CASE STUDY

The Benefits of e-freight for a Network Freight Forwarder

The case of Kuehne+Nagel in Hong Kong

e-freight
# IATA

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1. Acknowledgments

IATA would like to thank Kuehne + Nagel, Hong Kong and especially Managers at Training & Data Quality Airfreight, for their deep involvement and support in the creation of this case study, and for sharing with IATA their valuable experience and deep knowledge. The building visited that housed the operations was located in the Hutchison Logistics Centre in Kwai Chung, Hong Kong.

IATA would also like to thank personnel at from Global AirLogistics, Kuehne + Nagel, for their support and cooperation.
2. Executive Summary

This report was commissioned to analyze the benefits of e-freight implementation for multinational freight forwarders. The report presents a detailed case study of 100% e-AWB implementation (with Cathay Pacific), and e-freight implementation by Kuehne + Nagel, in Hong Kong.

Key findings:
- e-freight implementation brings between 8% and 44% time savings for the analyzed processes of a multinational freight forwarder (Kuehne + Nagel), depending on implementation scenarios
- Implementation of e-AWB (with e-House Manifest) is a natural first step resulting in tangible benefits (and even higher if e-Customs and implementation of internal e-processes within the forwarder organization -- i.e. e-HAWB -- are factored in)
- Additional, non-monetary benefits include speed, quality, visibility, simplicity and regulatory compliance, making the overall case for e-freight extremely compelling

Analysis:
For a freight forwarder, there are five important benefits achievable by implementing electronic document procedures:
1. **Cost benefits**: decrease in document processing and document transportation.
2. **Speed**: ability to receive and send relevant shipment information in advance of the cargo itself. This is expected to reduce the total cycle time by up to 24 hours.
3. **Quality and reliability**:
   i. Electronic documents auto-population (receiving the shipper’s data directly into the forwarder’s system) allows one-time electronic data entry at point of origin, reducing delays to shipments due to inaccurate or inconsistent data re-entry
   ii. Electronic documents are more easily archived and retrieved, reducing delays due to missing information
4. **Visibility**: electronic documentation and processes facilitate electronic track and trace functionality and real time visibility of freight movement.
5. **Simplicity & regulatory compliance**: as supply chain stakeholders adopt electronic processes and messages, the air cargo movement will be simpler to execute and regulatory compliance will be facilitated.

This case study focuses on the **tangible benefits** resulting from time savings in the export process. While only the export process has been analyzed in detail, similar savings would be expected for transit and import processes.
The case study analyzes time savings (i.e. manpower hours) obtained from three types of data integration in the supply chain, covering the scope of e-freight electronic processes:

- **Shipper-forwarder integration**: electronic commercial invoice and electronic packing list between shipper and forwarder at origin
- **Airline-ground, handler-forwarder integration**: electronic AWB and electronic house manifest between airline, forwarder and ground handler at origin
- **Forwarder-forwarder integration**: integration between origin forwarder and destination forwarder, materialized by the removal of the document pouch traditionally accompanying the freight

The table below shows the savings realized by implementing these three dimensions of data integration (and corresponding paper removal) in various scenarios corresponding to typical approaches and stages of e-freight implementation:

<table>
<thead>
<tr>
<th>Export Paper Process – Time saving in e-freight environment</th>
<th>Forwarder-Forwarder Integration (e-Pouch)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50% Shipments with e-pouch</td>
</tr>
<tr>
<td>Shipper-Forwarder integration (e-Commercial Invoice &amp; e-Packing List)</td>
<td>20%*</td>
</tr>
<tr>
<td>Airline-GHA-Forwarder integration (100% e-AWB &amp; e-HM)</td>
<td>8%</td>
</tr>
</tbody>
</table>
| Scenario (a) + Scenario (b) | 28% | 44%

* Includes 14% from shipper integration and 6% from e-pouch
**Includes 14% from shipper integration and 12% from e-pouch

**Case study result summary:**

- Shipper data integration is the most valuable element for forwarders, but is often the least advanced. This is due to limited shipper/forwarder integration across supply chains, and limits in trade lanes where paperless is accepted. This element is a priority of IATA and its partners (FIATA, TIACA, GSF) through the Global Air Cargo Advisory Group (GACAG) as part of the e-freight roadmap (more details at www.iata.org/e-freight).

