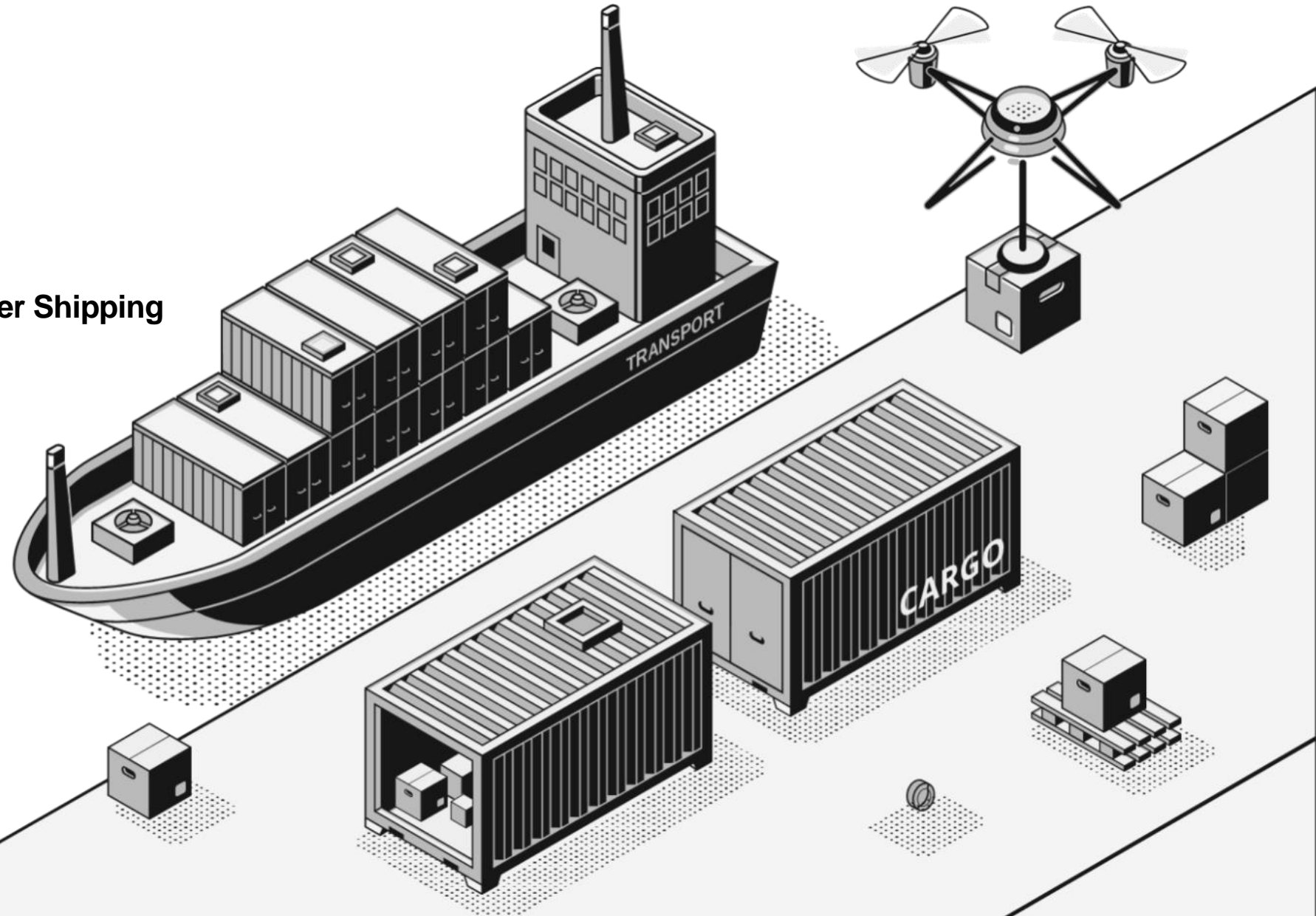


# Digital Container Shipping Association

## Industry Blueprint – Container Shipping 1.0 Reading guide

September 2019



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## Industry Blueprint – Container shipping

### Background & scope

Process standards for the container shipping value chain.



The DSCA  
programme



Purpose & scope

# DCSA Program Overview



The DCSA programme consists of two parallel tracks; Data & Interface Standards and Industry Blueprint – Container Shipping.

## PURPOSE

The purpose is to enhance efficiency across the transportation value chain, as well as enable interoperability across stakeholders by standardizing and harmonizing business IT processes. The purpose is not to build IT systems, and not to discuss topics of commercial nature.

## MEMBERS

The Digital Container Shipping Association has five founding members: Maersk, CMA-CGM, Hapag Lloyd, MSC and ONE. DCSA has received great interest from other shipping lines which are interested in becoming members.



# Industry Blueprint – Container Shipping 1.0



Selected carrier processes has been mapped to facilitate standardization and digitization throughout the industry.



