



Digital interoperability key to future-proof efficiency in container shipping

By THOMAS BAGGE, chief executive officer and statutory director of Digital Container Shipping Association (DCSA)

COVID and the case for digital standards

COVID-19 has resulted in unprecedented disruption to the mechanics of most economies, placing a major strain on the world's supply chains, including essential linkages relating to food and medicines. The current state of supply chain logistics has exacerbated this strain, creating unnecessary delays caused by manual and paper-based processes that are still used in some vital links in the chain, including container shipping.

Take for example the bill of lading (B/L). In the vast majority of container journeys, B/Ls are still being printed on paper and passed from hand to hand as the container passes from vehicle to vehicle, from land to sea, and from country to country. As a result of the pandemic, cargo is getting stuck in ports waiting for paperwork to be delivered by flights that have been delayed. Having the electronic bill of lading (eBL) as the dominant format for bills of lading would reduce or eliminate such delays.

Consider also that every year, the mishandling of reefer containers results in huge losses for companies that rely on cold-chain logistics. Currently, it is difficult for cargo owners to track the whereabouts of containers and manage the status of their contents from end to end. IoT (Internet of Things) solutions for "smart containers" are needed to enable an uninterrupted flow of container data throughout the journey. This will ultimately allow continuous remote monitoring and control over the quality of perishable items.

These are just two of many examples of how digitalisation will transform the

container shipping industry, providing unprecedented levels of efficiency, innovation and customer service. But to digitalise the supply chain from end to end, IT solutions must be interoperable at every link in the chain. This requires widespread adoption of digital standards such as those DCSA and its members and collaborators, are working to develop.

Interoperability enables visibility and innovation

Interoperability is the ability of computer systems or software to exchange and make use of information. Currently, container shipping lacks end-to-end interoperability because it lacks a common approach to technology. This makes information exchange between parties unnecessarily difficult and aggregation of data challenging. As a result, many container shipping processes provide a digital experience that is far inferior to that of telco, banking and more digitally advanced industries.

Take booking. Critical information such as arrival times and available space is often unreliable. And during the container journey, transport chains often appear as "black boxes" to cargo owners. Containers are lost from view until they arrive at certain points along the supply chain. Not only does this build high costs, inefficiencies and waste into the supply chain, it creates a lack of trust between shippers, carriers and other participants.

DCSA standards will enable end-to-end interoperability, allowing supply chain participants to digitise data and send and receive it in a way that is understandable and usable for everyone. This will not only

simplify and clarify the booking process, it will provide visibility into container whereabouts and status throughout the container journey, thus helping establish trust between all parties. Once trust through transparency is established, real innovation can occur—innovation that will enable industry-wide digital transformation.

DCSA digital standards enable interoperability with real-world benefits

With nine of the top eleven ocean carriers as members, DCSA aims to be the de facto technology standards body for the container shipping industry. Working in close conjunction with our carrier members, select stakeholders, solutions providers, industry regulators and other standards bodies, DCSA has several ongoing initiatives that address some of the most impactful and urgent needs in the industry.

Our initiatives can be grouped into five categories, with standards that are published or targeted for publication by the end of 2020, listed below:

- **Industry Blueprint**—The DCSA Industry Blueprint establishes a consistent vocabulary and proposes standards for container shipping processes. Most DCSA standards leverage the definitions and standards put forth in the Industry Blueprint.
- **Data & interfaces**—Our data & interfaces initiative includes four sets of standards:
 - The DCSA Information Model sets the foundational data language and logical data model for container shipping.



A friend in the business. Hamburg Süd.

In business, it helps to have a friend you can turn to for good advice and strong support. Someone who knows your needs and takes the personal care needed to meet them, always working in your best interests. Product excellence and service reliability are indispensable, but what creates that kind of commitment is a spirit of cooperation, continuity, and trust – in other words, friendship. And that's the ship you can count on to carry everything forward.



No matter what.

HAMBURG  SÜD

www.hamburgsud-line.com

- The DCSA Interface Standard for Track and Trace (T&T) establishes process, data and interface (API) standards to enable customers to digitally track and trace shipments across multiple carriers.

Benefits: This will simplify shipment visibility across multiple carriers, enabling shippers to better plan and optimise shipment handling activities.

- The DCSA Interface Standard for Operational Vessel Schedules enables automatic sharing of vessel schedule information between carrier VSA partners and operational providers.

