Digital Container Shipping Association

34th UN/CEFACT Forum

London, October 2019
The DCSA in one view
Representing over 70% of the container shipping industry

SUPERVISORY BOARD

ANDRÉ SIMHA
CIO
MSC

RAJESH KRISHNAMURTHY
SVP IT & Transformations
CMA CGM

ADAM BANKS
CITO
Maersk

NORIAKI YAMAGA
MD Corporate & Innovation
ONE

MARTIN GNASS
MD Information Technology
Hapag-Lloyd

5 FOUNDING MEMBERS

CMA CGM
Hapag-Lloyd

MANAGEMENT

Thomas Bagge
MD and CEO

Over the past twelve years, Thomas has been involved in various transformation activities in Maersk covering people, process and technology.

Henning Schleyerbach
COO

Henning has spent more than 20 years at Hapag-Lloyd, leading various international projects and strategic initiatives. His broad experience in the industry, ranging from IT to customer relations, makes him the natural driver for digital transformation as COO of DCSA.
About DCSA

Established in April 2019, the Digital Container Shipping Association focuses on developing standards for IT and Business processes

A new governing body is born

CMA CGM, ONE, Hapag Lloyd, MSC and Maersk establish the Digital Container Shipping Association
Key objectives of the DCSA

Identified key objectives are not met by any of the existing governing bodies, thus it required the establishment of a new governing body.

- Represents the container shipping industry
- Develops standards for IT and business
- Efficient, safe and secure operations
- Simplifies and harmonizes the value chain
- Explores innovative and disruptive technologies
Standardization

Open standards rely on a broadly consultative and inclusive group

- Reduced operational cost
- Increased interoperability
- Greater reliability
- Increased productivity
- Greater scalability

“Standards form the basis for the efficiency of an industry and the introduction of new technologies and innovations”
Industry Blueprint (P4)
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 are listed below.

<table>
<thead>
<tr>
<th>Cargo Movement</th>
<th>Pre-shipping</th>
<th>Liner operation</th>
<th>Post-shipping</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Shipment Journey</td>
<td></td>
<td>2. Equipment Journey</td>
<td></td>
</tr>
<tr>
<td>Booking</td>
<td>1.1. Receive booking request</td>
<td>2.1. Nominate depot and empty equipment</td>
<td>1.5. Issue arrival notice</td>
</tr>
<tr>
<td></td>
<td>1.2. Validate, plan and confirm booking request</td>
<td>2.2. Submit VGM</td>
<td>1.6. Manage cargo release</td>
</tr>
<tr>
<td></td>
<td>1.3. Prepare B/L</td>
<td>2.3. Assign empty drop off</td>
<td>1.7. Manage shipment closing</td>
</tr>
<tr>
<td></td>
<td>1.4. Release B/L</td>
<td>2.5. Prepare carrier haulage work order</td>
<td>1.8. Return empty equipment</td>
</tr>
<tr>
<td></td>
<td>2.6. Monitor equipment</td>
<td></td>
<td>2.4. Return empty equipment</td>
</tr>
<tr>
<td>3. Vessel Journey</td>
<td>3.1. Prepare vessel load list</td>
<td>3.2. Manage stowage plan and instructions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.3. Manage vessel reconsiliation</td>
<td>3.4. Submit customs manifest</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.5. Maintain and communicate arrival and departure times</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Exception Handling  |                               |                               |                               |
| 4.1. Manage carrier booking change | 4.2. Issue manifest corrector | 4.3. Cancel existing work order* | 4.4. Manage seal(s) removed* |
| 4.2. Issue manifest corrector | 4.3. Cancel existing work order* | 4.5. Manage deviations identified from vessel reconciliation | 4.4. Manage seal(s) removed* |
| 4.3. Cancel existing work order* | 4.5. Manage deviations identified from vessel reconciliation | 4.6. Manage asset malfunctions* | 4.4. Manage seal(s) removed* |
| 4.4. Manage seal(s) removed* | 4.5. Manage deviations identified from vessel reconciliation | 4.7. Manage cargo surveys* | 4.5. Manage deviations identified from vessel reconciliation |

*: These processes have not been mapped on level 3 in initial Industry Blueprint 1.0
Data & Interface Standards (P1)
Data & Interface Standards: Tracking 2019

How can standardization support the flow of information channelled through tracking interfaces across the industry?

**PROBLEM:**
Tracking data not defined the same way, causing breakdowns, confusion and tailormaking

**SOLUTION:**
Standardize tracking requirements and data definitions across the industry

**REQUIREMENT:**
Stay technology agnostic, legacy and new solutions should be able to adopt

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**Project 1 Data & Interface Standards – Targets 2019**

<table>
<thead>
<tr>
<th>Tracking Standards</th>
<th>Publish industry standards for tracking, focusing on information requirements and data definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardization Review</td>
<td>Review existing standards and initiatives, secure reuse of standards whenever applicable</td>
</tr>
<tr>
<td>Information Model</td>
<td>Select reference information model for the industry, secure standardized data definitions and rules</td>
</tr>
</tbody>
</table>
Portfolio 2020
IoT network connectivity model

Ensuring a connectivity model for smart containers in all stages of the container shipping process.
Deep dive
Links Between DCSA Proposals

The Industry Blueprint is the top layer of the framework of DCSA standards. The Industry Blueprint enables standards to be driven from a business perspective through the definition of use cases for which standards of other layers can be mapped and defined.
Industry Blueprint 1.0 Documents

The Industry Blueprint 1.0 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. Published on dcsa.org August 29, 2019

Industry Blueprint 1.0 Process Maps
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.

