Purpose of this Reading Guide

This Reading Guide should allow readers of the Digital Container Shipping Association Information Model 1.0 to understand what the context of this Information Model 1.0 is, what you can expect from it, and what you can achieve with it.
What is the context of the DCSA Information Model 1.0?
The DCSA Information Model 1.0 is one of the main initiatives and publications of the DCSA.

VISION

The vision of the DCSA is to pave the way for interoperability in the container shipping industry through digitization and standardization. It is the DCSA’s mission to represent, lead and serve the container shipping industry for safer, more secure and efficient operations of container shipping companies. The project track of the DCSA Information Model 1.0 in particular aims at increasing the level of common standards and designing a common language for processes, events, and messages.

MEMBERS

The Digital Container Shipping Association has the following members: CMA-CGM, Evergreen, Hapag-Lloyd, HMM, Maersk, MSC, ONE, Yang Ming and ZIM.
Purpose of the DCSA Information Model 1.0

The DCSA Information Model 1.0 is developed to set the stage for future facilitation of standardization and digitization throughout the industry.

1. Standards support a common view across the industry in relation to processes, events and messages, facilitating industry standardization and digitization efforts. They are about the definition and alignment of terms, entities and attributes, and they are designed to support a common shared understanding of concepts, terms and rules of the business.

2. Additionally, a clearly defined DCSA Information Model 1.0 is the foundation against which future DCSA standards will be defined and mapped, such as the project tracks of IoT, blockchain or cybersecurity. Per se, it is a first publication and thus subject to regular updates. Hence, it can serve as a baseline for industry participants to initiate the required steps towards the next level of container shipping.
What can you expect from the DCSA Information Model 1.0?
Approach to the DCSA Information Model 1.0

Any published standard will be made publicly available on the DCSA website. During the development of standards, it will likewise be possible for interested parties to obtain selected materials and to learn about upcoming standard publication(s) via the website DCSA.org.

Review of business perspectives

DCSA Industry Blueprint

Existing Standards

Use-case description and Baseline requirements document

Carrier SME expertise

Industry Blueprint

Alignment of processes and business terms

Existing standards

Assessment around reuse, enhancement or rework of existing standards

Use-case and Baseline requirements

Setting the scope for standardization

Carrier SME expertise

Industry knowledge is key to understanding the domain
Scope of the DCSA Information Model 1.0

The DCSA Information Model 1.0 is complemented by this Reading Guide, the DCSA Glossary of Terms and the DCSA Event Naming Convention and Event Structure Definitions.

DCSA Information Model 1.0
The DCSA Information Model 1.0 provides a holistic overview of the information standardizations that have been agreed on the basis of the standardized processes defined in the DCSA Industry Blueprint (available on DCSA.org). The DCSA Information Model 1.0 assumes a limited scope with a one-to-one relationship between shipment and bill of lading.

DCSA Glossary of Terms, 1.1
The glossary is used to support the reader with definitions and explanations of the business terms used in the documents. The primary function of the glossary is to make sure that all readers are interpreting the terms in the same way.

DCSA Event Naming Convention and Event Structure Definitions, 1.0
To align terminology across the industry, the DCSA has developed a naming convention, which sets the standard for naming as well as understanding of customer facing track & trace events.

DCSA Information Model 1.0 Reading Guide
This document is a Reading Guide, which is recommended read before starting to use the DCSA Information Model 1.0. This has been created to facilitate proper use and understanding of the DCSA Information Model 1.0 as well as its limitations.
**Key Elements in the DCSA Information Model 1.0**

The DCSA Information Model 1.0 consists of a number of value driven objects:

1. **Logical data model**: A diagrammatic representation of data entities and the data attributes that store details about the entities, and the relationships that exist between data entities, standardized names of data entities and data attributes, for example ‘equipment’ versus ‘container’. Definitions of the entities and attributes are stored as part of the metadata for the model.

2. **Standardized lists of data**: A controlled list of values recommended to help ensure that the same data is being used within and between organizations.

3. **Data standardization rules**: When a predetermined data value cannot be offered, the data standardization rules can help with the generation of consistent data values to be used.

