International Taskforce

Port Call Optimization

Content – update 29/06/21

- Who is ITPCO
- Why did we start
- What is the scope
- Road map nautical data
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- FAQ
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Who is International Taskforce Port Call Optimization?

The Taskforce:

- Started in January 2014
- Comprises subject matter experts with hands on expertise in shipping, ports and standards
- Works together with Non-Governmental Organizations to make submissions to robust standardization bodies to formalize existing industry practices
- Provides input to Chainport, DCSA, IAPH Data Collaboration, IMO GIA low carbon shipping, Navelink, STM, WorldBank, WPCAP
- As a neutral body, consults but does not promote solution providers

Why did we start?

Initiator:

- Request from shipping to improve port call data quality and availability to IHMA

Followed by:

- IMO MEPC 323/74: call for action to improve quality and availability of data in ship-port interface

International Harbour Masters Association

RESOLUTION MEPC.323(74)
(adopted on 17 May 2019)

INVITATION TO MEMBER STATES TO ENCOURAGE VOLUNTARY COOPERATION BETWEEN THE PORT AND SHIPPING SECTORS TO CONTRIBUTE TO REDUCING GHG EMISSIONS FROM SHIPS

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

HAVING ADOPTED resolution MEPC.304(72) on the *Initial IMO Strategy on reduction of GHG emissions from ships* (hereinafter the Initial Strategy),

NOTING that the Initial Strategy calls for the encouragement of port developments and activities globally to facilitate reduction of GHG emissions from shipping, including provision of ship and shoreside/onshore power supply from renewable sources, infrastructure to support supply of alternative low-carbon and zero-carbon fuels, and to further optimize the logistic chain and its planning, including ports,

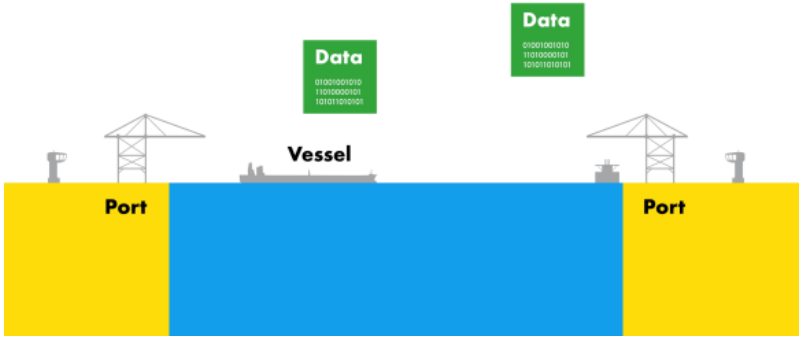
Why is port call data important?

- To improve safety, security and environmental performance to address financial concerns, and encourage innovation and efficiency (IMO)
- Most cost-efficient way to do it

What is the scope of port call data?

Focus: vessel movement from Pilot Boarding Place to Berth:

- Realizing safe and sustainable navigation: where is my Pilot Boarding Place and berth, when are they safe and available?
- Important for shipping, shippers, terminals and ports



Related: vessel's cargo movement:

- Realizing sustainable end to end supply chain: where are my goods?
- Important for shippers

Why is a global approach important?

Many different parties per vessel per port call:

- Shipping operates in a network of up to 8.000 (1) different ports
- Each port has many different suppliers of cargo and ship services
- Ports can receive up to 98.000 (2) different ships
- Each ship can have many different cargo owners, especially containers ships with 24.000 TEU
- Data owners like to share data one to many globally, to minimize administrative burden, errors, delays in updates

(1) Lloyds Maritime Atlas (2) UNCTAD report ship of more than 100 GT

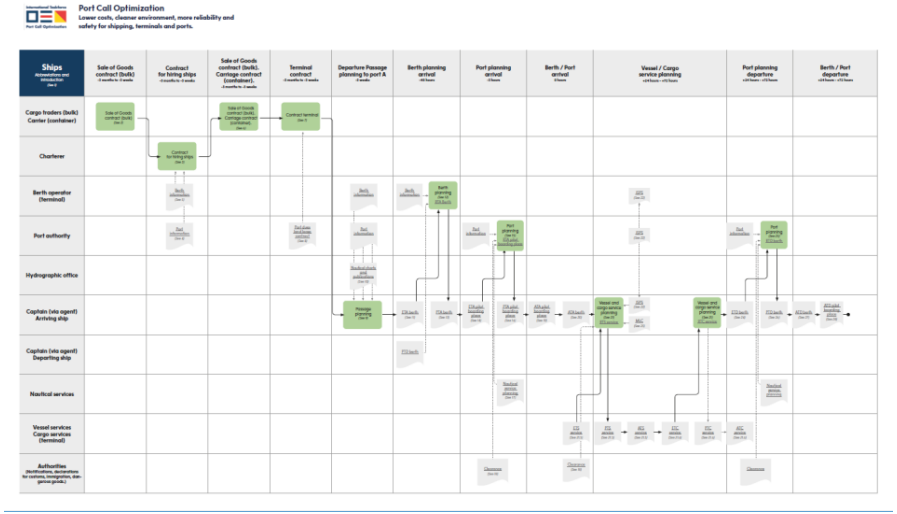
For a global approach we need a strong and global agenda

