Maritime and Ports industry initiative overview

The required collaboration between the key actors in a port environment will only be facilitated through the use of internationally agreed definitions, standards and timestamps.

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Agenda

• Which business challenges drive change in port nodes?
• Which ‘waste’ components are identified?
• What is Pronto?
• What are the benefits of sharing data and information?
• What are the concerns with Pronto?
• Pronto and GS1
• Conclusion
• Q&A
Challenges of a port node

Record sailing of 18032 TEU Head Haul

- Timely **arrival** of the vessel
- Available –**safe-** **berth**
- Available **capacity** of service providers
- This requires **information sharing**
- Timely **departure** of the vessel

*Matz Maersk at Tanjung Pelepas, Malaysia, bound for Europe*

(c) Maersk Line
Which business challenges drive change in port nodes?

- Traditionally the shipping industry does not easily share information and data for competitive advantage reasons. Public benchmarking is highly controversial [UNCTAD, 2012]

- This lack of information and data sharing leads to less optimized processes and operations, which increases cost
  - approximately 50% of the container ships are delayed more than 12 hours, most of the delays are carried over to the next ports
  - approximately 75% of the container ships in hub ports are on berth exchange

[UNCTAD, 2012]
From a **shipping line perspective** efficiency means operating its ships as **safe** and **energy efficient** as possible, reducing **fuel consumption** and **GHG emissions** and **fully utilizing the ship**.

Ship operation is a division between the ship’s **time at sea** and the ship’s **time in port** [Stopford, 2009].

- efficiency initiatives for the **time at sea** have been widely implemented and matured since 2008, such as:
  - (super) slow steaming
  - network and route optimization
  - rightsizing
Which business challenges drive change in port nodes?

- Therefore industry focus has shifted to the time in port to reduce inefficiency, thus cost and environmental footprint [Johnson and Styhre, 2015]

- The inefficiency in a port call is the ‘waste’ or idle time in the processes associated with the ship’s port call. The idle time is the time where no relevant operations in conjunction with the purpose of the port call takes place or waiting time before arrival and after departure.
Which business challenges drive change in port nodes?

The cost of one hour idle time in port is estimated **3000 USD**
[average cost basis 2014 data with a fixed bunker price of USD600,-/ton]
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Which “waste” components are identified?

Waste analysis in Maersk Line [period 2010-2015]:

- It is evident that there is considerable potential for efficiency gains
- Port stay inefficiency, thus waste, is acknowledged as an industry wide issue
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What is Pronto?

Pronto

- The Port of Rotterdam authority has taken the approach that puts the port itself as a product in an integral position in the supply chain and is pro-actively involved in industry wide optimization efforts.

- A port industry initiative initiated by the Port of Rotterdam is Avanti-Pronto, where:
  - Avanti relates to master data, and
  - Pronto relates to event data.

- Pronto = Port Rendez-vous Of Nautical and Terminal Operations
  - for any trade, in any port and end-2-end for the entire logistics supply chain.
What is Pronto?

**Pronto**

- Port call optimization requires internationally agreed:
  - definitions,
  - standards, and
  - timestamps

- In Pronto standardized event data initially focusses on following priorities:
  - completion of cargo operations
  - pilot on board time

Next priorities will be determined by the industry after implementation of the above.
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What are the benefits of sharing data and information?

- ship owner or charterer benefits from **improved ETA planning**, thus **less fuel consumption** and **less GHG emissions**

- service providers in the port environment will benefit through **optimized resources** and **asset utilization** and **in-time availability** thereof

- the port may see an **increased utilization** of its **capacity**
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What are the concerns with Pronto?

- Pronto relies on the *willingness* of the port authorities and actors in the port environment to share reliable event data and information.

- Collection of the required data, thus availability, has been assisted by *ongoing digitalization*, but a platform to share this data needs to be designed.

- Data *reliability* remains a concern.

- It is *critical* to be able to use the data and information to reliably predict future events or event states for the benefit of capacity and resource planning.
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Pronto and GS1

Pronto - EPCIS

- The standardized event format in Pronto consists of following elements:
  - covers the **event basics**
  - follows the **GS1 EPCIS standard** (What, When, Where, Why)
  - uses an **open standard** for message exchange (XML, EDI)
  - events are only used for **capacity planning** of **resources**
Pronto and GS1

- An **EPCIS framework** has **great potential to increase efficiency** in logistic operations in a port due to applying a standard [Ringsberg and Lumsden, 2015]

- The GS1 EPCIS standard is **designed for sharing** physical event **data** between end users

- To cover the requirements of Pronto and connection to the intermodal supply chain, the **GS1 Core Business Vocabulary** needs to be **extended for the maritime environment**.
The port will become an increasingly critical node in the supply chain and facilitates interaction between deep sea and various other transport nodes in the intermodal supply chain connections with the ports hinterland, such as barge, rail and truck. [Stopford, 2009]

Therefore transport nodes can no longer act independently and need to connect to each other (physically and electronically).

Shippers increasingly demand for reliable and up-to-date visibility of where their goods physically are.
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Conclusion

• There is **great potential to reduce waste** in a ships port call
  • **operational** as well as **environmental**

• To **increase efficiency** during a port call it is **crucial to share standardized event data and information** that is timely **available** and visible for the **relevant actors** in a port environment
  • the port
  • the service providers
  • the terminals
  • the shipping lines
Conclusion

- Efficiency in logistics operations in ports can be achieved by applying a standard.

- The use of global standards is essential, the GS1 EPCIS framework is designed for sharing physical event data.

- GS1 EPCIS in conjunction with the CBV (Core Business Vocabulary) is widely used in hinterland logistic nodes connecting to the deep sea transportation node.

- The GS1 CBV needs to be extended to cater for the deep-sea link of the E2E supply chain.
Conclusion
“the shipping industry has to think about how it can use technology ... where it can take cost out, not cost on the ship, but in other places and provide more visibility and better services”

Dr. Frank Appel, CEO of Deutsche Post DHL

in Containerisation International, April 2016
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Q&A

Do you have any questions?
Thank you for your attention.