**Supporting insights and valuable input**

The DCSA Information Model 1.0 builds on and is supported by insights from several entities and organizations.
What to achieve with the DCSA Information Model 1.0?
What to achieve with the DCSA Information Model?

The DCSA Information Model 1.0 creates a standardized platform for all users and stakeholders in the shipping industry. Below, different possible users and a description of the value they can gain through the DCSA Information Model 1.0 are displayed.

**Example of usage**

- **Share one DCSA Information Model**
  - Information is understood and can be relayed in a uniform manner

- **Reduce miscommunication**
  - Example: A depot is a designated area where empty equipment is stored between use.

- **Avoid errors**
  - Date formats and logical data model are conformant
  - Data are understood and modelled the same way

- **Shared sets of relevant data**
  - Selected sets of reference data follow the same rules or guidelines

**Members and partners**

- "As a Business Owner, I can:
  - Easily map descriptions and data across standard organizations. Understand shipping’s shared requirements, definitions and technical specifications. Assess pros/cons more easily when choosing whether to follow a standard (assess to reuse, enhance, or rework the standard)."

- "As a product owner, I can find a standard for a specific use-case that defines common specifications used across the industry. The standards also give me the opportunity to find out, which process and data elements included in a specific use-case. I can give user requirements to IT and be sure that other stakeholders do it the same way."

- "As an IT architect, I can use the common industry data standards for IT solution designs – regardless of technology – and ensure that we implement the solution and requirements in the same way across the industry."

**Specialists**

- "As a data specialist, I now have documentation of what data I need to use for a specific use-case, and I can use this to map the DCSA Industry Blueprint and/or Information Model to other datasets that I work with, for example, internal systems, and specifically other organizations’ data and external vendors, as they have the same data references. This helps me to ensure that data is used the same way across the industry."

- "As an integration specialist, I have documentation of common data definitions and formats for development of interfaces. I can develop my own interfaces regardless of choice of technology."

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Contribution

The DCSA Information Model 1.0 will continue to be expanded with ever more data elements as we standardize the inter-operational aspects of the container shipping industry. This will be done based on ongoing collaboration with the industry.

Creation process

The DCSA Information Model 1.0 has been made in collaboration with some of the world’s largest shipping companies. The collection and consolidation of data documentation was carried out by the DSCA. The DCSA Information Model 1.0 aims at creating a representation of industry data references, data descriptions and data relationships.

Suggested improvements

The DCSA Information Model 1.0 will be a continually evolving document, which will change as processes and best practise across the industry change.

For this reason, the DCSA is always interested in feedback that can improve the quality of published work and drive standardization and digitalization going forward.

If you have any feedback or input, please go to our website under “Contact”.

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Appendices
Appendix I - Future publications

Insights to current publications and how these are continuously under scrutiny to be improved

The DCSA Information Model 1.0 is based on the offset of the data universes derived from the DCSA Industry Blueprint as well as insights drawn from mapping against the UN/CEFACT MMT RDM and the derived UN/EDIFACT definitions.

The initial entities that cover the data universe of the shared Information Model for the container shipping industry have been modeled. The data entities and data attributes included in the model will continuously be developed during the DCSA’s various data standardization projects.

Future publications will either function as amendments to existing entities, providing added insights, or as new entities incorporated in the logical data model on the basis of findings from the deliverables in the DCSA Information Model 1.0.
## Appendix II - Entity relationships

The listed entity relationship types below are used in the DCSA Information Model 1.0.

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Meaning</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One to one</td>
<td>This connector describes a relationship between two entities in which one occurrence of entity A can be related to only one occurrence of entity B.</td>
</tr>
<tr>
<td></td>
<td>Zero or one to one</td>
<td>This connector describes a relationship between two entities in which zero or one occurrence of entity A can be related to one occurrence of entity B.</td>
</tr>
<tr>
<td></td>
<td>One or many to one</td>
<td>This connector describes a relationship between two entities in which one or many occurrences of entity A can be related to one occurrence of entity B.</td>
</tr>
<tr>
<td></td>
<td>Zero, one, or many to one</td>
<td>This connector describes a relationship between two entities in which zero, one or many occurrences of entity A can be related to one occurrence of entity B.</td>
</tr>
</tbody>
</table>
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