- e-AWB and e-House Manifest implementation are also extremely valuable and are comparatively easier to achieve (as demonstrated by Cathay Pacific, Kuehne + Nagel and others in Hong Kong and other locations).

- The study therefore confirms the value of the e-freight approach: pursuing the goal of implementing a full, end-to-end, digitized process, while enjoying immediate benefits from prioritizing the implementation of e-AWB and other core transport documents e.g. e-House Manifest.

- The results presented in the case study are the minimum achievable savings. When electronic House Air Waybill (e-HAWB) and e-Customs are factored in (pre-conditions for e-freight implementation), as well as other, non-financial benefits such as increased quality and reduced time, the case for e-freight becomes even more compelling.
2.1. Detailed scenario description

For a freight forwarder, the implementation of e-freight includes several components:

- **Shipper-forwarder integration**: exchange of data with shipper at origin, to avoid manual recapture of information by forwarder staff.
- **Airline-ground, handler-forwarder integration**: implementation of electronic document exchange with airlines and GHA, specifically the e-Air Waybill (e-AWB) and e-House Manifest (e-HM) – also referred to as ‘airline integration’.
- **Forwarder-forwarder integration**: implementation of electronic pouch on e-freight trade lanes (where paperless is accepted at both origin and destination), allowing complete or partial removal of physical pouch of documents traditionally transported with the freight.

**NOTE**: There are two important additional components to be considered in implementing paperless Procedures:

- The implementation of internal electronic document procedures within the operation of the freight forwarder. In the case of Kuehne + Nagel for instance, there is Kuehne + Nagel e-House Air Waybill (KN e-HAWB). This means that for forwarding shipments within the Kuehne + Nagel network, there is no longer a need to attach a House Waybill. The case below assumes that the forwarder, when implementing e-freight with its airline, GHA and shipper partners, has already implemented internal paperless procedures similar to the one presented in this case study.
- **e-Customs procedures**: the ability to perform electronic customs declarations and get electronic release. In the case of Hong Kong, electronic procedures existed before the implementation of the other e-freight components mentioned above. Therefore, the case study focuses solely on the impact of those non-customs components. However, in other locations, the implementation of e-Customs procedures would be a prerequisite for e-freight implementation, and would constitute an additional and important component of the benefits achieved via the implementation of end-to-end paperless procedures.

The case study looks at the benefits obtained in various implementation scenarios combining the three dimensions above for the **Export paper process of a large network freight forwarder, Kuehne + Nagel in Hong Kong**.

While analysis has been done on three processes: export paper process, import paper process and data archiving, the full detailed results have been computed for the export process alone.

The detail descriptions of the three scenarios are as follows:

**Scenario (a): shipper-forwarder integration**: corresponds to the electronic exchange of data between the shipper and the freight forwarder, bringing many benefits by avoiding recapture of data (for customs declarations and transport documents). This corresponds to a situation, where commercial invoice and packing list data is provided electronically by the shipper to the forwarder, and is re-used in the forwarder documents without re-keying.

In this scenario, the documents for airlines (air waybill and house manifest) are still exchanged in paper format and a pouch of documents is still sent to the destination. This contain the invoice and packing list, and possibly other documents (which means the forwarder may have to print these documents to put in a pouch, if they have been received electronically from the shipper).
Scenario (b) airline-ground, handler-forwarder integration: (e-AWB + e-House Manifest): covers the situation achieved in HKG by Kuehne + Nagel, with at least one airline (Cathay Pacific). It corresponds to a scenario where air waybill and house manifest are electronic and not handled as paper documents by the airline (and therefore not transported to the destination).

In this scenario, the forwarder still receives commercial documents (invoice/packing list) in paper format. They must enter data manually in their own system for customs declaration and to create the air waybill. However, the air waybill itself, as well as other transport documents, are still paper-based and there is still a pouch transported to destination containing the commercial documents.

