

SUSTAINABILITY Q&A: **DIGITAL CONTAINER SHIPPING ASSOCIATION**

“WITHOUT UNIVERSAL ACCESS TO HIGH-QUALITY, UNAMBIGUOUS, REAL-TIME DATA.... IT’S IMPOSSIBLE TO OPTIMISE PROCESSES THAT COULD EFFECTIVELY REDUCE EMISSIONS.”



At the forefront of standardisation in digitising processes, the **Digital Container Shipping Association (DCSA)** is committed to reducing emissions through optimisation. **Jack Donnelly**, Editor at Port Technology International, chatted to **Henk Jan Gerzee**, Chief Product Officer, to find out more.

Could you outline some of the work DCSA is currently undertaking to reduce emissions in container shipping?

HJG: DCSA develops and facilitates the adoption of standards that ensure system interoperability across the end-to-end supply chain to improve the customer experience, asset productivity as well as reducing the carbon footprint. Seamless data exchange minimises environmental impact by enabling more transparent and efficient shipping operations and processes.

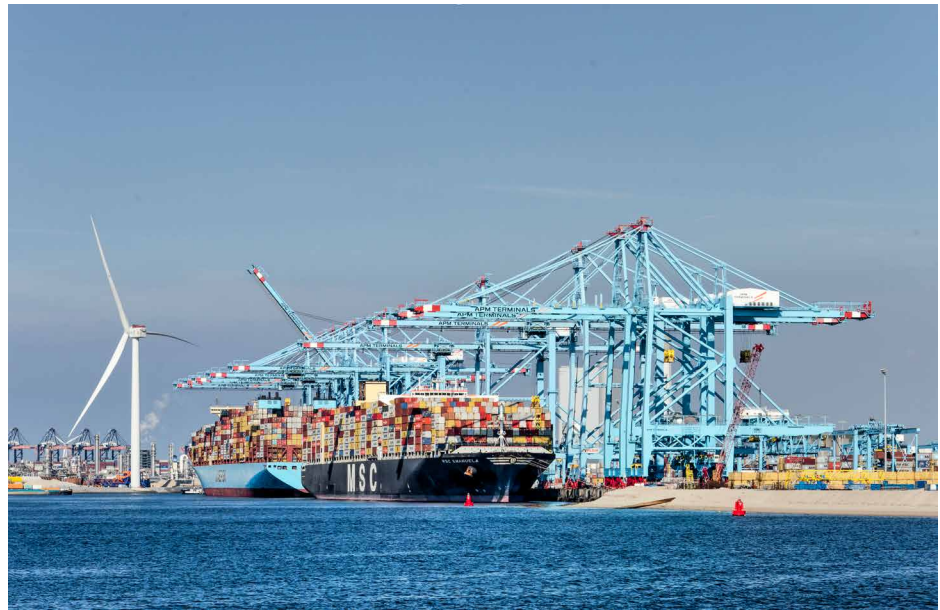
DCSA has published standards to facilitate just-in-time (JIT) port calls, which help optimise steaming speeds and dramatically reduce waiting times at ports.

DCSA JIT port call standards enable practical implementation of the principles described in the recently published International Maritime Organization (IMO) study—Just In Time Arrival – Emissions reduction potential in global container shipping.

The study estimates that between 4 per cent (12 hours before arrival) and 14 per cent (port to port) of the fuel used per voyage can be saved, representing 6 to 19 million tons of CO₂ saved per year by improving port call efficiency. This is equal to 3 to 10 per cent of the total emissions of the container shipping industry.

DCSA is also working to fully digitalise the documentation process for international trade, including the bill of lading, to enable paperless international trade.

DCSA has developed standards for the booking process and electronic bill of lading (eBL) and is in the process of completing