## PURPOSE

1. Standards support a **common view across the industry** in relation to processes, milestones, events and messages, facilitating industry standardization and digitization efforts.
2. Additionally, a clearly defined process standard is **the foundation against which future DCSA standards will be defined and mapped** (e.g. Data and Interfaces)



## SCOPE

1. Processes of the Industry Blueprint are completed by the ocean carriers;
2. Processes related to the movement of a container/equipment from one location to another;
3. Processes which are linked to a shipment/booking;
4. Processes are considered critical for industry digitization and standardization efforts;
5. Processes which are not considered commercially sensitive or of competitive advantage;



## Industry Blueprint – Container shipping Structure

Process standards for the container shipping value chain.

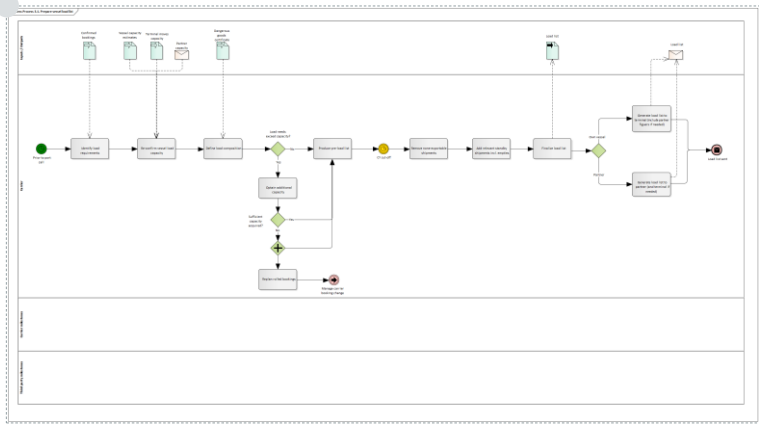


A multi-layered  
Industry  
Blueprint



The journey based  
structure

Level	Definition	Example
1. E2E Process	End-to-end process stream. Consists of several journeys.	Container Shipping
2. Journey	A series of related processes in a timeline which allows for a goal to be accomplished.	Shipment Journey (Booking-to-Payment)
3. Process	The process is a sequence of related activities	Prepare Bill of Lading (B/L)
4. Activity	Activities are key steps within a process. An activity consists of several tasks	Allocate empty equipment
5. Task / Transaction	The steps are specific user actions or systems transactions. A step contains the guide for how to perform the task.	Not used (but could e.g. be "Check functional requirements of the equipment")



*Note: Unlike “usual” process models, the DCSA uses a journey approach for Level 2.*



# The Journey-based Structure

Consensus has been reached on the overall structure and key design principles for the Industry Blueprint – Container Shipping 1.0.



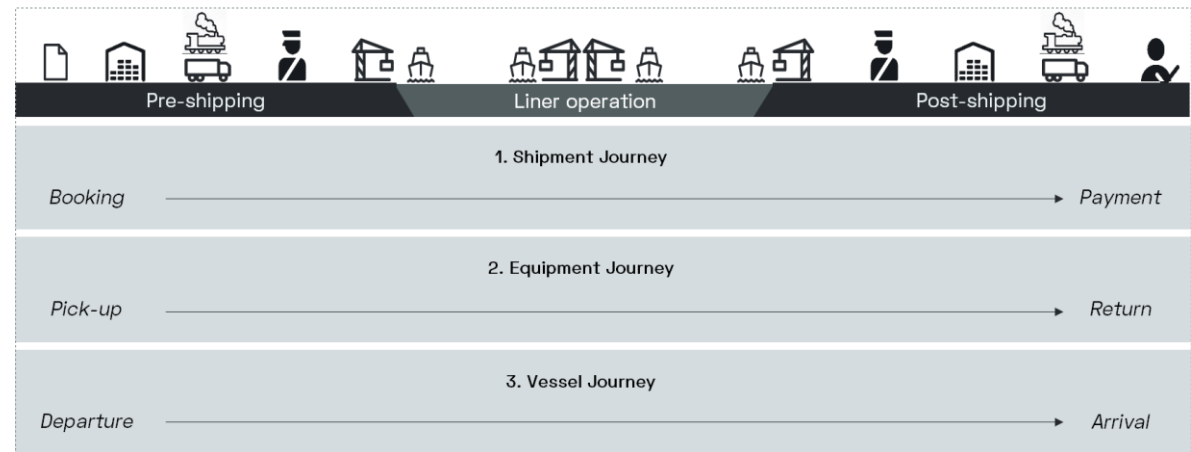
## The journey-based structure

The DCSA Industry Blueprint is utilizing a “journey-based” structure.

Each journey has a specific thematic focus and they have different drivers, but they all follow the same general timeline in parallel.

