



Digital Container Shipping Association (DCSA)

Industry Blueprint – Container Shipping 2.0 Reading guide

July 2020

Digital Container Shipping Association (DCSA)

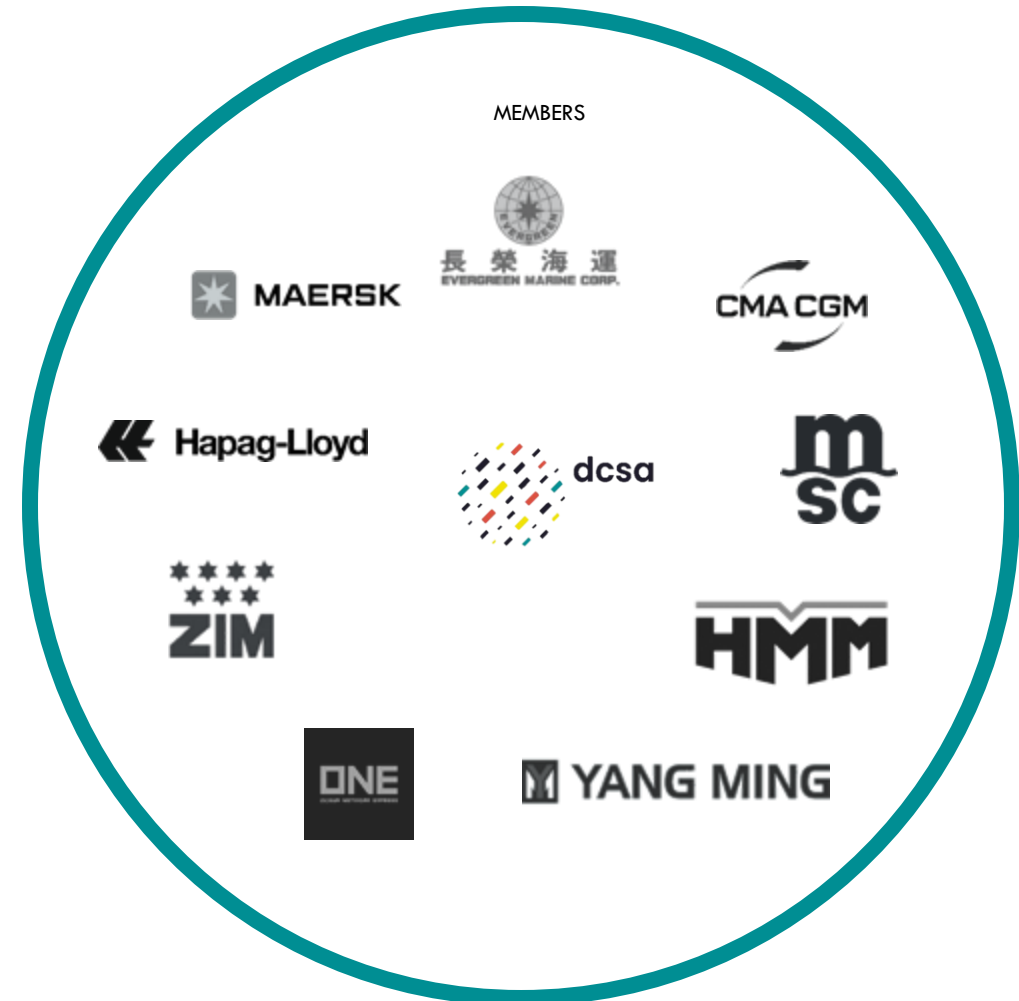
The DCSA Industry Blueprint 2.0 is one of the main initiatives and publications of the DCSA.

VISION

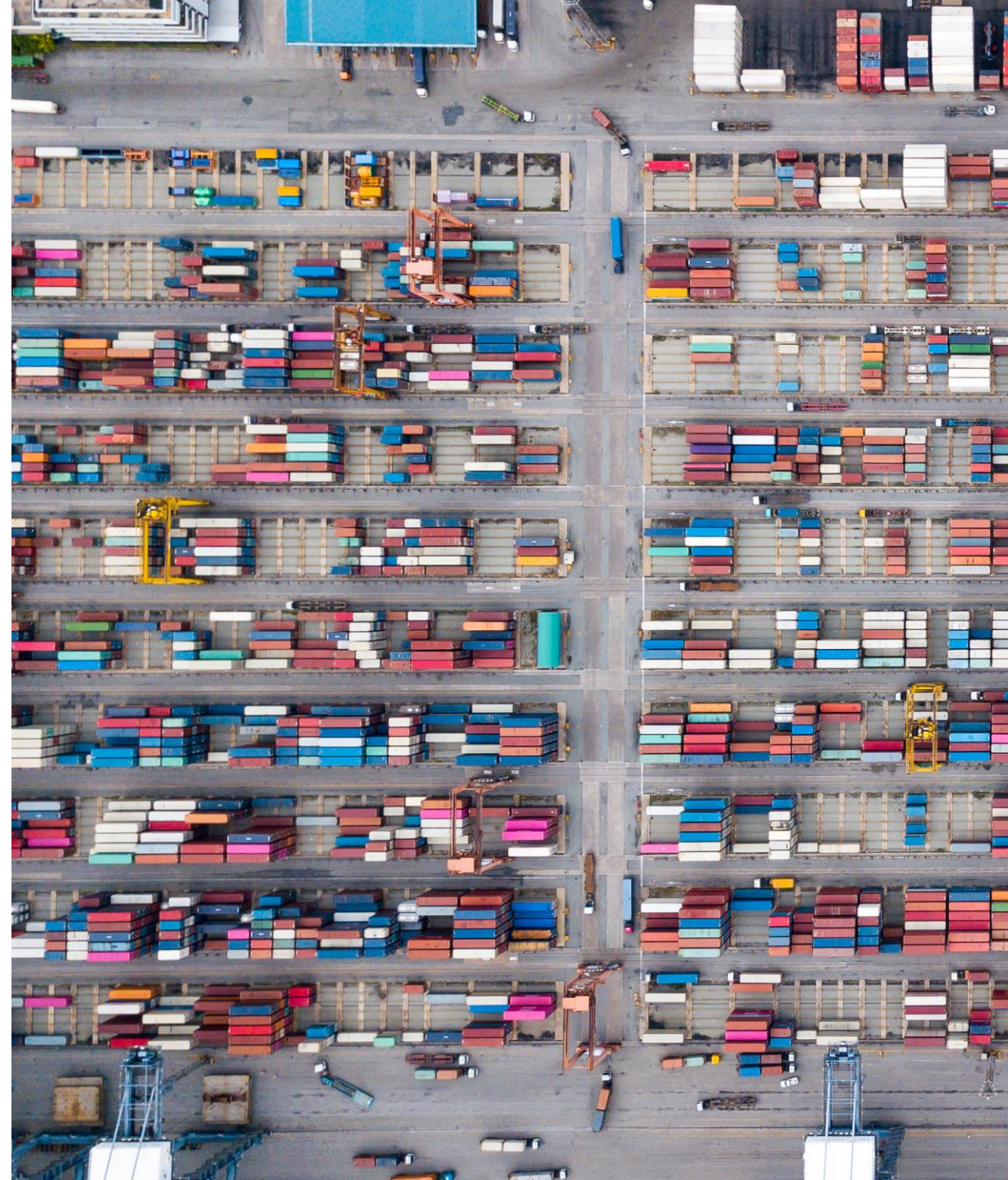
The vision of the DCSA is to pave the way for interoperability in the container shipping industry through digitization and standardization. It is the DCSA's mission to represent, lead and serve the container shipping industry for safer, more secure and efficient operations of container shipping companies. The DCSA Industry Blueprint 2.0 in particular aims at increasing the level of common standards and at 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.