1) Agree on business process of port calls
2) Agree on minimum scope of data
3) Agree on robust standardization bodies
4) Agree on non-technical standards
5) Agree on technical standards
6) Develop incentives for data owners
7) Develop guidance for data owners
8) Implementation

1) Agree on business process of port call

First understand complete scope of data, data owner ship and how actors work together, based on trade and port agnostic approach

- To identify total scope of data based on IMO regulations, BIMCO contracts and authorities; to be compliant first
- To identify data owners, important as data from other sources becomes corrupt and is not binding



2) Agree on minimum scope of data

Scoping to justify investments, based on basics first:

- To be compliant with IMO regulations, BIMCO contracts, and authorities
- To have impact on IMO objectives:
  - Safety
  - Environment
  - Security

3) Agree on robust standardization bodies

To ensure return on investments, only use standardization bodies for the road map which:

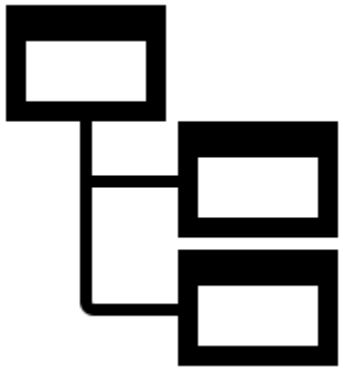
- Have commitment from shipping and ports: it is common sense and imperative that both use the same standardization bodies ensuring ships do not need converters for all ports and ports need only one converter for all ships
- Are robust: to avoid incompatibility between standards and systems, and ultimately futile investments into implementing standards that are not fit-for-purpose, not future proof or not viable for all stakeholders across the supply chain
- Ensure standards are being developed alongside existing standards and ensuring an overarching hierarchy
- For both non-technical and technical standards

4) Agree on non-technical standards

Non-technical standards:

- Data element definition; are we talking about same object
- Logical data model: what is the relation between data elements

Require strict definitions but need little to no maintenance



5) Agree on technical standards

Technical standards:

- API specifications: how can we transfer data from system to system
- Technical performance requirements: latency, security, confidentiality, availability, integrity
- Business performance requirements: accuracy, completeness and timeliness

Require active maintenance, as technology evolves

Both are needed for full interoperability for any API instance

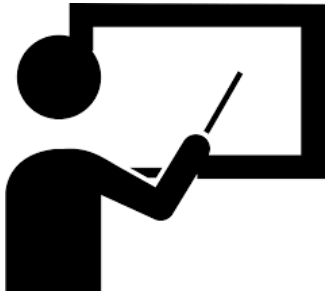
Both are commonly shared infrastructures; parties can develop initiatives on top of it which are compatible and ensure interoperability

6) Develop incentives for data owners

- Incentives are preferred over regulations
- Incentives are especially needed if benefits are experienced in international waters, and measures need to be realized in local waters

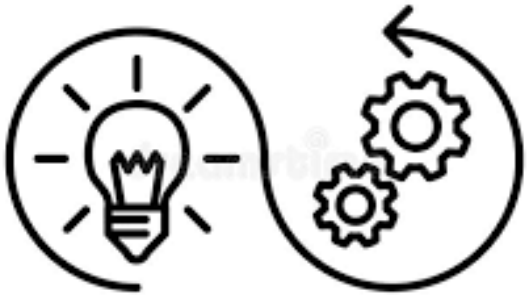
7) Develop guidance for data owners

- Most shipping lines and ports have limited IT resources
- Guidance is needed from respected organizations
- Guidance should cover green and brown field scenarios



8) Implementation

- Standards without implementation are a piece of paper on the shelf
- Implementation requires all before mentioned steps and is the finishing touch



