

WHITE PAPER

# PAPERLESS BUSINESS PROCESSES AND E-FREIGHT IN THE FORWARDING SECTOR

HOW INVESTMENTS IN TECHNOLOGY  
CAN LEAD TO SUPPLY CHAIN TRANSPARENCY

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## INTRODUCTION

Many things become fluid under pressure. The world in which sea and airfreight forwarders operate is changing fast. The changes include stricter customer requirements, amended laws and regulations, initiatives being taken by industry organizations and pressure from shippers and large logistics service providers. It is rarely easy to implement the necessary organizational changes, but forwarders can safeguard or strengthen their position by responding quickly to new opportunities and future changes. It is important to make a choice now and abandon the idea of “holding on to what you’ve got.”

The following three elements are central to all the changes:

- 1 A transition to the digital exchange of data and related documents.
- 2 The emergence of IT systems that capacitate this flow of data.
- 3 The challenges and opportunities that it entails for forwarders.

The age of electronic and paperless business has arrived.

## HOW DOES THE FORWARDING WORLD LOOK NOWADAYS?

Shipping agents and forwarders have a hugely important role in the supply chain. Research conducted by Aberdeen Group shows that most of the world's larger and most successful shippers say they are neither willing nor able to work without forwarders. For globally operating companies, freight forwarding is comparable to a marriage involving operational experience, knowledge of countries, progressive technology, and advanced processes.

In both the import and the export processes, road and rail traffic, air, short-sea and sea freight are the applicable modalities. But in a sector in which the biggest players have a maximum of fifty percent of the market, there is also plenty of space for specialization. Many forwarders have built their own networks and have adopted a particular specialization. This also means that many of them have chosen one or more modalities. This white paper mainly focuses on air and sea freight.

A forwarder's business location is often closely linked to the choice of modalities, but the emergence of modern technologies means that the importance of a good business location for shipping agents is diminishing.

### **Fragmented flows of goods and more demanding customers**

One thing that all forwarders have in common is that they have to deal with increasingly fragmented flows of goods and more demanding customers. This fragmentation is leading to more data. However, more and more customers of forwarders are demanding visibility into the supply chain in which their products are located. The sector is now at the beginning of

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this process. Steps can also be taken to integrate the numerous branches of forwarders. A single summary of all the flows – and therefore the data – for each location leads to much greater efficiency.

In the forwarding sector, most of the data is still entered manually. Another trend that has been evident for a few years is that the amount of sea freight is growing compared to the amount of airfreight. This mainly applies during periods in which the buyers of goods want to limit the costs. Lastly, numerous shifts are taking place, such as production locations that in some cases are being relocated closer to the West European home base than to China. For example, some producers and logistics service providers are now setting up business locations in Eastern Europe. The number of hubs in the Middle East is also increasing. The storage of goods in that part of the world ensures that products produced in Asia can be delivered faster to Western Europe. Forwarders will have to respond to these new developments.

And however important the role of forwarders, this role is now under pressure. This is partly because the margins are smaller than a few years ago and partly because the laws and regulations are changing. Moreover, the latter is leading to increasing pressure to comply with these regulations in the shape of digital declarations and the structured organization of digital data. The smaller margins have also led to consolidation among forwarders because it is more important than ever to manage sufficient volumes in order to increase purchasing power.

## Exchange of non-standardized messages

Everybody realizes that IT is playing an increasingly important role in the daily activities of forwarders. But surprisingly enough, one of the greatest dangers for forwarders and other LSPs is the way they respond to their own digitization needs and those of their customers. By facilitating the exchange of non-standardized messages – for example by creating their own APIs (links that can be used to exchange XML messages between systems) that deviate from the standard – companies are also giving rise to fragmentation in the types of messages in the supply chain. In addition, the somewhat conservative attitude of forwarders is also not helping to strengthen their position. Only a small group of pioneers are willing and able to invest in a new role and in the necessary IT solutions. Dynamic and flexible systems linked to an extensive network of transporters are now a precondition for successful operations in the future.



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## STANDARDS IN THE AIR AND SEA FREIGHT SECTOR

What is the impact of Cargo XML on the airfreight sector? What about the standardization of messaging in the sea freight sector? What are industry organizations working on, and to what extent are forwarders adopting these developments and technology in order to manage their processes?

### **What is the impact of cargo XML on the airfreight sector?**

Cargo XML is the successor to the Cargo-IMP protocol; IATA is currently trying to stimulate the use of Cargo XML. The Cargo-IMP protocol was originally developed as a standard aimed at making the exchange of data for airfreight easier and more efficient. For many companies in the sector, such as shipping agents and carriers, Cargo-IMP is still the official message source for sharing airfreight specifications. This standard includes information about space allocation, the Air Waybill (AWB), status, discrepancies, embargos, customs issues, hazardous goods, etc. In practical terms, Cargo-IMP was and is a digital version of paper data.