Industry Blueprint 1.0 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 to their original process documentation.

Industry Blueprint 1.0 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 make sure, that all readers are interpreting the terms used in the same way.

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

1. **Shipment Journey**
   - **Pre-shipping**
     - 1.1. Receive booking request
     - 1.2. Validate, plan and confirm booking request
   - **Liner operation**
     - 1.3. Prepare B/L
     - 1.4. Release B/L
     - 1.5. Issue arrival notice
   - **Post-shipping**
     - 1.6. Manage cargo release
     - 1.7. Manage shipment closing

2. **Equipment Journey**
   - **Pick-up**
     - 2.1. Nominate depot and empty equipment
     - 2.2. Submit VGM
     - 2.3. Assign empty drop off
     - 2.4. Return empty equipment
     - 2.5. Prepare carrier haulage work order
     - 2.6. Monitor equipment
   - **Departure**
     - 3.1. Prepare vessel load list
     - 3.2. Manage stowage plan and instructions
     - 3.3. Manage vessel reconciliation
     - 3.4. Submit customs manifest
     - 3.5. Maintain and communicate arrival and departure times

3. **Vessel Journey**
   - **Arrival**
   - **Exception Handling**
     - 4.1. Manage carrier booking change
     - 4.2. Issue manifest corrector
     - 4.3. Cancel existing work order
     - 4.4. Manage seal(s) removed
     - 4.5. Manage deviations identified from vessel reconciliation
     - 4.6. Manage asset malfunctions
     - 4.7. Manage cargo surveys
     - 4.8. Manager-use allocation

*: These processes have not been mapped on level 3 in initial Industry Blueprint 1.0

Core process

Exception process (Not aligned with the "Cargo movement" diagram)
Process and data standards tied together?

DCSA Industry Blueprint 1.0
Shipping Industry Process Standards
launched on dcsa.org Aug 29, 2019

Reference Data Standards
SMDG, BIC, IMO, ISO types etc.

UN/CEFACT Reference Data Models
EDIFACT, edi3, Smart Container etc.
open data language of global transportation
DCSA Information Model as "translator"

DCSA Industry Blueprint 1.0
"Business Language"

DCSA Information Model 1.0
"Data Language" – work in progress

UN/CEFACT Reference Data Models
DCSA IM will enable actors to map w/ shipping

Reference Data Standards

Data & Interface Standards #1
Tracking – work in progress.
Specific topic: Consignment vs. Shipment

Ongoing discussion on how to define shipment vs. consignment: “Shipment” is included in the IIBP 1.0, but not ‘Consignment’. IT specialists say that we ‘track the consignment’. Business specialists say that we ‘track the shipment’. To be resolved terms in DCSA IM 1.0

Shipment/Delivery

A shipment is an identifiable collection of one or more trade items available to be transported together from the seller (original consignee or shipper) to the buyer (final ultimate consignee).

- A shipment can only be designated for one buyer.
- A shipment can be made up of single or multiple transport items and/or trade items from one or more sales orders.
- A shipment can have only one customs Unique Consignment Reference (UCR).
- A shipment may partake in or all of a consignment or may be transported in different consignments.

Consignment [Transport Service order]

A consignment is a reporting, information collection or consignment items available to be transported from one consignor to one consignee via one or more modes of transport as specified in one single transport service contract document.

- A consignment can only have one consignor.
- A consignment can only have one consignee.
- A consignment can only have one transport service provider (TSP).
- A consignment can only have one transport service buyer (also transport service consumer – TSC).

- The transport service buyer can be either the consignor or the consignee.
- A consignment may refer to one or more shipments.
- A consignment is made up of one or more consignment items.
- A consignment can be made up of one or all trade items belonging to consignment items from one or more shipments.
- A consignment related to transport equipment used for the implementation of the transport service and consists of consignment items.
- A consignment is made up of one or more customs UCRs.
- A consignment can have one or more customs UCRs.
Data & Interface Standards for Tracking

Standards needs to be technology agnostic, the upcoming release for Tracking will document data standards and interface requirements for the container shipping industry.

**CURRENT SITUATION:**
Tracking data not defined the same way, causing breakdowns, confusion and tailor-making across parties.

**SOLUTION:**
Standardize tracking information requirements and data definitions across the industry.

**REQUIREMENT:**
Stay technology agnostic, tracking interfaces have many forms and formats.

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**Project 1 Data & Interface Standards – Targets 2019**

- **Tracking Standards**: Publish industry standards for tracking, focusing on information requirements and data definitions.
- **Standardization Review**: Review existing standards and initiatives, secure reuse of standards whenever applicable.
- **Information Model**: Select reference information model for the industry, secure standardized data definitions and rules.
Thank you.

Digital Container Shipping Association