Road map per data set

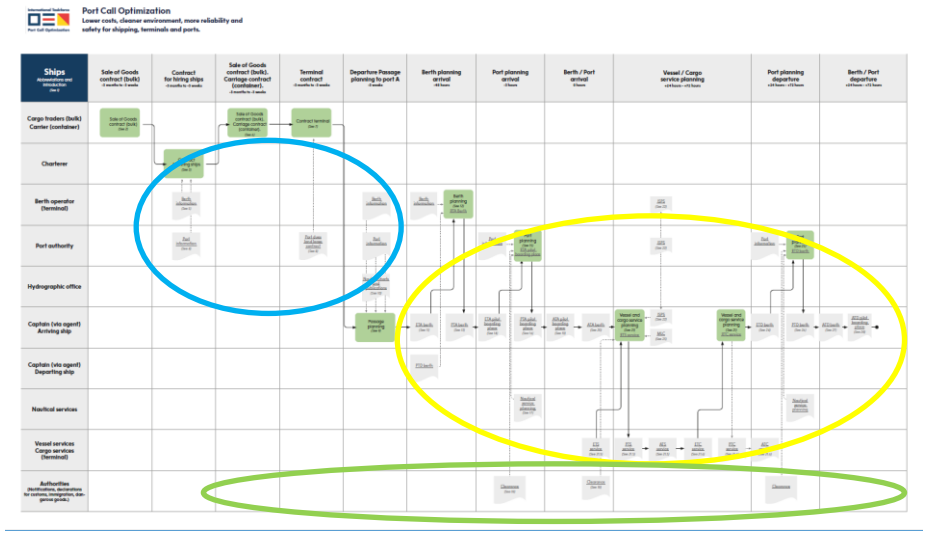
All these steps have been defined per data set in a road map:

1) Agree on business process of port calls
2) Agree on minimum scope of data
3) Agree on robust standardization bodies
4) Agree on non-technical standards
5) Agree on technical standards
6) Develop incentives for data owners
7) Develop guidance for data owners
8) Implementation

- Step 1) is not data set specific and has been completed
- Step 2) – 3) is data set specific and has been completed
- Step 4) – 8) is data set specific and is work in progress

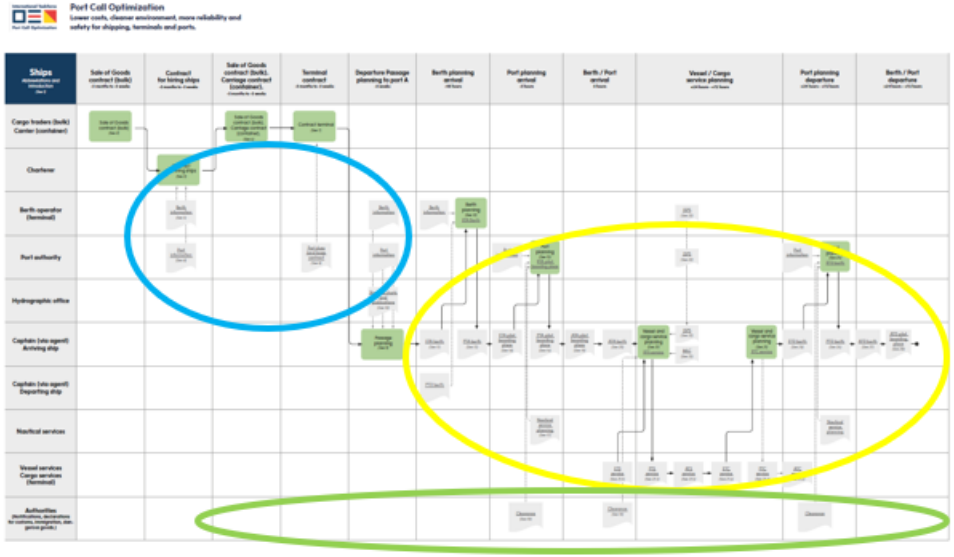
Identified data sets:

1) Nautical data: for safe navigation of the vessel
2) Administrative data: for clearance of authorities
3) Operational data: for planning of services



Road map

1) Nautical data
2) Administrative data
3) Operational data



1) Nautical data – example

Source: Terminal	Source: Port	Source: Nautical chart
APMTR	APM WZ & APM OZ EUROPAHAVN ZOZ	APM Terminal Rotterdam
Bollard 101 – 178	8179 – 8203 Bollard 101-178	8178 - 8203

