO Customs Data Model version 1.0.

The following message types were used:

- CUSDEC: Customs declaration message (export & import)
- CUSCAR: Customs cargo report message (export & import)
- CUSRES: Customs response message (export & import)
- CUSREP: Customs conveyance report message

Due to the events of 11th September 2001 a task force on Supply Chain Security was established by the WCO to create standard customs messages. In order to meet the requirements defined by the task force the WCO Customs Data Model was updated to version 1.1.

Version 2.0 of the WCO Customs Data Model covers the updated data set, the message implementation guidelines, the conveyance reporting, and data set for transit according to the European common transit convention (New Computerized Transit System (NCTS) as well as requirements for North American transit or "in-bond" It also contains some OGA (Other Governmental Agency) data and incorporates business data modeling using UN/CEFACT Modeling Methodology. The presence of OGA data saw the name officially change to become simply “the WCO Data Model.”

As part of this message implementation guidelines the following message types were defined:

- WCODEC: Customs goods declaration message (export & import)
- WCOCAR: Customs cargo report message (export & import)
- WCOREP: Customs conveyance report message

The WCO prefix was used to identify these messages as part of the WCO data model work and to avoid confusion with the existing United Nations Standard Messages (CUSDEC, CUSCAR, and CUSREP).

The WCO data model and message type’s specifications can be accessed and purchased using the following URL (search for “WCO Customs Data Model” using “quick find” button on this website.):

http://publications.wcoomd.org/

Customs administrations should ensure that their respective IT systems are interoperable and are based on open standards. Therefore customs should use the WCO Data Model and the related electronic message formats for relevant cargo, goods and transit declarations.

\(^6\) www.wcoomd.org
Note: Version 3 of the WCO Data Model was released at the end of 2009 with the aim to be implemented by the WCO Members. The WCO CUSREP, CUSCAR, CUSDEC messages will be replaced by the Government Cross-Border Regulatory (GOVCBR) message available from the Version 3 of the WCO Data Model.

3.4.4.2 Export Goods Declaration (WCODEC) message

This WCO customs declaration message (WCODEC) permits the transfer of goods data from the declarant (i.e. origin freight forwarder, importer, customs agent) responsible for declaring goods to the export customs administration for the purpose of meeting legislative and/or operational requirements in respect of the declaration of goods for export.

This message is transmitted for export prior to the goods being loaded.

3.4.4.3 Advance security risk assessment procedures (depending on legislative requirements)

Advance security risk assessment procedures permit the transfer of information prior to aircraft arrival for import customs, subject to appropriate international agreements, to perform the necessary security risk assessment in advance and identify the shipments that will be controlled from those that will not.

The WCO is working on the development of the requirements for advance security risk assessment under Version 3 of the WCO Data Model and in accordance with the WCO SAFE Framework of Standards⁷, which sets the principles and the standards to secure and facilitate global trade.

Today these procedures are only implemented in some countries or customs territories so the technical specifications would depend on national requirements. For example the USA, Canada, India and soon the EU (1st of January 2011) are asking for advance security risk assessment procedures.

It is anticipated that many countries will require risk assessment procedures in the near future.

In order to ensure a minimum level of consistency and without prejudice to specific situations, the WCO recommends that customs should require such information to be transmitted:

- At time of “Wheels Up” of aircraft for short haul
- Four hours prior to arrival at the first port in the country of destination for long haul

3.4.4.4 Export Cargo Declaration (WCOCAR) message

This WCO customs cargo report message (WCOCAR) permits the transfer of cargo data from the origin carrier (or any other declarant) responsible for reporting single or multiple consignments to the export customs administration for the purpose of meeting legislative and/or operational requirements in respect of the obligation to report cargo to customs.

This message is transmitted for export according to national legislation but generally prior to arrival of the means of transport at the export customs office.

3.4.4.5 Export Customs Response (CUSRES) message

The WCO “response working group” has identified changes to the Customs Response (CUSRES) message. It permits the transfer of the notification that the goods/cargo is released for export from the export customs to the origin freight forwarder/origin carrier.

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3.4.6 Conveyance Report (WCOREP) message

The WCO customs conveyance report message (WCOREP) permits the transfer of data from the destination carrier to import customs for the purpose of meeting customs reporting requirements in respect to the means of transport on which cargo is carried.

The message is transmitted upon arrival of the flight or prior to arrival where national legislation permits.

3.4.7 Import Goods Declaration (WCODEC) message

This WCO Customs Declaration Message (WCODEC) permits the transfer of goods data from the declarant (e.g. destination freight forwarder, importer, customs agent) responsible for declaring goods to the import customs administration for the purpose of meeting legislative and/or operational requirements in respect to the declaration of goods for import (such as duty calculation or the collection of trade statistics).

This message is transmitted for import prior to release of the goods.

3.4.8 Import Cargo Declaration (WCOCAR) message

This WCO customs cargo report message (WCOCAR) permits the transfer of cargo data from the destination carrier responsible for reporting single or multiple consignments to the import customs administration for the purpose of meeting legislative and/or operational requirements.

This message is transmitted according to national legislation but generally prior to arrival of goods at the import customs office.

3.4.9 Import Customs Response (CUSRES) message

The WCO “response working group” has identified changes to the Customs Response (CUSRES) message. It permits the transfer of the notification that the goods/cargo is released for import from import customs to the destination freight forwarder/destination carrier.

Note: The WCO “response working group” has identified changes to the Customs Response (CUSRES) message. This CUSRES message completes the message set aligned with Version 2 of the WCO Data Model.
### 3.4.5 Summary of the electronic messages and standards for documents used under e-freight

The below table summarizes per document type the standardization organization that has set the standards and the messages used in e-freight.

<table>
<thead>
<tr>
<th>Document Type</th>
<th>Organization</th>
<th>Standard</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invoice</td>
<td>IATA</td>
<td>UN/CEFACT XML</td>
<td>Invoice (XINV)</td>
</tr>
<tr>
<td>Packing List</td>
<td>IATA</td>
<td>UN/CEFACT XML</td>
<td>Packing List (XPCL)</td>
</tr>
<tr>
<td>House Waybill</td>
<td>IATA</td>
<td>Cargo-IMP &amp; UN/CEFACT XML</td>
<td>FZB &amp; XFZB</td>
</tr>
<tr>
<td>House Manifest</td>
<td>IATA</td>
<td>Cargo-IMP &amp; UN/CEFACT XML</td>
<td>FHL &amp; XFZB</td>
</tr>
<tr>
<td>Air Waybill</td>
<td>IATA</td>
<td>Cargo-IMP &amp; UN/CEFACT XML</td>
<td>FWB &amp; XFWB</td>
</tr>
<tr>
<td></td>
<td>IATA</td>
<td>Cargo-IMP</td>
<td>FSU &amp; XFSU</td>
</tr>
<tr>
<td>Flight Manifest</td>
<td>IATA</td>
<td>Cargo-IMP &amp; UN/CEFACT XML</td>
<td>FFM &amp; XFFM</td>
</tr>
<tr>
<td>Export Goods Declaration</td>
<td>WCO</td>
<td>EDIFACT &amp; UN/CEFACT XML</td>
<td>WCODEC &amp; GOVCBR</td>
</tr>
<tr>
<td>Customs Release Export</td>
<td>WCO</td>
<td>EDIFACT &amp; UN/CEFACT XML</td>
<td>CUSRES &amp; GOVCBR</td>
</tr>
<tr>
<td>Export Cargo Declaration</td>
<td>WCO</td>
<td>EDIFACT &amp; UN/CEFACT XML</td>
<td>WCOCAR &amp; GOVCBR</td>
</tr>
<tr>
<td>Import Cargo Declaration</td>
<td>WCO</td>
<td>EDIFACT &amp; UN/CEFACT XML</td>
<td>WCOCAR &amp; GOVCBR</td>
</tr>
<tr>
<td>Import Goods Declaration</td>
<td>WCO</td>
<td>EDIFACT &amp; UN/CEFACT XML</td>
<td>WCODEC &amp; GOVCBR</td>
</tr>
<tr>
<td>Customs Release Import</td>
<td>WCO</td>
<td>EDIFACT &amp; UN/CEFACT XML</td>
<td>CUSRES &amp; GOVCBR</td>
</tr>
<tr>
<td>Certificate of Origin (where feasible)</td>
<td>IATA</td>
<td>UN/CEFACT XML</td>
<td>Certificate of Origin (XCOO)</td>
</tr>
<tr>
<td>Dangerous Goods Declaration</td>
<td>IATA</td>
<td>Cargo-IMP &amp; UN/CEFACT XML</td>
<td>FDD &amp; XDDG</td>
</tr>
<tr>
<td>Shipper’s Letter of Instruction</td>
<td>IATA</td>
<td>UN/CEFACT XML</td>
<td>XSLI</td>
</tr>
<tr>
<td>Transfer Manifest</td>
<td>IATA</td>
<td>Cargo-IMP</td>
<td>FSU (TFD &amp; RCT Codes)</td>
</tr>
<tr>
<td>Freight Booked List</td>
<td>IATA</td>
<td>CIMP &amp; UN/CEFACT XML</td>
<td>FBL &amp; XFBL</td>
</tr>
<tr>
<td>CITES Certificate</td>
<td>CITES</td>
<td>UN/CEFACT XML</td>
<td>e-CITES</td>
</tr>
<tr>
<td>Transit Declaration</td>
<td>IATA</td>
<td>EDIFACT &amp; UN/CEFACT XML</td>
<td>Transit Declaration</td>
</tr>
<tr>
<td>Security Declaration</td>
<td>IATA</td>
<td>CIMP &amp; UN/CEFACT XML</td>
<td>Security Declaration</td>
</tr>
</tbody>
</table>

**Note:** These recommended standards and formats should be used to obtain the full benefit of e-freight.

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8 WCO created a working group “response working group” that is working on the development of the customs release messages.
3.4.6 Certificate of Origin (where feasible)

Document identifying goods in which the authority or body authorized to issue it certifies expressly that the goods to which the certificate relates originate in a specific country. The word “country” may include a group of countries, a region or a part of a country. This certificate may also include a declaration by the manufacturer, producer, supplier, exporter or other competent person.

**Important:** The Certificate of Origin will only be removed were legally feasible, as some national administrations do not accept the electronic Certificate of Origin.

The Certificate of Origin message identifies the country of origin for each of the goods related to one shipment.

The specifications of the Certificate of Origin can be accessed using the following URL:

http://www.iata.org/e-freight

**Note:** All the code lists suggested in the Certificate of Origin Specification are described in the Code List Specification.

3.4.7 Dangerous Goods Declaration

The “Dangerous Goods Declaration” is a document / message issued by a consignor in accordance with applicable conventions or regulations, describing dangerous goods or materials for transport purposes, and stating that the latter have been packed, marked and labeled in accordance with the provisions of the relevant conventions or regulations.

The Shippers’ Declaration for Dangerous Goods (SDDG) message describes all the necessary transportation information related to the dangerous goods, the number and type of packaging and the net quantity of dangerous goods per package. The Shipper's Declaration certifies that the dangerous goods have been packed, marked and labeled in accordance with the provisions of the IATA DGR.

The following high-level To-Be business process describes the Shippers' Declaration for Dangerous Goods (SDDG) standard message exchange in an e-freight environment:
The specifications of the Shippers’ Declaration for Dangerous Goods can be accessed using the following URL:

http://www.iata.org/e-freight

### 3.4.8 Shipper’s Letter of Instruction (SLI)

The Shipper’s Letter of Instruction can relate to:
- Shipping instructions: a document advising details of cargo and exporter’s requirement for its physical movement; or
- Forwarding instructions: a document issued by a consignor to a freight forwarder, giving instructions regarding the action to be taken by the freight forwarder for the forwarding of goods described therein.

The specifications of the Shipper’s Letter of Instruction (SLI) can be accessed using the following URL:

http://www.iata.org/e-freight

### 3.4.9 Transfer Manifest

Interlining under e-freight recommends the use of electronic Transfer Manifest to replace the traditional paper Transfer Manifest. The electronic transfer manifest shall be:

- Initiated by the IATA Cargo Interchange Message Procedures (Cargo-IMP) Status Update message (FSU) with the status code TFD “The consignment has been physically transferred to this carrier on this date at this location” sent by the transferring carrier; and
- Confirmed by the Cargo-IMP Status Update message (FSU) with the status code RCT “The consignment has been physically received from this carrier on this date at this location”.