Scenario (c) – the full integration scenario combines scenario (b) with the integration of the shipper and covers the full chain for export process at origin.

Vertical dimension:

Forwarder-forwarder integration (e-pouch): The aforementioned scenarios are combined with the progressive removal of the physical pouches of documents that are transported with the freight. The removal of the pouch is demonstrated in two stages namely, 50% of the total shipments with the e-pouch and 100% of shipments with the e-pouch.

The last dimension is possible for shipments that use e-freight trade lanes today and that have only the core documents usually attached to general cargo. While it is difficult to assess what percentage of freight is general cargo today, it is normally estimated to be well in excess of 50% of all shipments. As more documents are made electronic over time (such as e-SDDG, Certificate of Origins, CITES, etc.), and more trade lanes are opened, removing physical document pouches will be possible on more shipments. This is why the analysis distinguishes two scenarios, 50% of the total shipments without pouch and 100% of shipments without pouch.
3. Detailed analysis

3.1. Objective
This document is part of a series of case studies on the benefits of implementing e-freight business processes in the air cargo supply chain.

The objectives of this document are to

- Analyze and share the benefits of e-freight for freight forwarders on the basis of the case study of Kuehne + Nagel, which has implemented e-freight in Hong Kong and elsewhere.

- Present the processes that have been put in place:
  - For e-freight
  - For managing the e-freight rollout, which includes the dual existing transition period of paper and paperless environments, leading towards 100% e-freight.

3.2 Approach used to calculate benefits and costs
IATA and Kuehne + Nagel made a detailed analysis of the benefits of implementing and running e-freight. A process performance approach including field visits has been undertaken to analyze and compare all sequential activities in paper and paperless environments, as well as the use of key metrics for measuring the benefits.

Interviews with employees and management as well as measurements with a chronometer have been used to calculate the time spent per task and activity.

The results of the approach were analyzed, reviewed and completed step by step.

3.3 Definitions and documents

3.3.1 Definition of e-freight
The term e-freight describes the process of transporting air cargo shipments with digital rather than paper-based data and documentation. Typically, this relates to air waybills, manifests, invoices, packing lists, etc.

At present, nearly all participants in the cargo supply chain employ their own, self-defined business processes and standards, along with their own coding systems. A successful e-freight system requires harmonized message standards to electronically exchange data.

The air cargo industry today still largely relies on paper-based processes to support the movement of freight. The average shipment generates more than 30 documents when all parties are involved: shippers, freight forwarders, ground handling agents, airlines, customs brokers, customs and other government authorities. These paper-based processes are not cost-effective, nor do they serve the key requirements of air cargo: security and speed.

In December 2004, IATA initiated an industry-wide project whose aim was to take paper out of the air supply chain. Achieving this vision requires sweeping changes in regulatory and legal environments.

Note: while e-freight is paper free, i.e. a process in which the airfreight supply chain does not physically transport paper, there may be exceptional circumstances where paper copies are required, based on electronic data, messages or scanned documents. Examples of such exceptions include documents required by customs authorities for the release of cargoes.

In 2012, the Global Air Cargo Advisory Group (GACAG, see www.gacag.org) developed an industry roadmap to achieve this goal of paperless air cargo transportation. The roadmap outlines three core components, or “pillars”:

- Pillar I: Engaging regulators and governments worldwide to create an ‘e-freight route network’ of fully electronic customs procedures and regulations that support paperless shipments.
The air waybill is a document completed by, or on behalf of, the shipper, specifying the contract between the shipper and carrier(s) for the carriage of goods in the shipment. The air waybill is uniquely identified by the airline prefix issuing the document plus a serial.

Master air waybill
The master air waybill is a document completed by, or on behalf of, the agent/consolidator, specifying the contract between them for a consignment consisting of goods originated by more than one shipper.

