

GS1 standards enable optimisation of maritime and ports operations



Today's maritime supply chains have become increasingly complex—it is a world where a large number of stakeholders interact every minute of every day to manage vessels as they depart, travel and arrive at ports across the globe. Another major trend is a focus on the cargo owner. In recent years, shippers have become a top priority for carriers. In fact, some carriers are now directly partnering with large shippers like Maersk and Alibaba.

To effectively and efficiently operate in this complex, customer-centric supply chain, all stakeholders require visibility of the vessels and ports they visit. Stakeholders need to share up-to-date, reliable information about each vessel's location, its speed and the shipments it carries—as well as data on the terminals, berths and waterways that the vessel visits to ensure its safety and optimal utilisation.

Timely information is also critical when it comes to efficiently connecting maritime vessels with other modes of transport such as road, rail or inland waterways.

To deliver visibility across the maritime supply chain, global data standards are clearly needed.

GS1 value in maritime and ports

GS1 standards provide maritime stakeholders with visibility and enable interoperability between all stakeholders, using unique identification and automated data capture and data sharing.

EPCIS is the GS1 standard for the instantaneous sharing of event data. It enables shippers, shipping lines, port authorities, terminals, agents—and many more—to share information with each other about the “what, where, when and why” of each event, as vessels travel from port to port.

By using GS1 Global Location Numbers to identify maritime locations, the stakeholder community can also share reliable master data regarding facilities in and around the ports to determine whether a vessel can safely visit the port, and load and unload its cargo (e.g., safe port & safe berth).



Available standards

GS1 closely aligns its standards with the International Organisation for Standardisation or ISO. In fact, EPCIS and its companion standard, the Core Business Vocabulary (CBV), have been published by ISO as ISO/IEC 19987 and 19988, respectively.

Stakeholders using global data standards in the maritime and ports supply chain need to include:

What:

- Vessel identification, managed by the International Maritime Organisation (IMO) under the International Convention for the Safety of Life at Sea (SOLAS)
- Container identification, managed by the Bureau International de Containers (BIC), using the BIC code defined in ISO standard 6346
- Transport unit identification, using the GS1 Serial Shipping Container Code (SSCC), compliant with ISO/IEC 15459-1
- Shipment identification, using the GS1 Global Shipment Identification Number (GSIN), compliant with ISO/IEC 15459-6

Where:

- Stakeholders can identify locations and facilities such as terminals, berths and berth positions with the GS1 Global Location Number (GLN), compliant with ISO standard 6523.
- They may link a significant amount of information to the GLN such as depth data, geographic dimensions that define an area (i.e., a polygon) and much more. GS1 standards used by all stakeholders across the globe to share this information can greatly improve both safety and efficiency in maritime and ports operations.

When: This includes both event date and time (ISO 8601). The industry has developed [precise functional definitions](#) for when specific events (e.g., cargo operations started) are deemed to have occurred.

Why: Contextual data elements such as business steps (e.g., loading) and dispositions (e.g., in progress) are specified in the GS1 CBV standard and can be augmented by maritime sector-specific elements (e.g., pilot on-board).

Next steps

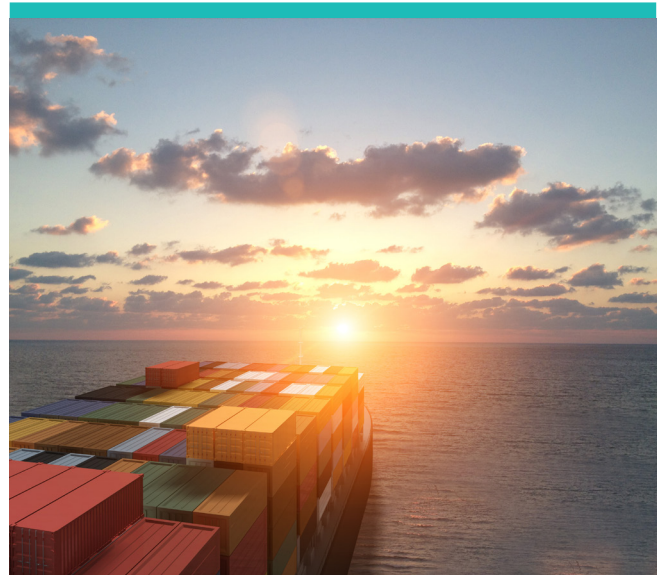
GS1 is ready to support maritime and ports stakeholders by assigning GLNs for port locations as a first step in implementing GS1 standards for sharing reliable and up-to-date information about these locations. Regarding subsequent steps, discussions are in progress between GS1 and industry stakeholders about various options for sharing information.

The maritime community continues to collaborate and use global data standards (GS1 and ISO) in more and more of their business processes to further improve operations—and become an integral part of global, end-to-end supply chains.

This will lead to further developments in the areas of identification and sharing of time estimates, such as the estimated time of arrival (ETA). GS1 EPCIS currently accommodates the actual time of a vessel's arrival at a port, or in a certain traffic area. GS1 plans to broaden its dialogue with the transport and logistics sector to determine how best to accommodate these requirements, using its global data standards.

Learn more

Discover how GS1 standards can help you gain visibility, share valuable data—and so much more. Contact Jaco Voorspuij, Senior Manager, Transport & Logistics, at jaco.voorspuij@gs1.org.



About GS1

GS1 is a neutral, not-for-profit organisation that develops and maintains the most widely used global standards for efficient business communication. We are best known for the barcode, named by the BBC as one of “the 50 things that made the world economy”. GS1 standards improve the efficiency, safety and visibility of supply chains across physical and digital channels in 25 sectors. Our scale and reach – local Member Organisations in 112 countries, 1.5 million user companies and 6 billion transactions every day – help ensure that GS1 standards create a common language that supports systems and processes across the globe. Find out more at www.gs1.org.

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