Export & Import Customs are not involved in SDDG process

Physical flow of freight with or without paper

Data / Message Flow

The specifications of the Shippers’ Declaration for Dangerous Goods can be accessed using the following URL:

http://www.iata.org/e-freight
Notes: The FSU message provides unsolicited updates on the status details of consignments. The combination of the IATA Cargo-IMP Status Update FSU (TFD) and Status Update FSU (RCT) messages digitalizes the transfer manifest document.

In order to enable the use of electronic Transfer Manifest in multilateral cargo interlining, the necessary amendments to CSC Resolution 660 Attachment 'A', 'Interline Traffic Agreement – Cargo', and Recommended Practice 1605, 'Transfer Manifest', are being proposed to the IATA Cargo Services Conference for approval.

Note: The business process beyond the transfer points will remain as described in the e-freight Operational Procedures.
Section 3.5  What are the business rules related to e-freight?

3.5.1 Indicator for e-freight shipment (EAW & EAP)

Broadly speaking, a shipment is considered an e-freight shipment when no documents accompany the shipment.

Specifically, as of January 2013, the following rules apply to consider a shipment to be an e-freight shipment:

- Electronic contract of carriage (e-AWB)
- Electronic customs declarations (i.e. on e-freight trade lane)
- No accompanying documentation to be transported with the freight to destination (i.e. no pouch, materialized by the EAW code entered by the forwarder in the FWB/XFWB message, or equivalent)

The EAW & EAP codes are conveyed between stakeholders in the Special Handling Codes (SPH) of the electronic messages.

Notes: the below rules (in italics) are under review by the e-freight Central Action Group (eCAG), following the publication of the new e-freight Roadmap in December 2012 and will be updated by end April 2013 in this Handbook, possibly with some changes. In the meantime, IATA recommends addressing any questions on this topic directly to IATA at e-freight@IATA.org.

To support the above rules, and also to allow operators, from freight forwarders, carriers, ground handling agents and customs, to identify if a shipment is an e-freight shipment, two standard codes are used:

- EAW: “e-freight Consignment with No Accompanying Documents”
- EAP: “e-freight Consignment with Accompanying Documents”
- ECC: “electronic Contract of Carriage”

It is mandatory to insert the EAW and EAP in the air waybill (FWB Message) and in the airline flight manifest (FFM Message).

It is recommended to insert the EAW and EAP codes in the space allocation request (booking) and in the consolidation list (details of one house manifest).

Important: The EAW code identifies e-freight Consignment with No Accompanying Documents and the EAP code identifies the e-freight Consignment with Accompanying Documents.

3.5.2 Electronic Air Waybill (e-AWB)

With limited exceptions, where both the origin and destination countries have ratified MC99 (or both have ratified MP4), then the electronic Air Waybill (also referred as e-AWB or shipment record) can be used in lieu of the paper Air Waybill and parties can assert the limitations and exclusions of liability under the Conventions. Unless otherwise indicated, MP4 and MC99 are collectively referred to as the “Conventions” throughout this Handbook.

Important: The e-AWB (or Shipment Record) has the same validity as the paper AWB where both the origin and destination countries have ratified the same convention, MP4 or MC99.

The IATA Cargo Committee in Sep 2010 endorsed the move toward 100% e-AWB by end of 2014. All e-freight shipments will need to include full implementation of the e-AWB by January 2013.
3.5.2.1 Agreement for electronic data interchange

Prior to the implementation of the e-AWB the origin carrier and the shipper (or the origin freight forwarder acting as shipper with respect to the shipment) will sign a bilateral agreement (at corporate level where feasible) for electronic data interchange that describes the business, technical and legal implications of replacing the paper (master) air waybill with electronic data interchange.

A model agreement for electronic data interchange has been drafted by IATA and can be used by the stakeholders who want to implement the e-AWB. This model agreement for data interchange as well as the necessary annexes can be found at the following URL address:

www.iata.org/e-freight

Note: Where feasible this bilateral agreement should be signed at a corporate level to limit the administrative burden of signing many agreements at a local level.

For small and mid-size shippers who will initiate the shipment record on-line (e.g. through a web portal) the agreement could also be accepted on-line as described in the technology chapter of this handbook.

3.5.2.2 e-AWB (shipment record) initiation

To initiate the shipment record, the shipper will send the completed air waybill data through an electronic message (FWB) possibly including the code “ECC”. As per Cargo-IMP Manual, the code ECC, designating an e-AWB shipment, is optional. The message is sent to the carrier prior to the presentation of the consignment at the carrier warehouse.

Shipment record: any record of the cargo contract preserved by carrier, evidenced by means other than an air waybill.

Cargo contract: a contract between the parties, conducted by EDI, for the transportation of and settlement with respect to a specific cargo shipment.

ECC code: "Consignment established with an electronically concluded cargo contract with no accompanying paper air waybill".

The cargo contract shall be deemed concluded once the carrier has accepted the cargo, sent to the shipper the “ready for carriage” status message by using the Cargo-IMP Status Message FSU/RCS and provided a paper cargo receipt to the shipper.

If the carrier is not able to produce the cargo receipt upon delivery of the shipment by the shipper, the carrier may produce a warehouse receipt to the shipper or countersign a shipper’s delivery note. In such case, the cargo contract nonetheless continues to be subject to the carrier confirming the FWB information and that the shipment is “ready for carriage” by using the Cargo-IMP Status Message FSU/RCS sent to the shipper. When the
shipment is ready for carriage, the carrier shall make available to the shipper a paper cargo receipt.

Any modification to the information found in the FWB will be according to shipper and carrier agreed exception management procedures.

**Note:** In cases where the freight is delivered by a shipper to the carrier but the shipment record has not been initiated in the carrier system or cannot be accessed, the shipment shall be handled as previously agreed between the parties.

### 3.5.2.3 When to use EAW, EAP, ECC codes (table needs review)

**Notes:** the below rules (in italics) are under review by the e-freight Central Action Group (eCAG), following the publication of the new e-freight Roadmap in December 2012 and will be updated by end April 2013 in this Handbook, possibly with some changes. In the meantime, IATA recommends addressing any questions on this topic directly to IATA at e-freight@IATA.org

<table>
<thead>
<tr>
<th>Type of shipment</th>
<th>Electronic Customs procedures in place at origin and destination</th>
<th>EDI Agreement exists between FF and Airline</th>
<th>FWB &amp; FSU exchanged between FF and Airline</th>
<th>Paper AWB handed over from FF to Airline (or GHA)</th>
<th>Invoice &amp; Packing List can be included in pouch to be transported to destination</th>
<th>Are other documents (not invoice or packing list) in pouch to be transported to destination?</th>
<th>Special Handling Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-AWB only</td>
<td>Indifferent</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>Indifferent</td>
<td>ECC or no code</td>
</tr>
<tr>
<td>e-freight with e-AWB (mandatory for all e-freight starting Jan 2013)</td>
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<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>EAW + ECC or only EAW + ECC or only EAP</td>
<td></td>
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<tr>
<td>e-freight without e-AWB (only allowed until Dec 2012)</td>
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<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>EAW EAP</td>
</tr>
</tbody>
</table>

### 3.5.2.4 Rejection message

The notification to the shipper that the electronic message containing the traditional air waybill information (FWB) has been rejected by the carrier’s system and / or by the IT solution provider due to syntax errors can be performed using the standard electronic error (FNA) message as per Cargo Interchange Message Procedures (Cargo-IMP) Manual.

The FNA message should include the Message Improvement Program (MIP) error code and reason, as per the latest version of the MIP strategy document.

### 3.5.2.5 Confirmation message (optional)

The notification to the shipper to confirm that the electronic message containing the traditional air waybill information (FWB) has been received by the carrier’s system and/or his IT solution provider without syntax errors and application errors can be performed using the standard electronic Acknowledgment (FMA) message as per the Cargo Interchange Message Procedures (Cargo-IMP) Manual.

Alternatively the Cargo 2000 route map milestone (MUP-FWB) message may be used by Cargo 2000 members.

**Important:** A confirmation message is not required unless previously agreed by the parties.
3.5.2.6 Cargo receipt

The cargo receipt evidences the conclusion of the contract, ("including acceptance of all contract terms") and acceptance of the cargo as “Ready for Carriage” (as indicated in the IATA Cargo Agency Conference Resolutions 833\(^9\)).

**Cargo receipt (or receipt for cargo):** a document (in paper or electronic form) which is provided to the shipper by the carrier in paper form unless otherwise agreed between the parties, creating a shipment record as a substitution for the issuance of an air waybill and which permits identification of the shipment that has been accepted and deemed “ready for carriage”.

The cargo receipt consists of data from the FWB message information and as confirmed by the FSU/RCS.

The date of the cargo receipt shall be the date that the carrier transmits the FSU/RCS to the shipper.

The layout of the cargo receipt is described in IATA Cargo Services Conference Recommended Practice 1670.

3.5.2.7 Access to the shipment record by the consignee

The consignee may need to have access to the cargo receipt containing weight, volume and number of pieces.

The carrier can provide a facsimile of the cargo receipt to the consignee upon request by the shipper if so agreed by the parties.

3.5.2.8 Charges correction advice

In the case of discrepancies the carrier shall send a Cargo Correction Advice (CCA) to the shipper unless otherwise agreed by the parties.

3.5.2.9 Bar coded label

For cargo acceptance, shipments must be labeled where feasible with machine-readable cargo labels that are in accordance with the specifications of IATA Cargo Services Conference Resolution 606\(^10\), Bar Coded Label.

3.5.2.10 e-AWB overview for electronic data interchange

The two flowcharts below give an overview of the e-AWB (shipment record). It involves the shipper, the carrier and the consignee.

**Fast Track**

The fast track describes the situation where the carrier accepts the cargo as “ready for carriage” upon delivery of the freight by the shipper at the carrier point of acceptance. In that case the carrier will provide the shipper with a cargo receipt to evidence the conclusion of the contract of carriage and the acceptance of the cargo.

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\(^9\) Cargo Agency Conference Resolution 833 Ready for Carriage Consignments

\(^10\) Cargo Services Conference Resolution 606 Bar Coded Label
Normal Track

The normal tack describes the situation where the carrier can only accept the cargo as “freight on hand” and not as “ready for carriage” upon shipper’s delivery to the carrier due to technical, procedural or other limitations.

In this case the carrier will provide the shipper upon delivery a warehouse receipt (in lieu of a warehouse receipt, the carrier may verify the information on and countersign the shipper’s delivery note. Once verified and countersigned by the carrier such delivery note shall serve as a warehouse receipt).

This warehouse receipt shall be deemed an interim “cargo receipt” until the carrier has performed the necessary checks to accept the cargo as “ready for carriage” and only at that point send to the shipper the electronic message FSU/RCS and make available to the shipper the cargo receipt.
### 3.5.3 Shipper's Right of Disposition

Pursuant to Article 12 of the Conventions, the Shipper has a specific right of disposition over the cargo up until delivery to and acceptance by the original consignee at destination. According to the Conventions, in carrying out any Shipper counter-instructions involving the disposition of the cargo, the Carrier shall be free from any liability associated therewith, so long as it has requested from the Shipper the production of that part of the air waybill or Cargo Receipt previously delivered to the Shipper. In the paper air waybill world, the Shipper would produce "Original 3" of the standard IATA Master Air Waybill. Under e-freight, it is the responsibility of the Carriers to provide an "original" Cargo Receipt that would satisfy the requirement of Article 12 of the Conventions; IATA recognizes the challenges inherent with producing "original" documents within the context of electronic transactions, consequently, IATA hereby highlights this matter and makes the following recommendation:

Under the current Cargo Services Conference Recommended Practice 1601, Conditions of Carriage for Cargo, Section 7.1, "The right of disposition over the Cargo may only be exercised if the Shipper or such agent produces the part of the Air Waybill which was delivered to him, or communicates such other form of authority as may be prescribed Carrier's regulations." Additionally, Section 7.3 of these recommended Conditions of Carriage provides an indemnity provision wherein Shipper shall be liable for and shall indemnify Carrier for all loss or damage suffered or incurred by Carrier as a result of the exercise of his right of disposition. E-freight recommends that Carriers adopt the IATA Conditions of Carriage and if not then recommends that similar clauses be included in the EDI agreement. Carriers will also have to determine exactly what "other form of authority" they will require from Shippers such that they will feel comfortable in carrying out any potential Shipper counter-instructions involving the disposition over the cargo.