Benefits: Carriers can digitally publish their schedules, and their partners and operational service providers can subscribe to their feed to automatically receive or retrieve updates as needed. This will provide complete vessel schedule transparency, increasing efficiency and enabling better planning and optimisation of shipping activities.

- DCSA has also announced its intention to work with industry stakeholders to develop eBL standards for data format and transmission. This will enable an eBL to be safely and seamlessly delivered from end to end.

Benefits: All stakeholders, regardless of pre-existing relationships, can be involved in a transaction as long as they have implemented the standards. Having a standard eBL will also make it easier for regulators, banks and insurers to accept it as a viable alternative to paper.

- Internet of Things (IoT) for smart containers — The DCSA IoT Container Standards for network connectivity will enable interoperability of devices mounted on containers and gateways in terminals, warehouses and vessels. Future releases will cover data structure and handling, physical device specifications, and security and access management.

Benefits: These standards put carriers and supply chain participants one step closer to providing customers with an uninterrupted flow of relevant information regarding the whereabouts of containers and the

status of their contents at any point along the container journey.

- Cyber Security—The DCSA Implementation Guide for Cyber Security on Vessels facilitates vessel readiness for the IMO Resolution MSC.428(98) on Maritime Cyber Risk Management in Safety Management Systems.
- Benefits: DCSA cybersecurity best practices help shipping companies meet the IMO's January 2021 implementation deadline to ensure crew safety. Shippers and BCOs will greatly benefit from having their goods onboard a secure vessel.
- Port Call Optimisation (PCO) — DCSA PCO standards will enable the just-in-time port call by aligning operational processes and data communication between carriers, ports, terminals and other stakeholders.
- Benefits: These standards will enable better planning and greater efficiency at ports and terminals.

Investment in DCSA standards is an investment in the future

DCSA standards provide a safe environment for technology investments. They are vendor and platform agnostic, which ensures interoperability between all stakeholders. Any relevant party that has implemented DCSA standards can be involved in a transaction. This allows intermodal transportation providers to invest with confidence in IT solutions that are backed by the major shipping lines.

DCSA also works with many standards and regulatory bodies to receive input and achieve standards alignment. These include UN/CEFACT, BIMCO, World Customs Organization, European Commission, International Chamber of Commerce, IATA, and the US Customs and Border Protection, among others. This ensures that stakeholders can implement DCSA standards while preserving their investments in existing systems and processes.

Standardisation success stories

In banking, telco, entertainment, retail and media, digital standards have been creating value for some time. As a result, these industries have produced a better customer experience, and a higher degree of efficiency and innovation.

DCSA strongly believes that container shipping can have the same success in terms of digitalisation. Our long-term ambition is to bring the container shipping industry to the level of these more digitally advanced industries.

Compare the eBL and the e-Air Waybill for freight in the airline industry. In 2010, IATA introduced e-Air Waybills (e-AWB) for airfreight. At present, adoption of e-AWB is over 68 per cent. By the end of this year (2020), DCSA will have released our first set of eBL standards. If the container shipping industry starts adopting eBL standards in earnest, we project that a 50 per cent adoption rate is feasible by 2030. At 50 per cent adoption, we estimate that the industry can potentially save more than US\$4 billion per year, at a global economic growth rate of 2.4 per cent through 2030, as forecasted by the OECD1.

Transforming container shipping requires collaboration

DCSA works in collaboration with a wide array of stakeholders to develop digital standards and promote adoption. The more contributors and adopters we have, the more useful the standards will become. Our carrier members are committed to implementing DCSA standards as part of their digitalisation strategy, and we actively seek input from all parties to gain insights into the needs of specific markets.

As a non-profit, independent organisation, we aim for full transparency and publish our standards open source, free for everyone to use. Using an agile development process, we focus on driving alignment among our nine carrier members to rapidly publish standards, solicit industry feedback and quickly iterate, if necessary.

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. ▲



Caring for our Clients and their Cargo

When you combine Newcastle's hugely diverse range of facilities with our levels of service, competence and experience, we believe you will find a genuinely competitive option for all your imports and exports through the Eastern Sea Board.

130 Young Street, Carrington NSW 2294 | PO BOX 190, CARRINGTON NSW 2294
Ph Main: +61 2 4978 7100 | Mobile: +61 412 680 001 | Email: geoff@newcastlestevedores.com.au