CASE STUDY

Bringing benefits & added value with e-archiving

NV Logistics

e-freight

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1. Acknowledgments

IATA would like to take the opportunity to thank NV Logistics and particularly his founder Thierry Moreno for his valuable participation and support to e-freight implementation as well as his kindness. IATA also would like to thank Robbert Spierings and Guillaume Schaer from Arcplace AG for their valuable participation.

2. Executive Summary

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 series will cover benefits for each stakeholder along that supply chain.

The objective of this document is to **analyze and share the benefits of e-archiving for Freight Forwarders** based on the case study of one forwarding company, NV Logistics, which has implemented a full electronic archiving solution and shared with us the tangible benefits.

E-archiving is valuable as a standalone solution and is even more beneficial integrated in an e-freight environment, as described in the next two figures. **The NV Logistics figures are not communicated**, and the NV logistics case has been used to **design a model** to calculate real savings obtained with an e-archiving solution.

For a company doing 500 to 1,000 shipments per month:
- **Direct cost savings for adopting an e-archiving solution represent:**
  - **US $2.00 to US $2.40 per shipment (if documents are archived for 10 years)**
  - **US $1.00 to US $1.50 per shipment (if documents are archived for 7 years)**
- **In addition, increase of productivity with a reduction of 0.25 to 0.50 Full Time Equivalent (FTE)**
- **Payback period is reached in:**
  - **4 years (500 shipments/month)**
  - **2 years only (1,000 shipments/month)**

	Benefits	E-archiving	E-archiving + E-freight
Increase productivity	Speed up and simplify the archiving process Speed up the access of information from any location, any time Simplify process by removing the manual process of printing and organizing the archiving	X X 0.25 to 0.50 FTE	X X X 0.25 to 0.50+ FTE
Reduce costs	Eliminate paper documents and free up valuable office space Eliminate costs of paper (purchase, destruction, recycling), printing, ink, toner, printer maintenance	X US $1.00 to US $2.40 per handled dossier	X X US $1.00 to US $2.40+ per handled dossier
Improve customer service	Provide information very quickly and efficiently in response to customer documentation retrieval request Eliminate potential loss of documents	X X 30 seconds only (95% of time savings)	X X 30 seconds only (95% of time savings)
Sustain development	Be eco-friendly Boost company status in the community by being part of the Green Revolution	Recycling of paper only	X X Positive brand awareness
Increase level of security	Eliminate potential loss of documents Be protected against fire, flood, etc. Restrict the access of sensitive information and protect the information in order not to be modified when required		

Figure 1: Benefits for Freight Forwarders for 500 to 1,000 shipments per month

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From the operational archiving processes, 80% of the tasks from paper environment to an e-archiving + e-freight environment are eliminated.