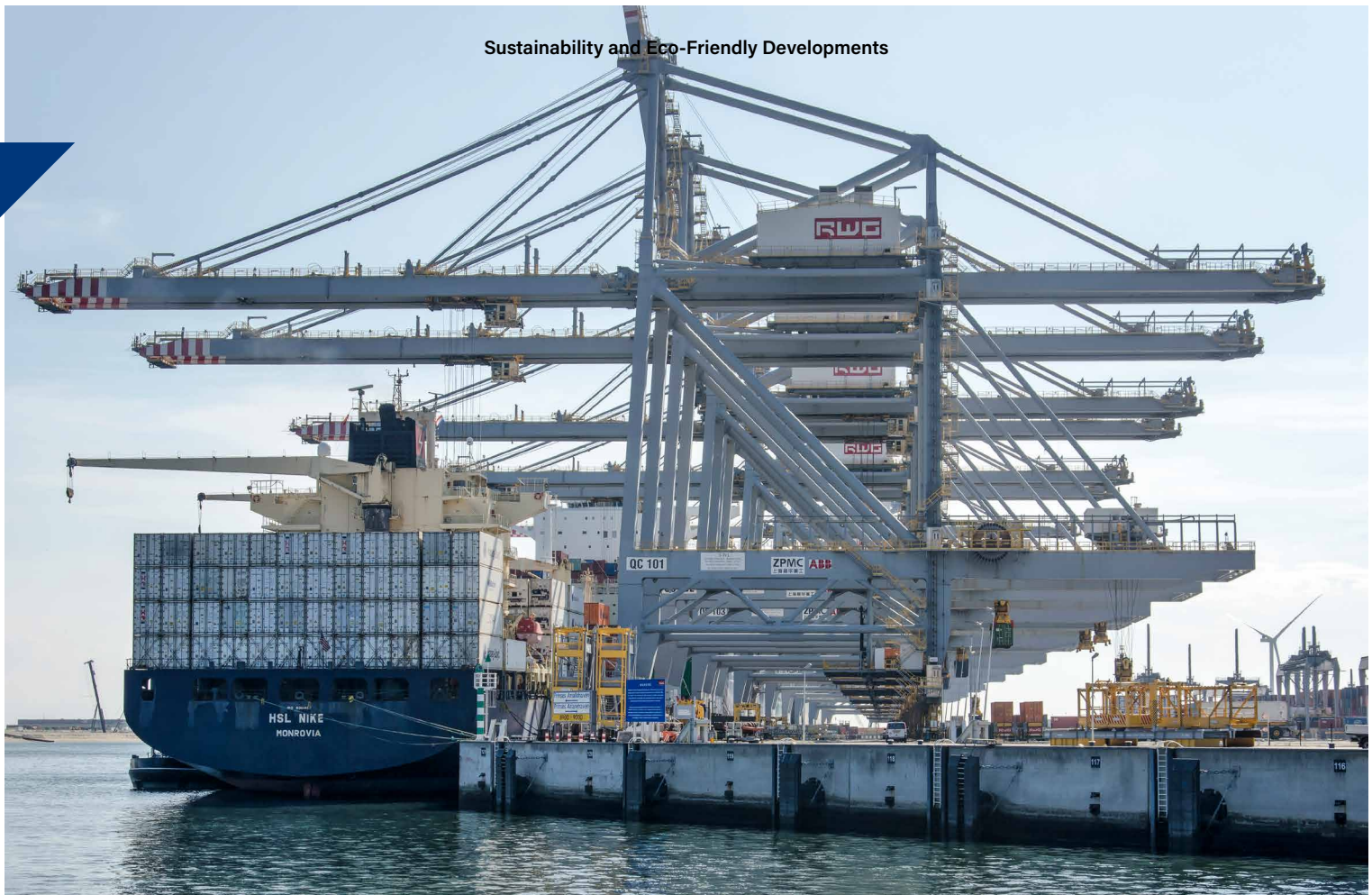
an eBL proof of concept (PoC) with platform providers to ensure technical interoperability. DCSA is also collaborating with eBL solution providers, IGP&I and other key stakeholders to address the legal framework needed to enable cross-platform eBL transfer between solution providers.

What challenges previously have ports and container carriers faced in reducing emissions through digitalisation?

HJG: Currently, there is no system in place to ensure that changes to shipping information are consistently and accurately conveyed to stakeholders. This is not only a transmission problem, it is an issue of having no consensus around how to best convey timely updates and who is responsible for that communication.

Without universal access to high-quality, unambiguous, real-time data that is usable by everyone in the shipping ecosystem, it's impossible to optimise processes that could effectively reduce emissions.

“CURRENTLY, TRACK AND TRACE DATA SEMANTICS ARE NOT FULLY ALIGNED ACROSS CARRIERS AND THEIR LOGISTICS PARTNERS.”



With port calls specifically, the most accurate, up-to-date port call data is only communicated 2 to 4 hours before a port call. Not knowing soon enough when port call events will take place makes effective port resource planning impossible. And unexpected delays at port ripple across the supply chain, causing delays of feeder vessels, rail, and road transport.

How can digitalisation and moving away from paper processes benefit the environment? Has the DCSA conducted analysis into the reduction in use of paper through greater adoption of electronic bills of lading, for example?

HJG: Delays, inefficiency and waste are due in part to the industry's continued reliance on paper documentation. DCSA has estimated that a minimum of 16 million original paper B/Ls are issued by ocean carriers per year. McKinsey Global Institute research estimates that 100 per cent eBL adoption will generate \$6.5 billion in direct cost savings for industry

stakeholders, not including add-on benefits such as trade enablement and potential revenue gain. The Institute also expects 100 per cent eBL adoption to reduce illegal trade by 10 to 15 per cent.

