dcsa

Digital standards

the key to a better container shipping experience

Table of contents

Time for a leap forward in container shipping

Standards will enable the industry to transform for the future

transports
an estimated
90% **of the**
world's goods

The container shipping paradigm is shifting again

In 1956 Malcolm McLean's standardised shipping container made its maiden voyage. This started a revolution that not only dramatically lowered the cost of loading and unloading a ship, it made the modern globalised world possible. How? It provided a safer, more efficient, more cost-effective and seamless way to transport goods from one side of the globe to the other.

As a result, the industry has grown into a global juggernaut that **transports an estimated 90% of the world's goods**. But the container was standardised over 60 years ago. And while the world has changed quite a bit since then, container shipping has not in many ways, especially when it comes to the customer experience.

Since 1956, the internet has ushered in a global technological revolution that created previously unimagined opportunities for business. Over time, stakeholders in industries such as banking, telco, retail and airlines adopted the standards necessary to fully leverage the power of this new medium for data communication. As a result, these industries have evolved to achieve a better customer experience, greater operational efficiencies, innovation and sustainability.

Container shipping, on the other hand, has begun the effort to digitalise, but not in a standardised way. It has therefore largely missed out on the benefits of seamless, end-to-end data communication enabled by the internet. DCSA and its carrier members believe the time is right for change. As we did in 1956, when a standards-based innovation in the physical world ushered shipping into the modern era, we now need to collectively embrace a standards-based innovation in the digital world to launch the industry into the future.

It’s all about the data

Container shipping is opaque and unreliable due to a lack of data

Visibility into processes and events requires access to reliable data

Container shipping is currently unable to compete with the customer experience provided by digitalised industries due to the unavailability of data. For example, track and trace data is not aligned or digitalised across carriers and their logistics partners, which means that multi-modal transport chains often appear as “black boxes” to customers, and containers are lost from view until they arrive at certain points in the supply chain.

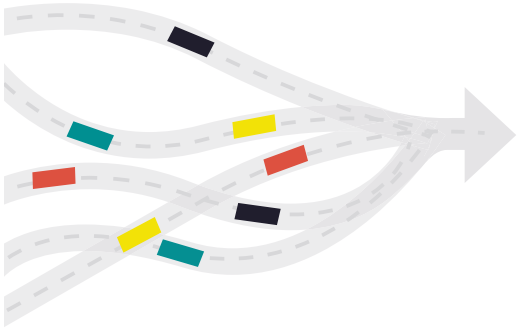
This problem is compounded by inaccurate estimated time of arrival (ETA) data, especially when ETAs change and cargo owners are not proactively notified.

EDI and other methods of digitalisation have enabled some carriers and third parties to provide data to shippers (and their freight forwarders) regarding ETA or revised dates of arrival. However, in many cases, the data quality is questionable due to reliance on manual reporting or inefficient processes that introduce errors and delays. Also, the lack of interoperability across carriers (even within a carrier) and non-real-time data sharing create gaps in visibility that make it difficult to spot problem areas.

Digitalisation within a single carrier’s operation can increase the availability and accuracy of data for shipments that are confined to a single mode and carrier. But many shipments are executed across multiple carriers and modes of transport. And there are currently limited pathways for digitalised data to travel freely across the end-to-end supply chain. Messages are blocked as systems and modes of transportation change and geographical borders are crossed. As a result, there are huge “blind spots” along the container journey that no proprietary solution is likely to resolve.

Standardising data handling practices is equivalent to installing modern plumbing in a city. Without it, good quality water – in this case, accurate and actionable data – simply cannot flow freely to every household.

The path to standardisation



Creating a digital foundation for seamless data sharing requires collaboration

Where DCSA and its digital standards fit in

As we've seen in other industries, creating an industry-wide foundation for interoperability that enables the seamless end-to-end flow of data will not only raise customer experience levels, it will increase efficiency, collaboration, innovation and respect for the environment.

To achieve this in container shipping, there are 3 fundamental ways in which data handling needs to change:

1. **Data needs to address the requirements of different industry stakeholders, particularly the customers of ocean carriers**
2. **Data needs to be digitalised in a standard way**
3. **Data needs to be communicated in a common way, in real time**

DCSA is addressing all 3 of these needs.

First, we are working to get everyone on board to drive requirements for our standards. The more contributors and adopters we have, the more useful our standards will become. With your input into our standards, we can help address the data blind spots and enable all logistics participants, including carriers, ports and terminals, to deliver the shipping information you need.

Second, DCSA standards provide common definitions for events and processes and common formats for inputting the data. If DCSA standards are widely adopted, there will be a standardised way for everyone to collect, digitalise and report data.