The foregoing reflects a practical solution for the time being while a solution to an "original" cargo receipt or its equivalent can be identified and used as an industry standard. E-freight participants should make an independent decision as to whether or not they wish to proceed under the current IATA Recommended Practice, or for example impose greater security such as having the Shipper post a bond prior to executing counter instructions or the most conservative option of having the Shipper waive its right of disposition over the cargo through the appropriate language in the agreement for EDI and in the Cargo Receipt as per Article 15 of the Conventions. **As with all matters involving liability we urge you to consult with your legal counsel prior to taking any decisions in this regard.**
3.5.4 Origin – destination freight forwarders communication

Origin and destination freight forwarder communication has been investigated under e-freight to ensure that standards are in place for information that needs to be exchanged between a forwarding company at origin and a forwarding company at destination.

It was determined that freight forwarders needed to exchange both trade information and transportation information.

The origin freight forwarders send the following information to the destination freight forwarders:
- Trade information: Invoice, Packing List and Certificate of Origin (where feasible)
- Transportation information: House Waybill, House Manifest and Master Air Waybill Information

If there are other documents deemed important enough by the shipper to require courier service to the consignee then that will be the shipper’s responsibility (5 – 20% of shipments can contain such documents, depending on geographical location). The consignee would then ensure that these documents are provided to the destination freight forwarder.

Shippers may also elect to provide electronic versions of the trade documents to the consignee in some circumstances.

The following high level To-Be business process is envisioned for communication between origin freight forwarders and destination freight forwarders:

The detailed specifications of origin and destination freight forwarder communication can be accessed at the following URL:

www.iata.org/e-freight
3.5.5 Freight forwarder – customs broker communication

Freight forwarder and destination customs broker communication has also been investigated under e-freight to ensure that standards are in place for information that needs to be exchanged between a forwarding company and a customs broker at destination. The customs broker’s main role is to submit the customs entry declaration.

It was determined that brokers require trade information and some transportation information, such as house waybills. The brokers usually do not require the air waybill or the house manifest. However, depending on geographical location, a master air waybill may be needed sometimes for customs clearance purposes.

The following information can be sent by the freight forwarder to the destination customs broker:

- Trade information: Invoice, Packing List and Certificate of Origin (where feasible)
- Transportation information: House Waybill

Any additional paper documents required, such as a Customs Advice Note, are excluded from the scope of e-freight for the time being.

If there are other documents deemed important enough by the shipper to require courier service to the consignee then that will be the shipper’s responsibility (5 – 20% of shipments can contain such other documents, depending on geographical location). The consignee would then ensure that these documents are provided to the customs broker.

Shippers may also elect to provide electronic versions of the trade documents to the consignee and customs broker in some circumstances. The following high level To-Be business process is envisioned for communication between destination freight forwarder and customs broker:

The detailed specifications of the destination freight forwarder and customs broker communication can be accessed at the following URL:

www.iata.org/e-freight
3.5.6 Freight forwarder – carrier – ground handling agent communication

Carriers often contract the ground handling management of freight consignments to ground handling agents (GHA) at origin and/or at destination.

The GHA is a key stakeholder in the airfreight supply chain who needs to share information in an e-freight environment.

The carrier may give to the origin ground handling agent (OGHA) and/or destination ground handling agent (DGHA) access to its own system to view, update, respond to, create and transmit messages on behalf of the carrier.

Alternatively the OGHA and/or DGHA who are running their own application to fulfill their contracted functions can exchange electronic messages with the carrier.

The recommended practice depends on whether:

- The carrier has offices at origin and destination
- The GHA is using the carrier system or has its own system with an EDI link to the carrier

The following high-level business process describes a recommended information flow for e-freight when the carrier has its own operational airfreight processing office at origin and at destination:

1. The Freight Forwarder at Origin, before delivering the freight, sends the FWB and FHL messages to the Carrier’s Offices at Origin. FHL message may be only the checklist (FHL type 1) and potentially also the details of house waybills (FHL type 2) to facilitate advance cargo information for Customs.

2. The Carrier at Origin relays the FWB and FHL messages to the Ground Handling Agent at Origin before the Freight Forwarder at Origin delivers the freight.
Note:
The Freight Booked List (FBL) message may be exchanged between the Carrier at Origin and the GHA at Origin, rather than the individual Air Waybill Data (FWB) messages.
In these cases where only the Freight Booked List (FBL) message is exchanged between the Carrier at Origin and the Ground Handling Agent at Origin, rather than the individual Air Waybill Data (FWB) messages, the Ground Handling Agent is not in a position to manage requirements for the e-AWB on behalf of the Carrier.

3. The Ground Handling Agent at Origin receives the freight and accepts it as “ready for carriage” (or rejects it) and sends back to the Carrier at Origin the status messages (FSU) with the standard code Ready for Carriage (RCS). The Ground Handling Agent at Origin may also relay to the Carrier at Origin other messages according to the agreement in place between them, and
   a. If the Carrier at Origin is performing the aircraft load planning, it sends the FFM to the Ground Handling Agent at Origin;
   b. If the Ground Handling Agent at Origin is performing the aircraft load planning, it sends the FFM to the Carrier at Origin.

4. The Carrier at Origin relays to the Freight Forwarder at Origin the status messages (FSU) with the standard code Ready for Carriage (RCS). The Carrier at Origin may also relay other FSU messages to the Freight Forwarder at Origin in accordance with the agreement in place.

5. Where they are not using a shared application, the Carrier at Origin sends to the Carrier at Destination the FFM, FWB’, FHL’ (FWB and FHL with the confirmed information as per the FSU/RCS).

6. Carrier at Destination sends to the Ground Handling Agent at Destination the FFM, FWB’, FHL’ (FWB and FHL with the confirmed information as per the FSU/RCS).

   e-AWB:
The Carrier and Freight Forwarder at Origin both have a complete and valid Shipment Record based on the FWB and FSU (RCS) that they can archive in their systems according to the pertaining regulatory requirements.
The Carrier at Origin and Freight Forwarder at Origin can subcontract the Shipment Record management to its IT service provider if they so desire.
The Carrier at Origin, if so requested by the Freight Forwarder at Origin can produce a Cargo Receipt (subject to agreement).

7. Where they are not using a shared application, the OC is sends to the destination carrier (DC) the FFM, FWB/SR (FWB with the confirmed information as per the FSU/RCS) as well as the FHL messages.

8. DC sends to the DGHA the FFM, FWB/SR (FWB with the confirmed information as per the FSU/RCS) as well as the FHL messages.
   a. All agreed FSU messages are passed from the DGHA to the DC who relays these to the OC and the destination freight forwarder (DFF) according to the agreements in place.
Other flows of information are described in details in the freight forwarder-carrier-ground handling agent functional specifications that can be accessed at the following URL:

www.iata.org/e-freight

Note: Each Carrier should be free to implement whatever information flow they choose as long as it preserves the Shipment Record and ensures the data quality and consistency to support e-freight.

3.5.7 Transit & transhipment

Transit and transhipment under e-freight has been investigated in order to make sure that the 12 core paper documents in scope can be removed.

Any additional paper documents required such as Transit Declaration and In Transit Permit are currently excluded from the scope of e-freight documents.

More details related to transit and transhipment can be found using the following URL address:

www.iata.org/e-freight

3.5.7.1 Transit

Transit as defined by Cargo Services Conference\(^{11}\), is “an en route stopping place where cargo remains on board”.

Transit is where goods remain on board the aircraft when a flight touches down (known at origin or scheduled) in a third country en route from an e-freight origin and destination location. The basic principle is that no import or export duties or taxes should be charged on goods in transit passing through this third country. Transit is also commonly referred to as Freight Remaining on Board (FROB).

Note: Any offloading of shipments during transit will be considered as transhipment.

Contingency plans:

Appropriate contingency plans/processes need to be reviewed by airlines to ensure that they are able to handle exceptional situations (e.g. cargo offloaded at transit points).

3.5.7.2 Transhipment

Transhipment as defined by the CSC\(^{11}\) is “The unloading of cargo from one flight and loading to another for onward carriage”.

In the context of e-freight this definition is extended to include the transfer from various means of transport such as truck to airline and airline to truck.

The act of unloading and reloading can be immediate or after short-term storage. The short-term storage should not exceed a certain period of time from the date when the goods are placed under temporary storage. The mode of transportation or conveyance could be changed.

\(^{11}\) CSC RECOMMENDED PRACTICE 1608 GLOSSARY OF COMMONLY USED AIR CARGO TERMS
Transhipment processes are more complex than transit cases as goods are offloaded, may be break-bulked, re-documented, and reloaded in the same or different terminals. Documents requirements are dependent on national or local customs, i.e. FTZ (Free Trade Zone) or EU’s Entry Summary Declaration.

Three types of transhipment have been identified:
- Type 1: Transhipment - through carrier gateway/hub (same airline)
- Type 2: Transhipment - through carrier gateway/hub (different airlines, i.e. interline, which is covered in the next section)
- Type 3: Transhipment - through freight forwarder gateway/hub

In some circumstances transhipment may require a customs declaration. Today there are several ways to declare transhipment depending on national customs requirements.

3.5.7.3 Interline (Transhipment Type 2)

Interline carriage (also called “Transhipment Type 2” in the context of e-freight) refers to the carriage over the routes of two or more air carriers. Under interline carriage, freight is unloaded from one flight and loaded to another flight of a different airline for onward carriage.

Interlining under e-freight recommends the use of electronic Transfer Manifest to replace the traditional paper Transfer Manifest. The electronic transfer manifest shall be:

- Initiated by the IATA Cargo Interchange Message Procedures (Cargo-IMP) Status Update message (FSU) with the status code TFD “The consignment has been physically transferred to this carrier on this date at this location” sent by the transferring carrier; and
- Confirmed by the Cargo-IMP Status Update message (FSU) with the status code RCT “The consignment has been physically received from this carrier on this date at this location”.

**Note:**
The FSU message provides unsolicited updates on the status details of consignments. The combination of the IATA Cargo-IMP Status Update FSU (TFD) and Status Update FSU (RCT) messages digitalizes the transfer manifest document.

In order to enable the use of electronic Transfer Manifest in multilateral cargo interlining, the necessary amendments to CSC Resolution 660 Attachment ‘A’, ‘Interline Traffic Agreement – Cargo’, and Recommended Practice 1605, ‘Transfer Manifest’, are being proposed to the IATA Cargo Services Conference for approval.

**Note:** The business process beyond the transfer points will remain as described in the e-freight Operational Procedures.

The legal environment needs to be favorable. Implementation of the interlining under e-freight should only be considered in countries that have MP4 and/or MC99 in force.

Note, with limited exceptions, the countries of origin, destination and any transfer points need to have ratified MP4 or need to have ratified MC99 (i.e.

12 Cargo Services Conference, Recommended Practice 1608 GLOSSARY OF COMMONLY USED AIR CARGO TERMS
The following high-level “To Be” business process describes the interline transfer process in an e-freight environment:

1. Transferring airline notifies receiving airline of the consignments to be transferred through booking with the receiving airline.
2. If (advance cargo information is) required, transferring airline informs the customs at transfer point in advance of incoming consignments by submitting the required data to the customs at transfer point.
3. If required, upon arrival of the consignments, the transferring airline may have to lodge customs declaration for transhipment with the customs at transfer point by submitting the required data to the customs at transfer point and get the customs release prior to transferring the consignments to the receiving airline.
4. The transferring airline may inform the issuing airline, the receiving airline, other participating airline(s), and/or freight forwarder(s) of the arrival of the consignments at transfer point by using FSU (ARR) message.
5. Transferring airline transmits the following EDI messages to receiving airline:
   - FSU(TFD) informing the receiving airline of consignments transferred
   - FWB populated with the current shipment record data from the transferring airline's system (versus the original FWB sent by the Shipper and the corresponding FSU(RCS) sent by the issuing airline)
   - FHL (only if consolidation; Check List and/or Details of each House Waybill depending on local customs requirements)
   - electronic Shipper's Declaration for Dangerous Goods (either the FDD message or the XML equivalent)
6. Transferring airline tenders the consignments to the receiving airline along with any additional supporting documents currently not in scope of e-freight (e.g., CITES permit/certificate)
7. Before accepting the consignments from the transferring airline, the receiving airline:
- Checks the consignments (and accompanying documents, if any) against the received EDI messages such as FSU (TFD), FWB, FHL, e-XDDG, etc.
- Checks the correctness of the freight information;
- Checks whether the consignments are in apparent good order and condition for carriage.