1) Nautical data – Agree on minimum scope

Data sets:

a) General port data (e.g., contact info, tides, services)

b) Maintained depths and/or soundings

c) ID and location of terminals, berths and berth positions

All based on IMO BLU Code Appendix 1

Use case per data set:

a) To be compliant with IMO Resolution A.862(20)

b) To be compliant with IMO Resolution A.893(21)

c) To be compliant with IMO Resolution A.893(21)

For all data elements:

- To demonstrate due diligence / absolute warranty re. safe port clause
- To demonstrate due diligence that Hydrographic Office and Port Authority have worked together to discharge their collective SOLAS responsibilities

1) Nautical data – Agree on robust standardization body

Non-technical standards: IHO

- From the start working with national hydrographic offices to create standards for nautical charts
- Being robust party for both shipping and port sector; has 93 Member States

Technical standards: IHO together with Industry

- IHO: for ensuring nonprofit, neutral, trade agnostic and accepted standards
- Industry: for development, maintenance, testing and implementation

1) Nautical data – To do

Agree on non-technical standards:

- Continue to work on IHO S-131 – maximum 2 years – check
- Continue to work on weather and tidal forecast
- Check progress re. definitions UKC
- Child codes for terminals and berths for FAL 46 / S-131 with DCSA / TIC 4.0

Agree on technical standards:

- Data exchange POC as submission to S-131 – Based on S57 / S101

Develop incentives for data owners:

- Submission to update MS4 Port Support Service Q4/21 for FAL 46
- Submission to update SOLAS for berth-to-berth information Q4/21

Develop guidance for data owners:

- Draft IHMA / IHO Guide Q4/21
- Use of UNLOCODE / UTC in AIS Guide (Resolution A.917(22))

Implementation:

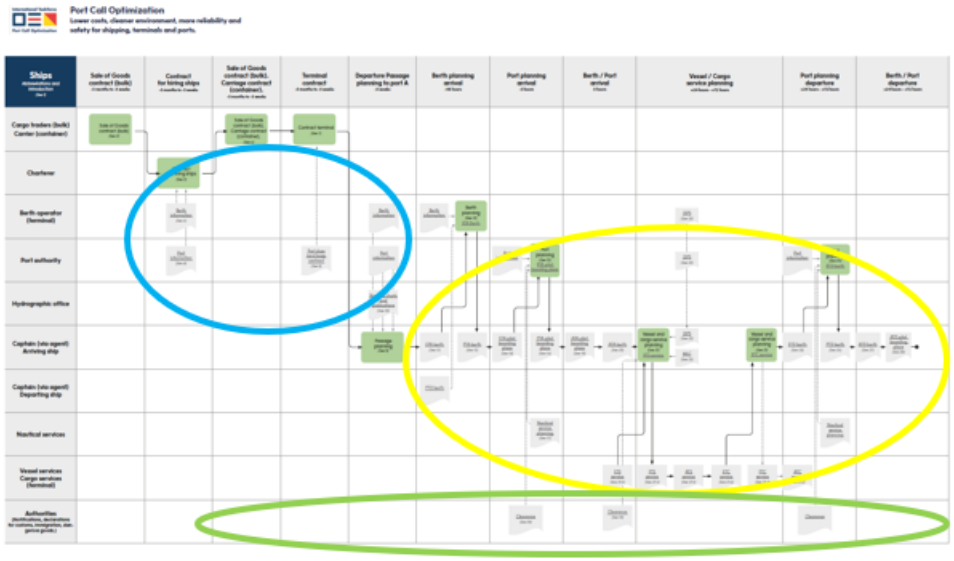
- First port Q2/22
- Roll out plan other ports / shipping lines?

1) Nautical data – Overview accomplishments

- Q2/19 Publication of Port Information Manual 1.0 (PIM 1.0)
- Q2/20 Start IHO NIPWG S-131, based on PIM 1.0
- Q2/21 Submission UKC to IHO Hydrographic Dictionary WG Chair
- Q2/21 Data exchange POC between port GIS and National HO
- Q2/21 Test weather and tide template
- Q2/21 Draft contents for guide for nautical data

