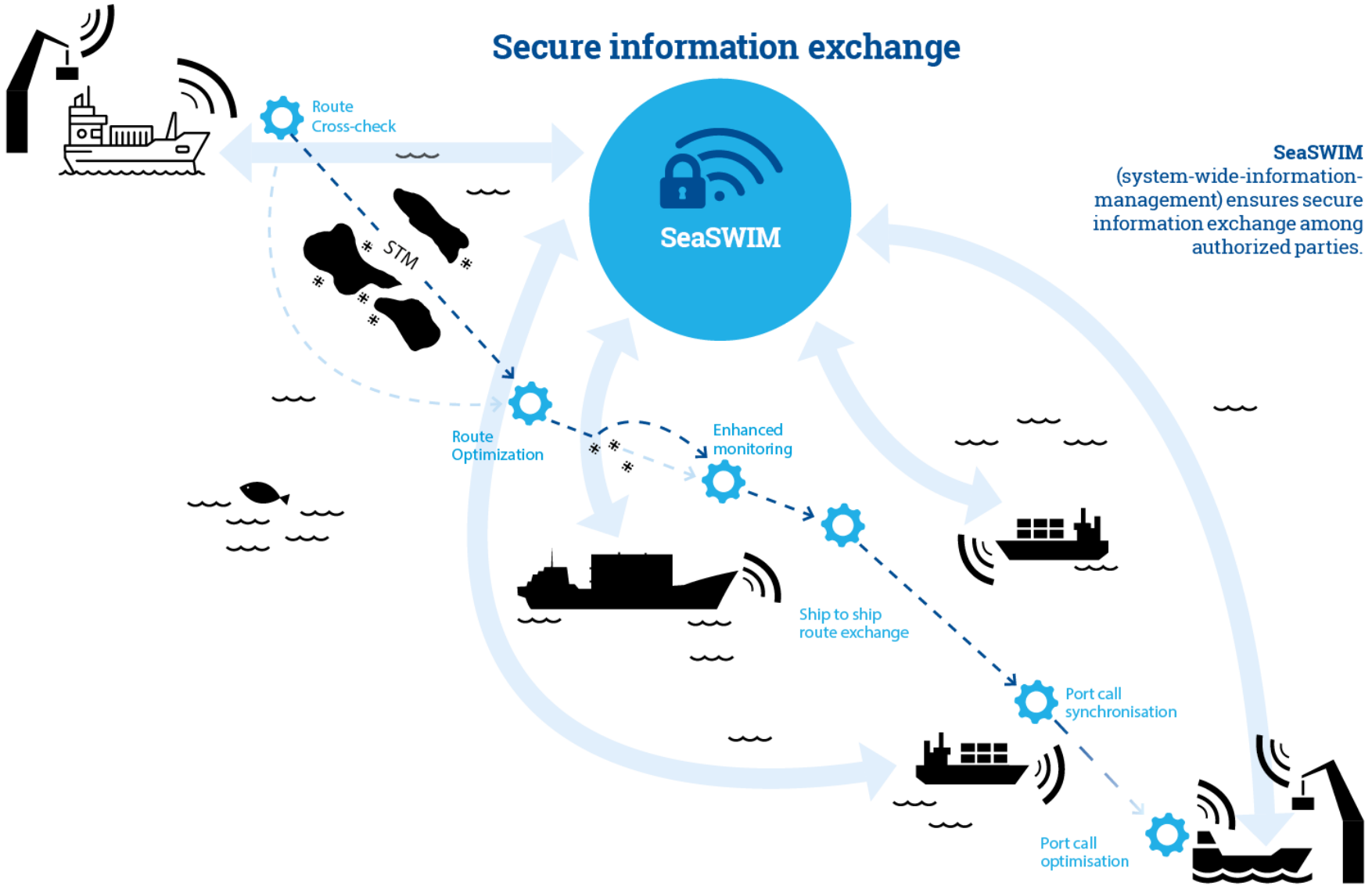
COLLABORATIVE DECISION MAKING IN SUPPORT OF GLOBAL MARITIME TRADE

Michael Bergmann

Presentation at IHO HSSC 10,
17 May 2018, Rostock-Warnemünde

STM
SEA TRAFFIC MANAGEMENT

Secure information exchange



SeaSWIM
(system-wide-information-management) ensures secure information exchange among authorized parties.