8. Receiving airline accepts the consignments along with any additional supporting paper documents (not in scope of e-freight) from the transferring airline, and transmits FSU (RCT) to the transferring airline confirming the acceptance of the consignments transferred.

Note 1: In case of damaged consignments, remarks should be entered into OSI line of the FSU (RCT).

Note 2: In case of discrepancies, the discrepancies could also be inserted in the OSI line of the FSU (RCT) message.

9. Transferring airline and receiving airline archive the EDI messages exchanged, such as the FWB, FSU (TFD), and FSU (RCT).

10. Receiving airline prepares and transmits the flight manifest (FFM) which includes the transferred consignments as well as other messages such as FWB, FHL, etc.

11. If required, prior to loading the consignments on the aircraft, the receiving airline may have to lodge customs declaration with the customs at transfer point and get the customs release.

12. Receiving airline loads the consignments for uplift along with any additional supporting documents (not in scope of e-freight).

13. If (advance cargo information is) required, receiving airline informs the customs at destination in advance of incoming consignments by submitting the required data to the customs at destination.

14. Receiving airline flies the consignments to the onward destination which may or may not be the final destination.

15. If required, receiving airline may have to confirm the flight departure and provide other information to the customs at transfer point.

16. Receiving airline may inform the issuing airline, other participating airlines and forwarders of the status of the consignments as agreed (using FSU message and appropriate status code, e.g., FSU (DEP)).

More details related to Interlining (Transshipment Type 2) can be found using the following URL address:

www.iata.org/e-freight

3.5.8 Direct shipment – Freight forwarder acting as booking agent

Direct Shipment refers to a shipment between a Shipper and an Airline through the use of a Cargo Intermediary (Cargo Agent) acting as either agent for the Airline or the Shipper (a “Direct Shipment”).

**Note:** In the context of Direct Shipment with EDI Messages:

- An EDI Agreement between the Shipper and the Carrier has to be concluded.
- The Freight Forwarder may sign an EDI Agreement directly with a Carrier as agent for a direct shipper, in which case the direct shipper’s name will appear as the “Shipper” in the EDI Agreement. This
presupposes an agency agreement between the direct shipper and the Forwarder with the proper authority to enter into an EDI Agreement. Conversely, Freight Forwarder may sign an EDI Agreement as Carrier’s agent, with the Carrier’s name appearing on the EDI Agreement, based on an agency agreement between Forwarder and Carrier.

- All the IATA Cargo Shipment Record Functional Specifications are to be met.

The following high-level “To Be” business process describes the direct shipment process in an e-freight environment:

1. The Shipper provides the Cargo Agent with electronic versions of the shipping instruction and other document that needs to accompany the shipment (e.g. veterinary certificate) and provides the Consignee and the Customs Broker/Agent with electronic version of the trade documents, e.g. Invoice, Packing List and where legally feasible the Certificate of Origin. The shipper submits the Customs export goods declaration to clear the goods for export, declares to the Cargo Agent (or covered by the electronic letter of instruction) that EAP/EAW conditions are fulfilled and an EDI Agreement is in place with the carrier.

2. The Cargo Agent creates and submits the Air Waybill Data as instructed by the Shipper including the Shipper’s name in the Air Waybill message information and arranges the booking and provides, if need be, a warehouse receipt to the Shipper or countersigns a delivery note to confirm the freight weight, volume and number of pieces that he has received. The Cargo Agent provides the Shipper, if so requested, a copy of the “Cargo Receipt” in electronic or paper format, as evidence of the contract of carriage between the Shipper and the Carrier.

13 IATA Electronic Air Waybill Functional Specifications information will be made available using the following link: http://iata.com/stb/efreight/materials/
Note: The Carrier should ensure that a valid EDI agreement is in place with the Shipper or otherwise that the Shipper accepted and consented to the Carrier’s Conditions of Contract, the use of electronic means to preserve the Shipment Record and the Cargo Receipt.

3. The Carrier receives the shipment from the Cargo Agent, provides, if need be, a warehouse receipt to the Cargo Agent at origin to confirm the freight weight, volume and number of pieces that he has received and confirms that the shipment is ready for carriage as per the Carrier and Agent’s agency agreement. The Carrier lodges electronically the Customs export cargo declaration at origin and the Customs import cargo declaration at destination to clear the cargo, The Carrier delivers to destination airport and notifies the Customs Broker/Agent / Consignee and provides, if need be, a delivery note to the Consignee at destination to confirm the freight weight, volume and number of pieces that he has delivered.

At origin, the Cargo Agent acts as a booking agent on behalf of the carrier. In the absence of a Freight Forwarder at destination, Customs Broker/Agent is instructed by the Consignee to undertake Customs clearance on their behalf, and receives the necessary documents required enabling that Customs clearance from the Consignee. In this case the Carrier at destination would notify availability of the shipment to the Consignee.

Documents submitted by the Consignee to the Customs Broker/Agent may consist of electronic documents received by the Consignee from the Shipper, or paper copies of such documents produced from electronic records by the Consignee, together with any paper documents such as CITES certificates, that might be required to enable Customs clearance at destination.

The Consignee would instruct the Customs Broker/Agent whether they wish the Customs Broker/Agent to pick up the goods from the Carrier and deliver to their nominated address, or whether the Consignee wishes to collect the goods themselves, after Customs clearance has been completed.

Note: If the Shipper selects to send any such paper documents with the shipment, it will require the shipment to be designated as “EAP” under e-freight.

The specifications of the Direct Shipment can be accessed using the following URL:

http://www.iata.org/e-freight
3.5.9 Special Cargo

Special Cargo for the purposes of this current publication refers to:

- **Dangerous Goods**: articles or substances, which are capable of posing a risk to health, safety, property or the environment, which are shown in the list of dangerous goods in the Regulations or which are classified according to the Regulations (IATA Dangerous Goods Regulations, 50th Edition).
- **Live animals**
- **Perishables**: any goods which when not maintained within certain conditions, elements or other criteria as defined by their life cycle, loose their inherent properties or essential quality components thereof and as a consequence can no longer perform as originally intended (IATA Perishable Cargo Manual 8th edition).

The objective of this section is to summarize the document requirements for the transport of Special Cargo, taking into account the current documents in scope for e-freight.

The ultimate goal is to determine when and what types of special cargo can be carried under e-freight either in a pouch or without a pouch and still be compliant with the relevant regulations.

In the vast majority of cases e-freight can support the carriage of special cargoes using the special handling code EAP (e-freight Consignment with Accompanying Documents) as special cargo documents in paper may still need to accompany the cargo:

- Shipper's Declaration for Dangerous Goods;
- Shipper's Certification for Live Animals;
- Convention on International Trade of Endangered Species (CITES) documents (e.g. export permit, certificate of introduction from the sea, certificate of captive breeding…);
- Government Documents.

The summary table below is the result of an analysis of:

- IATA Dangerous Goods Regulations, 50th Edition (DGR);
- IATA Live Animals Regulations, 35th Edition (LAR);

Thus it is strongly advised that local regulations are also assessed for every location.

( NOTE: the below rules (in the table) are under review by the e-freight Central Action Group (eCAG), following the publication of the new e-freight Roadmap in December 2012 and will be updated by end April 2013 in this Handbook, possibly with some changes. In the meantime, IATA recommends addressing any questions on this topic directly to IATA at e-freight@IATA.org)
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<tbody>
<tr>
<td>Dangerous Goods (except 1&amp;2)</td>
<td>✓</td>
<td>EAP</td>
<td>“Handling Information” box 21: “Dangerous goods as per attached Shipper’s Declaration” or “Dangerous goods as per attached DGD”</td>
</tr>
<tr>
<td>Dangerous Goods not requiring a Shipper’s Declaration (1)</td>
<td>✓</td>
<td>EAW</td>
<td>“Nature and Quantity of Goods” box 22I: Dangerous goods in excepted quantities OR Biological substance, Category B and “UN 3373” OR “Dry Ice” or “Carbon Dioxide, Solid”, Class 9, UN 1845, number of packages and weight of dry ice in each package</td>
</tr>
<tr>
<td>Radioactive Material, Excepted Packages (2)</td>
<td>✗</td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>Live Animals</td>
<td>✓</td>
<td>EAP</td>
<td>“Handling Information” box 21: “Shipper’s Certification for Live Animals Attached” and a 24-hour emergency telephone number (including Country and area codes as applicable); “Nature and Quantity of Goods” box 22I: common name of the animal in English (apart from any other language), the quantity of animals</td>
</tr>
<tr>
<td>Perishables</td>
<td>✓</td>
<td>EAP</td>
<td>“Handling Information” box 21: “Shipper’s Name and Address” and “Consignee’s Name and Address” boxes 2 &amp; 4 must show the full name and address, not abbreviated versions</td>
</tr>
</tbody>
</table>

* In case the Shipper’s Declaration for Dangerous Goods is transmitted electronically and with no paper document

**Important:** Completion of an Air Waybill for the carriage of any special cargo must be in compliance with international regulations and with all IATA regulations in particular the IATA Dangerous Goods Regulations, IATA Live Animals Regulations and IATA Perishable Cargo Regulations.

Detailed analysis related to special cargo under e-freight can be found using the following URL address:

[www.iata.org/e-freight](http://www.iata.org/e-freight)

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14 As per IATA Cargo Services Conference Resolutions Manual Resolution 600a – Attachment ‘B’ Section 4 “In case of transmission of the content of the air waybill boxes via electronic means, either the “FWB” message, as described in the IATA/ATA Cargo Interchange Message Procedures (Cargo-IMP) Manual (Resolution 670, Attachment ‘A’), or the IFTMIN message, as described in the IATA Cargo-FACT Message Manual (Cargo-FACT) (Recommended Practice 1672, Attachment “A”), shall be used. Where such data is transmitted by an Agent, this shall be in accordance with Resolution 833, Paragraph 2.4, of the Cargo Agency Conference”.
3.5.10 Intra-Customs Regime Movement

Intra-Customs Regime Movement has been investigated under e-freight to reduce the amount of paper being transported with cargo on domestic routes as well, not only the international ones.

Although domestic typically means within one country, borders and border control are becoming a thing of the past in some regions, e.g. the European Union. Therefore, for the purposes of this handbook, Intra-Customs Regime shipments will be considered those that originate in one country and terminate in another but both countries and the movement between them is within one Customs regime.

Only the goods that are in free circulation within the regime, as indicated in the transport documentation/information, are being considered. In the case of the EU this means goods whose Community status may be demonstrated (indicated by 'C'). The goods to be exported and which are not placed under a transit procedure (indicated by 'X') have not been considered at this stage.

The following high level To-Be business process is envisioned for Intra-Customs Regime Movement:

The detailed specifications of the Intra-Customs Regime can be accessed at the following URL:

www.iata.org/e-freight
CHAPTER 4 TECHNOLOGY SUPPORTING e-freight

(NOTE: this chapter is under review and an updated version is expected to be published in June 2013)

Information technology is a critical element of the paper free air cargo supply chain as it enables a fast and reliable exchange and integration of electronic documents.

The e-freight business process is supported by various message standards, interfaces, integration platforms, web portal and management systems functions that can be self-developed or procured from IT solution providers.

This chapter describes available integration options, specific technical requirements for each of the stakeholders in scope and what to expect from IT solution providers to support air cargo.

IT solution providers in the e-freight project include:

- Integration platforms providing Cargo Community Systems services (CCS), Cargo 2000 Data Management Platform (CDMP) for freight forwarders, carriers and customs, internet or private network interconnections, protocol and data transformation services, archiving and web portals to any supply chain stakeholder
- Software editors of management systems for carriers, ground handling agents, freight forwarders, customs, customs brokers and shippers

IATA is sharing e-freight functional and technical requirements with strategic IT solution providers to ensure solutions are brought to the stakeholders willing to implement e-freight and to focus on functional gaps.