Electronic air waybill (e-AWB)
The "e-AWB" is the term IATA uses to describe the interchange of electronic data (EDI) messages, instead of a paper air waybill, to conclude the contract of carriage. The new electronic air waybill recommended practice (e-AWB RP1670) removes the requirement for a paper air waybill, significantly simplifying the airfreight supply chain process.

House manifest
The house manifest is a document used to describe the list of house air waybills associated with an individual master air waybill. The data it contains on the individual house bills include shipper, consignee, origin, destination, number of pieces and weight.

Invoice
An invoice is required by customs in an importing country. The exporter states the price of the goods, costs for freight, insurance and packing, and specifies delivery and payment terms. This information determines the import customs value.

Packing list
The packing list specifies the distribution of goods in individual packages.

Other documents
In addition to the above, there may be other documents transported with a shipment, depending on the nature of the goods. For example, dangerous goods declarations for hazardous materials, certificate of origin, licenses etc. Digitizing those documents is included in the scope of the e-freight initiative; however, as of January 2013, the number of countries allowing them in electronic format was still limited.

3.3.5. Current status of countries and airports for e-documents via IATA online tool
The current status of a country's requirements for documents can be found using the IATA e-Cargo Matchmaker tool. Please visit: www.iata.org/e-freight.

4. Kuehne + Nagel and e-freight

A common challenge faced by freight forwarders implementing e-freight procedures is that some airlines are not ready to accept EDI messages and paperless processes. To reduce the complexity of these variable operational processes for their operational staff, Kuehne + Nagel has implemented modified procedures. These procedures are not documented in this study, but for more details, contact IATA at e-freight@iata.org.
5. Constraints and issues in a paper handling environment

The exact sequence of some tasks along the supply chain will differ between countries and freight forwarders. This section describes the main processes and activities performed in Hong Kong.

**Export process prior to e-freight adoption**

5.2.1. Receive freight and documents

The freight and accompanied documents are delivered to Kuehne + Nagel at the logistics center Terminal 4, 18 Container Port Road South, Kwai Chung, about 30 minutes from Hong Kong airport. This is a very large logistics complex with hundreds of freight forwarders.

After arrival in the Kuehne + Nagel warehouse, the driver gives the instruction form (Shipper Letter of Instructions, SLI), the invoice and packing list (optional, received from shipper) to a Kuehne + Nagel staff member at reception.

Freight is unloaded, and data is captured in the warehouse system (number of pieces, weight and dimensions of received cargo). A Kuehne + Nagel employee creates and prints the cargo acceptance receipt for the driver and the Received Inspection Check List (RICL) documents.

5.2.2. Sort collected documents and consolidate

The collected documents are sorted at the warehouse and delivered to the Export Operations office. This time-consuming manual task has to be done several times a day.

The planner deals with consolidation and pallet organization by noting the dimensions and weight of the freight. From this information, the booking can be arranged and master air waybill number assigned.

5.2.3. Prepare documents and pouch / deliver freight to airport

The commercial documents are photocopied and passed to Operations. The need to copy all documents for every shipment, and to split the original copies of house air waybill for shipper, overseas agent, Kuehne + Nagel etc, is time-consuming and inefficient.

The operational staff pass the cargo build plan to the warehouse for preparation and cargo assembly. An operator scans the commercial documents for electronic archive and copies the freight forwarder at destination.

In Hong Kong, the cargo is delivered first, prior to the freight documentation. The ground handler acts as a neutral party, weighing the goods on behalf of both freight forwarders and airlines. This objective approach helps eliminate disagreements though it can create additional bureaucracy.
After delivery and unloading at the airport warehouse, an agent counts the number of pieces, checks the total weight and measures the freight dimensions.

On the freight forwarder side, the RCL document data is used to finalize and produce the master air waybill, the house air waybill and the house manifest. The pouch containing the documents is delivered to the airline export office counter.

### 5.2.4. Build pouch and deliver to the airport

The agent builds the pouch, including the master air waybill and house manifest and gives to the freight forwarder driver.

The driver arrives at the airline export desk, where there may be a delay of up to an hour to be seen. The airline export desk agent checks the documents which can create further delays. The driver is not able to deliver his freight and has to wait until confirmation for acceptance is given.