Co-financed by the European Union
Connecting Europe Facility

PortCDM is validated in the STM validation project

(2016-2018)
43M.Euro
50++ partners

13 ports

300 ships

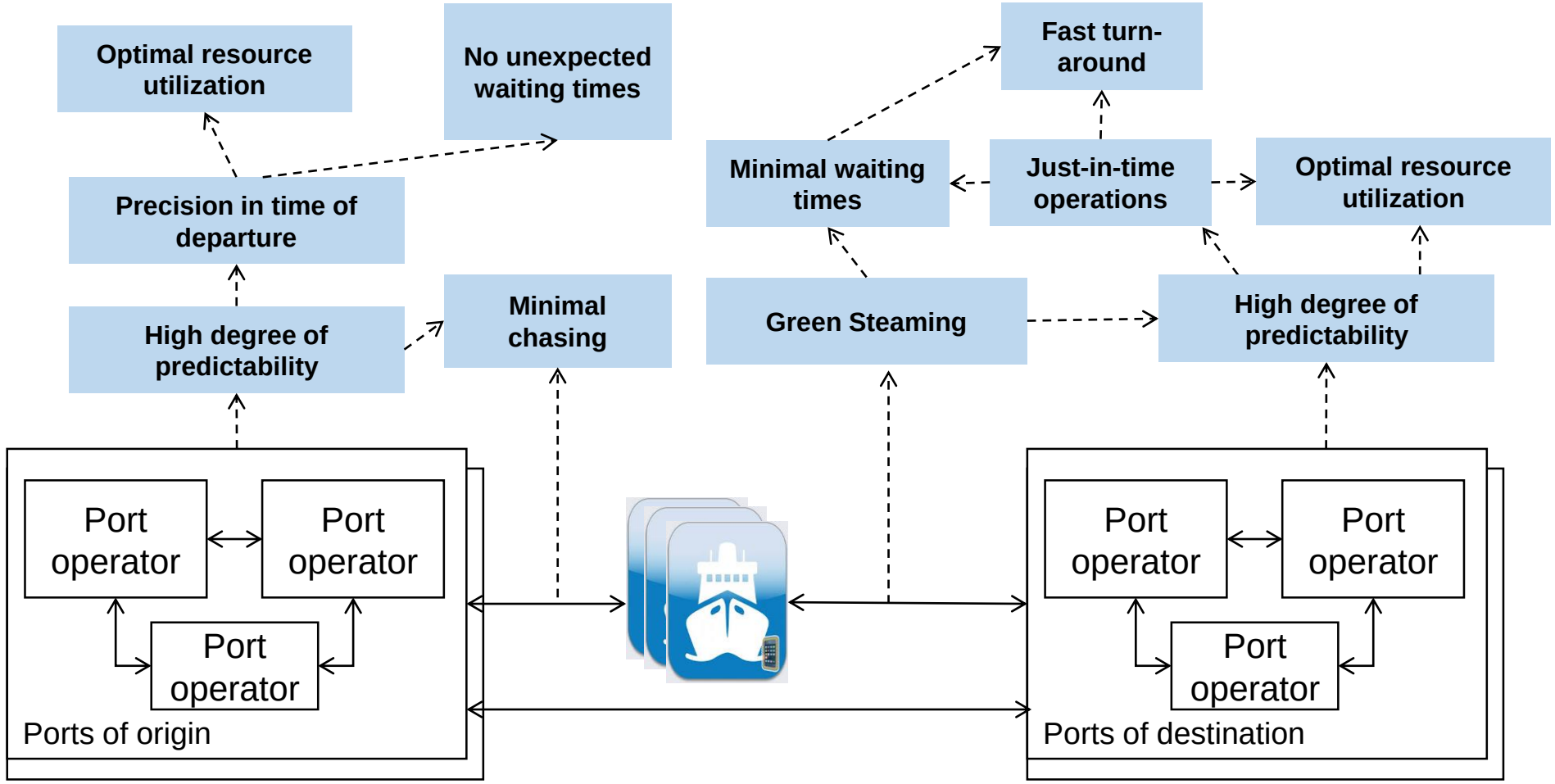
5 shore centres

Co-financed by the European Union
Connecting Europe Facility

PortCDM Introduction

Co-financed by the European Union
Connecting Europe Facility

OBJECTIVES OF **PortCDM**



Co-financed by the European Union
Connecting Europe Facility

SHIPS AND PORTS NEED TO BE CONNECTED!

Enabling connectivity to hinterland for sustainable transport systems

Enabling connectivity to hinterland for sustainable transport systems

Connected ports
(origin)

Connected ships

Connected ports
(destination)

