e-AWB
Implementation Playbook

February 2022
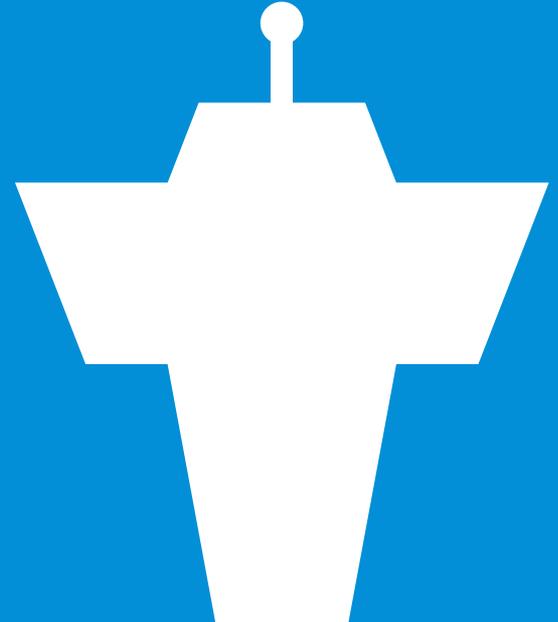
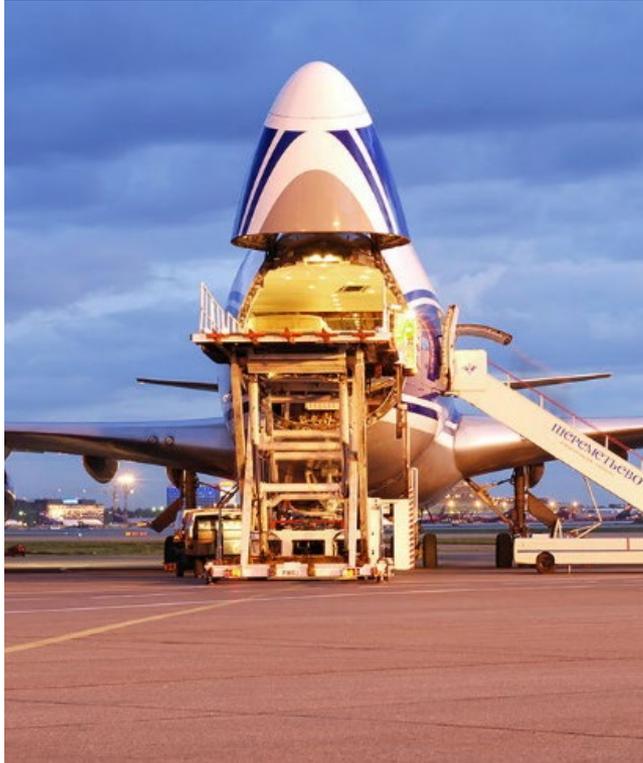**David SAUV**
Manager, Digital Cargo

Table of Contents

Digital Cargo @ IATA

Digital Cargo @ IATA

Our vision

To achieve a fully digitally connected and integrated air cargo supply chain

Our mission

We lead the industry with end-to-end supply chain collaboration on development of innovative technology streamlined processes and global standards

Driving change

IATA supports Digital Cargo implementation by developing industry standards and offering guidance and tools that facilitate the adoption of new initiatives

Workshop & conference

Beyond the World Cargo Symposium, IATA organizes the annual Digital Cargo Conference in Geneva and regular Digital Cargo workshops at the local levels. During those events, attendees benefit from a thorough understanding of new Digital Cargo initiatives and the ability to network with subject matter experts and other industry colleagues.

Solution

To support the digital transformation of the air cargo industry, IATA developed a range of solutions aiming to help the entire supply chain actors moving toward of paperless way of working:
- Matchmaker
- Cargo-XML AutoCheck

Business Process & Standard

In order to remove paper and use electronic messages it is necessary to have common and clear business process and standards, which are the foundations of Digital Cargo initiatives. IATA is driving business process and standard setting activities gathering the industry in workgroups and governance bodies.

Technology

Moving to Digital Cargo requires changes in the technologies used by the air freight stakeholders. IATA facilitates understanding of key IT requirements necessary to support Digital Cargo projects, and offer guidance with regard to solutions and services available on the market.

e-Freight
Designed to fulfill the vision

Digitization of the air cargo industry

In 2017, more **than 50%** of the global air trade rely on paper-based processes.
A shipment can generate up to **30 paper documents**
and many of the processes, such as track & trace,
still depend on human intervention

**Each year, more than 7,800 tons of paper documents are processed,
the equivalent of 80 Boeing 747 freighters filled with paper**

e-Freight: designed to fulfill the vision

e-Freight is an industry-wide program that aims to build an **end-to-end paperless transportation process for air cargo** made possible with regulatory framework, modern electronic messages and high quality of data

e-Freight is part of the StB Cargo program aiming at making air cargo easier, smarter and faster. The program portfolio holds 6 projects with the objective to accelerate change in the areas of digitization, visibility and safety