What is the context of the DCSA Industry Blueprint 2.0?



Industry Blueprint – Container Shipping 2.0



Selected carrier processes have been mapped to facilitate standardisation and digitisation of the industry.

PURPOSE

1. Standards support a **common view across the industry** in relation to processes, milestones, events and messages, facilitating industry standardisation and digitisation 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 as well as related to sharing operational vessel schedules with partners and operational service providers
3. Processes which are considered critical for industry digitisation and standardisation efforts
4. Processes which are not considered commercially sensitive or of competitive advantage

Industry Blueprint – Container shipping

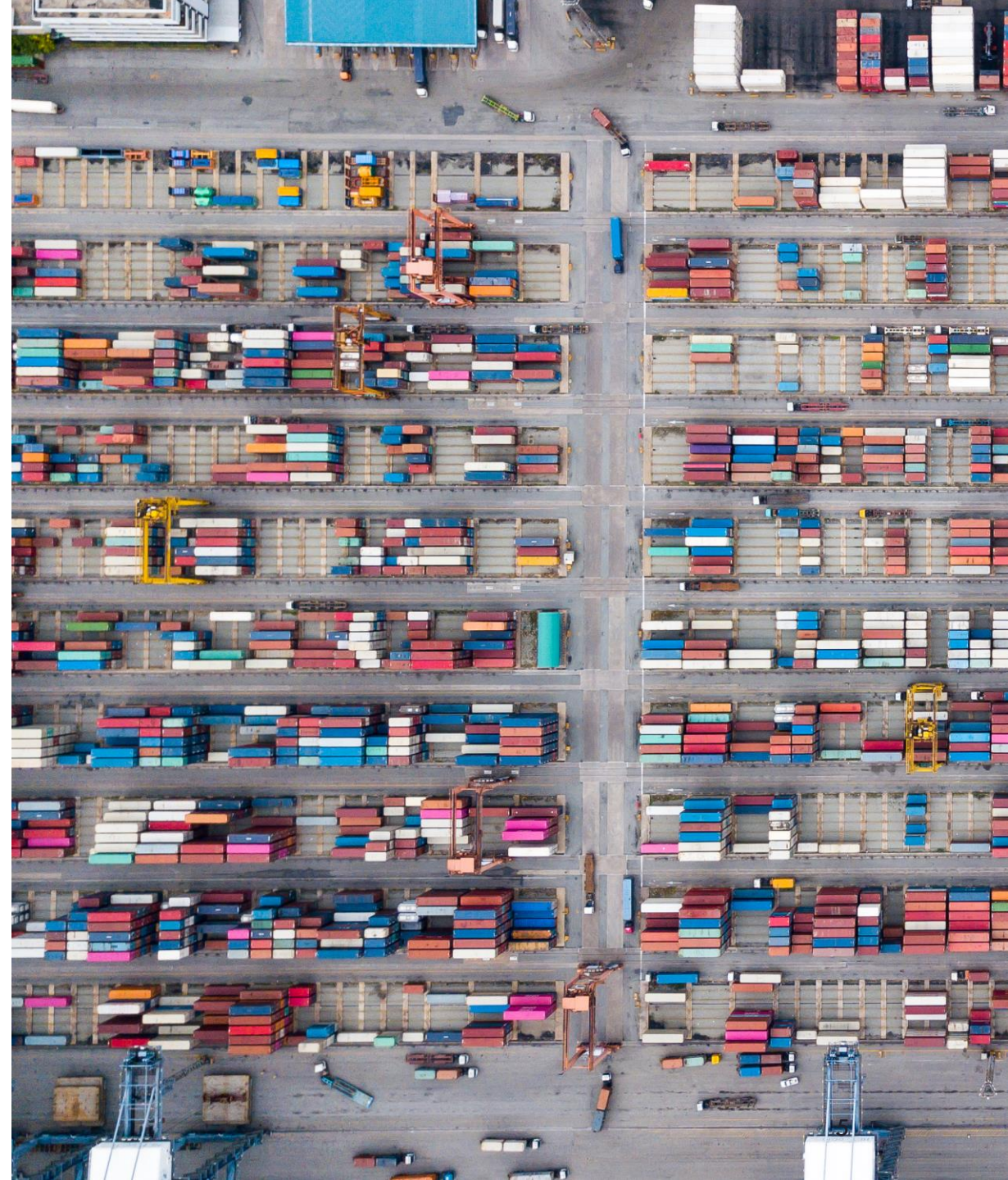
Structure