A typical set of trade documentation contains 50 pages per envelope. Multiply that by 16 million B/L envelopes, and the waste involved in printing all that paper and flying or couriering it around the world is a serious sustainability concern. In total, full eBL adoption could therefore see 28,000 trees saved annually, or 39 soccer fields of forest, based on McKinsey Global Institute research.

Research from the Economic and Social Commission for Asia and the Pacific (ESCAP) suggests that fully digitalising regulatory procedures around trade could save between 32 and 86 kilograms of CO₂ equivalents per end-to-end transaction.

Track and trace of cargo is a key element of DCSA's calls for digitalisation of shipping. How can better knowledge of cargo whereabouts reduce emissions for supply chains?

HJG: Currently, track and trace data semantics are not fully aligned across carriers and their logistics partners. This can lead to losing sight of containers until they arrive at certain points. This lack of container visibility creates costly inefficiencies as well as unnecessary and unexpected delays across the end-to-end container journey.

Unexpected delays at port make it impossible to plan for adequate equipment and staffing to keep cargo moving from one hand-over point to another. This ripples across the supply chain, causing delays of feeder vessels, rail and road transport. Ships and diesel trucks are left idling outside ports, unnecessarily emitting significant amounts of nitrogen oxides, air toxics and carbon dioxide. As discussed above, the IMO has quantified the emissions released by ships through idling and inefficient sailing in its Just In Time Arrival study.

Track and trace is simply an interface that enables shippers to keep tabs on the whereabouts of cargo. The effectiveness of track and trace in increasing sustainability is

dependent on having accurate data from many activities behind the scenes, including:

- Efficient port calls based on JIT standards
- Efficient exchange of operational vessel schedules (to enable effective resource planning)
- Efficient B/L processes that don't cause unexpected delays.

Could you walk us through DCSA's role on the Green and Digital Corridor between Singapore and Rotterdam announced earlier this month?

HJG: DCSA has joined the Green and Digital Corridor Initiative as an "action partner". We have pledged to commit resources to actively help operationalise the pilot in areas such as manpower, technical expertise and infrastructure investment.

We have also committed to acting as a "first user" for initiatives trialled under the Digital Corridor Pilot, which may entail the commitment of manpower or assets to support the initiative. As a standardising body for the container shipping industry, with a forward-looking agenda on digitalisation and decarbonisation, the Maritime and Port Authority of Singapore (MPA) and the Port of Rotterdam believe DCSA is well positioned to contribute to and reap value from the pilot and help drive implementation of the relevant standards in the thematic focus areas.



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DCSA is continually releasing updated standards and new standards sets for users. What would success look like for DCSA in reducing emissions through standards by the end of 2022?

HJG: Success would look like accelerated adoption of our standards by carriers and other key stakeholders to lay the groundwork for further emissions reduction in the industry.

Out of the 10 largest ocean carriers, 7 have already adopted the DCSA Track & Trace standards and are actively rolling them out to their customers. Several carriers have piloted or are preparing to pilot the DCSA Just-in-Time Port call standards at the Port of Hamburg and a handful of other Asian and European ports.

The final phase of the DCSA eBL platform interoperability PoC has begun and should be completed by the end of 2022. Advocacy for standards adoption from public sector stakeholders is also a critical factor in driving collaboration across the industry and different modes of transport.

DCSA is actively working with many governmental and regulatory bodies to align standardisation efforts at the global and regional levels.

The Federal Maritime Commission (FMC) sees DCSA standards as an invaluable tool for streamlining maritime transportation. As the next step in its Maritime Transport Data Initiative (MTDI), FMC will publish its recommendations for common data standards and sharing policies in the fall and plans to use much of what DCSA has done "as a template" for emerging national US standards for intermodal maritime data.

ABOUT THE AUTHOR:

Henk Jan Gerzee is Chief Product Officer for Digital Container Shipping Association, responsible for furthering its shipping industry digitisation plans. Prior to joining DCSA, Henk Jan served as Chief Digital & Innovation Officer for the Royal Schiphol Group where he was responsible for the transformation of Amsterdam's Schiphol Airport into the world's leading digital airport.

Previously, Henk Jan served as Chief Digital & Information Officer for Dorel Juvenile and held other executive positions at Elsevier and AirFrance-KLM, where he also led the global roll-out of e-tickets.

Henk Jan holds a master's degree in Business Economics from University of Groningen in the Netherlands and the Copenhagen Business School.

ABOUT THE ORGANISATION:

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 www.dcsa.org.