- e-freight & e-AWB
- ONE Record
- Interactive Cargo
- Smart Facility
- ACID Air Cargo Incident Data
- Cargo Connect

e-Freight benefits

The ultimate goal of the e-Freight program is to bring benefits for the air cargo industry

Operational efficiency

e-Freight brings operational efficiency through the reduction of the end to end processing time (up to 24h)

Cost effectiveness

e-Freight brings cost effectiveness through the reduction of document processing and archiving costs

Data quality

e-Freight improves data quality and accuracy (e.g. auto-checks, mandatory fields, …)

Innovation

Standardization and digitization are key enablers for the development of new innovative services and solutions, thus increasing the value of the air freight to shippers (e.g. real time status update)

Sustainability

e-Freight will eliminate more than 7,800 tons of paper documents annually, the equivalent of 80 Boeing 747 freighters filled with paper

Regulatory compliance

e-Freight implementation facilitates compliance to international and local regulations (e.g. facilitate Advance Electronic Information (AEI) requirements for security purpose)

The 3 pillars of the e-Freight program

Initiated by IATA in 2006, the program became an industry-wide initiative involving **carriers, freight forwarders, ground handlers, shippers, customs brokers and customs authorities**

The e-Freight roadmap outlines a shared end-to-end industry approach with clear leadership roles, around **three core components, or "pillars"**

Customs documents | Transport documents | Commercial & Special cargo documents
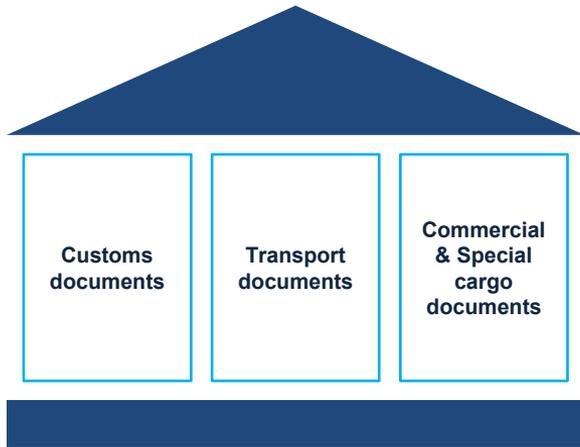
1. Customs documents

Engaging regulators and governments worldwide to create an 'e-freight route network' with fully electronic customs procedures and where regulations support paperless shipments

2. Transport documents

Working collaboratively within the cargo supply chain to digitize the core industry transport documents, starting with the Air Waybill (AWB)

3. Commercial & Special cargo documents

Developing a plan to digitize the commercial and special cargo documents typically accompanying airfreight today, in or outside of the 'Cargo pouch'

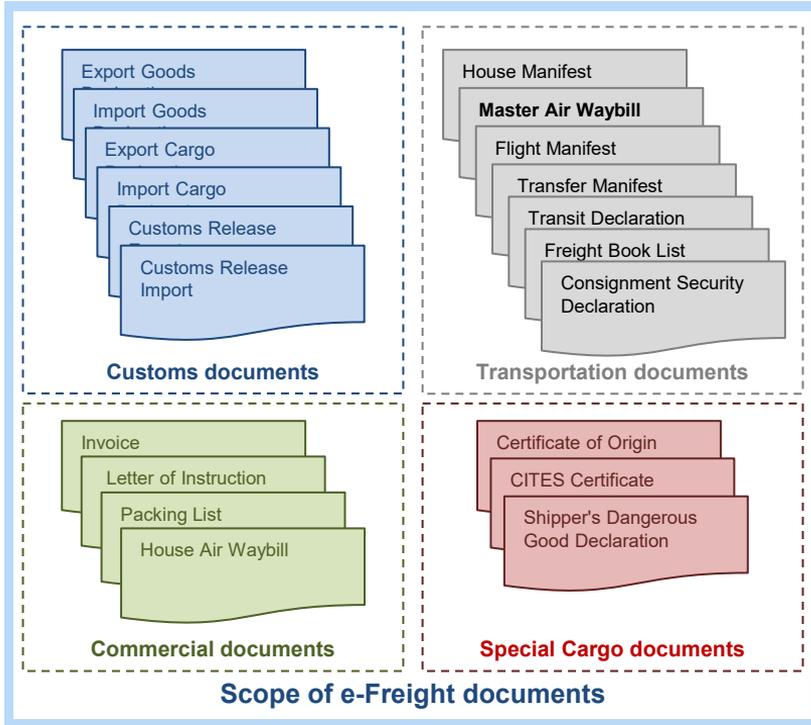# The scope of e-Freight

The scope of e-Freight covers **20 documents** supported by **12 Cargo XML message standards**

Scope of e-Freight documents

Customs documents
- Export Goods
- Import Goods
- Export Cargo
- Import Cargo
- Customs Release
- Customs Release Import

