DCSA takes on eBL standardisation, calls for collaboration

$4 billion estimated potential annual savings at 50% adoption rate for container shipping industry

Research shows paper bill processing costs three times as much as eBL processing

In an effort to fully understand the benefit of digitising the BL, DCSA carried out a financial modelling exercise to quantify the potential cost savings for switching from paper BL to eBL. The complexity inherent in using BL means the actual process cost for a single BL can vary widely. Nonetheless, our research derived a comparison that indicates the total cost of processing paper bills is almost three times that of eBLs. At a global economic growth rate of 2.4% through 2030, as forecasted by the OECD, we estimate that the industry can potentially save more than $4 billion per year if 50% eBL adoption is achieved.

IATA introduced e-Air Waybills (e-AWB) for airfreight in 2010. At present, adoption of e-AWB is over 68%. If we start on standardising eBL now, we have reason to believe a 50% adoption rate is feasible by 2030.

The critical need for eBL

Since the first efforts to digitise bills of lading (BL) in the late 90s, the promise of an electronic bill of lading (eBL) for the container shipping industry has remained elusive. In fact, TradeLens goes so far as to call an eBL standard the “Holy Grail of global trade”. And like the Holy Grail, there are a number of obstacles on the road to attaining it. But for everyone whose business relies on getting a bill of lading from end-to-end, the effort is worth the reward. Eliminating paper from the shipping transaction will make every aspect of commercial container shipping better, faster, cheaper, more secure and environmentally friendly.

Despite the lack of a standardised approach to digitalisation, some carriers and solution providers have continued to move forward with proprietary eBL initiatives, albeit at a limited scale. But as André Simha, Global Chief Digital & Innovation Officer for MSC and DCSA Chairman recently noted, “The COVID-19 situation is bringing the core strengths of a standardised eBL to the fore. Cargo in ports cannot be gated out because of paper that is stuck elsewhere due to airfreight delays caused by the pandemic.”

Paper bill processing costs 3x as much as eBL processing
Knocking down the barriers to adoption

Three major factors drive adoption, and the obstacles in these areas that have slowed the industry down are either on track to be resolved or have a path to resolution.

**Robust technology**

Achieving acceptance of electronic documentation for something as critical as the bill of lading requires maintaining the integrity and uniqueness of the document as it makes its way along the supply chain. In the past, technological limitations have made this difficult in a digital format, partly due to the negotiable properties of the BL.

However, new technologies such as distributed ledger technology (DLT), peer-to-peer and Blockchain offer potential solutions for eliminating the risk of a single catastrophic failure or attack that would compromise the integrity and uniqueness of an eBL.

**Acceptance by government authorities, banks and insurers**

Concerns over legal enforceability have also been a barrier to widespread adoption of the eBL. Not every government has provisions for an electronic form. Many of them require paper, and the lack of industry-standard language and definitions have made it impossible for them to “rubber stamp” an electronic replacement.

But progress is also being made in this area, and accelerated as a result of the COVID-19 crisis. A number of DCSA members have reported a sharp increase in eBL adoption in an effort to keep trade moving. In addition, the International Group of P&I Clubs (IGP&I), which provides indemnity insurance to around 90% of the world’s ocean-going tonnage, have picked up the pace on approving eBL solution providers, with two added in the last six months to a total of six approved so far.
Open collaboration

For any robust technology, such as blockchain or digital ledger, to safely deliver an eBL from end-to-end, data model and transmission standards need to be in place. If everyone who touches the eBL is using the same data format and communication standards, it can be transported seamlessly regardless of pre-existing relationships between stakeholders. Digital standards will enable interoperability between all stakeholders, such as system providers, shippers, carriers, banks and regulators. Different parties can be involved in a transaction as long as they have implemented the standards. Once a standard eBL is available, it will also be easier for regulators, banks and insurers to accept the eBL as a viable alternative to a paper BL.

It is important to note that the BL is only one of several documents that must be implemented in an electronic format to bring full digitalisation to the container industry. Such digitalisation will benefit all parties involved: customers will see a significantly improved experience; regulators – and especially customs authorities – will benefit from improved targeting; container carriers will become more efficient; and vendors will be able to sell their solutions to many more industry participants.

Continued on following page
Next Steps

This month, DCSA will embark on an initiative to enable the open collaboration necessary for achieving full eBL adoption.

As part of this initiative, DCSA will develop open source standards for necessary legal terms and conditions, as well as definitions and terminology to facilitate communication among customers, container carriers, regulators, financial institutions and other industry stakeholders.

“DCSA’s mission is to drive alignment and digital standardisation to enable transparent, reliable, easy to use, secure and environmentally friendly container transportation services. Digitising documentation, starting with the bill of lading, is key to the simplification and digitisation of global trade” remarked Thomas Bagge, CEO of DCSA. “The transformation that has taken place in the airline industry is an example of what’s possible if we work together. The e-AWB is now the norm rather than the exception among air carriers. We invite industry stakeholders to work with us to create standards that will make the eBL maximally useful and relevant for ensuring their goods are delivered safely and seamlessly to their final destination.”

Please email us at media@dcsa.org for any input you would like to share.


Digital Container Shipping Association (DCSA) is a neutral, non-profit group founded by major ocean carriers to digitise and standardise the container shipping industry. With the mission of leading the industry towards systematic collaboration, DCSA drives initiatives to make container transportation services transparent, reliable, easy to use, secure and environmentally friendly. DCSA’s open source standards are developed based on input from DCSA member carriers, industry stakeholders and technology experts from other industries. DCSA member carriers include: MSC, Maersk, CMA CGM, Hapag-Lloyd, ONE, Evergreen, Yang Ming, HMM and ZIM. Please download DCSA standards at dcsa.org.

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