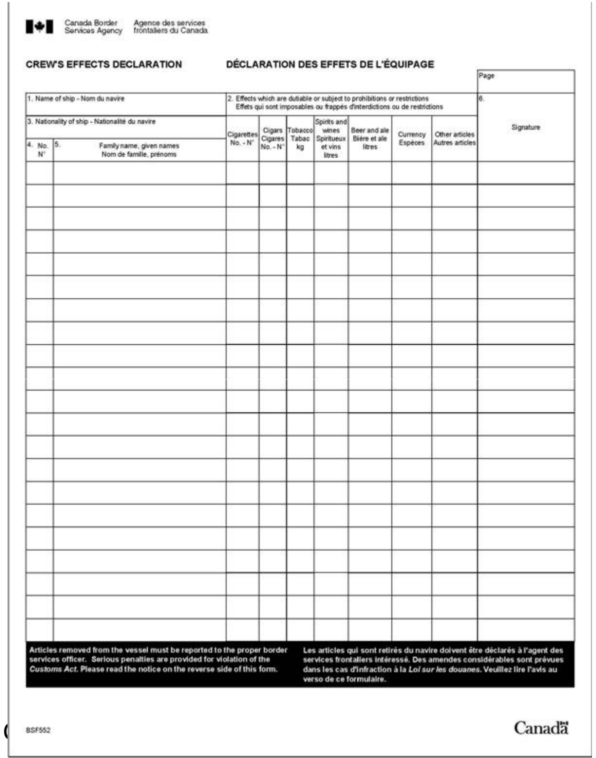
Road map

1) Nautical data
2) Administrative data
3) Operational data



2) Administrative data – example

Port A	Port B	Port C



Canada Border Services Agency / Agence des services frontaliers du Canada

CREW'S EFFECTS DECLARATION — DÉCLARATION DES EFFETS DE L'ÉQUIPAGE

Page

1. Name of ship - Nom du navire		2. Effects which are dutiable or subject to prohibitions or restrictions / Effets qui sont imposables ou frappés d'interdictions ou de restrictions							6. Signature
3. Nationality of ship - Nationalité du navire									
4. No. N°	5. Family name, given names / Nom de famille, prénoms	Cigarettes No. - N°	Cigars Cigares No. - N°	Tobacco Tabac kg	Spirits and wines Spiritueux et vins litres	Beer and ale Bière et ale litres	Currency Espèces	Other articles Autres articles	

Articles removed from the vessel must be reported to the proper border services officer. Serious penalties are provided for violation of the *Customs Act*. Please read the notice on the reverse side of this form.

Les articles qui sont retirés du navire doivent être déclarés à l'agent des services frontaliers intéressé. Des amendes considérables sont prévues dans les cas d'infraction à la *Loi sur les douanes*. Veuillez lire l'avis au verso de ce formulaire.

BSF552 Canada

DEPARTMENT OF HOMELAND SECURITY
U.S. Customs and Border Protection

CREW'S EFFECTS DECLARATION

19CFR 4.7(a), 4.7a(b)

OMB 1651-0020
Exp. 07-31-2018

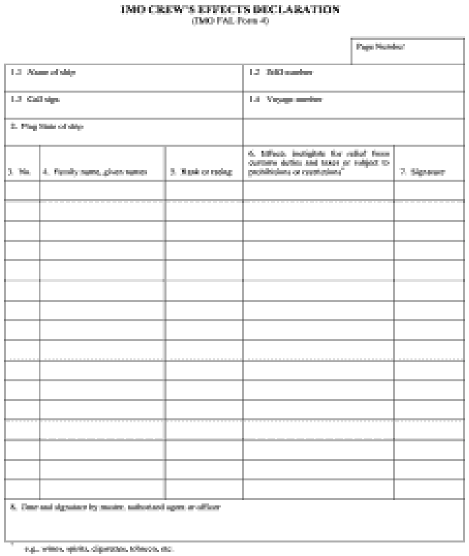
Page No.

1. Name of ship			2. Nationality of ship	
3. No.	4. Family name, given name	5. Rank or rating	6. Articles acquired abroad by officers and members of the crew (except those exclusively for use on voyage or cleared through U.S. Customs and Border Protection authorities)	7. No. of crewmember's declaration of articles intended to be landed (if none, show "NONE" opposite name)

8. Date and signature by master, authorized agent or officer

Paperwork Reduction Act Statement: An agency may not conduct or sponsor an information collection and a person is not required to respond to this information unless it displays a current valid OMB control number and an expiration date. The control number for this collection is 1651-0020. The estimated average time to complete this application is 60 minutes. If you have any comments regarding the burden estimate you can write to U.S. Customs and Border Protection, Office of Regulations and Rulings, 799 9th Street, NW., Washington DC 20229.