**A multi-layered
Industry Blueprint**



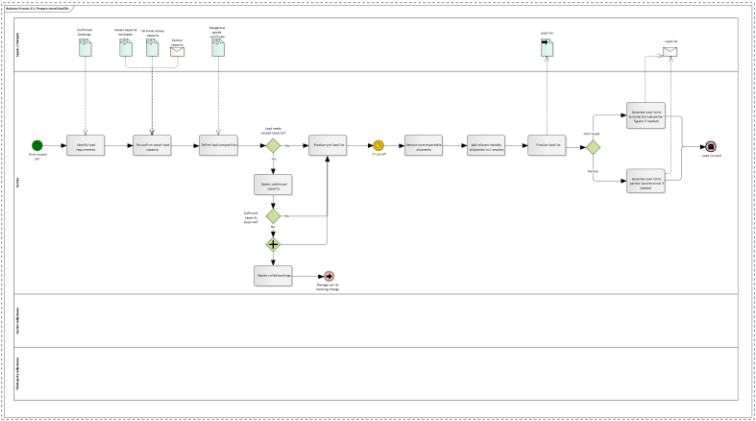
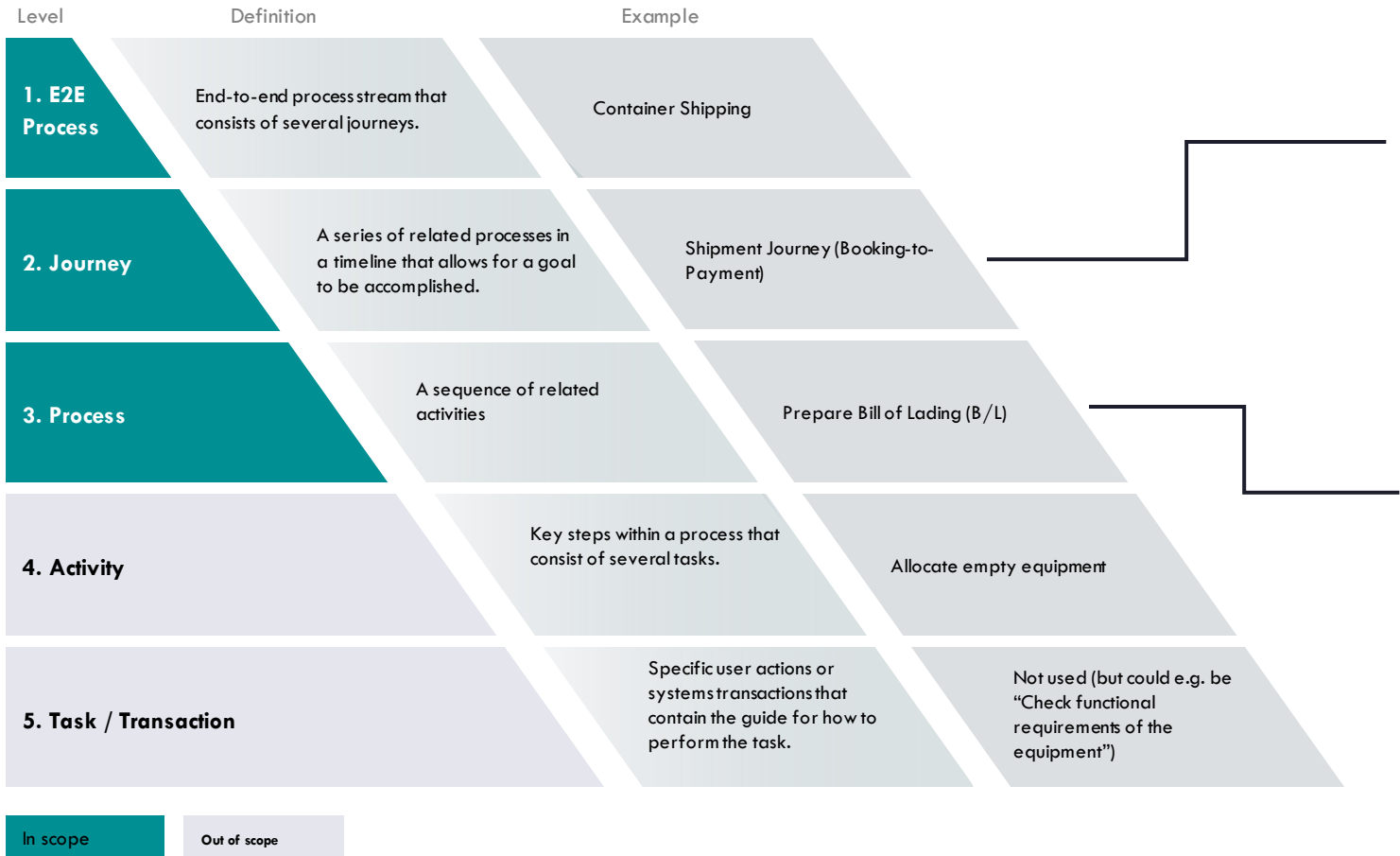
**The journey-based
structure**



A Multi-layered Industry Blueprint



The Industry Blueprint – Container Shipping 2.0 is designed as a multi-level model, where users can expand each element to achieve a higher level of detail and granularity. The following process terms (L1, L2, L3) are necessary to understand how the Industry Blueprint process maps have been designed.



The Journey-based Structure

Consensus has been reached on the overall structure and key design principles for the Industry Blueprint— Container Shipping 2.0.



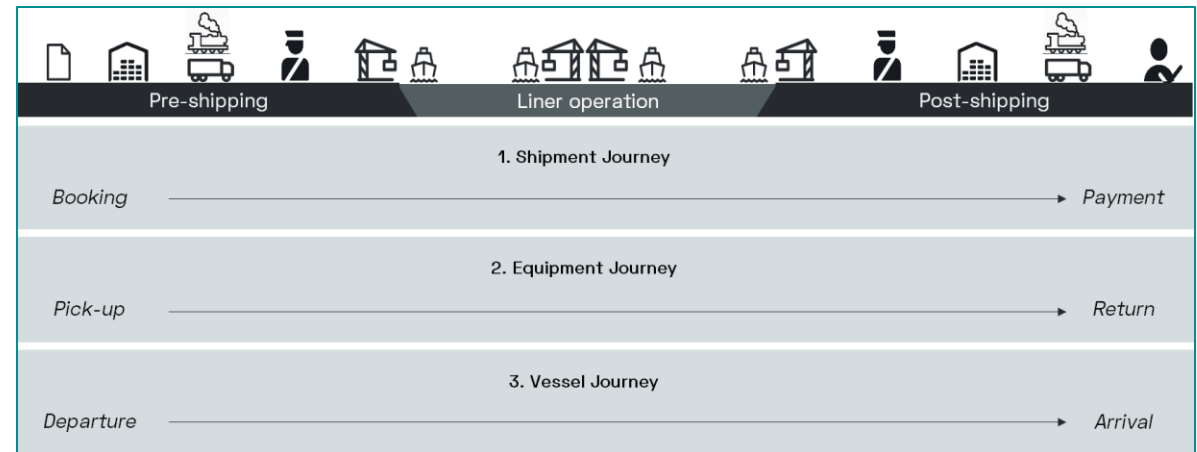
The journey-based structure

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

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

The three journeys are:

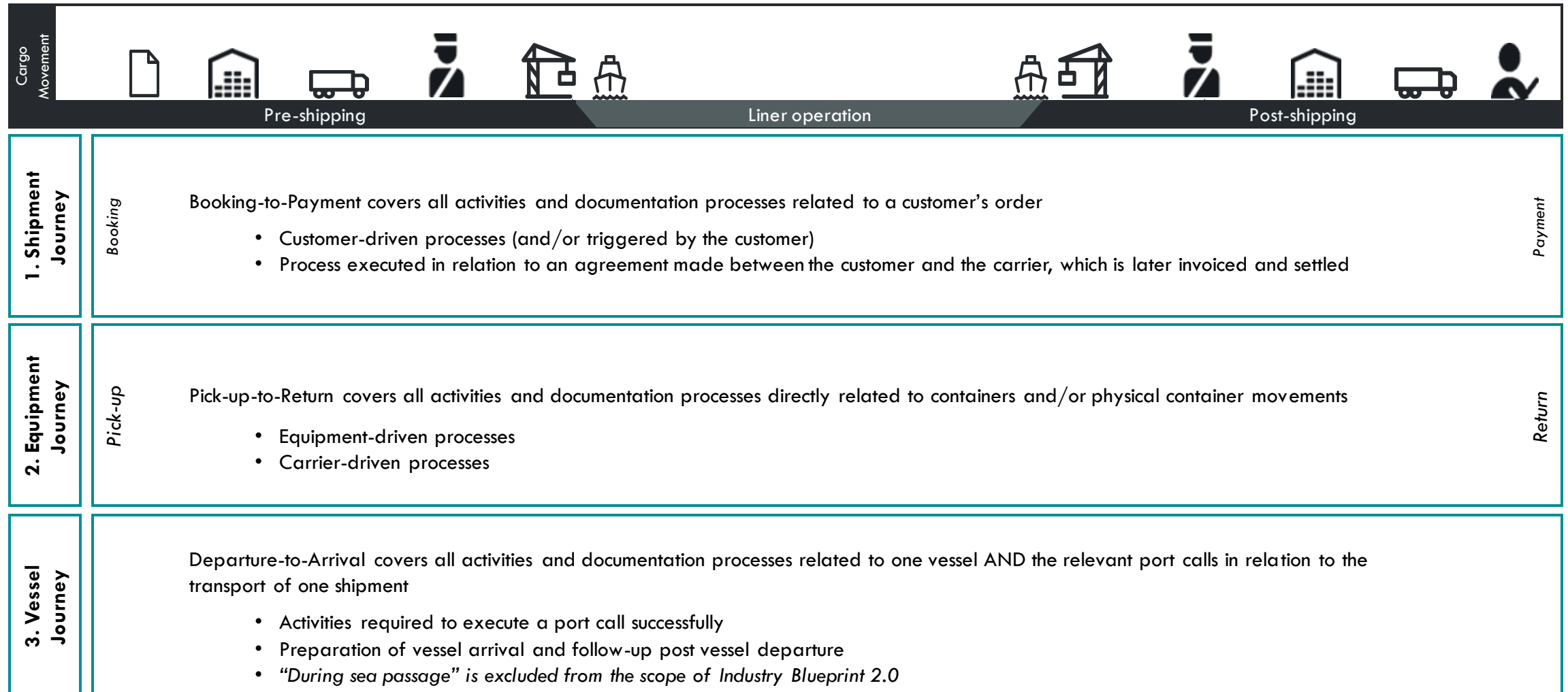
- Shipment journey (Order to Payment);
- Equipment journey (Pick-up to Return);
- Vessel journey (Departure to Arrival [incl. one port call]).



Level 1 Process Depiction



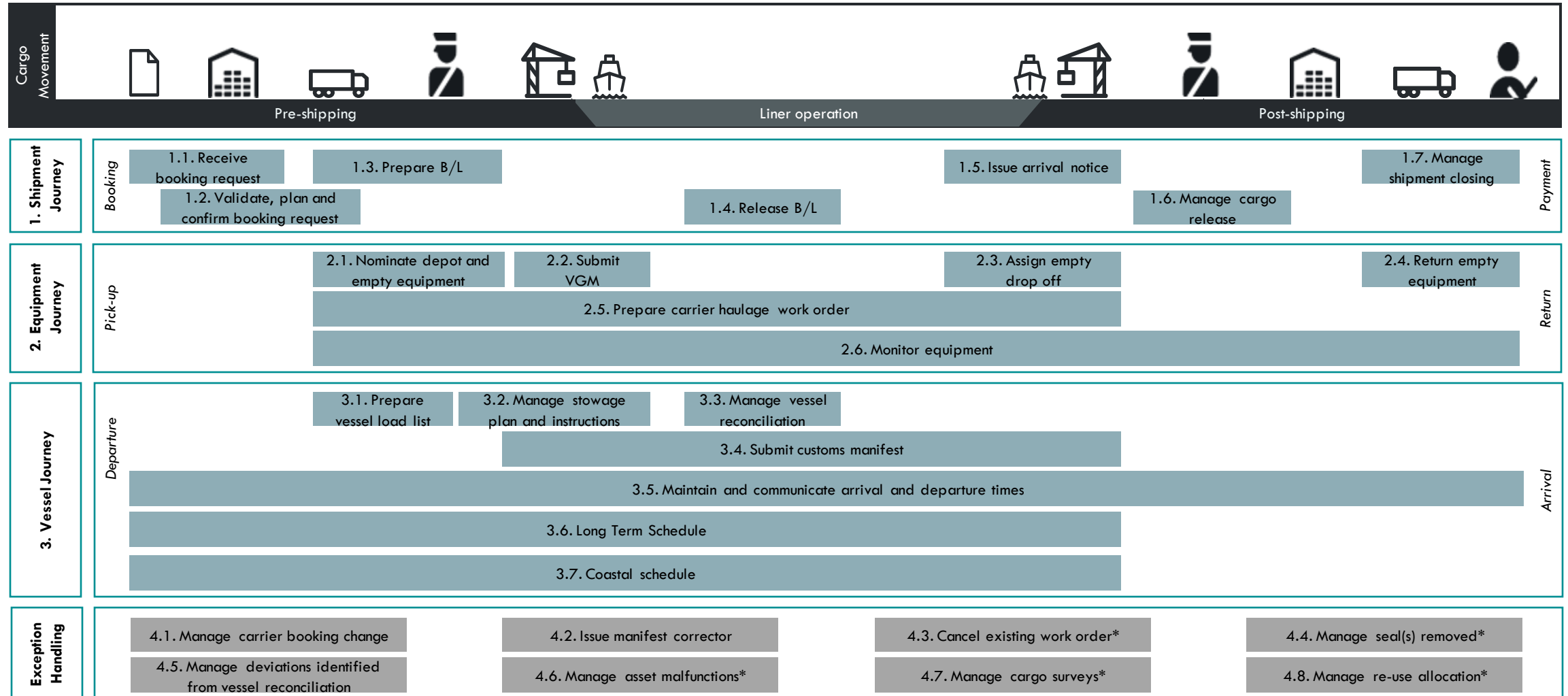
Definitions for Shipment Journey, Equipment Journey and Vessel Journey are included for the Level 1: Carrier Booking-to-Container Return end-to-end process.