If the documents are rejected, the driver has to return to the freight forwarder’s warehouse where more time-consuming clarifications and corrections must be made.

If the documents are accepted, the driver is given the shipper master air waybill by the export front desk.

This manual process creates the risk of human error, for instance overlooking dangerous goods or special handling requirements.

### Import process prior to e-freight adoption

#### Repatriate the documents

Despite being a freeport, Hong Kong is still subject to random cargo checks of approximately 5%. The airport checker will act on the customs code received, designating the freight as ready to pick up or inspection required.

The driver collects the cargo and documents from the airport and delivers them to the warehouse. While the cargo is unloaded, broken down and stored, the document pouch is taken to the import office where the contents are verified as correct and complete.

#### Prepare the invoice and the pouch

An agent calculates and prints the invoice and delivery note and puts them in a pouch, which is delivered to the warehouse.

#### Deliver the freight and documents to the consignee

The freight and documents are delivered to the consignee. Time can be wasted if a document is missing from the pouch and has to be retrieved or recreated.

### Archive process prior to e-freight adoption

Kuehne+Nagel has already implemented an electronic archive solution. The solution described below corresponds to the physical paper handling scenario.

All commercial documents are scanned to the Kuehne + Nagel e-filing system before flight departure. Shipping documents such as house air waybill, master air waybill and house manifest will be generated automatically. The destination office can access the document images from the system.
## Export Paper Process

<table>
<thead>
<tr>
<th>Processes</th>
<th>Main activities</th>
<th>Constraints &amp; issues</th>
<th>Impacts</th>
</tr>
</thead>
</table>
| Receive freight & documents at freight forwarder warehouse | - Shipper/vendor deliver the freight with shipping document to Kuehne + Nagel’s warehouse  
- Warehouse staff checks received freight (weight, number of pieces, etc.) and gives a receipt to the driver  
- The received and produced documents are delivered to the warehouse export office. | - Received shipping documents via email and paper version come with the freight | - Job redundancy      |
| Sort collected documents & consolidate | - Sort collected documents & prepare for ready to pick up for dispatching  
- Collect documents from the warehouse and bring them to the planner | - Manual handling    | - Reduced efficiency    |
| Prepare documents & pouch              | - Photocopy / print the commercial documents  
- Prepare the shipping documents and print the documents | - Manual tasks that remain time consuming  
- Risk of wrong data capture | - Reduced efficiency    |
| Build the pouch and deliver documents to the airport | - Build the pouch and put masteraAir waybill and house manifest on top of it  
- Deliver all documents to the car driver  
- Deliver the documents to the airline export office | - Need to deliver the freight and shipping documents separately  
- Driver has sometimes to queue at peak time periods for up to one hour  
- When documents rejected, the driver may deliver back unclear information to the freight forwarder’s operation teams | - Reduced efficiency  
- Additional work to investigate and fix issues |
### Import Paper Process

<table>
<thead>
<tr>
<th>Processes</th>
<th>Main activities</th>
<th>Constraints</th>
<th>Impacts</th>
</tr>
</thead>
</table>
| Repatriate documents       | ➤ Retrieve documents and freight at the airport and drive back to the freight forwarder warehouse  
➤ Repatriate the documents to the import section office  
➤ Unpack the pouch and notify the consignee | ➤ Freight forwarder needs to come first to the import front office before retrieving their goods at warehouse  
➤ Drivers may queue at front office at busy times | ➤ Reduced efficiency                                                              |
| Prepare the invoice and the pouch | ➤ Calculate the invoice and print it with the delivery note  
➤ Deliver the invoice and the pouch to the Warehouse | ➤ Potential missing documents                                                                 | ➤ Spent time to fix the issue                           |
| Deliver the documents & freight to the consignee | ➤ Deliver the freight and physical documents to the consignee | ➤ Potential missing documents                                                                 | ➤ Consignee satisfaction |