There are two important reasons why IATA has developed a new standard for data exchange: Cargo XML makes it possible to exchange more information, and XML is already being used as a standard in the World Customs Organization (WCO) and the International Standards Organization (ISO), amongst others. According to IATA, the standard can also be used in combination with maritime, road and rail traffic.

In the years to come, the development and launch of Cargo XML will have a major impact. Although many companies, including forwarders, have not yet switched to the new standard, the need to start doing this will definitely increase. Why? Cargo-IMP will continue to exist for a number of years, but upgrades will only be implemented for Cargo XML. The last version of Cargo-IMP was launched in late 2014.

A second argument for change is that if you do not invest in the latest standards, there is a real risk you will lag behind your competitors. The field of IT is developing faster than ever and a good IT infrastructure is a precondition for a successful business. However, it is always important to find out which investments best fit a company's activities.

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## How important are standards in the sea freight sector?

In the sea freight sector, there are many ways of exchanging data and there are also many standards. These include UN/CEFACT with T+L, ITIGG, SMDG and PROTECT and on the other hand CUSTOMS and WCO (data model). The sea freight sector cannot be compared one-on-one with the airfreight sector. The sea freight supply chain includes more links, certainly in the supply chain that covers the shipping of goods between Asia and Europe. Speed is of the essence, but the transit time between Asia and Europe is weeks rather than the days it takes for airfreight transport. In addition, in the sea freight sector the size and length of the supply chain mean that a huge number of companies are active, and this involves certain risks. When every link develops its own API, there is a risk that the messages exchanged in this way will not all have the same message structure. This ultimately makes the exchange of data problematic, because it is being obstructed by “semantic interoperability.”

But there are still companies that consciously develop their own non-standard APIs – partly because their IT departments believe those APIs are more compatible with the company’s internal structure but also because forwarders believe that it strengthens their position in the supply chain. The research studies conducted by Aberdeen Group and Transport Intelligence – but also by Portbase, for example – show that pressure from the end customer is only going to increase. If forwarders do not start making data (sufficiently) transparent – such as track and trace data – this will ultimately work against them. That is what Portbase predicts. The role of forwarders will change and multimodality will become increasingly important. It is vitally important to gain an insight into the delivery moment of goods based on a number of different modalities. The ability to seamlessly exchange data helps to achieve this and the process can be simplified using shared standards and links.



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## Standards Advisory Board (SAB)

One initiative worthy of mention is the decision by the Standards Advisory Board (SAB) to start developing design rules for EDI messaging. At the same time, the SAB wants to stimulate two new processes: a Payment Advice Process for the payment of invoices and a Credit Note Process for the simplified creation and transmission of electronic credit messages aimed at correcting invoices or consignment information sent earlier. These initiatives are mainly aimed at gaining a better understanding of how messages are exchanged in the ocean shipping sector.

The development of design rules for EDI messaging is the most important step of the two. It follows on from the creation of the first standard invoice message aimed at ocean transport, which supports the electronic consignment of invoices between the sender and the receiver. According to the SAB, the forwarding sector is facing increasing demand from numerous parties who want to be able to send and receive digital invoices, mainly because this would lead to greater efficiency, cost savings, and the possibility to make improvements based on good cooperation.

## Introduction of AGS

The Dutch Customs department is also playing a role in the digitization process that forwarders are currently facing. Customs is currently rolling out AGS Import (AGS2) and AGS Export (AGS3), the successor to Sagitta. In this way, Customs is supporting two message standards: Edifact and XML, but it has stated the following on its website: “In the future, the use of XML will offer more opportunities, including the electronic delivery of documents.”

## WILL THESE STANDARDS AND CHANGES IN THE FIELD OF IT HAVE CONSEQUENCES FOR FORWARDERS?

The pressure on forwarders to at least learn more about the digitization of their activities is increasing. This applies to forwarders mainly involved in sea freight activities, but also to companies involved in facilitating supply and demand in the airfreight sector. Whereas shippers want forwarders to digitize their data and supply it in digitized format, it is the government that is actually stimulating these developments at national and regional levels. In the Netherlands, the Customs department is doing this by introducing AGS, the successor to SAGITTA, for import and export. At a European level, a Customs Code was recently agreed to. The EU launched PRECISE, which stands for “pre-loading consignment information for secure entry.”

All of these initiatives are putting greater pressure on the digitization of data and documents so that they can be exchanged in the supply chain easier and faster. The government can inspect them faster and then approve or reject them. Shippers simply want to be kept informed and logistics service providers and transporters want to be able to identify the status of a goods flow faster.

Given this pressure to digitize, forwarders should start preparing for the necessary investments. It is important to try and find an appropriate solution from a reliable supplier as soon as possible. This is evident, for example, although the developments now taking place under pressure from shippers and government organizations are even more important.