These stakeholders are IATA Strategic Partners. Participants in the IATA Strategic Partnerships program played a vital role in IATA’s industry activities since the program’s inception in 1990. Through their close cooperation with IATA and its Member airlines, IATA Strategic Partners provide:

- Technology expertise and knowledge across a wide range of subject areas
- Support to IATA and the Member airlines in their initiatives
- Assistance in the development of industry standards and solutions
- Facilitate implementation of these standards
- Play an active role in working with IATA and the airlines in the “Simplify the Business” (SIB) projects

To find out more on how you can also get involved in our industry efforts: visit http://www.iata.org/sp or contact the Strategic Partnerships team at partnership@iata.org.
We wish to thank the following Strategic Partners who are working with us on the e-freight initiative:

<table>
<thead>
<tr>
<th>IT solution providers that were part of the IATA strategic partnership program at the time when this document was published and are supporting or planning to support e-freight business process and standards.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please refer to IATA website of Strategic Partnerships to find the latest IT solution providers:</td>
</tr>
<tr>
<td><strong><a href="http://www.iata.org/membership/sp/Pages/partners.aspx">http://www.iata.org/membership/sp/Pages/partners.aspx</a></strong></td>
</tr>
<tr>
<td>CHAMP Cargosystems S.A.</td>
</tr>
<tr>
<td>GLS Hong Kong</td>
</tr>
<tr>
<td>NIIT</td>
</tr>
<tr>
<td>TravelSky</td>
</tr>
<tr>
<td>British Telecommunications plc</td>
</tr>
<tr>
<td>CONEX</td>
</tr>
<tr>
<td>Descartes Systems Group</td>
</tr>
<tr>
<td>IBM Corporation</td>
</tr>
<tr>
<td>Innovation Center of Civil Aviation</td>
</tr>
<tr>
<td>Kewill</td>
</tr>
<tr>
<td>mercator</td>
</tr>
</tbody>
</table>
Section 4.1  System integration scenarios

Data exchanges along the supply chain are usually achieved combining various technical solutions and processes. The main exchange modes are the following:

1. **System to system integration**

2. **Web portal**

3. **Email exchanges**

1. System integration establishes an automatic message exchange channel between stakeholders’ applications.

2. When stakeholders do not wish to build a system integration solution, web portals can be used to input or retrieve data through a web browser. Scanned images may also be uploaded to a web portal.

3. When integration is not possible and web portals are not available, paper can still be removed by exchanging data through emails with scanned attachments.

Supply chain stakeholders can establish one to one communication links or use integration platforms. One to one communications imply costly interface development and maintenance efforts. Using an integration platform only requires one connection. Customer or supplier integration is best achieved through an integration platform used as an external or internally developed service.

Supply chain stakeholders have to select the integration technologies that bring them the best value with regard to transaction volumes.
All the above methods of message exchange are acceptable for e-freight although IATA's focus is on the shaded options as they deliver efficiency, reliability and security in the long term, especially when volumes rise.

An example of data exchange modes across the supply chain from the shipper to the origin carrier is shown below. (Not all flows are represented). Each integration mode is treated separately in the following pages.

Sequence of date exchanges from shipper to carrier using various technologies:

- Shipper S1 sends electronic invoices, packing lists and certificates of origin to integration platform A. Freight forwarder F1 retrieves the data from the platform A web portal and manually processes the data. F2 is automatically integrating messages in its system from platform A. Platform A may forward the messages to platform B and C for distribution to the consignee.
- Shipper S2 sends the documents in a paper or scanned image format to F1 who manually processes the data.
- Shipper S3 manually uploads XML files into freight forwarder F3 web portal.
- Freight forwarder F1 sends paper or scanned images to export customs and to carrier C1.
• F2 communicates electronically with export customs and carriers through integration platform B that may forward messages to carrier C1, if it is that carrier's preferred service provider.
• F3 communicates electronically with export customs and carrier C2 in direct system-to-system mode.

Carriers may exchange messages with multiple integration platforms or deal with only one.
4.1.1 System to system integration

System to system integration is the configuration that brings the most value for both the sender and the receiver because of the full automation of data exchange removing redundant data entry activities.

It is the most efficient, reliable and secure option in the long term, especially when volumes rise.

As with any process automation, it requires a monitoring system to alert stakeholders in case of system disruption.

Although system integration in a one to one mode is possible, the use of integration platforms reduces the complexity of managing multiple exchange channels. For costs and efficiency, a stakeholder should connect to only one integration platform at a time. Integration platforms may connect each other to offer greater delivery services to their customers. As part of the company e-business strategy, the integration platform may be hosted at the sender or the receiver.

Sender and receiver systems send and receive messages to each other. When the sender validates a document for transmission, it automatically feeds into the receiver’s system.

**PROs:** Immediate availability of the sender’s data into the receiver’s system. No data input errors by the receiver.

**CONs:** Costs of assessing, designing, building, testing and maintaining the exchange capability.

A semi-automated integration can be also achieved when the receiver’s system only allows the manual upload of structured files or the extraction from an email of a structured message feeding into the system.

If a freight forwarder is integrated with a carrier, when an electronic air waybill message is sent from the freight forwarder’s system it will automatically feed into the carrier’s system.

When system-to-system integration architecture, components or services are not available, stakeholders can consider procuring it, building it, or use alternate solutions like web portals. System-to-system integration requires a project to be set up to plan, deliver and test the solution implemented between the stakeholders involved.
4.1.2 Partial integration: Receiver is not integrated

In this case, the receiver has no integration capability. The message is output automatically by the sender to an in-house or hosted web portal. The receiver accesses a portal to fetch data and processes them manually and/or inputs them into its own backend system.

Hosted web portal:

In house web portal:

**PROs:** Immediate availability of the sender’s data into a web portal. No integration costs for the receiver.

**CONS:** Manual input by receiver of data in the backend system is still required.

If a freight forwarder cannot integrate the invoice from a customer (shipper) the freight forwarder may access the data from a web portal where the shipper has posted them automatically.
### 4.1.3 Partial integration: Sender is not integrated

In this case, the sender has no integration capability. A manual input is needed on the sender side on a web portal that will transform the data into a structured electronic message to be delivered to the receiver. The message is automatically integrated at the receiver’s end.

**PROs:** Immediate availability of the sender’s data into the receiver’s system. No integration costs for the sender.

**CONs:** Manual data input by sender in the web portal.
4.1.4 Manual integration

In this case, both the sender and the receiver have no automatic message exchange capability. Data is exchanged through emails with scanned images attached.

Both sender and receiver use a web portal to exchange data. The sender types data or uploads scanned images to the web portal. The receiver connects to the portal to retrieve them.

**PROs:** No integration cost. Email and scanning applications are easy to implement.

**CONs:** Data input required by both the sender and the receiver. Poor scalability, reliability and confidentiality (especially with unencrypted emails).
Section 4.2  Air cargo supply chain stakeholder technical requirements for the 12 core documents

4.2.1 Requirements for carriers

This section describes the e-freight related functions a cargo management system for carriers should include.

4.2.1.1 Carrier back end system

To support the electronic air waybill (e-AWB):
- The carrier’s system may provide web-based access for shippers to accept the corporate bilateral agreement for electronic data interchange. This should be done by clicking an “accept” button at the bottom of the agreement page.
- The carrier or its sub-contractor must be able to print the cargo receipt that includes information from the shipment record (FWB and FSU/RCS messages).

To support the e-freight shipment indicator business rule (described in Chapter 3 of this handbook), the system must allow the 2 e-freight related Special Handling Codes (SPH): “EAP” and “EAW”. The system must make it mandatory to populate the SPH field with either of the two codes in the airline flight manifest (FFM) message or inherit the SPH values from the available FWB messages.

To support the Freight Forwarder-Carrier-GHA communication, if a ground handling agent is involved in the operations and runs its own system (the carrier is not sharing its system), the carrier must be able to interchange with the ground handler the following messages: FWB, FHL, FSU/RCS and FFM.

To support the Message Improvement Program (MIP), the carrier must be able to extract shipment data and send them to the IATA MIP contact so that monthly-consolidated reports can be published for e-freight shipment measurement and root cause analysis.

4.2.1.2 Messages exchanged

The system must be able to integrate or output the following messages to support the 12 core documents.

Inbound
- Air Waybill, Cargo-IMP FWB (from ground handler)
- Consolidation list, Cargo-IMP FHL (from ground handler)
- Status, Cargo-IMP FSU/RCS (from ground handler)
- Carrier flight manifest, Cargo-IMP FFM (from ground handler)
- Customs release export, WCO CUSRES

Outbound
- Error, Cargo-IMP FNA (mandatory on error)
- Acknowledgement, Cargo-IMP FMA (optional)
- Status, Cargo-IMP FSU/RCS (mandatory)
- Export cargo declaration, WCO WCOCAR
- Carrier flight manifest, Cargo-IMP FFM
- Air Waybill, Cargo-IMP FWB (to ground handler)
- Consolidation list, Cargo-IMP FHL (to ground handler)
4.2.1.3 Interfacing capability

The carrier’s system must be able to automatically:

- Integrate inbound messages through a middleware from
  - A direct supply chain stakeholder transmission
  - A integration platform transmission
  - An owned or outsourced web portal interface with the back end system

Integration should be user validated and monitored through an integration error log:

- Output outbound messages through a middleware to
  - A supply chain stakeholder directly
  - An integration platform

In case no interfacing capability exists for inbound messages, the carrier should:

- Provide access to a web-based application interfaced with the back end system to relevant stakeholder for data input
  OR
- Access a third-party service provider web portal where the documents are available for display and download (or email distribution) and input the data in its back end system.

In case no interfacing capability exists for outbound messages, the carrier should:

- Conduct a manual input of the data available in its back end system on a web portal (hosted by the receiver or a third-party provider)
- Have web access to the receiver system to be able to manually input the data available in its back end system

To support e-freight, the carrier’s system should be able to manage the following electronic documents:

- To/from the origin/destination freight forwarder
- To/from the origin/destination carrier
- To/from customs or customs brokers

It should allow outbound messages to be built from inbound message data in most cases. Alternatively, manual input can be used.

The carrier’s system has to check that all mandatory information as per the standard is available before a document can be submitted.

Invalid inbound messages should be rejected, flagged and manually corrected before integration.

There must be an option to export the document to a text or PDF layout so that they can be attached to an email. This is in case no portal service is available or the middleware is unserviceable.

4.2.2 Requirements for ground handling agents

There are several system architecture options that depend on the process and service agreement the ground handler has with a carrier. In any case, the system configuration must meet the IATA Cargo Shipment Record Functional Specifications.

Possible scenarios include:

- No system requirement for the ground handler. The carrier’s system is shared for FWB+FHL display or input and generates FSU/RCS. The shipment record is available in the carrier’s system.
- Ground handler’s system is able to integrate FWB+FHL messages from the carrier and can output FSU/RCS and FFM to the carrier. The shipment record is available in the carrier’s system.
4.2.3 Requirements for freight forwarders

This section describes the e-freight related functions a multimodal cargo management system for freight forwarders should include.

4.2.3.1 Freight forwarder back end system

To support e-freight, the freight forwarder’s system should be able to manage the documents:

- From the shipper
- To/from the origin carrier
- To/from customs or customs brokers
- To the destination freight forwarder

To support the e-freight shipment indicator business rule (described in Chapter 3 of this handbook), the system must allow the selection of two e-freight related Special Handling Codes (SPH): “EAP” and “EAW”. The system must make it mandatory to populate the SPH field with either of the two codes in the air waybill (FWB) message. It is recommended to implement the same rule in the allocation request (booking) and consolidation list (details of one house manifest) messages.