Port call synch-ronization

Port call synch-ronization

Port call optimization

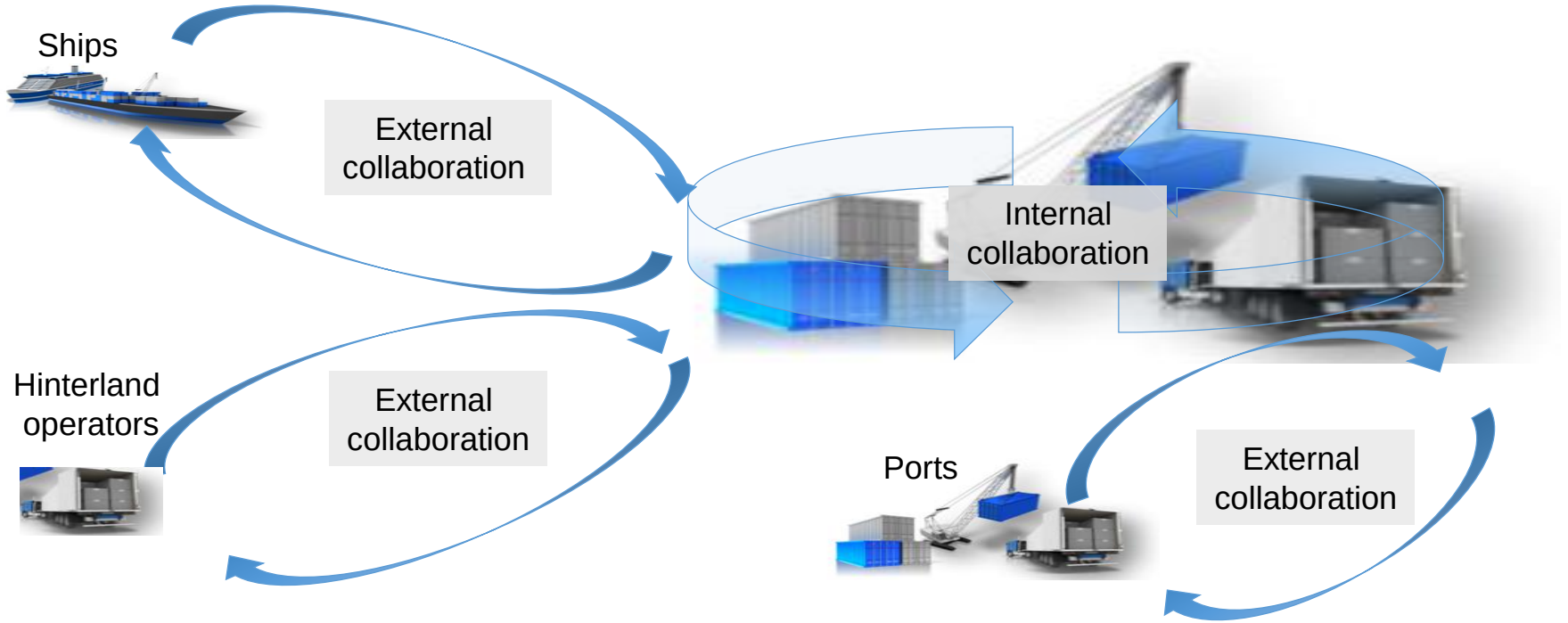
Voyage optimization

Port call optimization

Port-to-port collaboration (optimization and synchronization)

Co-financed by the European Union
Connecting Europe Facility

PortCDM for port call optimization



Co-financed by the European Union
Connecting Europe Facility

The Structure of the Port Call Process

Co-financed by the European Union
Connecting Europe Facility

PortCDM: Connection to MSP

1. **VTS Information Service**
2. **VTS Navigation Assistance Service**
3. **VTS Traffic Organization**
4. **Local Port Service**
5. Maritime Safety Information Service
6. **Pilotage Service**
7. **Tug Service**
8. **Vessel Shore reporting**
9. **Maritime Assistance Service**
10. Nautical Chart Service
11. Nautical Publication Service
12. Ice Navigation Service
13. Meteorological Information Service
14. Real-time hydrographic and environmental information Service
15. Search and Rescue Service

Co-financed by the European Union
Connecting Europe Facility

The International PortCDM Council

Co-financed by the European Union
Connecting Europe Facility

The role of the PortCDM council

Basis for the PortCDM council

- Guiding principles
- Organization
- Tools & support

Governance

Tasks for the PortCDM council

- Certification (for issuing of compliance of solutions)
- Membership management and growth
- Federative recruitment of actors
- Maintenance and development of standards
- Dissemination and Best Practice distribution
- Quality Assurance (Concept)

Objective for the PortCDM council

- Coordinated **use** and **development** of the digitized port in context
- Common goals (and KPI's)

Co-financed by the European Union
Connecting Europe Facility

The International PortCDM Council

Work Items

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)

Co-financed by the European Union
Connecting Europe Facility

The International PortCDM Council

IPCDMC Participants

- AMSA
- BM Bergmann-Marine
- CIRM
- Cyprus Shipping Chamber
- Finnish Transport Agency
- IALA
- IHMA
- Indian Port Association
- MarineFields
- Port of Barcelona
- Port of Fremantle
- Port of Montreal
- Port of Stavanger
- Republic of Korea
- RISE Viktoria
- SIRM
- Smart Ports
- SMART-Navigation Project Office
- Tototheo Group
- Valencia Port Foundation