The three journeys are:

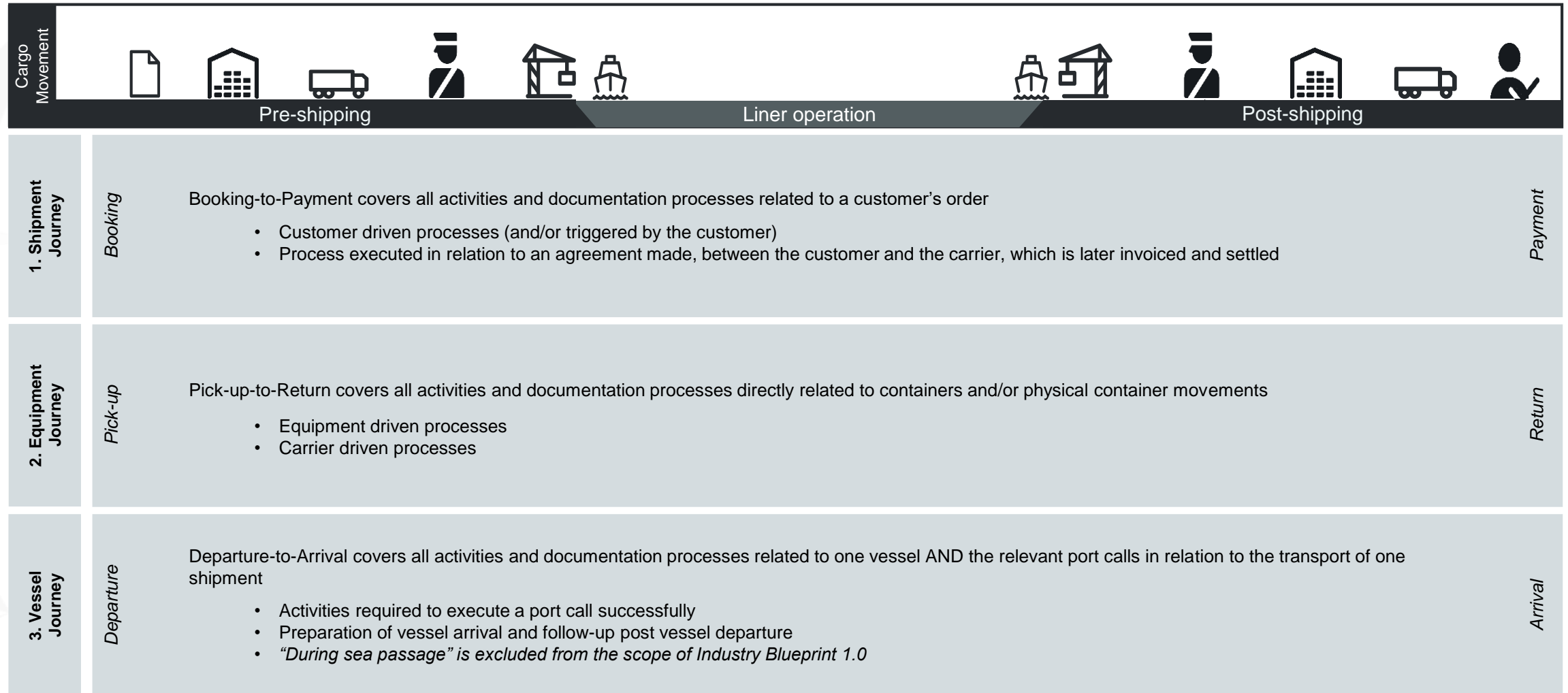
- Shipment journey (Order to Payment);
- Equipment journey (Pick-up to Return);
- Vessel journey (Departure to Arrival (incl. one port call)).