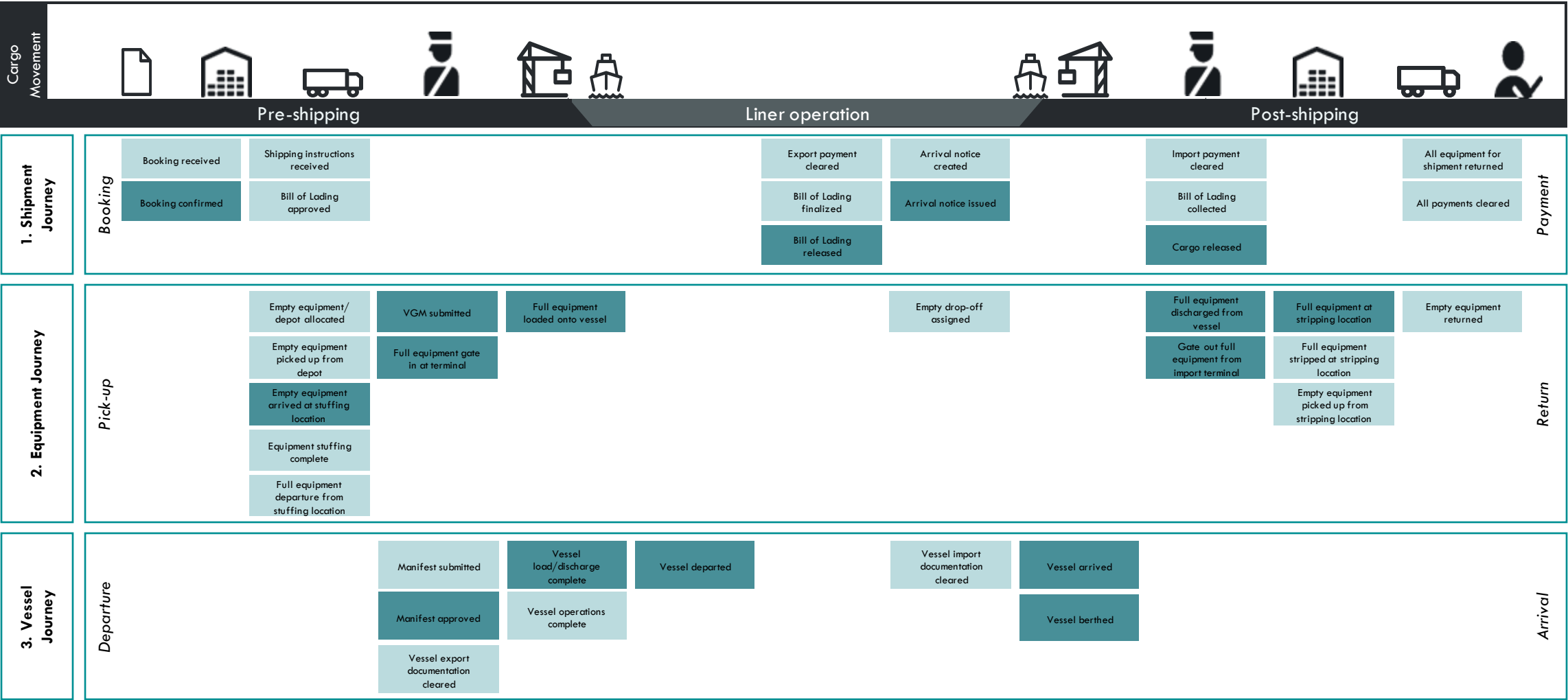
Level 1 Process Depiction



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 2.0 are listed below.



