THE PORTCDM CONCEPT AND THE VALIDATION PROJECT

SHIPS AND PORTS NEED TO BE CONNECTED!

Connected ports (origin)  Connected ships  Connected ports (destination)

Port call synchronization  Voyage optimization  Port call synchronization

Port call optimization

Enabling connectivity to hinterland for sustainable transport systems

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CONCERNS OF SEA TRAFFIC MANAGEMENT

The problem: The need to increase efficiency in operations within and between ports

Maximize the utilization of the facilities in ports

Minimize the use of energy to steam between two ports

Optimal bunker use (from berth to berth)

Right routing (-12%)

Green steaming (-25% for anchoring vessels)

constrained by safety considerations

The VISION!
STM from holistic point of view

Harmonizing voyage optimization, port call optimization, port call synchronization, and flow optimization berth-to-berth by defined standards and interfaces

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The VISION!

STM from holistic point of view

Weather routing (RTZ)

Area management (RTZ)

Traffic synchronization (RTZ)

Port call synchronization (RTZ, PCMF)

Dynamic route optimization (RTZ, PCMF)

Dynamic port call optimization (PCMF, RTZ)

Business incentives for PortCDM

Savings for a large shipping line (40 000 port calls per year) between 65 MUSD and 130 MUSD for just-in-time arrival

Assumption: The largest container vessel consumes 240 tons of fuel at full speed (23 knots) and 40 tons of fuel at 10 knots.

Very many times ships do not leave on time giving rise to additional port call costs, chasing of time to next port, and reduced chasing of just-in-time departures and reduced chasing of just-in-time arrivals.

Annual savings by reduced TTT (by minutes)

Strong incentives for enhanced interaction between ships and ports

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OBJECTIVES OF PortCDM

- Optimal resource utilization
- No unexpected waiting times
- Fast turnaround
- Optimal resource utilization
- Precision in time of departure
- Just-in-time operations
- High degree of predictability
- Minimal waiting times
- Green Steaming
- High degree of predictability
- Minimal chasing
- High degree of predictability

Ports of origin

Ports of destination

Inter-operable platform for sharing time stamps

PortCDM information service system

- Shipping ERP
- TOS
- PMS
- FOC
- Previous / next port
- Port Community Systems (PCS)
- AIS
- Ship ECDIS
- VTMIS
- NSW
- Service provider’s system
- Hinterland operator’s system

PortCDM is validated in the STM validation project

- (2016-2018)
- 43 Meuro
- 50++ partners
- 13 ports
- 300 ships
- 5 shore centres

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International PortCDM council
The Internationalization of PortCDM

Ensuring STM and PortCDM implementation meets the needs of the international maritime community

International governing body for generic PortCDM matters maintaining:

- PortCDM concept definition
- Generic guidelines for the PortCDM concept
- Port call message format (PCMF)
- Port call structure ontology
- Criteria for accreditation of PortCDM application and data services
- Key Performance Indicators (KPIs)

Confirmed / TBC members

**BIMCO**
BMVI Germany
BSA Bahamas
CIRM
Cyprus Shipping Chamber
IALA
ICS
IHMA
IMO
IMPA

**IMO**
Intertanko
Marshall Island Registry
Member state Australia
Member state Canada
Member state Singapore
MOF Korea
Port of Freemantle
Port of Singapore
SMA
VALENCIA port foundation

... and more to come

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**THINK DIFFERENT**
**MAKE THINGS HAPPEN**
**MAKE A DIFFERENCE**

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