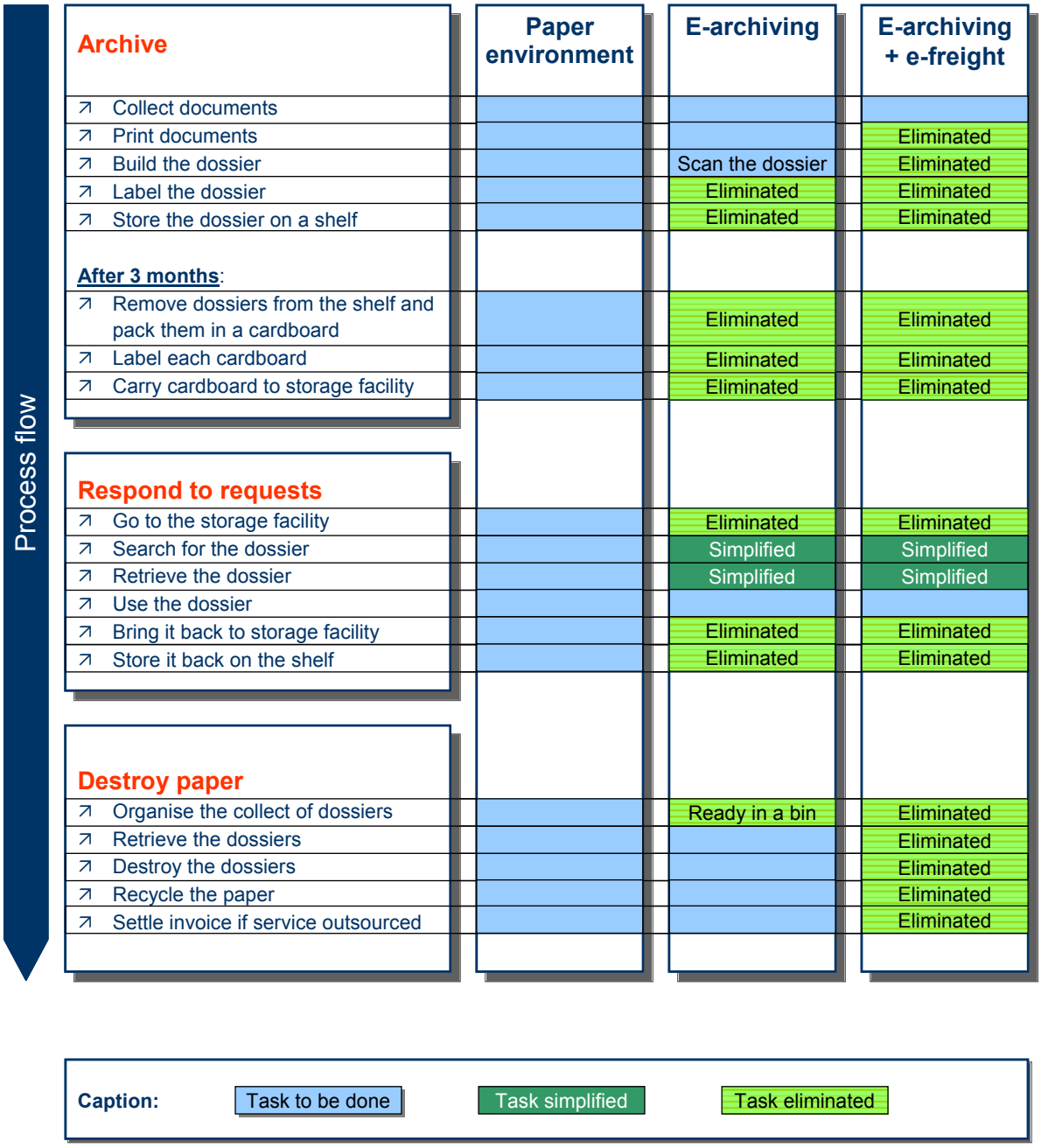

Figure 2: Simplified process flow for Freight Forwarders when using e-archiving and e-freight

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3. Background and objectives

3.1. Objective

The objective of this document is to analyze and share the benefits of e-archiving for Freight Forwarders on the basis of the case study of one forwarding company, NV Logistics, which has implemented a full electronic archiving solution.

NV Logistics is a newly established company based in Switzerland, which is readying itself for moving to e-freight and in the meantime has put in place an electronic solution to store freight documents. This case study focuses on the benefits offered by an e-archiving approach.

3.2. The digital environment: e-freight and e-archiving

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.

E-freight is the process of transporting air cargo shipments with digital (electronic) exchange of data and documentation, in lieu of paper documentation (for air waybills, manifests, invoices, packing lists, etc.).

Electronic archiving of shipment documentation is an integral part of e-freight philosophy: dealing with digital documents allows companies not to archive paper anymore and is seen as one of the process improvements that can be driven and facilitated by e-freight.

Document archiving over long periods of time is a requirement for the air cargo supply chain participants, and in particular freight forwarders, for commercial, legal, fiscal and regulatory purposes. Today this is still mostly done under paper form. Of all the participants in the supply chain, freight forwarders have a major burden of archiving documents to handle and their archiving needs are substantial.

In a recent visit of a major international freight forwarder, it was observed, that, upon receipt of each shipment at destination, the import office of the freight forwarder was making and retaining two copies of the entire files of documents, for each shipment, simply for the purpose of archiving them: one set for the accounting department, one for the import department.

In the import department alone, just one month of archives filled an entire wall (about 7 meters wide) from floor to ceiling, and it was mentioned by the management that the company had retained the services of a third party warehouse operator simply for the purpose of archiving documents over long periods of time, a regulatory requirement.

In an e-freight environment however, where documents are transported and received electronically, their archival in electronic form should be seen as a natural alternative to archiving in paper format.