4.2.3.2 Messages exchanged

4.2.3.2.1 Origin freight forwarder

<table>
<thead>
<tr>
<th>Inbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invoice (from shipper)</td>
</tr>
<tr>
<td>Packing list (from shipper)</td>
</tr>
<tr>
<td>Customs release Export, WCO CUSRES</td>
</tr>
<tr>
<td>Error, Cargo-IMP FNA</td>
</tr>
<tr>
<td>Status, Cargo-IMP FSU/RCS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invoice</td>
</tr>
<tr>
<td>Packing list</td>
</tr>
<tr>
<td>Air Waybill, Cargo-IMP FWB (mandatory)</td>
</tr>
<tr>
<td>Consolidation list, Cargo-IMP FHL (mandatory)</td>
</tr>
<tr>
<td>House waybill, Cargo-IMP FZB</td>
</tr>
<tr>
<td>Export goods declaration, WCO CUSDEC</td>
</tr>
</tbody>
</table>

4.2.3.2.2 Destination freight forwarder

<table>
<thead>
<tr>
<th>Inbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invoice (from origin freight forwarder)</td>
</tr>
<tr>
<td>Packing list (from origin freight forwarder)</td>
</tr>
<tr>
<td>Air Waybill, Cargo-IMP FWB (mandatory)</td>
</tr>
<tr>
<td>Consolidation list, Cargo-IMP FHL (mandatory)</td>
</tr>
<tr>
<td>Customs release Import, WCO CUSRES</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import goods declaration, WCO CUSDEC</td>
</tr>
</tbody>
</table>

4.2.3.3 Interfacing capability

The freight forwarder’s system must be able to automatically:

- Integrate inbound messages through a middleware from:
  - A direct supply chain stakeholder transmission
  - An integration platform transmission
  - An owned or outsourced web portal interfaces with the management system
Integration should be user validated and monitored through an integration
error log:
- Output outbound messages through a middleware to
  - A supply chain stakeholder directly
  - An integration platform

**In case no interfacing capability exists for inbound messages, the
freight forwarder should:**
- Provide access to a web-based application interfaced with the
  Management system to relevant stakeholder for data input to
  populate the documents
  OR
- Access a third-party service provider web portal where the
documents are available for display and download (or email
distribution) and input the data in its management system

**In case no interfacing capability exists for outbound messages, the
freight forwarder should:**
- Conduct a manual input of the data available in its management
  system on a web portal (hosted by the receiver or a 3rd party
  provider)
- Have web access to the receiver system to be able to manually
  input the data available in its management system

There must be an option to export the document to a text or PDF layout so
that they can be attached to an email.
This is in case no portal service is available or the middleware is
unserviceable.

The freight forwarder’s system should allow outbound messages to be built
from inbound message data in most cases. Alternatively, manual input can
be used.

The freight forwarder’s system has to check that all the mandatory
information as per the standard is available before a document can be
submitted.

Invalid inbound messages should be rejected, flagged and manually
corrected before integration.

**4.2.4 Requirements for shippers**

This section describes the e-freight related functions an enterprise resource
planning system (ERP) system should include.

**4.2.4.1 Shipper back end system**

To support e-freight, the shipper should be able to create, manage and
store Invoice and Packing List documents. The data to build these
documents are mostly provided from the upstream supply chain or through
manual input.

The system should check that all the mandatory information as described
and mandated in the agreed or IATA standard is available before a
document can be submitted. The system can be self-developed or can be a
fully integrated ERP.

**4.2.4.2 Messages exchanged**

**Inbound**
- There are no shipper inbound message in the current e-freight
  scope.
Outbound
- Invoice (Mandatory)
- Packing list (Mandatory)

4.2.4.3 Interfacing capability

The management system must be able to automatically output the messages and pass them to a middleware when the user has approved the final version of the document (by saving it in a final state).

When no interfacing capability exists or there is no Management system:
- The shipper should access a vendor web portal where the documents can be entered. The portal then takes care of delivering the messages to the freight forwarder
  OR
- The shipper should access a freight forwarder web portal where the documents can be entered. The portal will then take care of delivering the messages to the freight forwarder’s ERP.

There must be an option in the shipper’s system to export each document to a text or PDF layout so that they can be attached to an email in case no portal service is available or the middleware is unserviceable.

4.2.5 Requirements for customs

Customs systems requirements include, as for other stakeholders, output and integration functions.

4.2.5.1 Messages exchanged

4.2.5.1.1 Export customs

Inbound
- Export goods declaration, WCO CUSCAR
- Export cargo declaration, WCO CUSCAR

Outbound
- Customs release export, WCO CUSRES

4.2.5.1.2 Import customs

Inbound
- Import goods declaration, WCO CUSDEC
- Import cargo declaration, WCO CUSDEC

Outbound
- Customs release import

4.2.6 Requirements for customs brokers

Customs brokers’ systems requirements include, as for other stakeholders, output and integration functions.

4.2.6.1 Messages exchanged

4.2.6.1.1 With import customs

Inbound
- Invoice (from freight forwarder or shipper)
- Packing List (from freight forwarder or shipper)

Outbound
- Import goods declaration, WCO CUSDEC
4.2.7 Other common technical requirements

Every supply chain stakeholder, regardless of its role in the process, has to ensure that technology components are available to operate safely and reliably in a paper free environment. This section covers the elements that are common to any supply chain stakeholder.

4.2.7.1 Messaging processing and middleware

Any stakeholder willing to send or receive electronic messages needs a middleware to take care of the exchanges between their back-end system and any other systems. It may also be used to integrate enterprise applications.

The middleware performs the following functions:
- Message transmission or reception control (for example: through web services)
- Data transformation from the backend system expected format to the e-freight standard, or vice-versa
- Inbound message structure and content control to detect and reject invalid messages.
- Authorized sender and receiver configuration
- Detect and handle any transmission errors and alert a system administrator

4.2.7.2 Message format

A message format describes the way data fields are organized within a document. Electronic messages need to be exchanged in the formats specified in Chapter 2:
- UNCEFACT: Shippers’ messages (XML)
- Cargo-IMP: Air transport messages (Flat file)
- WCO: Customs messages (Flat file)

Where other formats are already in use, a migration may be considered as global adoption of standards (and their latest version) reduces the overall transformation costs.

4.2.7.3 Message envelope

Message envelope (containing header information about routing, character encoding, or web Service calls) should be built according to the industry standards such as IATA Type-X, EDIFACT or SOAP.

Web services are used to integrate systems and applications in the enterprise or across different companies. They use XML encoded SOAP messages exchanged securely and reliably over HTTP.

IATA TypeX is a communication standard for XML communication infrastructure and XML communication protocols. It delivers an XML communication envelope to enable usage of more modern technology for application data exchange and communication exchange. TypeX provides a solution for reliable high throughput messaging with XML and web services technologies compatible with airline business practices. Messaging is specified as SOAP extensions and is a lightweight message exchange protocol, based upon XML and web services technologies. It will enable use of XML and modern technology for exchange of ATI messages in any format (Such as XML schemas, EDIFACT, TypeB/AIRIMP, AFTN etc). TypeX messages will be independent of the underlying communications/transport protocols.
4.2.7.4 Paper document scanning

Where system-to-system integration or web portals are not available, document scanning can be a stopgap measure until a more efficient solution is implemented. Details about scanning, Optical Character Recognition (OCR) functions and scanned document formats are not covered here.

4.2.7.5 Networking capability

To deliver or receive electronic messages, the middleware must be connected to a network. An Internet (or private network) access provides this capability.

The bandwidth requirements for e-freight are estimated using:

- The number of shipments made over a period of time
- The number of messages needed to support these shipments
- The format of messages used
  - EDI (very light)
  - XML tags (increase the size of messages)
  - Scanned files (big bandwidth consumers)

4.2.7.6 Security and confidentiality

Stakeholders should implement industry open standards encryption solutions like AS2 (IETF RFC#4130: [www.ietf.org/rfc/rfc4130.txt](http://www.ietf.org/rfc/rfc4130.txt)) to guarantee:

- Data confidentiality
- Data integrity/authenticity
- Non-repudiation of origin (through digital signature)
- Non-repudiation of receipt over HTTP

4.2.7.7 Archiving capability

To comply with local regulations, management systems store data but do not offer by default the archiving of electronic messages that local legal framework would require. High-level requirements include:

- IT systems
  - Technical documentation (hardware, network infrastructure, data models)
  - Time stamping
  - Data acquisition
  - Data storing
  - Indexing, research and document display
  - Access logging
  - Backup and restore
  - User identification, document signature
- Security
  - Premises, Personnel access, Hardware, System access rights
- Operating procedures
  - Data acquisition, indexing, quality control, search and print, hardware operation, backup
- Process control and auditing
- SLAs in case of subcontracting

SOAP is a protocol for exchanging structured information in a decentralized, distributed environment. It uses XML technologies to define a scalable messaging framework providing a message framework that can be exchanged over a variety of underlying protocols. SOAP has been designed to be independent of any particular programming model and other implementation specific semantics.
4.2.7.8 Business intelligence

Storing data exchanged through electronic messages provides a business intelligence reporting opportunity: Key Performance Indicators on freight volume, value measurement, system availability and errors measurement purposes.

4.2.7.9 Service Level Agreement (SLA)

SLAs have to be defined with the IT department or with IT solution providers to guarantee quick operation or recovery of business critical components in an agreed timeframe.

The recovery plan should detail the maximum time needed to recover and the scope of data available after recovery.
Section 4.3  What to expect from IT solution providers?

This section describes what features or services IT solution providers should include in their product portfolio to support e-freight. Most features are related to structured message exchanges and system-to-system integration. The section does not cover core business functions a software package should include to run the business of each supply chain stakeholder type. It also does not include the description of consulting services that could be sold to stakeholders to build their technical capability.

4.3.1 Software editors

To review functions that should be included in software packages to support e-freight please refer to each of the “Stakeholder requirements” and to the “Other common technical requirements” sections of this chapter of the handbook.

4.3.2 Integration platforms

The role of integration platforms is to provide services to support process and system integration across the supply chain. These services include message routing, protocol/format transformation and web-based applications to create and manage documents.

4.3.2.1 Message broker function

Message broker services are used between stakeholders wanting to establish one-to-many connections through one channel. They are commonly used between freight forwarders and airlines but may also be used between shippers and freight forwarders, origin freight forwarders and destination freight forwarders, origin freight forwarders and customs brokers, ground handling agents and carriers. Integration platforms may also be connected to each other.

Cargo Community System (CCS)

CCS allows freight forwarders and carriers to automatically exchange air cargo information electronically through EDI (Electronic Data Interchange). CCS members can check flight schedules, make reservations, transfer air waybills, and track shipment status to carriers through the system.

The message routing function must be able to:

- Identify the message type and the parties involved in the exchange
- Authorize the transmission of the message according to predefined routing rules
- Check message structure and content validity

Indicator for e-freight shipments:

- The message broker must allow the two e-freight related Special Handling Codes values “EAP” and “EAW”.

Translate a message into another format

- Message transformation includes the capability to receive any data format and deliver it into any data format after transforming it according to predefined rules formally agreed between parties. The source or target format should be the one recommended in Chapter 2. Message transformation should work from or to any format, including the standard. The transformation system should be able to handle any transformation or transmission errors and alert any system administrator in case of repeated errors.
- Check message content, sequence or timing against a defined business process.
- Acknowledge or get acknowledgement that a message has been successfully received.
- Receive and send messages using encrypted protocols.

Message transformation includes the conversion of a machine-readable electronic message into a human readable document that can be delivered by email or made available on a portal for download. The layout of the document can be generic or formally agreed between parties.

Internet and private network access should be supported to interact with any supply chain stakeholder. Considering the high number of messages exchanged and their criticality to the supply chain business, the bandwidth must be very large.

Confidentiality of exchanged messages is a critical element for a hub dealing with many partners. The architecture must meet this critical factor. Refer to the “Other common technical requirements” section for details.

### 4.3.2.2 Web portal function

The functionalities available in a web portal should support both the stakeholder core business and the e-freight process as described in the process and standards section.

They include:

**Data input and transmission of electronic messages**

- **For freight forwarders:**
  - Special Handling Code
  - To support the e-freight shipment indicator business rule (described in Chapter 2), the web portal must allow the selection of two e-freight related Special Handling Codes (SPH): “EAP” and “EAW”.
  - If freight forwarders use the web portal, it must be mandatory to populate the SPH field with either of the two codes in the air waybill (FWB) message. It is recommended to implement the same rule in the allocation request (booking) and consolidation list (details of one house manifest) messages.
  - If carriers use the web portal, it must be mandatory to populate the SPH field with either of the two codes in the airline flight manifest (FFM) message.
- Search, browse messages (for the receiver)
- Manage, consolidate, archive, print documents
- To support the electronic air waybill:
  - The web portal may provide a page for freight forwarders and carriers to accept the corporate bilateral agreement for electronic data interchange. This should be done by clicking an “accept” button at the bottom of the agreement page. (Model agreement text is available in Chapter 2).
  - The portal must be able to print the FWB or FHL data to a template.
  - The portal must be able to print the cargo receipt including the last FWB and FSU/RCS messages.
4.3.2.3 Service Level Agreements (SLAs)

SLAs provided to customers should guarantee a timely recovery from a failure in the service that will not put the business operation at risk. Integration platforms must also have SLAs with other platforms that may be involved in the delivery or transformation of messages. Cross platform SLAs require coordination to guarantee service to the customers. For example, maintenance windows schedules and durations should be shared and coordinated to avoid message delivery disruptions.