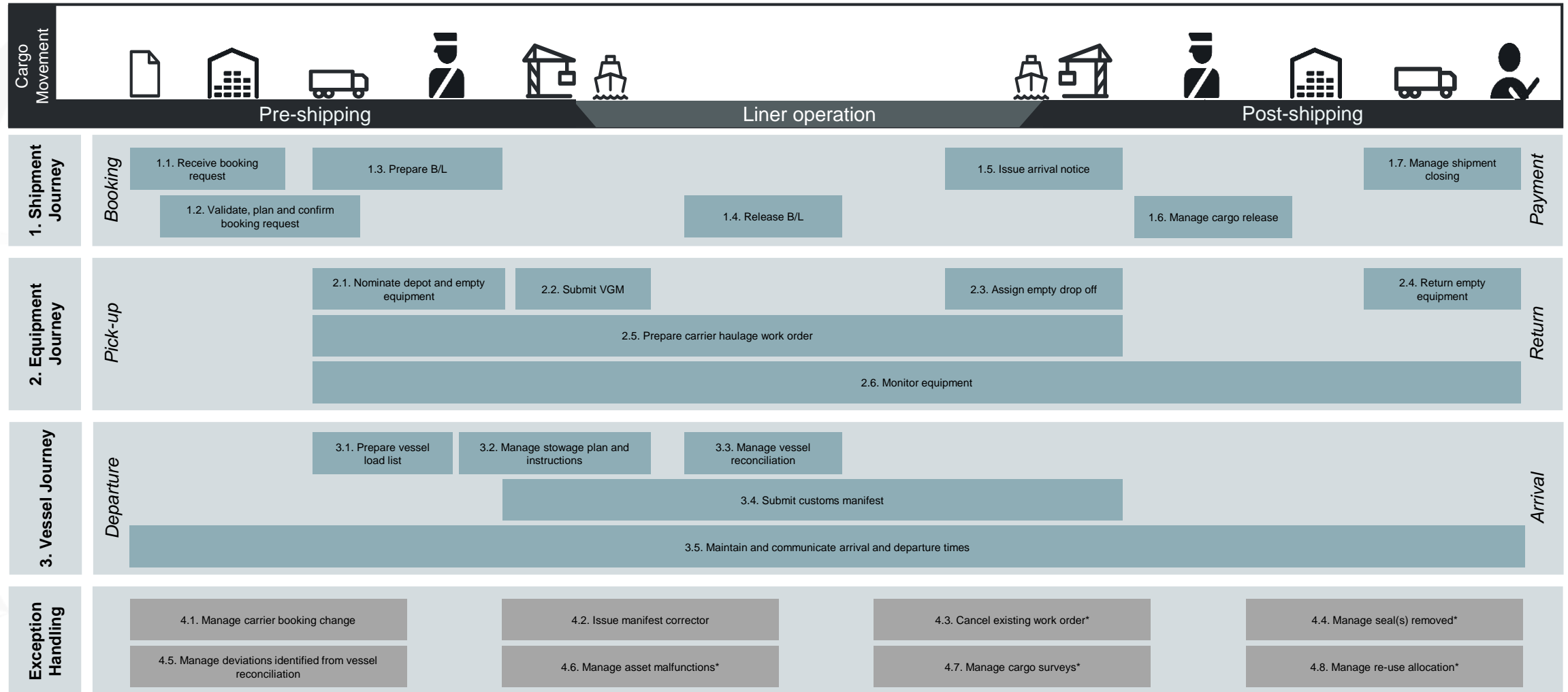
# Level 1 Process Depiction

Definitions for Shipment Journey, Equipment Journey and Vessel Journey are included for the Level 1: Carrier Booking-to-Container Return end-to-end process.