4. NV Logistics - introduction

NV Logistics, founded by Thierry Moreno, started its activities on spring 2010 and is located in Geneva airport freight building, Switzerland. In addition to general cargo shipping, NV Logistics takes an active part in various airfreight value added services listed below:

- Aircraft On Ground (AOG) shipments for the aerospace industry
- Temperature controlled shipments for the Biotechnology and Pharmaceutical industry
- Secured shipments for the fashion industry

Thanks to its Quality Assurance policy, NV Logistics complies with the strict rules of the Good Distribution Practice.

NV Logistics runs a state of the art Software-as-a-Service (SaaS) Transportation Management Systems (TMS) on a web secured environment. More information on NV Logistics can be found on:

- www.nvlogistics.com
- www.healthcare-logistics.ch

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5. The main issues with physical paper archiving

5.1. Description

At the set up of the company, the founder Thierry Moreno decided to eliminate paper documentation as much as possible, especially after experiencing the documentation archiving headache during many years.

By experience, Thierry Moreno has faced several common constraints found in many companies. In the operational freight environment many documents are created, transferred, copied, delivered, archived and destroyed.

Three processes involving the handling of documents have been analyzed in details, as below:

a. Requests for archived dossiers or documents

A dossier contains several document pieces, for a shipment:

- Copy of the Air Waybill
- Copy of customer documentation (packing list, invoice, certificate)
- Copy of customs declaration
- Copy of customer order transport
- Copy of delivery receipt
- E-mails exchanges
- Copy of transport invoice

Requests for documentation occur on a regular basis and the process for collecting a dossier remains basic but time consuming: call the administrator in charge of the archiving storage facility or collect the dossier directly, retrieve the keys, look for the dossier in a stack of papers, deliver it, use it, provide the information requested, bring the dossier back and archive it manually again at the right place.

This could take around:

- 5 minutes to retrieve a dossier when it is less than 3 months old (5% of the dossiers),
- 15 minutes when the dossier is around 4 to 6 months old (2% of the dossiers), and
- More than an hour when it is older (0.2% of the time, for one year of archived dossiers, knowing that any older dossier could also be requested).

A conservative calculation would translate to a workload reduction of 95% per month on the time spent to retrieve any dossier, no matter whether the dossier is 3 month or 7 years old.

b. Physical handling and storage of dossiers and documents

Beyond the operational activities with related issues and costs, remains the cost of physical storage but also its access. The bigger the business, the larger the need for space. For regulation reasons, many documents need to be kept for many years (5 to 10 years) and to be archived safely (protected against fire, flood, etc.). This is costly.

After 3 months, documentation is removed from the shelves and packed in cardboards, and each box needs to be marked with number of dossiers stored inside, as well as additional information such as the year, the month, the reference number, etc.

- Depending on the company allocated space arrangement and configuration, when lacking space, the dossiers may even need to be moved again to another physical area that may not be so close to the company.
- When starting removing dossiers and emptying space to be reused, the classification may be impacted on rows of shelves with potentially more dossiers per year than five years before, which potentially translates to dossiers from a same year archived but scattered in different areas in the same storage facility.

c. Destruction of documents

Documentation needs also to be destroyed after many years spent on shelves, this activity needs to be planned, organised, and done.