4.3.2.4 IT Consulting

Technology vendors should provide support (technical and functional consulting, project management, stakeholder coordination, testing support, etc.) to help supply chain stakeholders successfully deliver their business process transformation and implementation of the technology components supporting e-freight.

4.3.2.5 Business intelligence

To support the Message Improvement Program, the integration platform may provide the carrier with shipment data extractions (if not available directly from the carrier system) to be sent to the IATA MIP team so that monthly-consolidated reports can be published for e-freight shipment measurement and root cause analysis. Details on the MIP benefits and technical requirements can be found at:

www.iata.org/e-freight

In addition to MIP, the integration platform may provide its customers with personal reporting services based on messages exchanged and stored, supporting for example the printing of the shipment record (cargo receipt) as described in Chapter 3.
Appendix 1 The IATA methodology to assess a locations’ e-freight capability

The GACAG e-freight Roadmap mandate for Pillar I is that 80% of Global Trade Lanes should be e-freight capable by the end of 2015.

This appendix explains how a location becomes endorsed as e-freight capable and ready for e-freight implementation by industry stakeholders.

Why is there an assessment phase prior to the implementation?
Assessing a locations’ e-freight capability is a critical exercise as it helps ensure the success of implementation.

A location becomes endorsed as e-freight capable once an assessment has taken place and it is formally established that:-

1. The local customs, legal, and regulatory basis is in place that enables paperless e-Commerce and e-Customs processes to be conducted in the location.
2. The paperless e-Commerce and e-Customs processes that support e-freight are practiced, or can be put into practice, at those airports in a location where e-freight is to be implemented.

If an assessment is not conducted, it is likely to result in an implementation failure due to:

• Regulatory obstacles: local laws and legislation requiring the creation, presentation and archiving of paper documents in the scope of e-freight
• Lack of a practical capability at airports in the location to implement the paperless e-Commerce or e-Customs procedures that support e-freight
• Industry stakeholder doubts about the legal and practical capability to implement e-freight in the location.

Therefore a formal assessment methodology is used for each location targeted for e-freight:

This assessment phase consists of two major parts: the High Level Assessment (HLA) and the Detailed Level Assessment (DLA). After the assessment phase is successfully completed, the location is endorsed as e-freight capable and ready for e-freight implementation by industry stakeholders.
The High Level Assessment (HLA)

HLA: the High Level Assessment investigates a location’s regulatory and customs environment

The HLA includes the following questions:

- Is it an IATA freight location, i.e., does airfreight originate and/or terminate in the location?
- Is Montreal Convention 1999 (MC99) in force. (Source: ICAO)
- Has the location signed the World Customs Organization (WCO) Letter of Intent to Implement the SAFE Framework of Standards? (Source: WCO)
- Does the government have an e-customs modernization program in place that will automate release of import and export goods?

What is the significance of MC99 convention being in force?

Having an international convention in force, namely signed and ratified by local authorities, aids in bringing certainty and common regulation to a situation that could involve more than one legal system. In addition, for the purposes of e-Airwaybill, the conventions allow the paper airwaybill to be replaced by other means without affecting the validity of the contract or preventing the carriers from asserting the liability limits provided by the conventions.

Montreal Protocol 4 (MP4) is another convention that allows the paper airwaybill to be replaced by e-AWB, and it is important to understand that the location of origin and location of destination must be parties to the same convention for the convention to apply.

Consequently, if the location point of origin has MP4 in force, it would only allow e-AWB to be practiced with other locations that have MP4 in force. Thus a location with only MP4 in force could not conduct e-AWB with a location that has only MC99 in place, and vice versa.

Since MP4 is only in force in very few locations compared with MC99, having MP4 only in place would severely reduce the trade lanes over which e-AWB and e-freight could be implemented, which is why IATA is promoting MC99 ratification as a key criteria in the HLA process.

Why check if a location has signed the WCO Letter of Intent?

The WCO members that have signed the letter have expressed their intention to implement the WCO SAFE Framework of Standards to Secure and Facilitate Global Trade.

With regard to the e-freight project, the WCO SAFE Framework of Standards states its members should comply with the Revised Kyoto Convention on the Simplification and Harmonization of Customs Procedures standards which require that:

- Customs shall use information technology and electronic commerce to the greatest possible extent to enhance Customs control.
- New or revised national legislation shall provide for electronic commerce methods as an alternative to paper-based documentary requirements

This gives the legal basis for allowing stakeholders to remove the need for paper Customs Declarations and paper supporting documents.

What is the significance of e-custom modernization programs?
The e-freight project relies on electronic exchange of data between stakeholders of the supply chain to replace the need for paper documents.

If a paperless e-Customs capability has not yet been put in place in a location, in accordance with the Letter of Intent to implement the WCO SAFE Framework of Standards, the location will be out of e-freight scope, as it will not support the removal of paper documents that are in the scope of e-freight.

However if the Customs Authorities in a location have plans in place to introduce a paperless e-Customs capability, in accordance with their Letter of Intent to implement the WCO SAFE Framework of Standards, before the end of 2015, it can be considered that this HLA condition is met.

If all the HLA conditions are not met, the location cannot advance to the Detailed Level Assessment (DLA) stage and therefore cannot be in scope for e-freight project implementation.

Depending on the reason for failing the HLA, there may be need to conduct a lobbying plan to ensure relevant stakeholders take appropriate action to pass the HLA.

The Lobbying Plan

The Lobbying Plan is an action for those locations failing the HLA in order for it to fulfill the necessary requirements to allow it to be part of the scope of the e-freight project.

When a location fails the HLA, there may be actions needed at a regulatory and customs level to resolve the issues that led to the failure. IATA can help respective stakeholders in locations by undertaking lobbying actions with local authorities to close the identified gaps.

If successful, the concerned location will pass the HLA and therefore will move to the Detailed Level Assessment.

The Detailed Level Assessment (DLA)

DLA: the Detailed Level Assessment tests a location’s readiness for e-freight and helps to prioritize global implementation

Having determined the legal basis exists in a location that enables it to be considered e-freight capable by means of the HLA, a DLA is conducted that will assess the locations practical capability for implementing e-freight by reviewing how such legal and regulatory enablement has been put into practice from the technical and business process aspects.

To establish a locations e-freight capability, to enable stakeholders to launch e-freight from and to a location for international freight, it needs to be established, through the DLA, that:

1. The necessary e-commerce laws are in place to allow paperless trading to take place in that location
2. Local Customs have e-Customs systems and practices in place to support e-freight

The DLA methodology is to present a table of closed questions to the authorities to ascertain Customs and where necessary Other Government Agency (e.g. Tax Authorities) have the capability and readiness to participate from a technical, process and local legal/regulatory standpoint. This provides clarity and eliminates confusion when assessing readiness.
The list of countries endorsed as e-freight capable is available on the IATA e-cargo Matchmaker: [www.iata.org/e-freight](http://www.iata.org/e-freight).

**Establishing the existence of e-Commerce laws that support e-freight**

The United Nations Conference in International Trade Law (UNCITRAL) describes the following general principles for e-commerce activities in its Model Law on e-Commerce (available on their public website: [http://www.uncitral.org/uncitral/en/uncitr\[\]

- **Functional equivalence**: an electronic document should serve the same function as the paper document it replaces.
- **The integrity, authenticity and access** of and to the information contained in an EDI message must be secured.

According to the UNCITRAL, if the electronic message follows the principles above, it successfully replaces the paper document. e-freight is built upon those general principles. Those principles apply to the message itself and the requirements for its storage or archiving.

However, it is important to check how these principles are interpreted and applied in each location (country or governmental area) prior to the implementation of e-freight in that location. It is also important to check the archiving rules that regulate how and how long electronic documents must be archived in the location, as there may be additional drivers that will impact the archiving requirements such as taxation rules that must be checked.

Therefore, IATA strongly recommends that, during the DLA process stakeholders obtain and document local confirmation that the implementation of e-freight is acceptable based on local regulations.

In many cases the Customs authorities will know the rules that enable e-commerce to take place in their location, or if there is legislation in place that has been introduced by other government agencies that require the presentation and archiving of any of the key 12 documents within the scope of e-freight.

However, if there is any doubt when undertaking the DLA, it may be necessary to take legal advice on the application and interpretation of the UNCITRAL principles particularly regarding each of the 12 core documents in scope.

**Establishing that the e-Customs systems and practices are in place to support e-freight**

Having established, during the HLA Process, that the WCO Letter of Intent has been signed to implement paperless e-Customs practices, and that a programme is in place to implement those paperless e-Customs practices, it is necessary to ensure, during the DLA process, that local Customs, have systems and practices in place, at the airports where e-freight is to be implemented, to accept electronic versions for the 12 core documents without the systematic need for paper versions to be presented for customs release.

**Core documents:**
- Trade documents: invoice, packing list,
- Transport documents: house manifest, air waybill, house waybill, flight manifest
• Customs documents: export goods declaration, customs release export, export cargo declaration, import cargo declaration, import goods declaration, customs release import.

Of course, Customs can, by exception for goods selected for further customs controls or for post-release audit purposes, ask for print-out of copies from the electronic document records, as allowed for in the WCO recommendations.

**Key success factors:** Lessons learnt from previous assessments below, will help to mitigate any risk and highlight any potential issues to implementation.

Customs involvement and participation in the assessment is essential to identify the local regulatory environment.

All types of stakeholders along the airfreight supply chain are needed to undertake a review of the Regulatory DLA of a location.

Legal advice may be necessary to clarify the existence of local e-Commerce laws, that support e-freight, in accordance with the UNCITRAL Model Law on Commerce.

Industry stakeholders and Customs agree on the DLA outcomes (Proceed to Endorsement or identify gaps & create a Location Action Plan <LAP>), either at a face to face meeting or via a conference call.

At least two industry stakeholders of same type are recommended to properly assess the regulatory, business and technical environment, with a senior representative from the location’s Central Customs and a senior officer from the relevant Airport(s).

If the DLA is agreed to be closed and the location can progress to the Endorsement phase, the names of the stakeholder representatives agreeing on the DLA closure are noted in the minutes of the meeting or conference call.

**The Local Action Plan (LAP)**

**LAP:** the Local Action Plan is used to help countries that have failed the DLA to address identified gaps and to qualify them as ready for e-freight implementation.

If a location fails to meet the criteria set in the DLA, then an agreed LAP between DLA stakeholders, the Lead Airline and IATA will be developed to close the identified gaps.

Any gaps in the technology and business process should be resolved by means of the business process and standards and technology requirements as stated in Chapters 3 and 4.

The LAP will be managed locally between the Lead Airline, local stakeholders and IATA and tracked through a formal progress review process.

Where gaps are identified that mean that a location is partially e-freight capable, for example where there is a need for only one or a limited number of in scope documents to still exist in paper format, those elements of e-freight capability, and the element(s) where there is a gap included in the LAP to be closed, will be identified in Cargo Matchmaker.
This will allow stakeholders to benefit from implementing those elements of e-freight that are available to them until such time as the LAP item is closed, and the location is endorsed as fully e-freight capable.

Once all LAP items are closed, the DLA is revised by the Industry Stakeholders and Customs at either a face to face meeting or conference call, and agreement is reached to submit the location for endorsement as e-freight capable. The names of the stakeholder representatives agreeing on the DLA closure are noted in the minutes of the meeting or conference call.

Key success factors:

At least two industry stakeholders of same type are recommended to properly assess the regulatory, business and technical environment, with a senior representative from the location’s Central Customs and a senior officer from the relevant Airport(s).

If the DLA is agreed to be closed and the location can progress to the Endorsement phase, the names of the stakeholder representatives agreeing on the DLA closure are noted in the minutes of the meeting or conference call.

The e-freight Capable Endorsement

The purpose of the e-freight capable endorsement process is to formalize that the DLA has been completed for a given location and that any identified gaps identified in a Local Action Plan (LAP) have been closed prior to the location being endorsed as e-freight capable.

Names of the industry stakeholder and Customs representatives agreeing to the closure of the LAP and DLA are noted in the endorsement request.

The endorsement request is submitted by the location IATA Cargo Resource via the IATA Regional Cargo Manager to the Head, Cargo e-Business Development.

Once the location is successfully endorsed, the location status, and that of the airports in the location where e-freight capability has been established, is updated in Matchmaker to show that the locations is e-freight capable and open for stakeholders to implement e-freight at the relevant airports in that location.