Transportation documents
- House Manifest
- **Master Air Waybill**
- Flight Manifest
- Transfer Manifest
- Transit Declaration
- Freight Book List
- Consignment Security Declaration

Commercial documents
- Invoice
- Letter of Instruction
- Packing List
- House Air Waybill

Special Cargo documents
- Certificate of Origin
- CITES Certificate
- Shipper's Dangerous Good Declaration

Cargo XML Messages supporting the e-Freight program

Transport messages

XML Waybill	XFWB
XML House Waybill	XFZB
XML House Manifest	XFHL
XML Flight Manifest	XFFM
XML Freight Booked List	XFBL
XML Status Message	XFSU
XML Custom Status Notification	XCSN
XML Shippers Declaration for DG	XSDG

Commercial messages

XML Invoice	XINV
XML Packing List	XPCL
XML Certificate of Origin	XCOO
XML Shippers Letter of Instruction	XSLI

e-AWB
Enabling the 100% e-Freight vision

The Air Waybill: 1ˢᵗ step toward e-Freight

The Air Waybill (AWB) is a critical air cargo document that constitutes the **contract of carriage** between the "**shipper**" and the "**carrier**" (airline)

It is governed by **IATA Resolution 600a** "The Air Waybill" and **600b** "Air Waybill Conditions of Contract"

AWB and e-AWB

The electronic Air Waybill (e-AWB) is the **electronic contract of carriage** between the "**shipper**" and the "**carrier**" (airline)

The Electronic Air Waybill Resolution 672 (MeA) **removes the requirement for a paper Air Waybill**

The **original transportation contract is electronic** (shipment record)

There is **no longer a need to print, handle or archive the paper AWB** simplifying the air cargo process

Paper AWB versus electronic AWB

The 2 components of an AWB can be found both in the paper and in the electronic worlds

Paper AWB

Front (600a) + Reverse (600b)

e-AWB
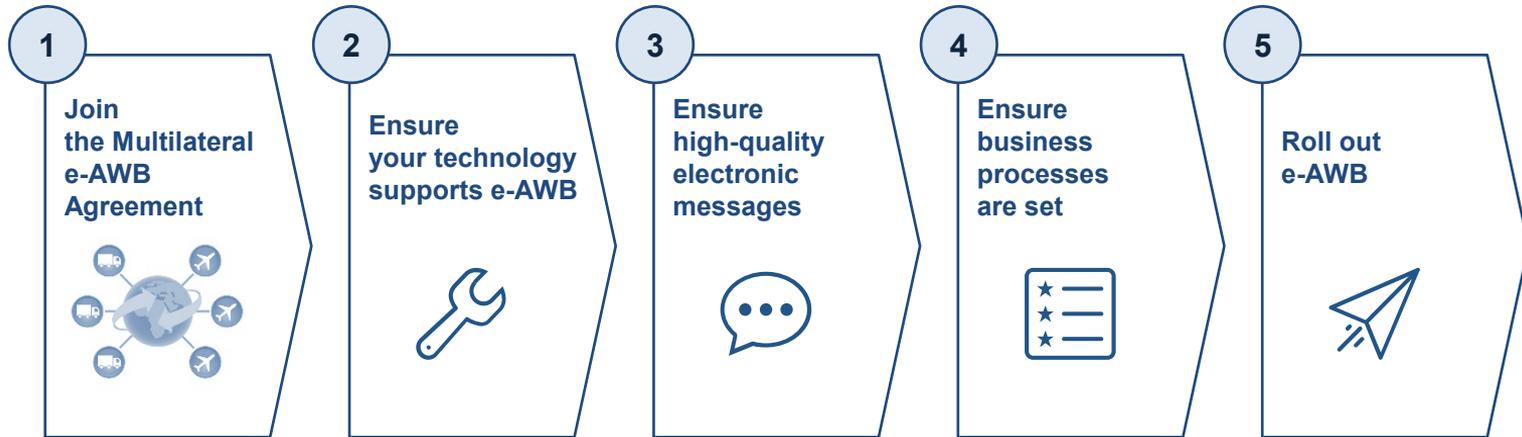
Electronic messages + Signed e-AWB agreement
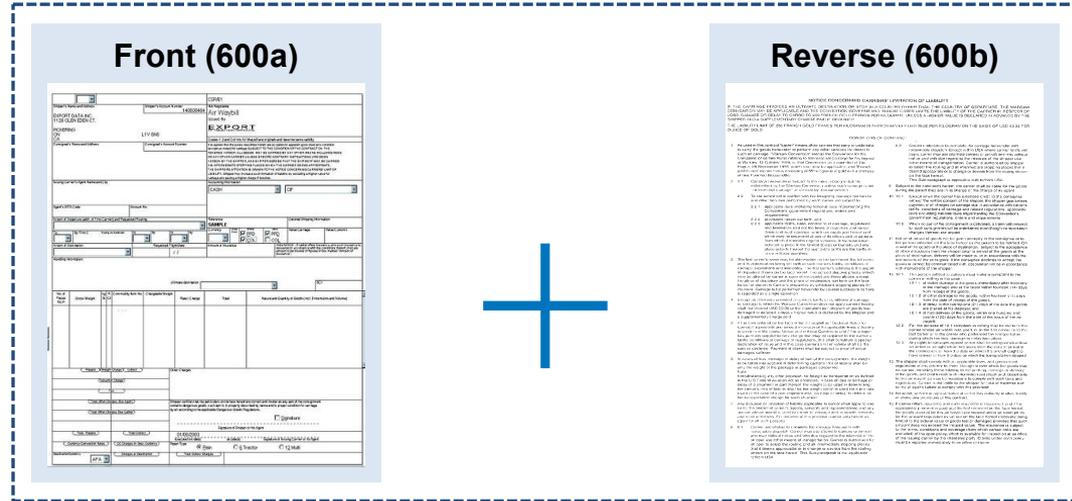
e-AWB
How do we implement it?