Milestone Depiction



Industry Blueprint – Container shipping

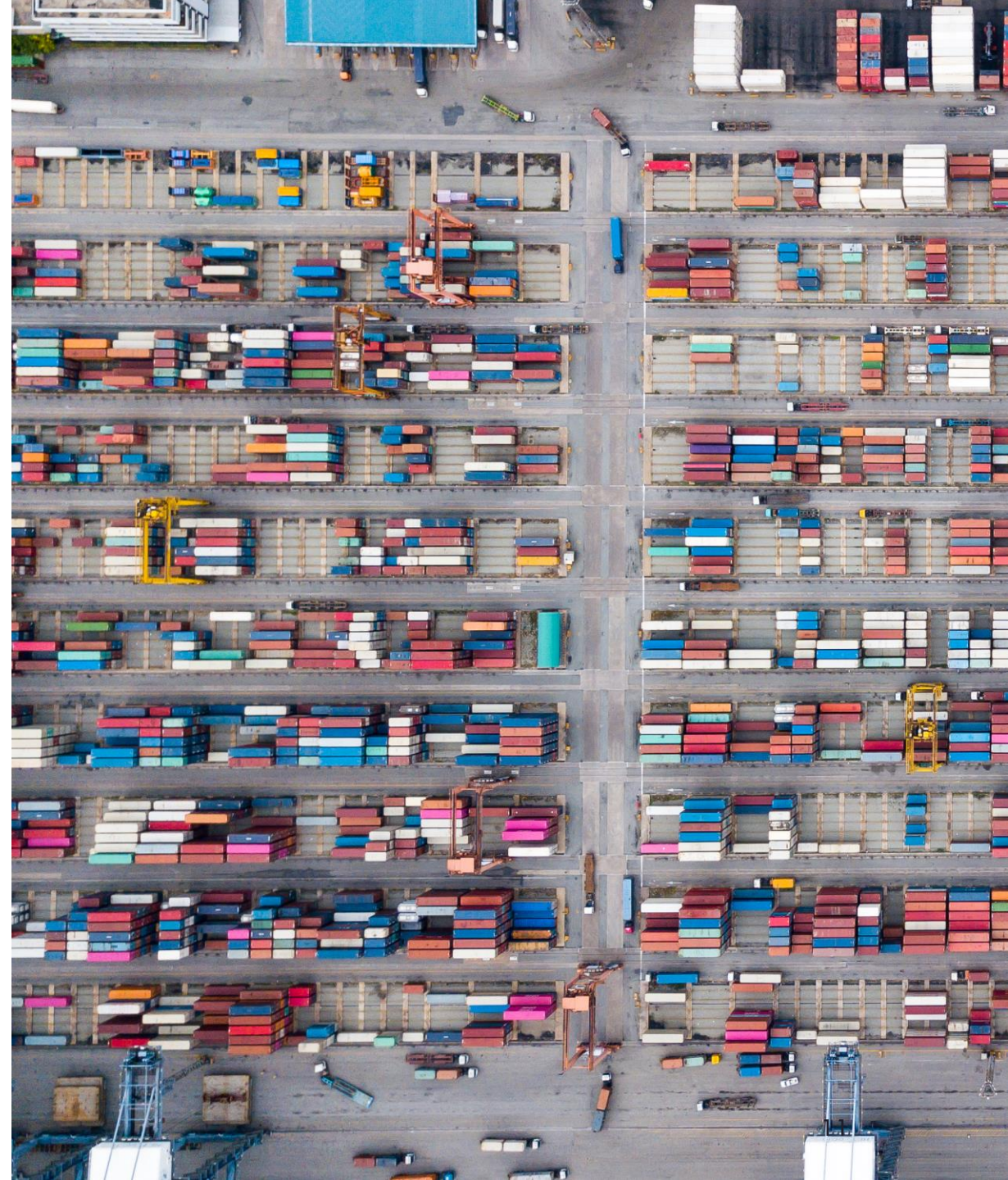
Legend



Map example



Elements & Icons



Map Example

The Industry Blueprint – Container Shipping 2.0 is a multi-layered end-to-end process description. Each map, regardless of aggregation level provides an overview of a specific process including activities, decisions, inputs/outputs and physical milestones.

Start Event

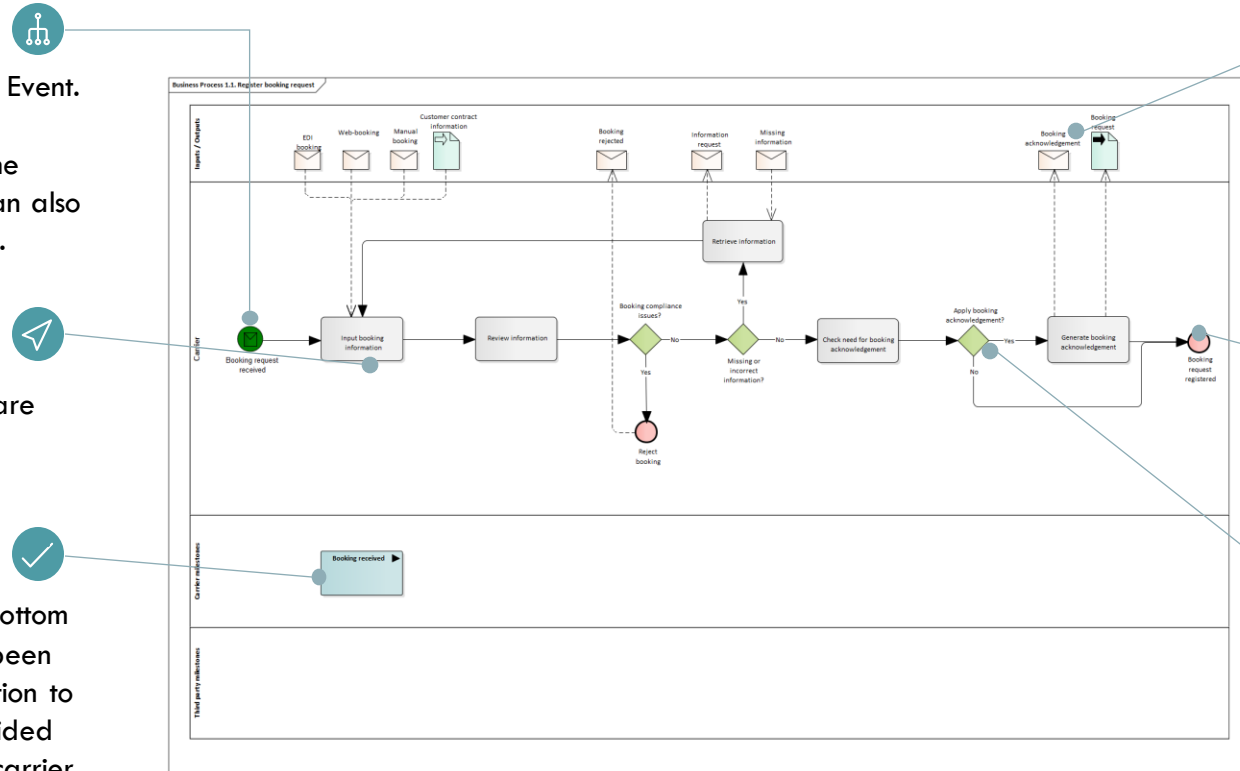
Each map is started using a Start Event. These are often specific events/occurrences that trigger the subsequent tasks. A Start Event can also be a link from a previous process.