## Strategy for the necessary investments

It is very important to have a sound strategy. Today's rapid technological developments offer numerous opportunities for collecting, linking, and sharing data, but which solution suits which company? As mentioned above, a dedicated forwarding package is preferred, but in which format - cloud-based (where the software can be used online and can be adopted and used flexibly) or on-premises (where the software runs on the company's own servers)?

In June 2016,  
the EU launched  
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## WHAT ARE THE MAIN CHALLENGES AND OPPORTUNITIES FACING FORWARDERS?

The main challenge facing forwarders is the need to supply clients with the right data at the right time. This sounds simple, but it is not. Under pressure from changes in society, such as the emergence of e-commerce and a new generation of (younger) planners, the focus is now more and more on collecting and supplying data. Forwarders will have to focus not just on providing data such as track and trace data and order information, but also on making that data manageable at the executive level. The latter is important because it means that forwarders can intervene in processes in good time, whenever necessary. With these developments, forwarders that started with a pen, notebook, telephone, and computer will soon be a thing of the past. But access to the right information and networks is still the basis for a strong position.

One important step when collecting the necessary data to manage your own processes and pass on information to customers involves setting up IT links with supply chain partners. Is the market ready for these changes? No. Are software systems ready for the shipping agent 2.0? Some are. There are a few suppliers that can now offer a dedicated forwarding package. It may be worthwhile to opt for an integrated package with various modules that can be activated or deactivated according to your needs. This includes modules such as WMS, CRM/rating, customs, and forwarding in one package.

When you take a closer look at the logistics sector, you can see that LSPs are already starting to react to the need for modern technology. According to the experts, there is no clear explanation for why LSPs and freight forwarders are responding so differently. One likely explanation for the more conservative behavior of forwarders is their position in relation to their supply chain partners. Access to an extensive network of transporters is a great advantage, but recent developments such as the emergence of freight platforms and online portals to which transporters (sometimes under pressure from shippers) can be connected may undermine the current position of forwarders.

## **Disruptive innovation**

One direct consequence of not reacting quickly enough to the needs of large online players such as Amazon is that they then can take on the role of forwarder themselves. This type of disruptive innovation is now reserved for large corporations, but as soon as the market becomes accustomed to the possible benefits, smaller companies may also start to offer these services. Companies such as Amazon want to give their customers ease of use by offering all possible services under one roof. An end customer can place an order, track, and trace it, contact the supplier about the precise delivery moment and experience the completed delivery all in the same environment. This turns 'convenience at your fingertips' into a reality. It is up to forwarders to clearly show that their networks have the flexibility, quality, and added value that end customers and online retailers/shippers cannot do without.

## **Challenges facing airfreight forwarders**

"Forwarders that do not invest will soon fall behind." This statement was made by a large LSP/shipping agent with multiple branches in the Netherlands. The transition to XML has largely been completed, as has the link with the back-end software, which includes the TMS. For the business, the links between the IT systems and the use of standards such as XML are preconditions for meeting customer requirements. "When you can fill 100 fields, for example, but your back-end can only process 80 of them, that's an undesirable situation." But the business in question also realizes that it is dependent on other links in the supply chain.

Does a carrier also have the capacity to deliver the data in a specified format? And what about the electronic messages that are sent to the carrier through a cargo community platform? A business that wants to be the first to adopt modern IT and standards runs the risk of working with parties that are not as highly developed. In such cases there is sometimes no choice but to "downgrade" messages in hopes that the carrier can read these too. The biggest challenge is to deliver the freight on time so that you have a satisfied customer. Forwarders believe that modern technology offers the means for doing this.

## Providing Data to Supply Chain Partners

There are still more than enough opportunities for parties that invest wisely. It is important to invest in a good internal organization and an IT department that can seamlessly exchange data with one another. The best way to start is to make things simpler. For example by making data available to supply chain partners. This would seem to undermine the position of forwarders, but a progressive entrepreneur will view this differently and will ultimately occupy a stronger position in the supply chain.



The 2008-2015 economic slowdown has also hindered the rapid adoption of modern technology. And a push from IATA to stimulate shipping agents to convert to Cargo XML quickly has not yet led to their international adoption. Large companies such as KLM and Lufthansa and most of the larger forwarders have taken numerous steps, but there is still plenty of work to be done.

IATA is aiming for the international adoption of Cargo XML by the year 2020. This seems far away, but of course it isn't. Researchers and experts agree that all logistics players must invest in technology that improves the transparency of the supply chain. That way they can respond quickly to customer demand on the one hand and comply with the prevailing laws and regulations on the other hand. A major leap forward is required, something similar to the development that transport management systems (TMS) and warehouse management systems (WMS) went through. And despite the fact that insight and transparency score highly in every study, it is still not certain how the forwarding sector will respond. The first steps have been taken, and forwarders are already sending the Air Waybill (AWB) as an electronic message. Step two would be to send all documents as an XML message and run that message on a partner's system. To do this, a standard needs to be agreed upon.