CBP Form 1304 (06/09)



IMO CREW'S EFFECTS DECLARATION
(IMO FAL Form 4)

2) Administrative data – Agree on minimum scope

Data sets:

a) IMO GISIS data base up to date for ID port facility
b) IMO FAL Compendium implementation
c) Planning of boarding and clearances

Use case per data set:

a) To be compliant with IMO SOLAS Regulation XI-2/13.4
b) To be compliant with IMO FAL Convention to exchange FAL data electronically
c) To be compliant with MLC, having impact on planning cargo operations, rest hours and shore leave

2) Administrative data – Agree robust standardization body

Non-technical standards:

IMO/WCO/UNECE/ISO

- From the start assigned to set standards for notifications and declarations
- Being robust party for both shipping and ports; IMO has 174 Member States

Technical standards:

- ISO: ensuring standards are being developed alongside existing standards
- Industry and governments: for development, maintenance, testing and implementation

2) Administrative data – To do

Agree on non-technical standards:

- Submission re. boarding / clearance times
- Child codes for terminals and berths in ENC / AIS for FAL 46

Agree on technical standards:

- ISO TC 8 input
- Invitation to organize sustainable maintenance

Develop incentives for data owners:

- Submission to IMO FAL where IMO Compendium has been used

Develop guidance for data owners:

- Review of guide of IMO FAL, align with nautical / operational data

Implementation:

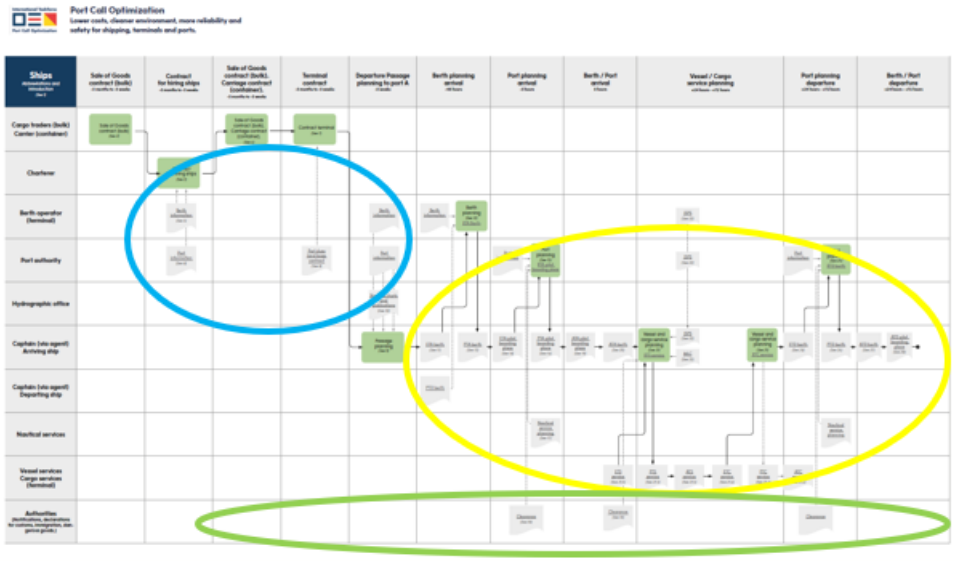
- See incentives

2) Administrative data – Latest accomplishments

- Q2/19 Publication of Port Information Manual 1.0 (PIM 1.0)
- Q2/19 Submission arrival/departure times FAL 43/7/1, based on PIM 1.0
- Q2/21 Endorsement of starting/completion times EGDH 2/7, based on PIM 1.0
- Q2/21 Collect definitions for boarding/clearance times
- Q2/21 Submission geo reference for times FAL 45/6/7
- Q1/21 Submission technical standards FAL 45/6/6
- Q2/21 Search for guidance FAL 5 Circ. 42

Road map

1) Nautical data
2) Administrative data
3) Operational data



3) Operational data – example

Source: Shipper

Booking confirmation:

Vessel	: MOL TRADITION
Voyage Code	: JOTD012E
Pre B/L No.:	
Estimated Sailing Date	: 23/11/2020
Estimated Berthing Date	: 21/11/2020
Estimated E.T,A. (PVY)	: 23/12/2020

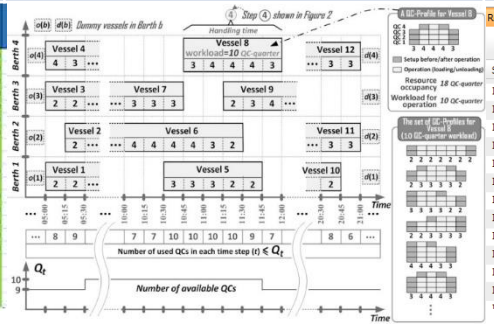
Voyage Details ;