Implementing e-AWB in 6 steps

The following **5 steps** are key to ensure the success of an **e-AWB implementation**

1
Join the Multilateral e-AWB Agreement

2
Ensure your technology supports e-AWB

3
Ensure high-quality electronic messages

4
Ensure business processes are set

5
Roll out e-AWB

As a prerequisite, please verify that local regulations authorize the use of e-AWB as a contract of carriage between the "shipper" and the "carrier"

Pre-requisite /
Check the regulatory environment

Regulatory framework for e-AWB

The use of e-AWB as a means to establish the contract of carriage is **only recommended on feasible trade lanes**. In September 2018, the **feasible trade lanes** represented **69%** of the AWBs.

Feasible trade lane is defined as such when country of **origin and country of destination ratified the same treaty** - either the Montreal Protocol No. 4 of 1975 (MP4) or the Montreal Convention of 1999 (MC99)

Countries that have ratified MP4

Countries that have ratified MC99

**USA / France
MC99 countries**

**Brazil / Niger
MP4 countries**

The use of e-AWB as a contract of carriage between the "shipper" and the "carrier" may also **depends on government authorities** recognizing and accepting the e-AWB
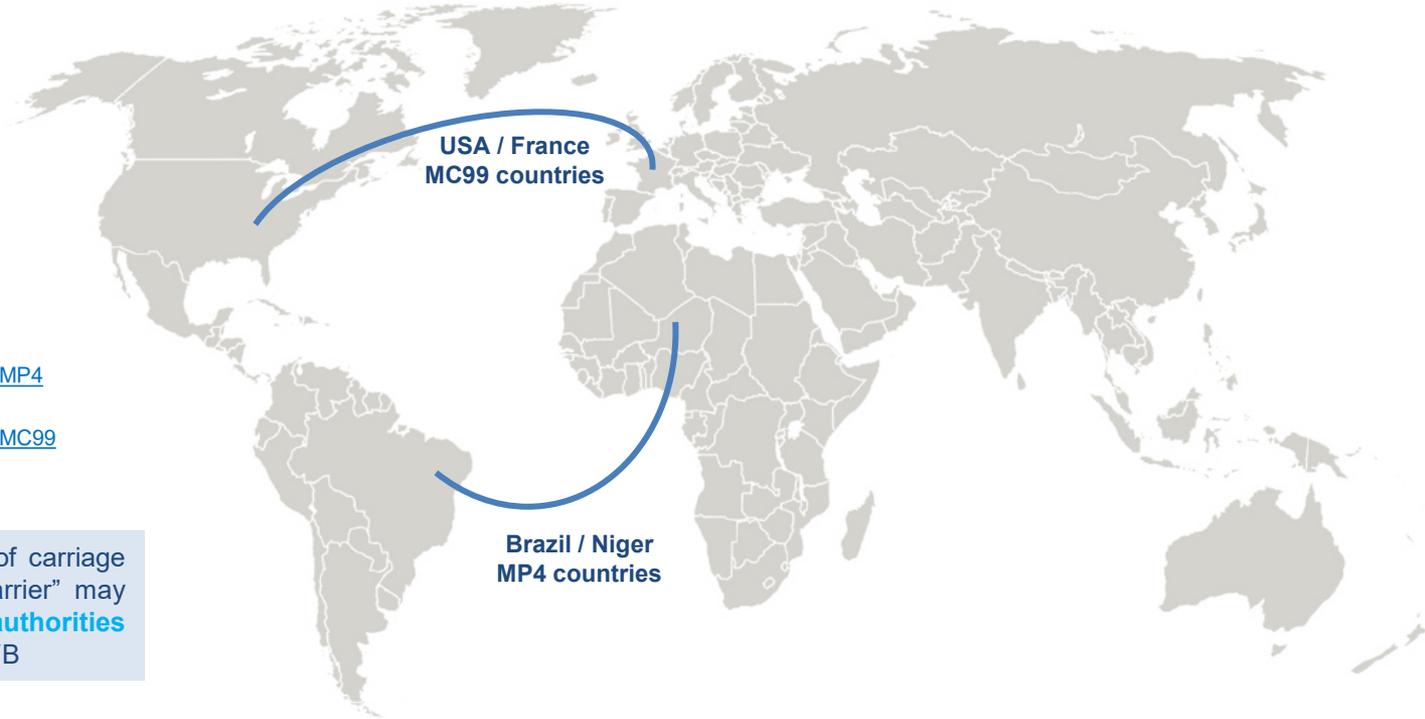
Step 1 /
Join the Multilateral e-AWB Agreement