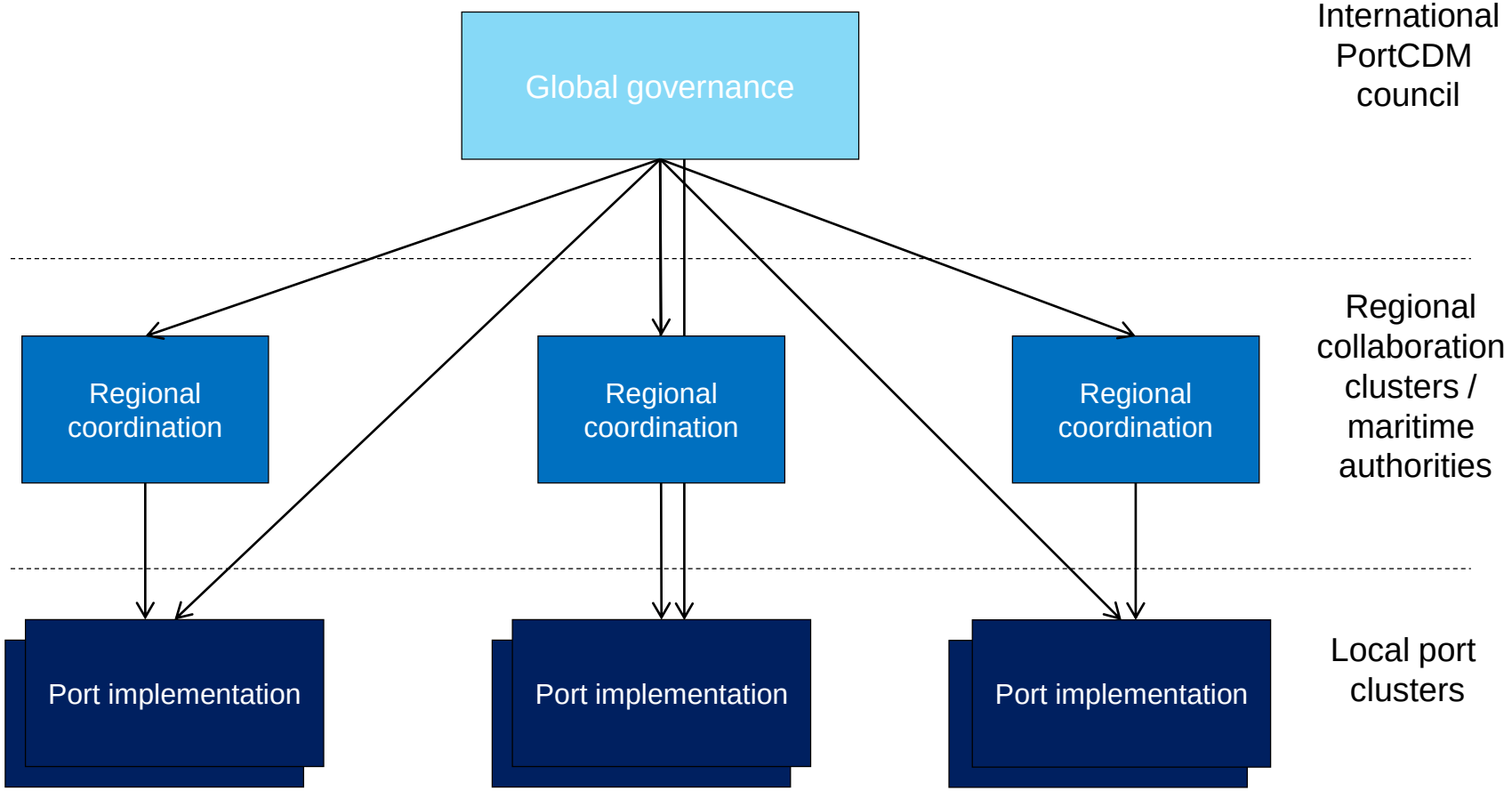
Interested to stay informed

- American Pilots' Association
- Association of Canadian Port Authorities
- Bahamas Shipowner Association
- BIMCO
- Canadian Coast Guard
- CONAPRA
- German Pilot Association
- Government of Hong Kong
- ICS
- IHO
- IMO
- IMPA
- IMSO
- InterTanko
- IPCSA
- Kongsberg
- MonaLisa Group
- MPA Singapore
- MSC Shipping
- Netherland Maritime Administration
- NOAA
- Norwegian Coastal Administration
- Port Authority of New South Wales
- Portuguese Hydrographic Office
- Republic of the Marshall Islands
- Scheldt Ports
- Signalis
- Swedish Maritime Administration
- STC B.V.
- UK Marine Industry Alliance