### Data archiving

<table>
<thead>
<tr>
<th>Processes</th>
<th>Main activities</th>
<th>Constraints</th>
<th>Impacts</th>
</tr>
</thead>
</table>
| Archive the documents      | ➤ Collate the air waybills and house manifests  
➤ Bring them to storage area  
➤ Store on the shelf | ➤ The documentation needs to be archived for years                                                 | ➤ Workload increase  
➤ Cost for storage                  |
| Destroy the documents      | ➤ Organise the collect of dossiers  
➤ Retrieve the dossiers  
➤ Destroy the dossiers  
➤ Recycle the paper | ➤ The process brings no added value                                                                 | ➤ Workload increase |
6. The benefits of e-AWB and e-freight

The approach used to calculate the benefits and costs

A process performance approach including field visits has been undertaken

Three scenarios have been defined and analyzed with the pouch component to identify the benefits:

- **Scenario (a):** Shipper integration only (e-commercial invoice and e-packing List)
- **Scenario (b):** Airline-ground handler-forwarder integration 100% e-air waybill + e-house manifest
- **Scenario (c):** Scenario a + Scenario b

Note: The case study makes two important assumptions: that the customs declarations and releases are already electronic (as is the case in Hong Kong), and that the forwarder has implemented an electronic process for its core document internally, specifically the house air waybill.

Those three scenarios when combined with a pouch dimension provide 6 scenarios as follows:

For instance, Scenario 2b corresponds to: 100% e-air waybill + e-house manifest + 100% of shipments without pouch

**Scope**

While the three processes have been analyzed in detail, the study focuses on the export paper process. However, process simplification for both the import and archive processes is also covered in this report.

**Caption**

In paper environment we have defined the required workload to perform a task and its frequency. The more “+” there are, the heavier the workload and task repetition. The aim of this approach is to highlight the main savings without disclosing detailed Kuehne + Nagel figures for reasons of confidentiality.

- **Task that remains:** Task to perform in both paper environment and in e-freight environment
- **Eliminated:** Task eliminated
- **Partly eliminated:** Task partly eliminated (from 50% up to 80% in this study)
## Export Paper Process

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Workload</th>
<th>Frequency</th>
<th>1a</th>
<th>1b</th>
<th>2a</th>
<th>2b</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data capture</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(of number of pieces, weight and dimensions of received cargo) create and print the receipt and the Received Inspection Check List (RICL) documents</td>
<td>+</td>
<td>+++</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>The received and produced documents are delivered to the warehouse export office:</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Shipper letter of instructions (SLI)</td>
<td>+</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Received Inspection Check List (RICL)</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Commercial documents</td>
<td>+</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### Paper environment

<table>
<thead>
<tr>
<th>50% shipments with e-pouch</th>
<th>100% Shipments with e-pouch</th>
</tr>
</thead>
</table>

### Task Description

- **Collect documents from the warehouse and bring them to the operations**
  - Workload: ++
  - Frequency: +
  - 50% Reduced
  - Eliminated

- **Dispatch them to each planner**
  - Workload: ++
  - Frequency: +
  - 50% Reduced
  - Eliminated

- **Planner does the consolidation and the booking for carrier and assigns the master air waybill number for each consolidation**
  - Workload: +++
  - Frequency: +++
  - Eliminated

- **Pass the documents to the operations**
  - (cargo build plan, shipper letter of instructions, Received Inspection Check List, commercial documents)
  - Workload: ++
  - Frequency: +++
  - 50% Reduced
  - Eliminated

- **Photocopy / print the commercial documents OR Scan the commercial documents for electronic archive purpose and to inform FF destination (only TODAY)**
  - Workload: +
  - Frequency: +++
  - 50% Reduced
  - Eliminated

- **Create documents (HAWB, MAWB, House Manifest).**
  - Workload: ++
  - Frequency: +++
  - Eliminated
  - Eliminated

- **The operator double checks the documents (HAWB, MAWB) with the SLI, completes when data missing, etc. (link MAWB and close it) Send FWB/FHL message.**
  - Workload: ++
  - Frequency: +++
  - Eliminated
  - Eliminated