Step 1 / Multilateral e-AWB Agreement

The IATA Multilateral e-AWB Agreement (IATA Resolution 672) provides a single standard e-AWB agreement that airlines and freight forwarders can sign once with IATA and start doing e-AWB with all other parties to the Agreement. By signing the Agreement with IATA, freight forwarders and airlines effectively enter into e-AWB Agreements with each other, i.e. enabling them to execute contracts for the carriage of air cargo shipments by electronic means, in lieu of paper AWBs. The agreement does not amend the Air Waybill conditions of contract.

Multilateral e-AWB Agreement

Sign once, connect all!

Before starting e-AWB, Airlines and freight forwarders are required to sign the Multilateral e-AWB Agreement (MeA) following the below steps:

Benefits

Freight Forwarders process

1. Complete and submit the Online Joining Form
2. Receive the Agreement by e-mail from IATA Cargo
3. Review and e-sign the Agreement
4. Receive Final agreement after counter-signed by IATA
5. Freight Forwarder will be listed as party to the MeA

Airlines process

1. Download and read the Resolution 672
2. Download, fill-in and sign the Resolution 672, Attachment 'D'
3. Send the Airline Submission Form to IATA (mea@iata.org)
4. Airline to be listed as party to the MeA

$ Free of charge

Provides the necessary legal framework for establishing electronic cargo contracts (e-AWB)

Avoids the need to negotiate numerous bilateral e-AWB agreements with Airlines

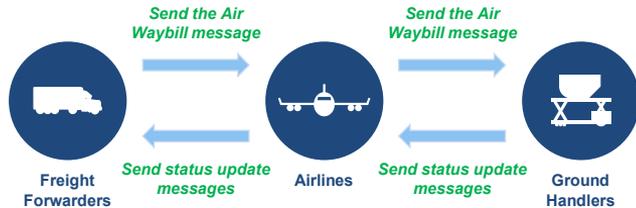Enables to do e-AWB with all participating Airlines

Participating Airlines and Freight Forwarders are listed on the IATA website. For more info, please visit: https://www.iata.org/en/programs/cargo/e/efreight/#tab-5

Step 2 /
Ensure your technology supports e-AWB

Step 2 / e-AWB messaging capability

Communicating effectively requires Freight Forwarders, Airlines and GHAs to exchange standard messages

Send the Air Waybill message

Send status update messages

Send the Air Waybill message

Send status update messages

Freight Forwarders — **Airlines** — **Ground Handlers**

Required capability	FF	AL	GHA
Send Air Waybill message	✓	✓	✓
Receive Air Waybill message		✓	✓
Send Status Update message		✓	✓
Receive Status Update message	✓ recommended		
Produce Cargo Receipts for FF		✓	✓
Archive electronic messages	✓	✓	✓
Print on-demand AWB information if need be	✓	✓	✓

The Resolution 670 rules the Cargo electronic data interchange message standard, supported by the recommended practice 1670 (Carriage of Cargo using Electronic Data Interchange), the recommended practice 1672 (Cargo-Fact/Cargo-IMP Message Standards) and the recommended practice 1675 (Cargo-XML Message Standards)

The table below describes the different messages as per the 2 IATA message standards – Cargo-IMP and Cargo-XML:

Message type	Cargo-XML	Cargo-IMP
Air Waybill message	XFWB	FWB
Status Update message (Freight on Hand - FOH, Ready for Carriage - RCS)	XFSU	FSU
Error message	XFNM	FNA
Message Acknowledgment	XFNM	FMA

Cargo-IMP message standard is no longer maintained since 2014. IATA recommends to use standard IATA Cargo-XML to exchange electronic information along the air freight supply chain as the alternative to IATA Standard Cargo-IMP

For more information, please visit: https://www.iata.org/en/programs/cargo/e/efreight/#tab-2