Activities

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

Milestones

Milestones are contained in the bottom swim lanes. The milestones have been indicated to reflect 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 swim lane. These all relate to an activity, which is the trigger or recipient of the information/question.

End Events

The End Event illustrates the primary outcome or state obtained through the process. This can also be a link to another process.







Gateway

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

Elements and Icons




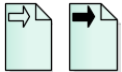



The elements used in the Industry Blueprint– Container Shipping 2.0 have been taken from standard Business Process Model Notation (BPMN), but with some minor alterations to allow for the specific needs of DCSA.

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 2.0.</p> <p>Timer: Used to indicate that a process is triggered based on specific timing or relative to the occurrence of a specific event.</p> <p>Message: Used to indicate that a process is triggered by the reception of a message (e.g. a booking, a document or file).</p> <p>Other trigger: Used when the process is triggered by something other than the two previous events, or when the trigger is undefined or non-standardized.</p>
	Intermediate Event	<p>The intermediate event signifies an occurrence that 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>Message: Used to indicate that the final outcome of a process is a message sent.</p> <p>Error: Used to indicate that the process outcome is to handle the process error outside of the defined process flow.</p> <p>Other outcome: Used when the process is concluded with an outcome other than the two previous events, or when the result is undefined or non-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 another 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>Activity is 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 exists for the specific Activity. If the rounded rectangle has a thin edge, it is a global process, meaning it is a process that originates somewhere else in the process landscape.</p>

Elements and Icons

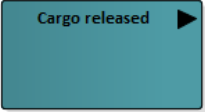
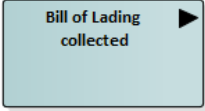

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Symbol	Meaning	Description
	Gateway	<p>A gateway is used to control the divergence of sequence flows in a process. It will determine the branching of paths in a process. Three types of Gateways are used in the DCSA Industry Blueprint.</p> <p>Exclusive Gateway (empty square): This is applied as an either/or statement. It is used when only one of the alternative outcomes can occur in each instance of the process.</p> <p>Inclusive Gateway (square with a circle): This is applied as an and/or statement. It means that several outcomes can occur for a single instance of the process based on the judgement of the reader.</p> <p>Parallel Gateway (square with a cross): This is 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 are performed in a process.
	Data Flow	A Data Flow is used to illustrate to or from an activity. The information can either be in the form of data or messages.
	Data Object	Data Objects in the DCSA Industry Blueprint are defined as data or information that is used or produced by a certain activity. The data associated with Data Objects is 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. The DCSA Industry Blueprint defines Messages as an illustration of external communication. This means communication between a carrier and a third party.

Elements and Icons



The elements used in the Industry Blueprint— Container Shipping 2.0 have been taken from standard Business Process Model Notation (BPMN), but with some minor alterations to allow for the specific needs of DCSA.

Symbol	Meaning	Description
	Milestone	Milestone icons have been included in the Industry Blueprint 2.0 to indicate the completion or status change of a significant occurrence. Milestones are defined as: <i>"A significant occurrence or change of status affecting the process flow of physical or immaterial equipment or documents."</i>
	Events	Event icons have been included in the Industry Blueprint 2.0 to indicate the completion or status change of less significant occurrences. Events 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 DCSA Industry Blueprint are used to group information belonging to specific categories. In DCSA publications, four different swim lanes are used: Inputs/Outputs: Used to group information elements (messages and data objects) that flow in and out of the process. Carrier: Used to group process activities carried out by the carrier. Carrier milestones: Used to group milestones/events that have been generated by or are in the carrier's realm of control. Conditional carrier milestones: Used to group milestones that are not mandatory for the process but have been generated by or are in the carrier's realm of control. Third party milestones: Used to group milestones that are outside the carrier's realm of control yet potentially relevant for tracking or other purposes.