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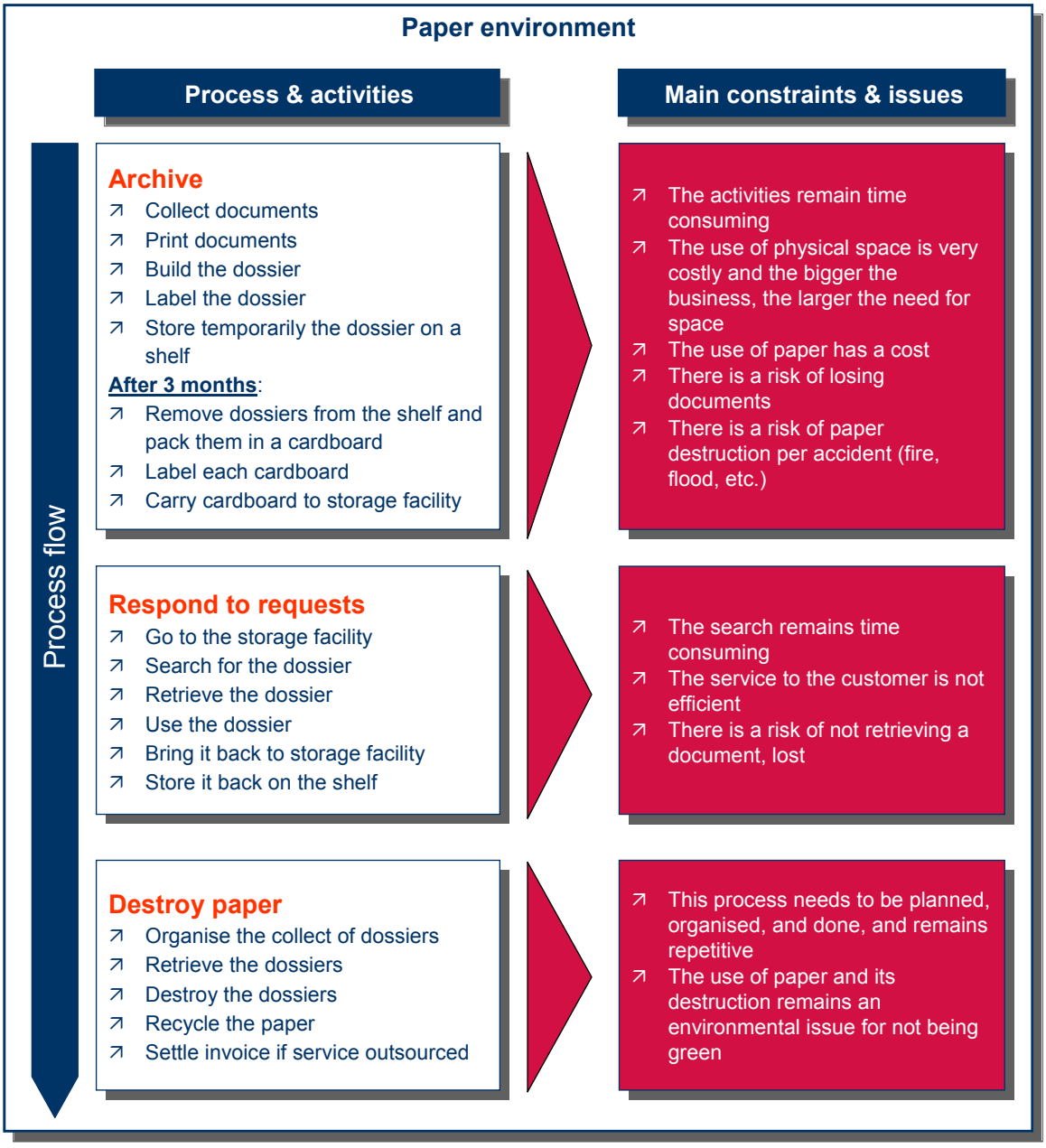
5.2. Summary



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6. The benefits of an e-archiving solution

6.1. Main benefits

When using an e-archiving solution, most of the identified constraints are either simplified or eliminated and NV Logistics has obtained immediate benefits.

The process of retrieving a dossier is nearly immediate, no matter whether the dossier is 4 months old or 7 years old. The need for space is dramatically reduced, directly translated in cost savings.

Increase productivity	↗ Speed up and simplify the archiving process by eliminating non-value adding tasks ↗ Speed up the access of information via quicker document searching, from any location, any time
Improve customer service	↗ Provide information very quickly and efficiently in response to customer documentation retrieval request ↗ Eliminate potential loss of documents
Reduce costs	↗ Reduce storage costs by eliminating paper documents and free up valuable office space
Increase level of security	↗ Eliminate potential loss of documents ↗ Perform backups of digital information to secure data archiving in case of fire, flood, etc. ↗ Restrict the access of sensitive information and protect the information in order not to be modified when required

The use of an e-archiving solution brings tangible benefits, and is part of the e-freight approach. The next step would be to implement e-freight for not printing paper anymore along the process.

In this report, analysis has been undertaken on the cost required to physically archive documents versus the costs required to develop and maintain an e-archiving solution. This is presented in the next section.

While there are obviously additional operational costs to manage requests for retrieving documentation, we have not investigated it further in details with NV Logistics as they decided to move directly to an electronic solution. Such analysis could be done with any company still facing manual archive operations.