Step 3 /
Ensure high-quality electronic messages
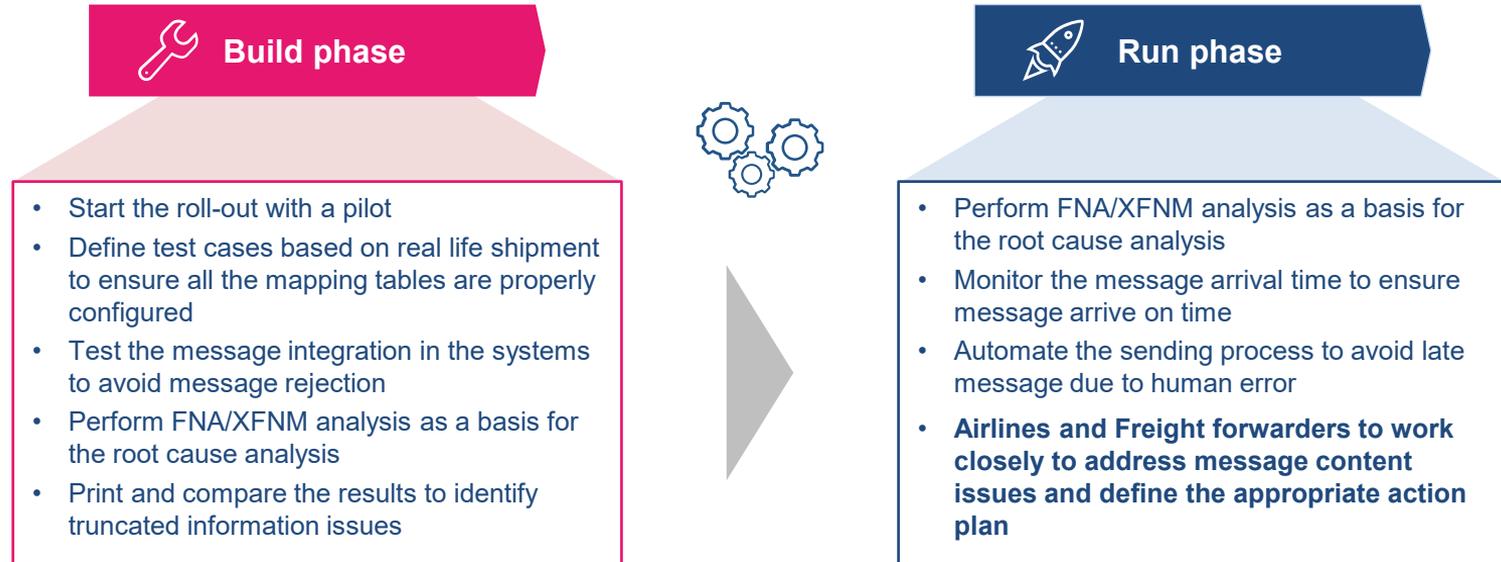
Step 3 / Understand the quality issues

Ensuring the high quality of the electronic message is a key enabler toward a full paperless process. The main causes of quality issues are:

Invalid or missing data

Message syntax error

Cargo system not configured properly (message integration, print layout)

Message not sent in time

Step 3 / Improve the message quality

To address the main quality issues the following best practices are encouraged:

Build phase

- Start the roll-out with a pilot
- Define test cases based on real life shipment to ensure all the mapping tables are properly configured
- Test the message integration in the systems to avoid message rejection
- Perform FNA/XFNM analysis as a basis for the root cause analysis
- Print and compare the results to identify truncated information issues

Run phase

- Perform FNA/XFNM analysis as a basis for the root cause analysis
- Monitor the message arrival time to ensure message arrive on time
- Automate the sending process to avoid late message due to human error
- **Airlines and Freight forwarders to work closely to address message content issues and define the appropriate action plan**

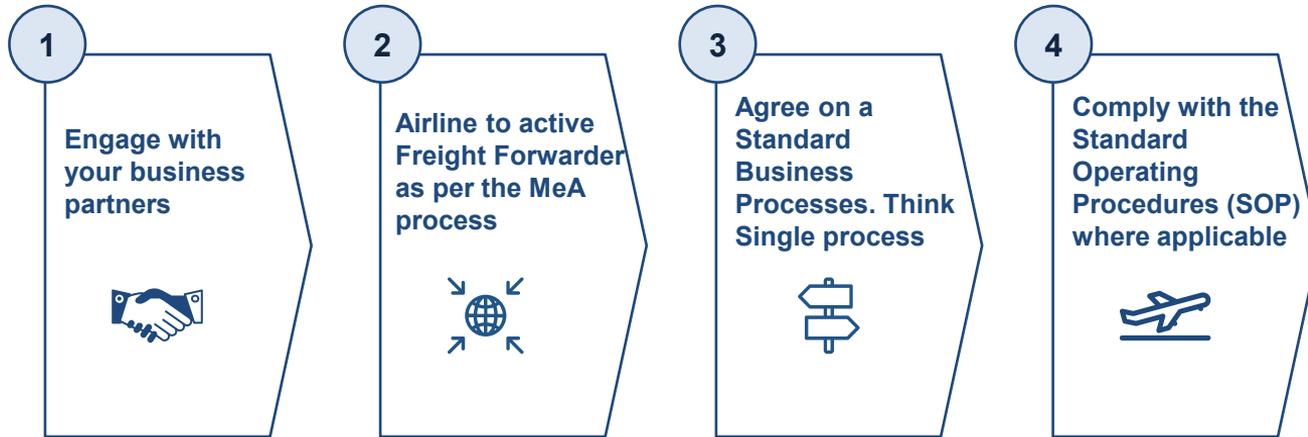IATA offers you to validate your Cargo XML message for free
For more info, please visit
https://cargo-xml-autocheck.iata.org/ValidationPortal/(S(1oozbof0wekj5wfnm30jtsb0))/IATA/Login.aspx?Proj=1&Lang=EN