- **Performs early printing HAWB**
  - Workload: *
  - Frequency: **
  - Eliminated
  - Eliminated

- **Performs early printing MAWB**
  - Workload: *
  - Frequency: **
  - Eliminated
  - Eliminated

- **Final rate adjustment based on the GHA data (directly available from system) for the HAWB and MAWB. Send FWB/FHL message.**
  - Workload: ++
  - Frequency: +++
  - Eliminated
  - Eliminated
  - Eliminated

- **Final printing for the remaining of the documents:**
  - HAWB
  - MAWB
  - House Manifest
  - Workload: ++
  - Frequency: +++
  - Eliminated
  - Eliminated
  - Eliminated

- **Build the pouch**
  - Workload: ++
  - Frequency: +++
  - 50% Reduced
  - Eliminated
  - Eliminated

- **Put MAWB and House Manifest on top of the pouch**
  - Workload: +
  - Frequency: +++
  - Eliminated
  - Eliminated
  - Eliminated

- **Deliver all documents to the car driver** *(One way only)*
  - Workload: ++
  - Frequency: +
  - Less documents to handle
  - Less documents to handle
  - Eliminated
  - Eliminated

- **Deliver the documents to the airline warehouse** *(One way only)*
  - Workload: +++
  - Frequency: +
  - Less documents to handle
  - Less documents to handle
  - Eliminated
  - Eliminated

- **Queue up at acceptance desk**
  - Workload: +++
  - Frequency: +
  - 50% Reduced
  - Reduced by 70-80%
  - Eliminated
  - Eliminated

- **Wait during acceptance processing**
  - Workload: +++
  - Frequency: +
  - 50% Reduced
  - Reduced by 70-80%
  - Eliminated
  - Eliminated

Perform early printing: The earlier printing is only for big consolidation shipments since the final adjustment can be absorbed by two or three HAWBs. This is done in order to reduce the job loading during rush hours.
## Import Paper Process

<table>
<thead>
<tr>
<th>Document Process</th>
<th>Task Description</th>
<th>Workload</th>
<th>Frequency</th>
<th>1a</th>
<th>1b</th>
<th>2a</th>
<th>2b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repatriate the documents</td>
<td>Driver arrives at the airport, wait for retrieving the documents and potentially queue up</td>
<td>only handle 50% of EAP shipment</td>
<td>only handle 50% of EAP shipment</td>
<td>Only collect the shipment release form from airline counter</td>
<td>Only collect the shipment release form from airline counter</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Repatriate the documents to the import section office</td>
<td>+</td>
<td>++</td>
<td>Handle less documents</td>
<td>Handle less documents</td>
<td>Eliminated</td>
<td>Eliminated</td>
</tr>
<tr>
<td></td>
<td>Unpack the pouch</td>
<td>++</td>
<td>Less pouch to unpack</td>
<td>Less pouch to unpack, but need to print out document from eFile when consignee request paper document</td>
<td>Eliminated</td>
<td>Eliminated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Notify customer at house level consignee</td>
<td>+++</td>
<td>+++</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare the invoice and the pouch</td>
<td>Calculate the invoice</td>
<td>+++</td>
<td>+++</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Print the invoice and delivery note</td>
<td>+</td>
<td>++</td>
<td>Eliminated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deliver the invoice to the Warehouse</td>
<td>+</td>
<td>+</td>
<td>Eliminated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deliver the pouch to the Warehouse (at same time than for the invoice)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deliver / pick-up documents at consignee</td>
<td>+++</td>
<td>++</td>
<td>Eliminated if consignee accept e-Documents under EAW</td>
<td>Eliminated</td>
<td>Depends on the customer requirement</td>
<td></td>
</tr>
</tbody>
</table>
Data archiving