Place of Receipt	: ROTTERDAM, NETHERLANDS
Port of Loading	: ROTTERDAM, NETHERLANDS
Port of Discharge	: SINGAPORE
Place of Delivery	: JAKARTA, INDONESIA JAKARTA INTL
Container Service	: CY/CY

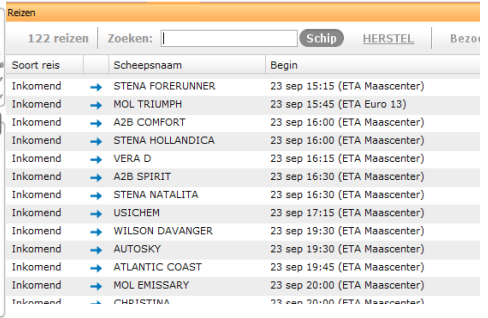
Source: Shipping

Arrival at pilot station	All fast	First lift	Last lift	Last line
21-09-2020 14:00	21-09-2020 20:00	21-09-2020 21:00	22-09-2020 18:00	22-09-2020 19:00
21-09-2020 15:00	21-09-2020 17:30	21-09-2020 18:30	22-09-2020 18:00	22-09-2020 19:00
22-09-2020 05:00	22-09-2020 07:30	22-09-2020 08:30	23-09-2020 02:00	23-09-2020 03:00
22-09-2020 09:00	22-09-2020 11:30	22-09-2020 12:30	22-09-2020 22:00	22-09-2020 23:00
19-09-2020 18:00	19-09-2020 20:00	19-09-2020 21:00	22-09-2020 22:59	22-09-2020 23:00
22-09-2020 01:00	22-09-2020 03:00	22-09-2020 04:00	22-09-2020 22:59	22-09-2020 23:59
21-09-2020 09:30	21-09-2020 13:00	21-09-2020 14:00	23-09-2020 01:00	23-09-2020 02:00
22-09-2020 19:30	22-09-2020 23:00	23-09-2020 00:00	25-09-2020 02:15	25-09-2020 03:00
23-09-2020 04:30	23-09-2020 07:00	23-09-2020 08:00	23-09-2020 18:00	23-09-2020 19:00
23-09-2020 07:00	23-09-2020 09:00	23-09-2020 10:00	24-09-2020 22:00	24-09-2020 23:00
23-09-2020 09:00	23-09-2020 12:30	23-09-2020 14:00	24-09-2020 13:00	24-09-2020 14:00
23-09-2020 06:00	23-09-2020 14:00	23-09-2020 15:00	24-09-2020 13:00	24-09-2020 14:00
23-09-2020 07:00	23-09-2020 14:00	23-09-2020 15:00	24-09-2020 04:30	24-09-2020 05:30

Source: Terminal



Source: Port



3) Operational data – Agree on minimum scope

Data sets:

a) Arrival/departure times at berth and pilot boarding place

b) Starting/completion times of cargo and ship services

c) Notifications of ISPS clearances for cargo and ship services, and for crew changes and crew visitors

All based on IMO GIA Just In Time Arrival Guide

Use case per data set:

a) To be compliant with IMO Resolution A.893(21), MLC, IMO Initial GHG Strategy

b) Same

c) Same

3) Operational data – Agree on robust standardization body

Non-technical standards: IMO Compendium

- Time stamps serve both administrative and operational data, it is common sense to develop them under the same body and build on existing work

Technical standards:

- ISO: ensuring standards are being developed alongside existing standards
- Industry and governments: for development, maintenance, testing and implementation

3) Operational data - To do

Agree on non-technical standards:

- Submission re. ISPS for crew / services QX/XX
- Submission to FAL 46 re. services
- Submission to FAL 46 re. definition of time stamps Q4/21
  - Voyage: based on collision regulations
  - Services: container terminal services first, based on TPR
  - Together with DCSA/TIC4.0/BIMCO

Agree on technical standards:

- See administrative data

Develop incentives for data owners:

- Question raised to IMO GIA re. port and terminals

Develop guidance for data owners:

- Input to IMO Guide for FAL 46 (Q4 21)
- Submission to update MS4 Port Support Service Q4/21 for FAL 46

Implementation:

- First port Q2/23

3) Operational data – Accomplishments

- Q2/19 Publication of Port Information Manual 1.0
- Q1/20 Submission to include operational data (FAL 44/18/2)
- Q3/20 Publication of IMO GIA Just In Time Arrival Guide
- Q2/21 Start TOR for guide for operational data

Summary agenda

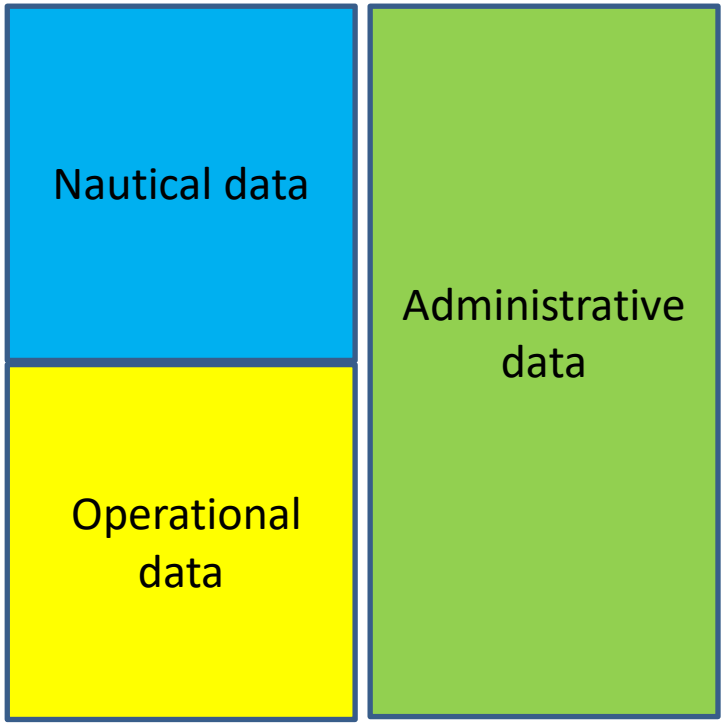
- Ship–port interface data is fundamental for safe and sustainable shipping
- Data quality and availability requires sharing by data owners - data owners like to share one to many
- Data sets: nautical, administrative, operational
- Roadmap per data set:
    1) Agree on business process of port calls
    2) Agree on minimum scope of data
    3) Agree on robust standardization bodies
    4) Agree on non-technical standards
    5) Agree on technical standards
    6) Develop incentives for data owners
    7) Develop guidance for data owners
    8) Implementation
- This requires collaboration between IMO, NGO's, Industry and governmental stakeholders as the most promising and sustainable way forward

Summary progress
Updated 05/07/2021

Green: 100% completed
Yellow: 50-100% completed
Orange: 0-50% completed

	Nautical data	Administrative data	Operational data
Agree on business process of port calls	Q3/18 Validated by IMO GIA	Q3/18 Validated by IMO GIA	Q3/18 Validated by IMO GIA
Agree on data scope	Q3/20 SME session ITPCO/IMO GIA	Q3/20 SME session ITPCO/IMO GIA	Q3/20 SME session ITPCO/IMO GIA
Agree on robust standardisation body for non-technical standards	Q1/14 Not a discussion	Q1/14 Not a discussion	Q2/20 Submission to IMO FAL
Agree on robust standardisation body for technical standards	Q1/14 Not a discussion	Q2/21 Start ISO TC8	Q2/21 Start ISO TC8
Agree on non-technical standards	QX/22 Product Specification S-131	Q4/21 Submission re. geo ref Submission re. child codes	Q4/21 Submission re. services
Agree on technical standards	QX/23 Product Specification S-131	QX/23 Deliverable ISO TC8	QX/23 Deliverable ISO TC8
Develop; incentives for data owners	QX/22 Submission re. SOLAS	QX/22 Submission BIMCO - check	QX/22 Question raised at IMO GIA and World Ports Group
Develop guidance for data owners	Q4/21 IHMA/IHO Guide draft ready	QX/XX IMO Guidance exists?	Start IMO Guide
Implementation	Q2/22 First port	Depending on national authorities / EMSW	Q2/23 First port

Summary data sets



For now, 2 separate eco systems due to technical and legal issues

FAQ

Current situation:

- Shipping is 5000 years old
- Roughly 80% of goods is transported by sea

Question:

- Why is the use of standards not more implemented?
- Why is shipping not connected to supply chain?

Answer:

- Old and fragmented industry, no big players able to push
- Also in supply chain no big players to push
- Shipping, ports and supply chain had limited collaboration

International Taskforce

Port Call Optimization