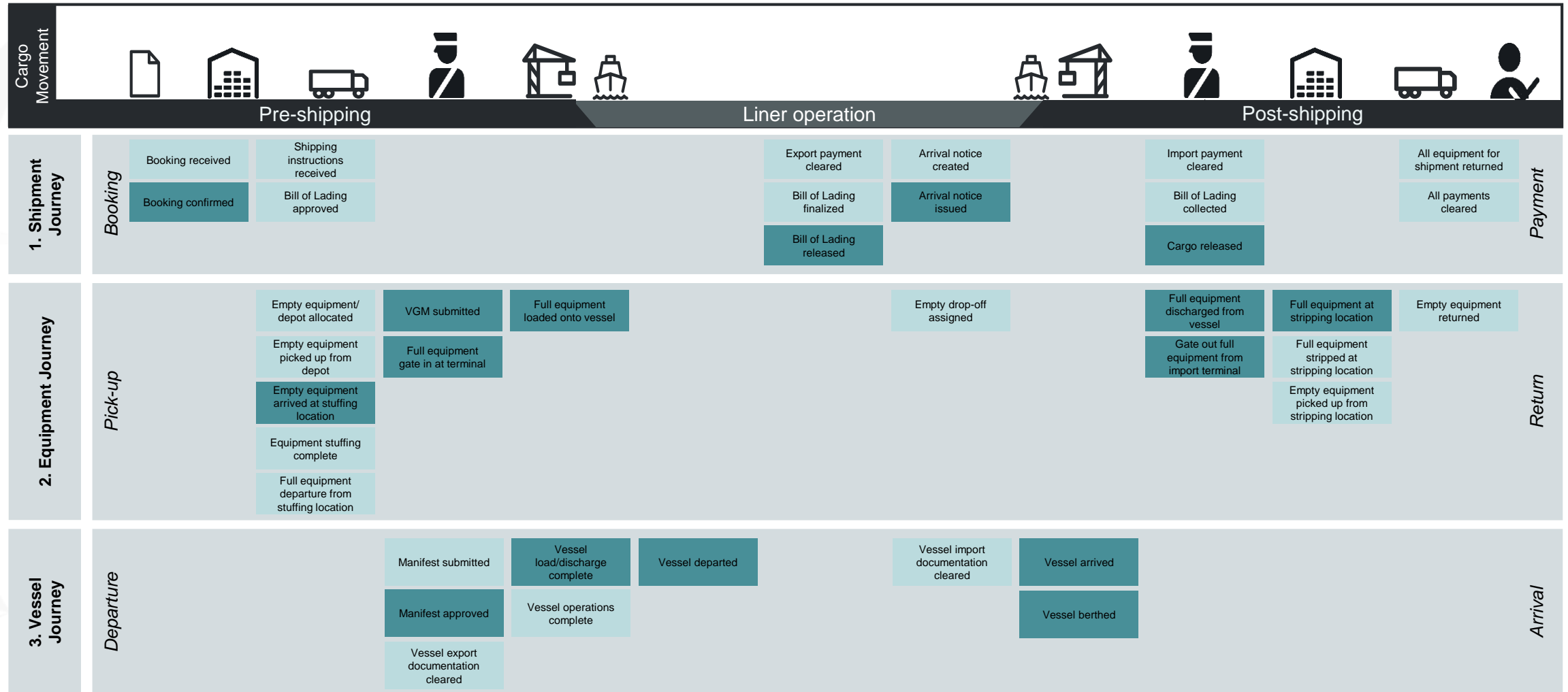


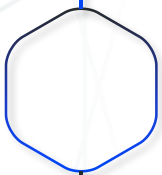
# Level 1 Process Depiction

Level 1 (Carrier Booking-to-Container Return), Level 2 journeys (Booking-to-Payment, Pick-up-to-Return and Departure-to-Arrival) and Level 3 processes documented within the Industry Blueprint – Container Shipping 1.0 are listed below.



# Milestone Depiction





## Industry Blueprint – Container shipping Legend

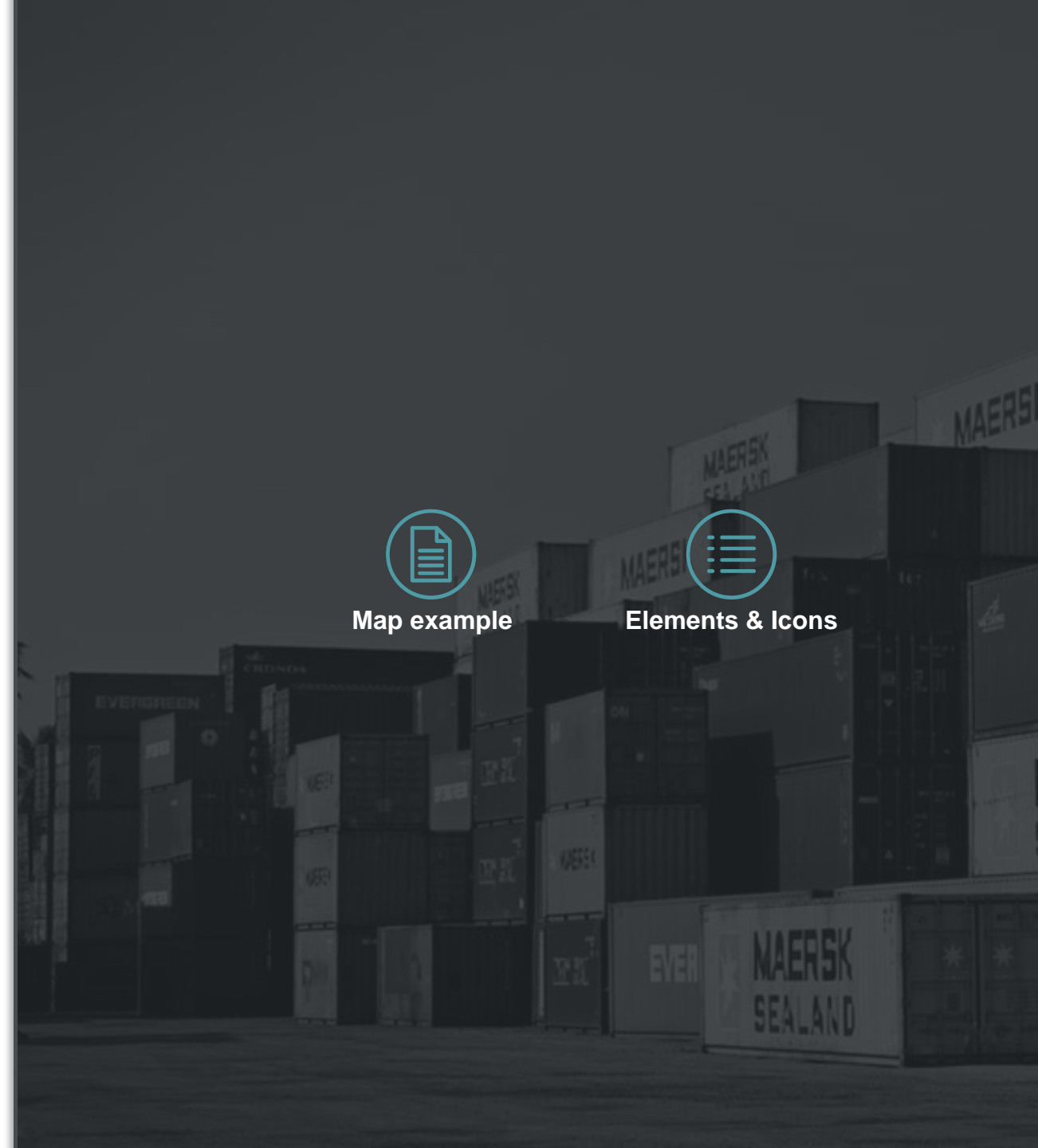
Process standards for the container shipping value chain.