Co-financed by the European Union
Connecting Europe Facility

PortCDM governance

from global reach to local implementation



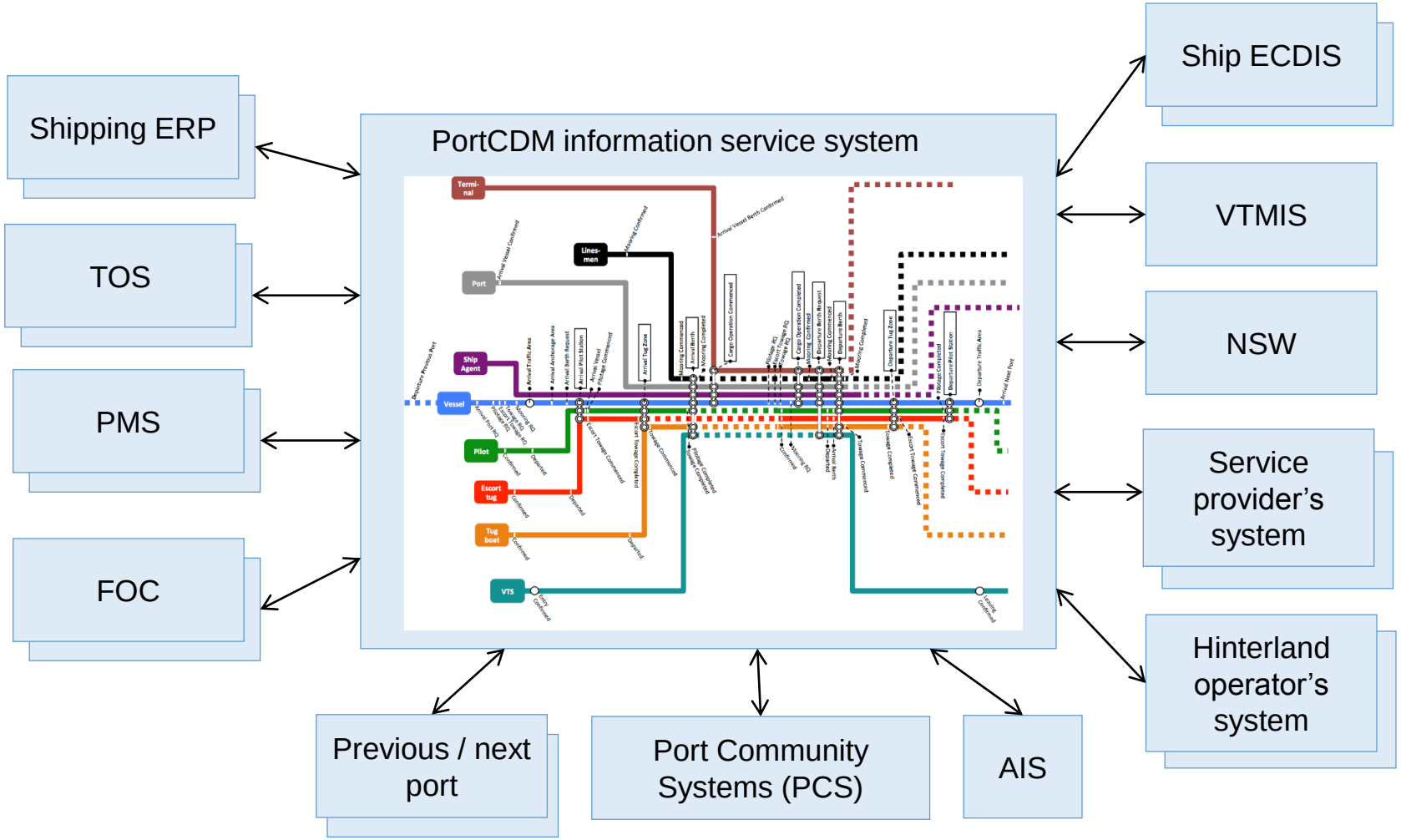
Co-financed by the European Union
Connecting Europe Facility