Industry Blueprint – Container shipping

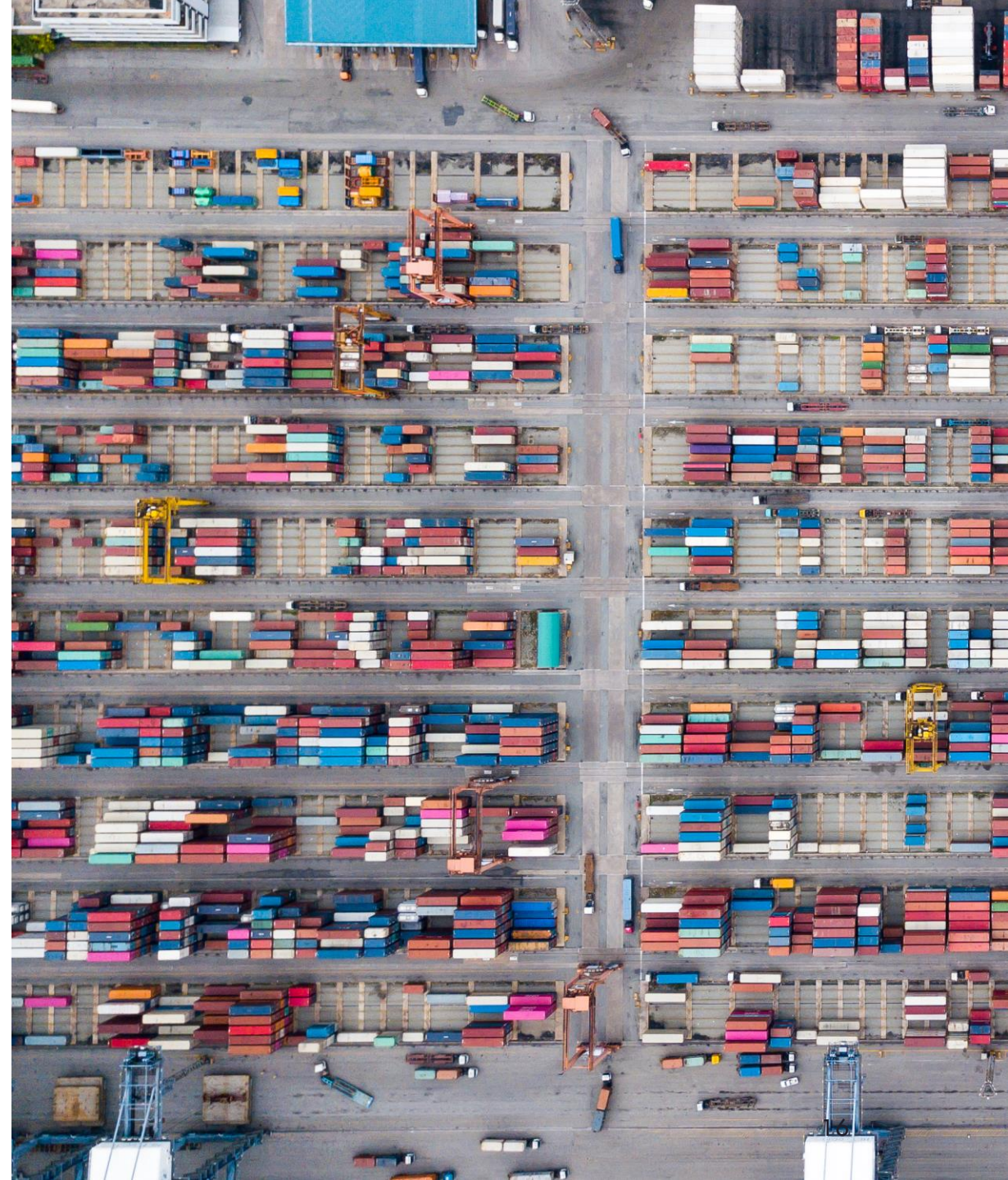
Supporting documents & feedback



Industry Blueprint
2.0 documents

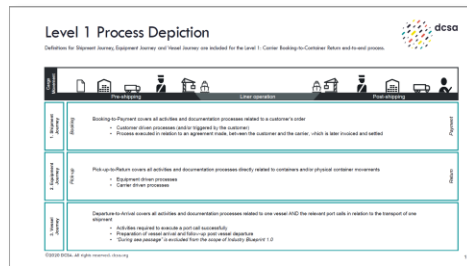


Contribute



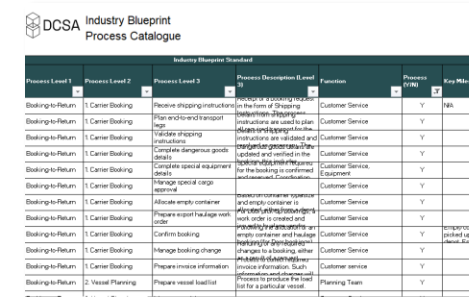
Industry Blueprint 2.0 Documents

The Industry Blueprint 2.0 consists of a series of process maps; however, a number of documents have been created to support the use and value of the maps. These documents should be seen as supporting elements, which can further increase understanding and insights gained from the process maps.



Industry Blueprint – Container Shipping 2.0

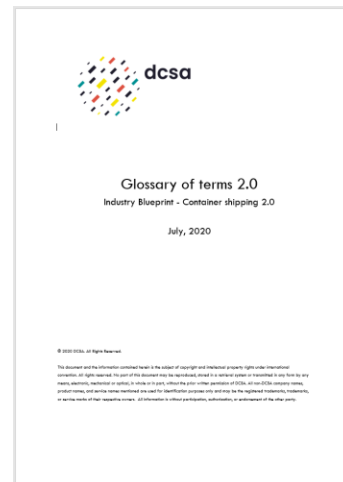
The process maps are the backbone of the Industry Blueprint 2.0. The multi-layered model allows the reader to drill down into each process to increase the level of detail.



Process Level 1	Process Level 2	Process Level 3	Process Description Level 3	Function	Process ID	Key Milestones
Booking-to-Return	1: Center Booking	Receive shipping instructions	Receive shipping instructions in the form of Shipping Instructions (SI) from the customer.	Customer Service	Y	N/A
Booking-to-Return	1: Center Booking	Plan and send transport logs	Plan and send transport logs to the customer.	Customer Service	Y	
Booking-to-Return	1: Center Booking	Validate shipping instructions	Validate shipping instructions are updated and verified in the system.	Customer Service	Y	
Booking-to-Return	1: Center Booking	Complete dangerous goods declaration	Complete dangerous goods declaration for the booking.	Customer Service	Y	
Booking-to-Return	1: Center Booking	Complete special equipment declaration	Complete special equipment declaration for the booking.	Customer Service	Y	
Booking-to-Return	1: Center Booking	Manage special cargo request	Manage special cargo request for the booking.	Customer Service	Y	
Booking-to-Return	1: Center Booking	Allocate empty container	Allocate empty container to the booking.	Customer Service	Y	
Booking-to-Return	1: Center Booking	Prepare export haulage work order	Prepare export haulage work order for the booking.	Customer Service	Y	
Booking-to-Return	1: Center Booking	Confirm booking	Confirm booking for the booking.	Customer Service	Y	
Booking-to-Return	1: Center Booking	Manage booking change	Manage booking change for the booking.	Customer Service	Y	
Booking-to-Return	1: Center Booking	Prepare invoice information	Prepare invoice information for the booking.	Customer Service	Y	
Booking-to-Return	2: Vessel Planning	Prepare vessel loadlist	Prepare vessel loadlist for the booking.	Planning Team	Y	

Process catalogue

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 of their original process documentation.



Glossary of Terms

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 ensure that all readers interpret the terms in the same way.



Reading guide (this document)

The current document is a reading guide, which is recommended to read before using the Industry Blueprint 2.0. This has been created to facilitate proper use and understanding of the Industry Blueprint 2.0, as well as to make clear its limitations.

Contribute

The DCSA Industry Blueprint will be expanded with more data elements as DCSA continues to standardise the inter-operational aspects of the container shipping industry. This will be done based on our ongoing collaboration with industry stakeholders.

Creation process

The DCSA Industry Blueprint has been created in collaboration with some of the world's largest shipping companies. The collection and consolidation of data documentation was carried out by the DCSA. The DCSA Industry Blueprint aims to create a representation of industry data references, data descriptions and data relationships.

Suggested improvements

The DCSA Industry Blueprint is an evolving document, which will change as processes and best practise across the industry change.

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

If you have any feedback or input, please click 'Contact' on our web site.



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THANK YOU