Map example



Elements & Icons



# Map Example

The Industry Blueprint – Container Shipping 1.0 is a multi-layered end-to-end process description. Each map regardless of level of aggregation provides an overview of a specific process incl. activities, decisions, inputs/outputs and physical milestones.

## Start Event

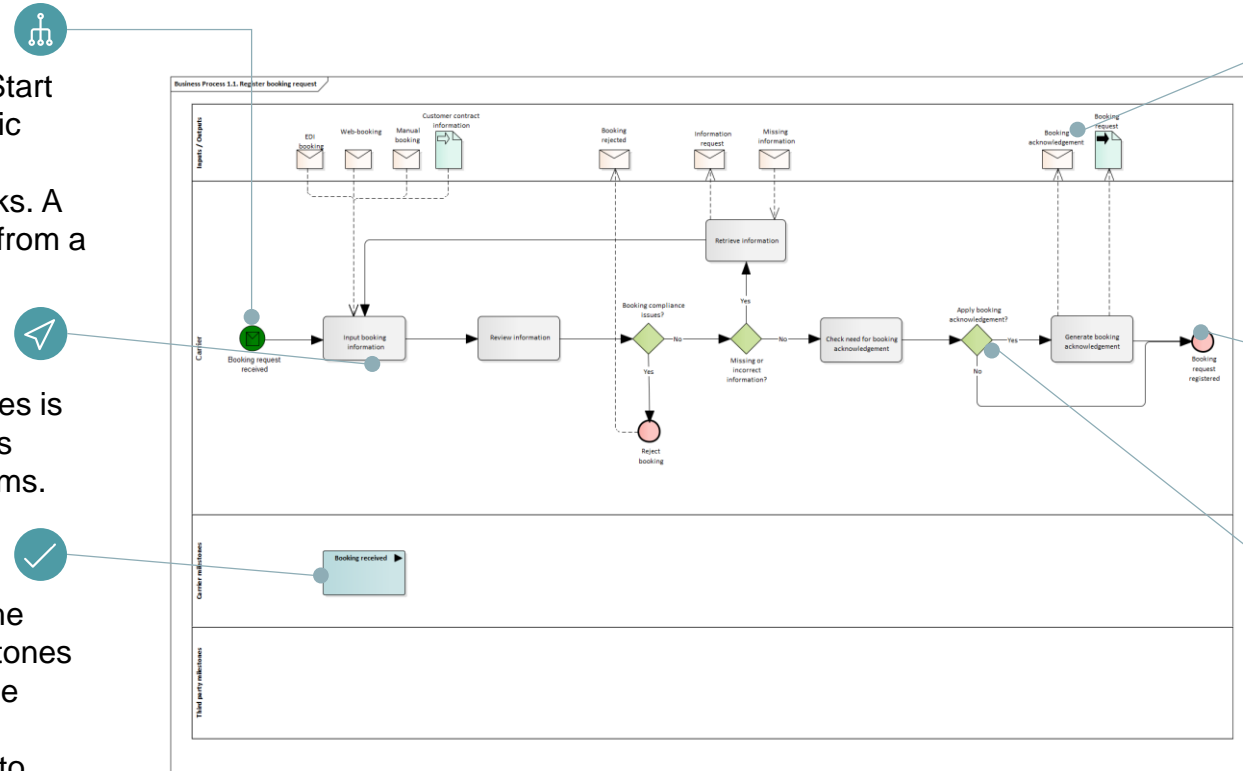
Each map is started using a Start Event. These are often specific events/occurrences, that is triggering the subsequent tasks. A start event can also be a link from a previous process.

## Activities

The primary driver of processes is activities. Activities are actions performed by people or systems.

## Milestones

Milestones are contained in the bottom swimlanes. The milestones have been placed to reflect the timing in relation to the above process. These are divided into milestones controlled by the carrier and those controlled by another third party.



## Messages and Data Objects

Messages and Data Objects are contained in the top swimlane. These all relate to an activity, which is the trigger or recipient the information I question.

## End Events





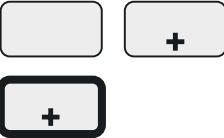
The End Event is illustrating the primary outcome or state obtained through the process. This can also be a link to an other process.

## Gateway

When the sequence flow hits a gateway, a decision is made around the future sequence of the flow. One or more routes may be taken depending on the type of gateway.




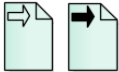

# Elements and Icons

The elements used in the Industry Blueprint – Container Shipping 1.0 have been taken from standard Business Process Model Notation (BPMN), but with some minor alterations to allow for the specific needs of the DCSA.