Step 4 /
Ensure business processes are set

Step 4 / Ensure business processes are set

Review your business processes, together with your business partners, to makes sure they are adapted to the **new paperless way of operating**

1 Engage with your business partners

2 Airline to active Freight Forwarder as per the MeA process

3 Agree on a Standard Business Processes. Think Single process

4 Comply with the Standard Operating Procedures (SOP) where applicable
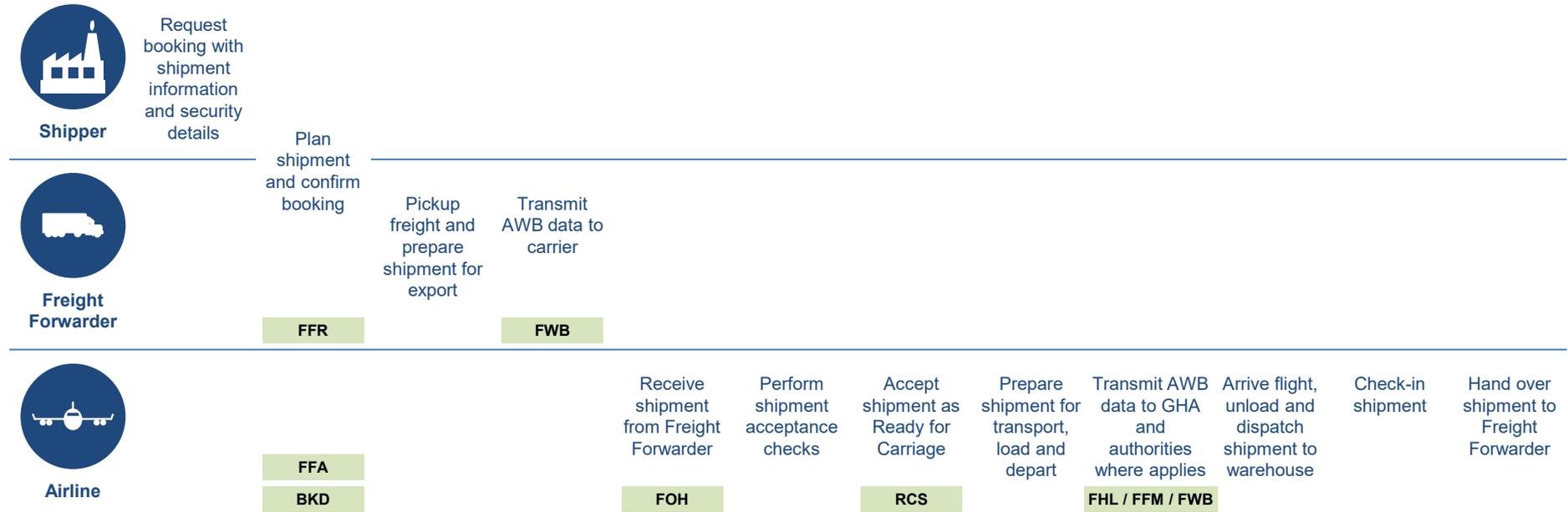
The SOP describes the operational steps that stakeholders of the air cargo supply chain need to follow when shipping air cargo in compliance with the e-AWB functional specifications

The e-AWB Global SOP is available at: https://www.iata.org/contentassets/4bc75639b37641ba88f2e81e5516a020/iata_eawb_global_sop.pdf

Step 4 / A full paperless air cargo process

The below chart presents a simplified view of a paperless air cargo process using the main e-AWB messages

Shipper
Request booking with shipment information and security details

Freight Forwarder
Plan shipment and confirm booking | Pickup freight and prepare shipment for export | Transmit AWB data to carrier

FFR | FWB

Airline
FFA
BKD | Receive shipment from Freight Forwarder | Perform shipment acceptance checks | Accept shipment as Ready for Carriage | Prepare shipment for transport, load and depart | Transmit AWB data to GHA and authorities where applies | Arrive flight, unload and dispatch shipment to warehouse | Check-in shipment | Hand over shipment to Freight Forwarder

FOH | RCS | FHL / FFM / FWB

Cargo iQ Members initially developed the Master Operating Plan (MOP) to support implementation of quality management processes and metrics. The MOP describes the key processes and sub-processes involved in transporting air cargo from shipper to consignee in a systematic and harmonized manner.
For more information, please visit: https://www.cargoiq.org/_files/ugd/722a02_e289dc70805f4bd491a467906f728abc.pdf

Step 4 / Why do we need a Single process?