Third, DCSA standards include API (application programming interface) definitions to enable real-time data exchange, unlike EDI. APIs are the modern method for data communication and can handle billions of real-time interactions every day. Implementing DCSA APIs should be easy for developers trained in restful APIs (just ask the carriers who have already implemented them).

With DCSA standards in place, the industry will have a technological foundation for enabling two-way, real-time communication across the end-to-end container journey. Of course, our standards alone can't ensure that every piece of data input into the system is good or current, or that everyone will adopt them. But without DCSA standards, moving towards greater visibility and more reliable services is difficult if not virtually impossible.

Bridging the digital divide

Standards have helped transform banking and the airlines

A common approach to technology leads to a superior digital experience

Let's take a closer look at how standards have bridged the digital divide to enable interoperability in other industries. In banking, the introduction of the International Bank Account Number (IBAN) by SWIFT revolutionised the consumer's experience of managing their money. This internationally agreed system for identifying bank accounts across national borders has reduced the risk of errors and enabled automation of transactions. Without IBAN it would be hard to imagine internet or mobile banking.

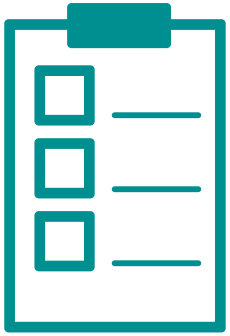
In the airline industry, IATA (International Air Transport Association) has a more than 70-year history of standardising industry best practices, including standards for the exchange of electronic information and digitalisation.

IATA's standards have simplified processes and increased passenger convenience while reducing costs and improving efficiency. IATA standards enable consumers to travel anywhere on the globe with a single ticket and pay in a single currency. IATA standards were also instrumental in the creation of the electronic ticket, which lead to the elimination of paper tickets, and bar-coded boarding passes, which allow you to check-in online.

Recently, IATA developed an API-based data sharing standard called 'ONE Record' which creates a single record view of a shipment. It is now the industry standard for data sharing. In 2010, IATA introduced the electronic air waybill (e-AWB) for freight. As of February 2021, it has 72% market penetration. The e-AWB is comparable to what DCSA is working towards with the electronic bill of lading.

Transforming container shipping with standards

DCSA standards address the industry's most impactful and urgent needs



Our top priorities

DCSA works along two parallel tracks to address the industry's most impactful and urgent needs. On one track, we're facilitating discussions on topics that matter internally to the industry such as cybersecurity and just-in-time port calls. On the other track, we're finding ways for service providers to make timely, accurate and actionable data available to customers.

Specifically for our carrier members, one of the highest priorities is to establish standards that will support the digitalisation of international trade, in other words, digital documentation processes. We're working to define standards for the electronic bill of lading, the electronic letter of credit and electronic certificates. This is a multi-year journey involving a very wide range of stakeholders, including many outside the industry such as the International Chamber of Commerce (ICC), banks and insurers.

On the shipper side, the ongoing congestion in ports on the west coast of the USA offers a clear illustration of why "timely, accurate and actionable" data is so badly needed. Many shippers have been left with little or no insight into the condition of their cargo, as post-COVID backlogs continue to cause delays.

DCSA is working on two key standards that will help improve visibility for shippers in the future. The most promising in the long term is the **standard for industrial IoT (Internet of Things) for smart containers**. However, implementing this standard will require substantial investment and adoption and is therefore likely to grow over time.

In the short term, **DCSA's Track and Trace (T&T) standard** is much more easily applied and is already making a difference. T&T enables customers of the industry to exchange data with multiple carriers using one API instead of today's collection of bespoke solutions. We recently reached a significant milestone with the majority of our member carriers now adopting the T&T standard and either already providing customers with access to the standards-based API or soon will be.

Standards for all

Everyone benefits from a standards-based technology foundation

Help us shift the paradigm

Shippers and carriers aren't the only ones who will benefit from a technology foundation based on DCSA digital standards. Once standardised data is available via standard APIs, everyone who has adopted the standards can make use of it. This will enable solutions providers, freight forwarders and other third parties to build apps that provide new value to shippers.

There is still much for DCSA and its collaborators to do to achieve our vision of a digitally interconnected container shipping industry, but the outlook is good. We expect steady carrier adoption of released standards, and we're continuing to develop our standards initiatives to meet industry needs. If we are to succeed in bridging the digital divide, it will take stakeholders from every part of the industry to get involved and stay the course. The kind of innovation and interoperability enjoyed by the airline and banking industries can be ours if we're willing to work together.

If you are a customer of ocean carriers or work closely with container shipping, your involvement in the standardisation process is crucial to transforming this industry. As highlighted by the pandemic, the need to replace antiquated shipping processes with efficient, digital processes is more urgent than ever. And a standardised, scalable approach is the only way to future-proof such a fragmented, complex and global industry.

We invite you to engage with us by subscribing to DCSA updates and making contact through our website, www.dcsa.org.