Symbol	Meaning	Description
	Start Event	<p>The Start Event is the start of a process. Three Start Events are used in the DCSA Industry Blueprint 1.0.</p> <p><b>Timer:</b> Used to indicate, that a process is triggered based on a specific timing. Can also be a timed point relative to the occurrence of a specific event.</p> <p><b>Message:</b> Used to indicate, that a process is triggered by the reception of a message (e.g. a booking, a document or file)</p> <p><b>Other trigger:</b> Used when the process is triggered by something other than the two previous or when the trigger is undefined or none-standardized.</p>
	Intermediate Event	<p>The intermediate event signifies an occurrence, which takes place outside the process. This is often used to indicate, that something specific is happening between two activities. This outside event/occurrence needs to be concluded before the process can flow to the next activity.</p>
	End Event	<p>The End Event indicates the final state or primary outcome of a process.</p> <p><b>Message:</b> Used to indicate, that the final outcome of a process is a message sent.</p> <p><b>Error:</b> Used to indicate, that the process outcome is to handle the process error outside of the defined process flow.</p> <p><b>Other outcome:</b> Used when the process is concluded with another outcome than the two previous or when the result is undefined or none-standardized.</p>
	Linked Event	<p>The Linked Event is used to indicate links between two or more processes. They are used to start or end a process, that triggers or is triggered by an other process. A Linked Event can either be a catch(start) or a throw(end). Catch and throw are drawn with a hollow and solid arrow respectively.</p>
	Activity	<p>A generic term for the work performed. If the activity has been further disaggregated a "+" symbol at the bottom of the rounded rectangle will appear. This means that a process exist for the specific activity. If the rounded rectangle have a thicker edge, it is a global process meaning it is a process, which originates somewhere else in the process landscape.</p>

# Elements and Icons

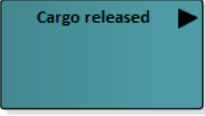
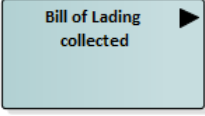

The elements used in the Industry Blueprint – Container Shipping 1.0 have been taken from standard Business Process Model Notation (BPMN), but with some minor alterations to allow for the specific needs of the DCSA.

Symbol	Meaning	Description
	Gateway	<p>A gateway is used to control the divergence of sequence flows in a process. It will determine the branching of paths in a process. Three types of Gateways are used in the DCSA Industry Blueprint.</p> <p><b>Exclusive Gateway</b> (empty square): The exclusive gateway is applied as an either/or statement. Used when only one of the alternative outcomes can occur in each instance of the process.</p> <p><b>Inclusive Gateway</b> (square with a circle): Is applied when an and/or statement. Meaning that several outcomes can occur for a single instance of the process based on the judgement of the reader.</p> <p><b>Parallel Gateway</b> (square with a cross): Used when more than one outcome happens simultaneously. All incoming flows will have to complete all outgoing alternatives.</p>
	Sequence Flow	A flow is used to show the sequence in which activities is performed in a process.
	Data Flow	Used to illustrate the from or to an activity. The flows of information can either be in the form of data or messages.
	Data Object	Data objects in the DCSA Industry Blueprint is defined as data or information, which is used or produced by a certain activity. The data associated with the data objects are considered to be internal, meaning that it is produced and owned by the carrier. Data Objects can appear as either catch (inputs) or throw (outputs) events. Catch and throw are drawn with a hollow and solid arrow respectively.
	Message	A message is used to depict the transmission of information from one party to another. In the DCSA Industry Blueprint it has been defined, that messages are always used to illustrate external communication. This means communication between a carrier and a third party.



# Elements and Icons

The elements used in the Industry Blueprint – Container Shipping 1.0 have been taken from standard Business Process Model Notation (BPMN), but with some minor alterations to allow for the specific needs of the DCSA.

Symbol	Meaning	Description
	Milestone	The milestone icons have been included in the Industry Blueprint 1.0 to indicate the completion or status change of significant occurrences. The milestones in the Industry Blueprint have been defined as: <i>“A significant occurrence or change of status affecting the process flow of physical or immaterial equipment or documents.”</i>
	Events	The event icons have been included in the Industry Blueprint 1.0 to indicate the completion or status change of less significant occurrences. They are defined as: <i>“An occurrence in the process, which is a lower ranking contributor to a milestone”</i>
	Swim lane	Swim lanes in the DSCA Industry Blueprint are used to group information belonging to specific categories. In the DSCA four different Swim lanes are used. <b>Inputs / Outputs:</b> Used to group information elements (messages and data objects) flowing in and out of the process. <b>Carrier:</b> Used to group process activities carried out by the carrier. <b>Carrier milestones:</b> Used to group milestones/events, which have been generated by or are in the carriers span of control. <b>Conditional carrier milestones:</b> Used to group milestones, that are not mandatory for the process, but have been generated by or are in the carriers span of control. <b>Third party milestones:</b> Used to group milestones, which are outside of the carriers span of control, yet potentially relevant for tracking or other purposes.