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6.2. Cost savings with reduced physical storage

6.2.1. Scenarios

The scenario analysis compares costs from a physical paper archiving process with an e-archiving solution. It has been realized based on real figures provided by NV Logistics, especially the cost of square meter for space renting at Geneva airport where NV Logistics is based, and the full cost of the e-archiving solution (equipment, implementation, maintenance, and storage).

- **Paper archiving scenario**: renting the equivalent of two-year storage space at the beginning of the first year, repeating this approach every two years: at the beginning of the third year, renting the equivalent of two-year additional storage pace, and so forth.
- **The e-archiving scenario:** based on the purchase of a scanner machine with warranty (scanner replaced every 3 years), system license and implementation of the solution, as well as the storage monthly fees.

  The paper archiving scenario remains costly compared to the e-archiving one.
  While the e-archiving solution requires more initial investment, the payback is realized at the end of the 2nd to the 4th year, when managing 500 to 1,000 shipments per month respectively.

Scan machine
- One scan machine
- Warranty
- Replacement every 3 years

Application
- System license
- Implementation
- Training

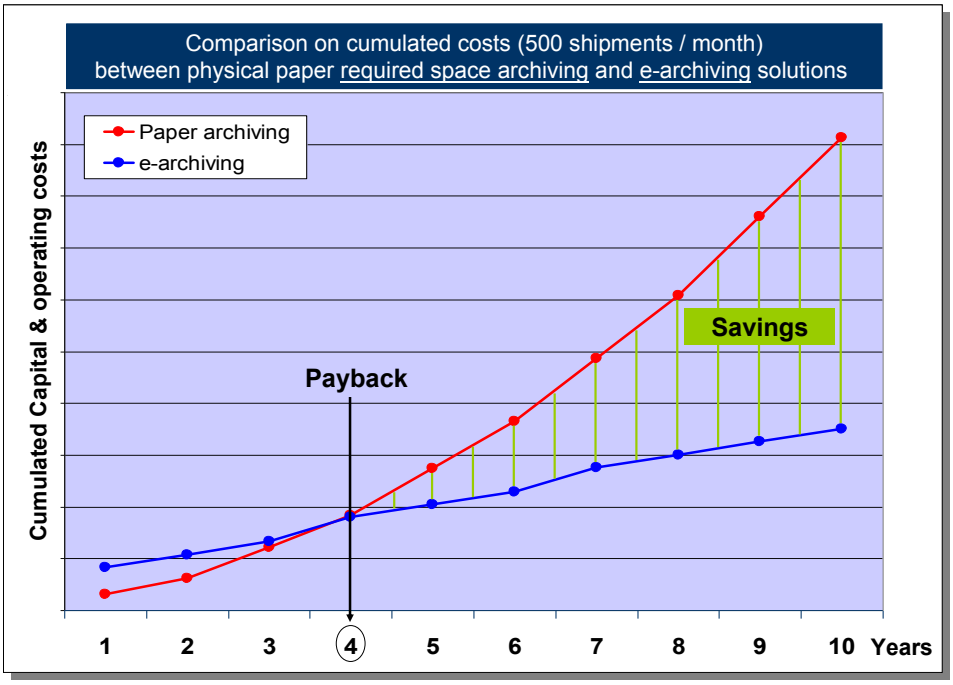
Storage
- Storage monthly fees

6.2.2. Model for the Management of 500 shipments per month over 10 years

In order not to share sensitive figures this graphic shows the costs of the two analyzed scenarios, intentionally without the details on cost units.

The savings are directly linked to the number of shipments handled per month.

Payback is reached at the end of the 4th year with significant savings over the time as the graphic shows.