Communication of the location’s endorsement as e-freight capable is also communicated to members of the e-freight Central Action Group, and stakeholder’s e-freight Project Leads, as well as stakeholders in the location itself.

Key success factor: All local stakeholders who participated in the DLA exercise are aligned on the DLA outcomes (Gaps and LAP) and in submitting the location for endorsement as e-freight capable.

The assessment phase is completed once HLA and DLA are passed and that location is endorsed as e-freight capable.
Appendix 2 Stakeholder led implementation of a new airport in a live location

From 2012 stakeholders in live locations (i.e. live countries or administrative areas) will take the lead and in co-ordination with local authorities will implement e-freight at the new airport(s).

This appendix defines the process that stakeholders must follow and the criteria that IATA will use to validate such airports as e-freight live. It also describes the process for stakeholders to inform IATA that a new airport should be considered live.

Section 1 - Criteria to consider a new airport live on e-freight

To consider an airport as e-freight live the following criteria must be met:

- The stakeholders e-freight operational procedures, location e-FOP’s or generic e-Freight Operational Procedures (e-FOP, available on the IATA web site) have been reviewed by local stakeholder partners (Airline, GHA and FF’s and they have been validated as applying to this or these new airport(s)
- A senior Customs Official from the Airport(s) in question have confirmed that:-
  - e-Customs processes are in place by which Customs declarations can be presented electronically, without the need for paper customs declarations to be presented to them for clearance purposes. Customs Declarations being:
    - Export Goods Cargo Declarations
    - Export Cargo Declarations
    - Import Cargo Declarations
    - Import Goods Declarations
    - Transshipment declarations (where relevant)
  - Support Documents, other than regulatory certificates, i.e. Commercial Invoices and Packing Lists or Transport Documents, are only required to be presented on shipments selected for Customs Controls
  - Such Support Documents, when required, can be presented in digitized format, including imaged versions
  - Release notification is given electronically to the declarant
  - No original paper copies of transport documents (i.e. MAWB or HAWB) are required to be presented for validation by Customs that goods have been released, for the purpose of:-
    - Evidencing that goods have been released for export purposes and can be loaded to the aircraft or Road Feeder unit on which the freight is booked
    - Evidencing that goods have been released for import into the customs territory of the location in questions and can be handed over to the party collecting the goods on behalf of the consignee.
- Such Customs confirmation is documented and the names of the Customs Officials giving the confirmation are noted either in minutes of a meeting or in writing from the Customs officials involved.
Section 2 - Process to follow for stakeholder led implementation of a new airport in a live location

1. Initiating the process:
   - The initiative to implement a new airport or new airport(s) should be discussed and agreed by the stakeholder partners wishing to implement e-freight at a new Airport in a live Location, which includes the Airline leading the implementation, their GHA at the Airport(s) in question and the Airlines Freight Forwarder partners.
   - Stakeholder partnerships should discuss their wish to implement e-freight at the Airport(s) in question with senior Customs Officials at those Airport(s) and ensure that the required e0Customs criteria as above can be applied at the Airport(s) for which they are responsible and endorse the proposal.

2. Validating e-FOP and operational readiness with local stakeholders (especially customs authorities):
   Stakeholders leading this effort on behalf of the local eFMG should ensure that they:
   - Review the existing e-FOP’s and validate with other stakeholder partners with whom they will implement e-freight (including customs authorities) that they will also apply to the new airport.
   - Identify and document any specific rule or exception that would apply to that airport.
   - Obtain confirmation from the local customs authority of their readiness to accommodate import and export e-freight transactions from all interested stakeholders (airlines, forwarders, shippers) and from all live e-freight airports.
   - Obtain confirmation from the local customs authorities that their local team has been fully briefed on the process of e-freight consignments.

3. Getting IATA’s endorsement:
   - A request to endorse the newly implemented airport(s) as live must be made to IATA by the Airline leading the implementation.
   - This request must be made via the ‘Endorsement form for new airports’ which is available on the IATA website (and copied in the body of this document below) (www.iata.org/e-freight), or by e-mail that contains the same relevant data as the endorsement form.
   - The request should be sent to the local Cargo Manager or directly to the Head, Business Processes and Standards team at IATA.
   - The information will be reviewed and validated by the IATA Cargo Central Team and the airport(s) will be validated as e-freight live in Cargo Matchmaker.
e-freight NEW AIRPORTS ENDORSEMENT SHEET

THIS FORM IS TO ALLOW STAKEHOLDERS WHO HAVE LED THE IMPLEMENTATION OF NEW AIRPORT(S) IN THEIR LOCATIONS WITHOUT THE ACTIVE INVOLVEMENT OF IATA TO REQUEST IATA’S ENDORSEMENT OF THE NEW AIRPORT(S) AS LIVE ON E-FREIGHT

THIS FORM MUST BE FILLED BY THE AIRLINE LEADING THE IMPLEMENTATION AT A NEW AIRPORT IN A CURRENT LIVE LOCATION AND SENT TO ‘IATAE-FREIGHT@IATA.ORG’. THE IATA E-FREIGHT CENTRE TEAM WILL REVIEW IT AND ENDORSE THE NEW AIRPORT(S) AS IATA E-FREIGHT LIVE.

1. BASIC INFORMATION

<table>
<thead>
<tr>
<th>Airport code*</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(*if multiple airports write all the codes in the box)</td>
<td></td>
</tr>
<tr>
<td>Airport full name</td>
<td></td>
</tr>
<tr>
<td>Airport location (country or governmental area where the airport is located)</td>
<td></td>
</tr>
<tr>
<td>Endorsement requested by (name, organization and role in local e-freight governance*)</td>
<td></td>
</tr>
<tr>
<td>*example: Chair of eFMG</td>
<td></td>
</tr>
</tbody>
</table>

2. STAKEHOLDERS INVOLVED:

Please list here all stakeholders who were involved in discussions to implement the new airport(s):

<table>
<thead>
<tr>
<th>Organizations (National customs, other authorities, airline(s), forwarder(s), handler(s), etc.)</th>
<th>Names</th>
<th>Job title</th>
<th>Role in local e-freight governance (i.e. member or chair of eFMG and/or BWG, other)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

(Add lines if necessary)

3. SCOPE OF THE NEW AIRPORT IMPLEMENTATION:

<table>
<thead>
<tr>
<th>General</th>
<th>Item</th>
<th>Export</th>
<th>Import</th>
<th>Domestic</th>
<th>Transit</th>
<th>Transhipments</th>
<th>Comments (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Open for e-freight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Certificate of Origin in scope</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Dangerous goods in scope</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Perishables in scope</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Live animals in scope</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. CUSTOMS VALIDATION

<table>
<thead>
<tr>
<th>Status</th>
<th>Name and Official Title of Customs Official</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes/No</td>
<td></td>
</tr>
</tbody>
</table>

The iCustoms Official at the Airport in question endorses that this airport can apply all the paperless e-Customs processes identified for e-freight to be operated by e-freight stakeholder in out of the location over any active e-freight trade lane (i.e. no restriction in participating airline, forwarder, handlers, shippers or in terms of trade lanes), and that the customs officers locally have been briefed as appropriate.
5. IATA SIGN-OFF PROCESS

<table>
<thead>
<tr>
<th>Accountabilities</th>
<th>Action completed</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head of Cargo Business Processes and Standards</td>
<td>Review endorsement request</td>
<td>Yes/No</td>
</tr>
</tbody>
</table>
## Appendix 3 Glossary of terms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWB</td>
<td>Air Waybill</td>
</tr>
<tr>
<td>BCBP</td>
<td>Bar Coded Boarding Passes – one of the StB projects.</td>
</tr>
<tr>
<td>BPS</td>
<td>Business Process and Standards</td>
</tr>
<tr>
<td>BWG</td>
<td>Business Working Group</td>
</tr>
<tr>
<td>C2K</td>
<td>Cargo 2000 is an industry initiative aiming at implementing a new quality management system for the worldwide air cargo industry. The objective is simple: to implement processes backed by quality standards that are measurable to improve the efficiency of air cargo.</td>
</tr>
<tr>
<td>CCS</td>
<td>Cargo Community System</td>
</tr>
<tr>
<td>CDMP</td>
<td>Cargo 2000 Data Management Platform</td>
</tr>
<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>Cargo Declaration</td>
<td>Information submitted prior to or on arrival or departure of a means of transport for commercial use that provides the particulars required by the Customs relating to cargo brought to or removed from the Customs territory.</td>
</tr>
<tr>
<td>Cargo-IMP</td>
<td>Cargo Interchange Message Procedures. The Cargo-IMP messages have been developed by the member airlines of the International Air Transport Association (IATA) and the Air Transport Association of America (ATA) as Standard IATA/ATA Cargo Interchange Message Procedures. The purpose of these messages is to ensure uniformity, mutual understanding, accuracy and economy in inter-airline data exchange and in data exchange between airlines and other air cargo industry participants including agents, brokers and customs. The messages are used in both manual and computerized environments.</td>
</tr>
<tr>
<td>CoO</td>
<td>Certificate of Origin</td>
</tr>
<tr>
<td>CSC</td>
<td>Cargo Services Conference</td>
</tr>
<tr>
<td>DLA</td>
<td>Detailed Level Assessment</td>
</tr>
<tr>
<td>EAP</td>
<td>e-freight Consignment with Accompanying Documents</td>
</tr>
<tr>
<td>EAW</td>
<td>e-freight Consignment with No Accompanying Documents</td>
</tr>
<tr>
<td>e-AWB</td>
<td>Electronic Air Waybill</td>
</tr>
<tr>
<td>eCAG</td>
<td>e-freight Central Action Group</td>
</tr>
<tr>
<td>EDI</td>
<td>Electronic Data Interchange</td>
</tr>
<tr>
<td>eFMG</td>
<td>e-freight Management Group</td>
</tr>
<tr>
<td>e-FOP</td>
<td>e-freight Operational Procedure</td>
</tr>
<tr>
<td>ERP</td>
<td>Enterprise resource planning. A back end system typically used by manufacturers, shippers to manage procurement, manufacturing, shipment, settlement.</td>
</tr>
<tr>
<td>FAQ</td>
<td>Frequently Asked Questions</td>
</tr>
<tr>
<td>FF</td>
<td>Freight Forwarder</td>
</tr>
<tr>
<td>FFA</td>
<td>Freight Forwarders Associations</td>
</tr>
<tr>
<td>FFM</td>
<td>Airline flight manifest message</td>
</tr>
</tbody>
</table>

Note that we can distinguish 3 types of e-FOPs:
- The generic e-FOP which is the IATA e-FOP
- The location e-FOP which is the e-FOP defined by the local BWG based on the IATA e-FOP and endorsed by the local eFMG of a specific location
- The internal e-FOP for each stakeholder which is defined by the stakeholder itself prior to adoption of e-freight
FHL  Consolidation List message
FMA  Acknowledgment message
FNA  Error message
FWB  Air waybill data message
GHA  Ground Handler Agent
Goods Declaration  A statement made in the form prescribed by Customs, by which the persons interested indicate the Customs procedure to be applied to the goods and furnish the particulars which the Customs require to be declared for the application of that procedure. Note: the persons interested may be the importer, the exporter, the owner, the consignee, the carrier, etc., of the goods or their legal representative, according to the country concerned.
HLA  High Level Assessment
IATA BoG  IATA Board of Governors
IATA CCM  IATA Country Cargo Managers are the first point of contact for any e-freight issue in their country
IATA RMeB  IATA Regional Manager Cargo e-Business
MAWB  Master Air Waybill
MC99  Montreal Convention 1999 – Convention for the Unification of Certain Rules for International Carriage by Air, done at Montreal on 28 May 1999 (also referred as MC99)
MIP  Message Improvement Program.
MP4  Montreal Protocol 4 – Convention for the Unification of Certain Rules Relating to International Carriage by Air, signed at Warsaw, 12 October 1929 and amended by Montreal Protocol No. 4
MUP  Milestone Update – Cargo2000 status message
OGA  Other Government Agencies
PCAG  Pilot Central Action Group – former name of the eCAG
PM  Project Manager
PoC  Proof of Concept
RCS  Ready for Carriage Shipment
SLA  Service level agreement
SPH codes  Special Handling codes
StB  Simplifying the Business
StB RPM  StB Regional Program Manager
TACT  The Air Cargo Tariff
UN/CEFACT  United Nations / Centre for Trade Facilitation and Electronic Business
VAN  Value added network
WCO  World Customs Organization