## Industry Blueprint – Container shipping

Supporting documents & feedback

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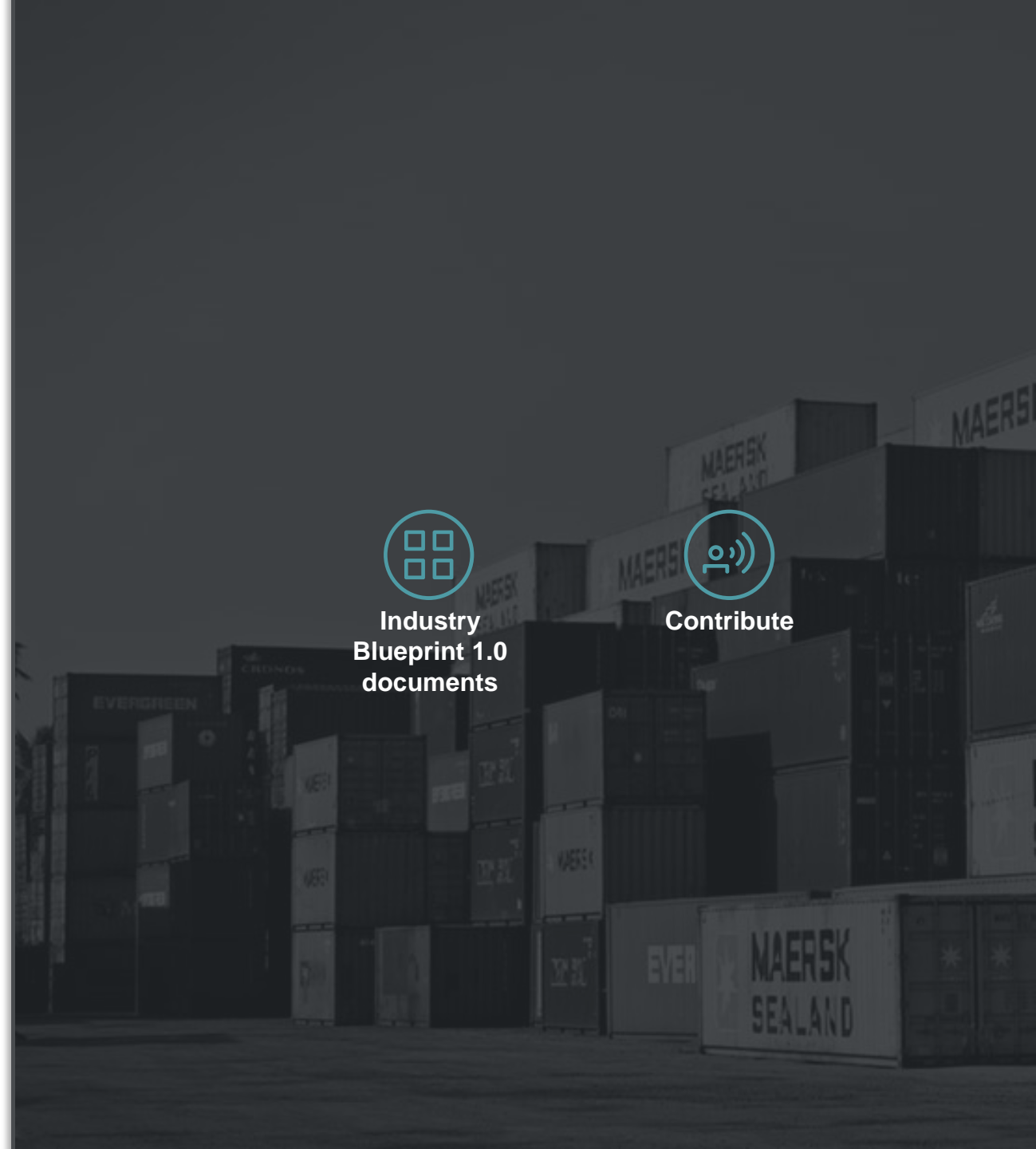
Process standards for the container  
shipping value chain.



Industry  
Blueprint 1.0  
documents



Contribute





The process maps are the backbone of the Industry Blueprint 1.0. The multi-layered model allows the reader to drill down into each process to increase the level of detail.

The glossary is used to support the reader with definitions and explanations of the terms and expressions used in the process maps. The primary function of the glossary is to make sure, that all readers are interpreting the terms used in the same way.

Library of level 1 to level 3 processes contained within the Industry Blueprint including high level descriptions. Furthermore contributing carriers will have access to a cross reference to their original process documentation.

The current document is a reading guide, which is mandatory before starting to use the Industry Blueprint 1.0. This has been created to facilitate proper use and understanding of the Industry Blueprint 1.0, as well as the limitations of the Blueprint.

# Contribute

The Industry Blueprint – Container Shipping 1.0 will continue to grow and improve. This will be done based on the ongoing collaboration with the industry.

## Creation process

The Industry Blueprint – Container Shipping 1.0 has been made in collaboration with some of the worlds largest shipping companies. The collection and consolidation of process documentation was done by the DCSA.

The Industry Blueprint – Container Shipping 1.0 aims to create a representation of processes across all carriers, which have contributed to the process.

## Suggested improvements

The Industry Blueprint – Container Shipping 1.0 will be a constantly evolving entity, which will change as processes and best practise across the industry change.

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

If you have any feedback or inputs, go to our webpage under “Contact”.



**Thomas Bagge**

CEO, DCSA



**Henning Schleyerbach**

COO, DCSA



[www.dcsa.org](http://www.dcsa.org)



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