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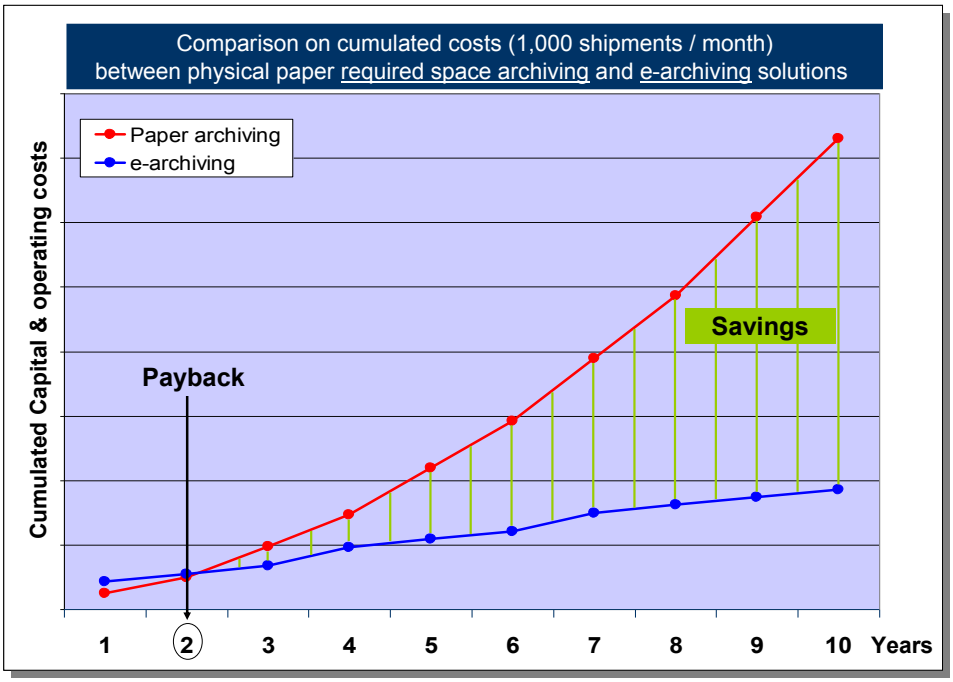
6.2.3. Model for the Management of 1,000 shipments per month over 10 years

Many documents need to be kept for many years (7 to 10 years). After 10 years, savings still increase every year due to the cost of renting the maximum 10-year storage space capacity at year 10 and beyond.
Indeed, costs increase with required space capacity, years after year until the 10th year where the highest cost is reached, maintained and even exceeded with business growth. For instance at the end of year 13, savings reach around US $2.50 per shipment compared to US $2.40 in year 10.

The more shipments you handle the quicker the payback.

When managing 1,000 shipments per month, the payback is already reached at the end of the second year of this initial investment.

This remains true for a 7-year scenario, when regulations allow destroying documents after 7 years, with a bit lower benefits (US $1.50 for 1,000 shipments). The payback is still reached after two years.



For a company doing 1,000 shipments per month:
- ↗ **Savings represent US $2.40 per shipment over a 10 year period**
- ↗ **Payback period is reached in two years only**

6.3. Time savings with less physical document handling

Beyond the savings realized from the absence of use of space to archive paper and insurance cost, requests for retrieving archived documents remain time consuming.

With the use of an e-archiving solution, most of the issues and constraints identified earlier are removed.

- ↗ No matter if the archived document is 4 months or 7 years old, it takes only 30 seconds to retrieve it, reducing the assigned workload of this activity by around 95%.
- ↗ No need to spend time and energy removing old shelved dossiers to be packed in cardboards
- ↗ No need to label each cardboards and specify dossiers stored inside
- ↗ No need to trace where the cardboards are stored
- ↗ No need to rethink the physical storage allocation of new documents to be archived as a replacement of the removed old documents, when business has increased with more documents to be stored at different places.

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6.4. Additional savings with an e-freight solution approach

In an e-freight environment, there would be additional savings with:

- No need to print documentation
- No need to archive temporally documentation
- No need to scan printed documentation for digital archive purpose
- No need to destroy the printed paper document anymore

The next diagram highlights the process simplification between paper environment, e-archiving and e-archiving within e-freight.

Additional savings with an e-freight solution approach

7. The NV Logistics next steps

NV Logistics is now working on defining and implementing the e-freight solution. NV Logistic has been also selected as a pilot company to implement e-freight messages through the WinWebConnect portal (winwebconnect.com). This portal has been created to facilitate electronic messaging exchanges for small and medium size forwarding companies with the major airlines and shipping lines. NV Logistics expectation is to start roll-out and implementation within the 2nd quarter of 2012.