## Challenges facing sea freight forwarders

Sea freight forwarders are facing two major challenges. On the one hand, there is strong pressure from shipping customers to deliver correct data. On the other hand there is a burden on the entire sector of a staggering \$14 billion in inefficiency. This figure was mentioned during a sector event in 2014 (INTTRA). It is difficult to confirm whether the figure is accurate or not. But even a much lower figure illustrates the enormous challenge that we are facing. The inefficiency in this sector mainly relates to the incompatibility of corporate transaction processes, which is the result of poorly connected IT systems and messages. Put it another way: automation enables data to be processed more smoothly across the entire supply chain.

To ensure the smooth exchange of data, the data must first be correct, of course. This is something that many forwarders are aware of, and a growing number of them are taking the necessary measures. And as KPMG states in its Global Manufacturing Outlook: this is by no means an unnecessary luxury. The research was conducted in both 2013 and 2015 and shows that in 2014 less than 10 percent of all logistics professionals had a good understanding of the transport supply chain.

Data should be recorded in a structured way – if possible even without human intervention. The same applies to documents, including checks to ensure that the data is correct. According to the researchers at KPMG and Aberdeen Group (in different studies), many forwarders do not have the structure required to do this. Less human intervention means that less data needs to be adjusted manually. The researchers also found that there is still not enough consensus between the various supply chain partners in the sea freight sector about when to collect and record information. As a consequence, the collected data is very diverse, as are the methods used to collect it. These differences also make the exchange of data more difficult than is strictly necessary.

There are certainly more than enough opportunities. An organization such as Portbase stimulates the digital exchange of data. It does this as part of the Neutral Logistical Information Platform (NLIP), which was set up by the Government to encourage the logistical market to share data with supply chain parties. It also has its own Port Community System (PCS), which it uses to stimulate forwarders to make a digital connection with the port. Amongst other things, the PCS ensures that track and trace information is available faster. Using one standard, data is available about every attribute, every ship, every mooring, etc.

Portbase expects more and more forwarders to adopt APIs. This will improve the link between various systems and will enable users to retrieve the desired information from a software system faster. The solution must be provided by a software supplier, and some suppliers already have the capacity to do this.

## Future developments decisive for the choice of an IT package

The adoption of a modern IT system can also reduce the complexity of a forwarder's software landscape. Several large forwarders have IT systems that they developed in-house, but future adjustments can be very expensive. A strategic choice to invest in logistics expertise, but not necessarily in their own IT departments can also mean that forwarders will stop using packages they developed in-house. Future developments are a third reason why more and more forwarders are thinking about replacing their current software. This might include the far-reaching use of sensors on assets such as containers as part of the Internet of Things (IoT). Good system integration will help shipping agents that handle sea freight with their information supply and can also strengthen their role as specialists. The only requirement is a clear vision for the future.



## CONCLUSION/SUMMARY

The market in which air and sea freight forwarders operate is changing fast. Customers and government organizations are forcing the traditionally conservative forwarders to invest in organizational adjustments and tools they can use to make the supply chain more transparent and to share data faster with supply chain partners.

The current changes – many of them the result of increasing globalization and a different mindset thanks to successful e-commerce companies – seem to be causing a shift among forwarders. Some of these businesses realize that there are huge benefits to be gained by adopting modern IT systems that are faster than those of their competitors. Others believe it is wiser to follow the trendsetters at a safe distance. After all, specialization and a dedicated network should be enough to serve customers properly. But it is extremely doubtful whether they will be able to maintain this stance if developments take place as quickly as researchers and sector organizations expect them to.

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### Three tips that could benefit forwarders:

Invest in good IT that you can use to exchange data smoothly with your partners and make the supply chain more transparent.

If direct investment is too expensive, then at least look into the options for improving supply chain transparency. Calculate what an investment can deliver and whether it balances out the loss of turnover or customers.

Check whether a specific IT supplier has the tools and the software roadmap to be able to give you the necessary support in the future. Ask the IT supplier to check this using your company's data and not using fictitious data on an existing demo.

### About BluJay Solutions

BluJay Solutions delivers supply chain software and services to the world's most progressive retailers, distributors, freight forwarders, manufacturers, and logistics service providers. Transforming supply chain logistics with the BluJay Global Trade Network, we enable customers to unlock the power of more than 40,000 universally connected partners. With BluJay, companies can achieve greater trade velocity, transform their supply chain economics for disruptive advantage, and see beyond the horizon to optimize their future in the global economy.



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