The use of **e-AWB** is regulated by international treaties (MP4/MC99) and/or local laws
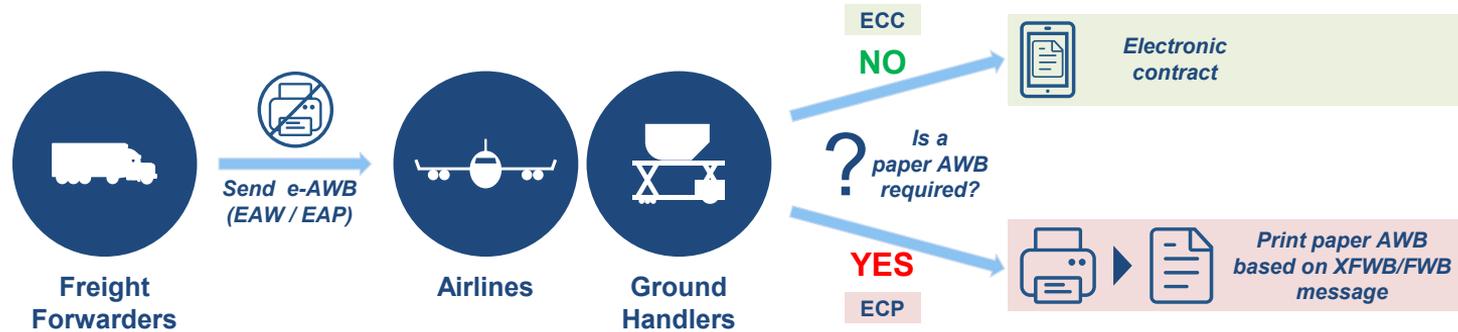
e-AWB is **only authorized on feasible trade lanes**. **Outside** of this regulatory framework, the use of **paper AWB** is still **required**. However, even within the right regulatory framework, **paper AWB might be required by local authorities**

Freight Forwarder

- Is it a feasible trade lane?
- In case of a feasible trade lane, do the local authorities require paper AWB?

Single process

With the Single process, the Freight Forwarder does **not** need to **face these questions**. It **always sends** an **e-AWB** to the Airline and the **cargo is accepted without paper AWB**, regardless of the trade lane. If required, the paper **AWB can be printed** by the Airline or the Ground Handler

Step 4 / How does the Single process work?

Regardless of the trade lane, the Freight Forwarder **always sends an e-AWB** to the Airline

Freight Forwarders — Send e-AWB (EAW / EAP) → **Airlines** / **Ground Handlers**

ECC — **NO** → Electronic contract

? Is a paper AWB required?

YES / **ECP** → Print paper AWB based on XFWB/FWB message

Freight Forwarder sends a XFWB/FWB message to Airline and delivers the Cargo without paper AWB, regardless of the trade lane

Based on the trade lane and the local authorities procedures, Airline or Ground Handler determines whether a paper AWB is required

ECC: If paper AWB is not required, the AWB is electronic and all the required information is in the system
ECP: If paper AWB is required, Airline or Ground Handler prints the paper AWB on behalf of Freight Forwarder
Note: this can be done either at Origin, Transit or Destination

In **any case**, the Freight Forwarder delivers the Cargo **without paper AWB**
All **required information** is sent through the **XFWB/FWB message.** More info on the Special Handling Codes usage <u>here</u>

Step 5 /
Roll out e-AWB

Step 5 / Define your e-AWB roll out strategy

Once your organization is **ready** from both the **business processes** and the **IT** perspective, you will need to define your **e-AWB roll out strategy**. Some area you may consider:

- Pilot vs Big Bang

- Home location vs remote locations

- High potential airports across several countries vs all airports within one country

- By freight forwarders / By airlines

Airlines, don't forget to activate your Freight Forwarders in Matchmaker

To help the industry **accelerate e-AWB** adoption, IATA encourage stakeholders to embrace a community approach aimed at encouraging airlines, freight forwarders, customs authorities and ground handlers to adopt e-AWB

e-AWB
How do we implement it?

Wrap up

e-AWB implementation - Wrap up

1. Join the Multilateral e-AWB Agreement

❑ Start your journey to join the Multilateral e-AWB Agreement

2. Ensure your technology supports e-AWB

❑ Ensure your organization is capable of sending and receiving Cargo-XML or Cargo-IMP messages

3. Ensure high-quality electronic messages

❑ Ensure your system produce high quality messages
❑ Validate your Cargo XML message for free

4. Ensure business processes are set

❑ Engage with your business partners
❑ Agree on a standard business processes and think Single process
❑ Comply with the Standard Operating Procedures (SOP) where applicable.

5. Roll out e-AWB

❑ Define your e-AWB roll out strategy
❑ Airlines to activate Freight Forwarders in Matchmaker

THANK YOU

Website
iata.org/cargo

IATA Cargo
cargo@iata.org

Cargo Tracker
iata.org/optin

Twitter
twitter.com/iata