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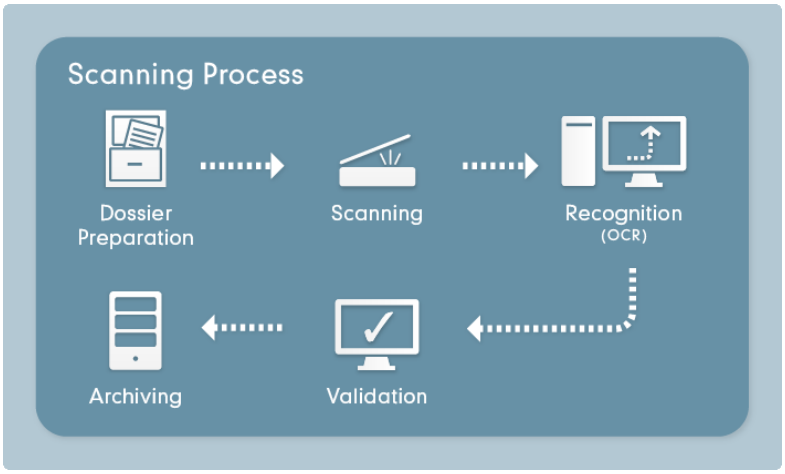
8. The solution used by NV Logistics

The solution consists of storing the documentation electronically using a Cloud Document Archiving solution (via an Internet site and a secured Web page). This solution has been provided by archiving specialist Arcplace AG, Switzerland (see www.arcplace.com).

The first 3 months the documentation is still printed and stored physically in a cupboard until payment is received.

The fourth month, the dossiers are scanned; the text is analyzed with an Optical Character Recognition (OCR) application to convert characters into ASCII text to facilitate research when needed (dossier number, invoice number, purchase order, or customer name for instance).

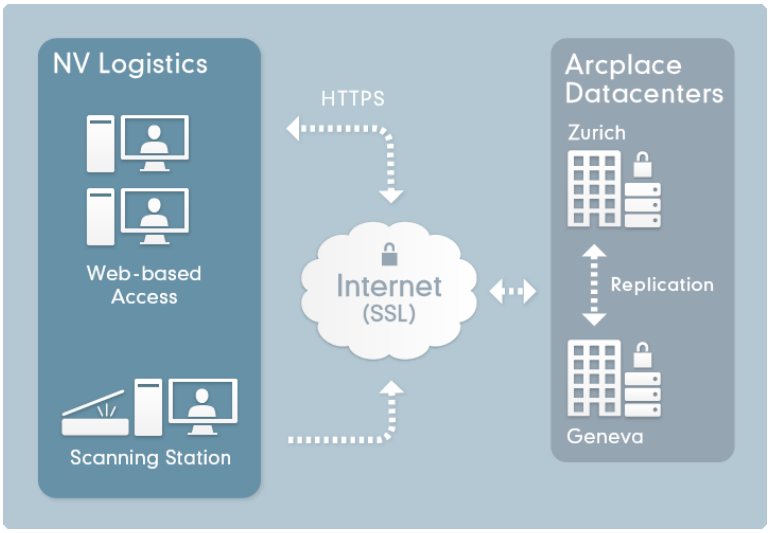


A file in PDF/A format is generated and the file is secured in order not to be modified.
This format is an ISO standardized version of the Portable Document (PDF) specialized for the **digital long term preservation** of electronic documents; it meets long-term electronic storage requirements.

Each dossier is then validated and transferred automatically to the Arcplace archiving system hosted in ISO 27001* certified datacenters in Geneva and Zurich.

Once transferred to the Arcplace archiving system, NV Logistics authorized users can easily access the dossiers via a secure web access.

Through the web interface, dossiers can be searched using either full-text or index values such as dossier number, invoice number, purchase order, or customer name.



Arcplace Cloud Document Archiving Service

The Cloud Document Archiving Service from Arcplace uses a special long-term storage platform with WORM (Write Once Read Many) functionality. This guarantees that the dossiers are preserved in a non-modifiable form and thus meeting electronic archiving compliance requirements.

What happens to the original documents? The paper documents are put in a dedicated and locked bin, waiting for their programmed destruction. An external company collects the locked bin, empties it and destructs its content before giving the locked bin back. The paper is recycled.

**ISO 27001 is an international standard giving requirements related to Information Security Management System in order to enable an organization to assess its risk and implement appropriate controls to preserve confidentiality, integrity and availability of information assets. The fundamental aim is to protect the information of an organization getting into the wrong hands or losing it forever, providing benefits such as compliance with legal, statutory, regulatory and contractual requirements.*

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