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Workload</th>
<th>Frequency</th>
<th>1a</th>
<th>1b</th>
<th>2a</th>
<th>2b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect documents</td>
<td>+</td>
<td>+++</td>
<td>via e-Channel</td>
<td>via e-Channel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Print documents</td>
<td>+</td>
<td>+++</td>
<td>reduced by 50%</td>
<td>Eliminated</td>
<td>Replaced by docs scanning / uploading</td>
<td></td>
</tr>
<tr>
<td>Build the dossier</td>
<td>+</td>
<td>+++</td>
<td>Eliminated</td>
<td>Eliminated</td>
<td>Eliminated</td>
<td>Eliminated</td>
</tr>
<tr>
<td>Label the dossier</td>
<td>+</td>
<td>+++</td>
<td>Eliminated</td>
<td>Eliminated</td>
<td>Eliminated</td>
<td>Eliminated</td>
</tr>
<tr>
<td>Store the dossier on a shelf</td>
<td>+</td>
<td>+++</td>
<td>via e-Channel</td>
<td>via e-Channel</td>
<td>via e-Channel</td>
<td>via e-Channel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remove &amp; destroy part of the archive</th>
<th>Workload</th>
<th>Frequency</th>
<th>1a</th>
<th>1b</th>
<th>2a</th>
<th>2b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organise the collect of dossiers</td>
<td>(+)</td>
<td>(+)</td>
<td>Eliminated</td>
<td>Eliminated</td>
<td>Eliminated</td>
<td>Eliminated</td>
</tr>
<tr>
<td>Retrieve the dossiers</td>
<td>(+)</td>
<td>(+)</td>
<td>Eliminated</td>
<td>Eliminated</td>
<td>Eliminated</td>
<td>Eliminated</td>
</tr>
<tr>
<td>Destroy the dossiers</td>
<td>(+)</td>
<td>(+)</td>
<td>Eliminated</td>
<td>Eliminated</td>
<td>Eliminated</td>
<td>Eliminated</td>
</tr>
<tr>
<td>Recycle the paper</td>
<td>(+)</td>
<td>(+)</td>
<td>Eliminated</td>
<td>Eliminated</td>
<td>Eliminated</td>
<td>Eliminated</td>
</tr>
</tbody>
</table>

Time savings for the export process - summary

The table below highlights six e-freight implementation scenarios that resulted in time savings for the export process, i.e. the level of manpower hours that can be saved or re-allocated to other tasks. Improvements have been calculated for all the scenarios and are given in percentage of time savings.

<table>
<thead>
<tr>
<th>Scenario Description</th>
<th>50% shipments with e-pouch</th>
<th>100% shipments with e-pouch</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Shipper-Forwarder integration (e- Commercial Invoice &amp; e-Packing List)</td>
<td>20%*</td>
<td>26%**</td>
</tr>
<tr>
<td>(b) Airline-GHA-Forwarder integration (100% e-AWB &amp; e-HM)</td>
<td>8%</td>
<td>19%</td>
</tr>
<tr>
<td>(c) Scenario (a) + Scenario (b)</td>
<td>28%</td>
<td>44%</td>
</tr>
</tbody>
</table>

* Includes 14% from shipper integration and 6% from e-pouch
**Includes 14% from shipper integration and 12% from e-pouch
This analysis shows that e-freight can generate significant time saving:

- **Scenario (a)**, which corresponds to shipper-forwarder data integration, brings most benefits with a **time saving of 20%** where 50% of shipments use the electronic pouch, and **26% time saving** where 100% of shipments use the electronic pouch. It is also probably the least advanced today, due to the diversity of shipper/forwarder integration situations and variety of data standards in use. It is, however, a direction pursued by several larger freight forwarders including, in some countries, national forwarder associations, to help mid-size forwarders access shipper data.

- **Scenario (b)**, which corresponds to airline-GHA-forwarder integration, with 100% implementation of e-AWB and e-House Manifest, also shows useful time savings that are comparatively easier to achieve. When combined with 100% of shipments using the electronic pouch, **time savings up to 19%** can be achieved.

- **Scenario (c)** brings most benefits, when the two components are combined (shipper integration, e-AWB/e-House Manifest). In those cases, the **time savings increase to 28%** where 50% of shipments use the electronic pouch, and **up to 44%** where 100% of shipments use this system.

Some of above benefits are only gained when full integration is in place between all stakeholders.