The Port Call Message Format

Co-financed by the European Union
Connecting Europe Facility

Port Call Message Format

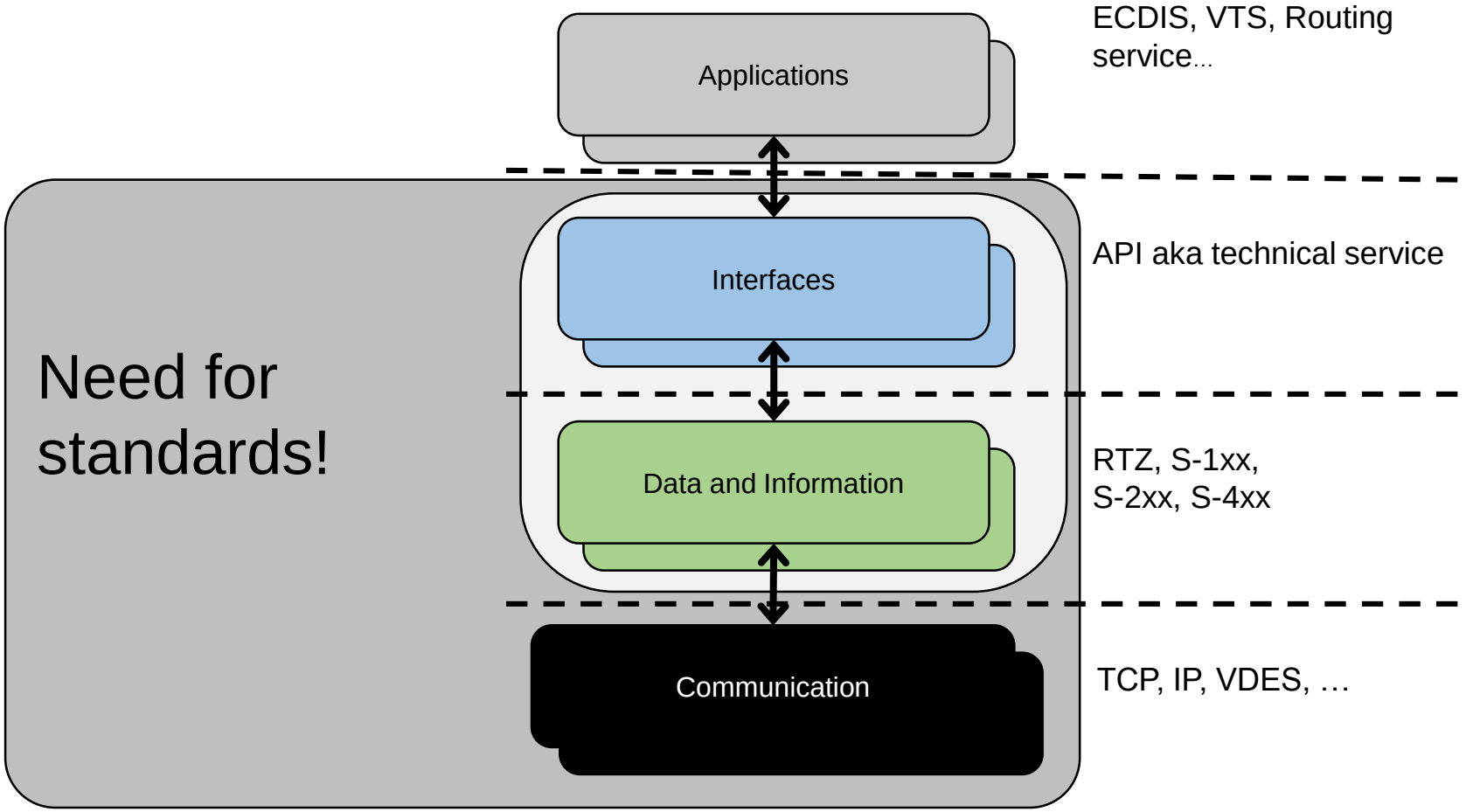
Inter-operable concept for sharing time stamps



Co-financed by the European Union
Connecting Europe Facility

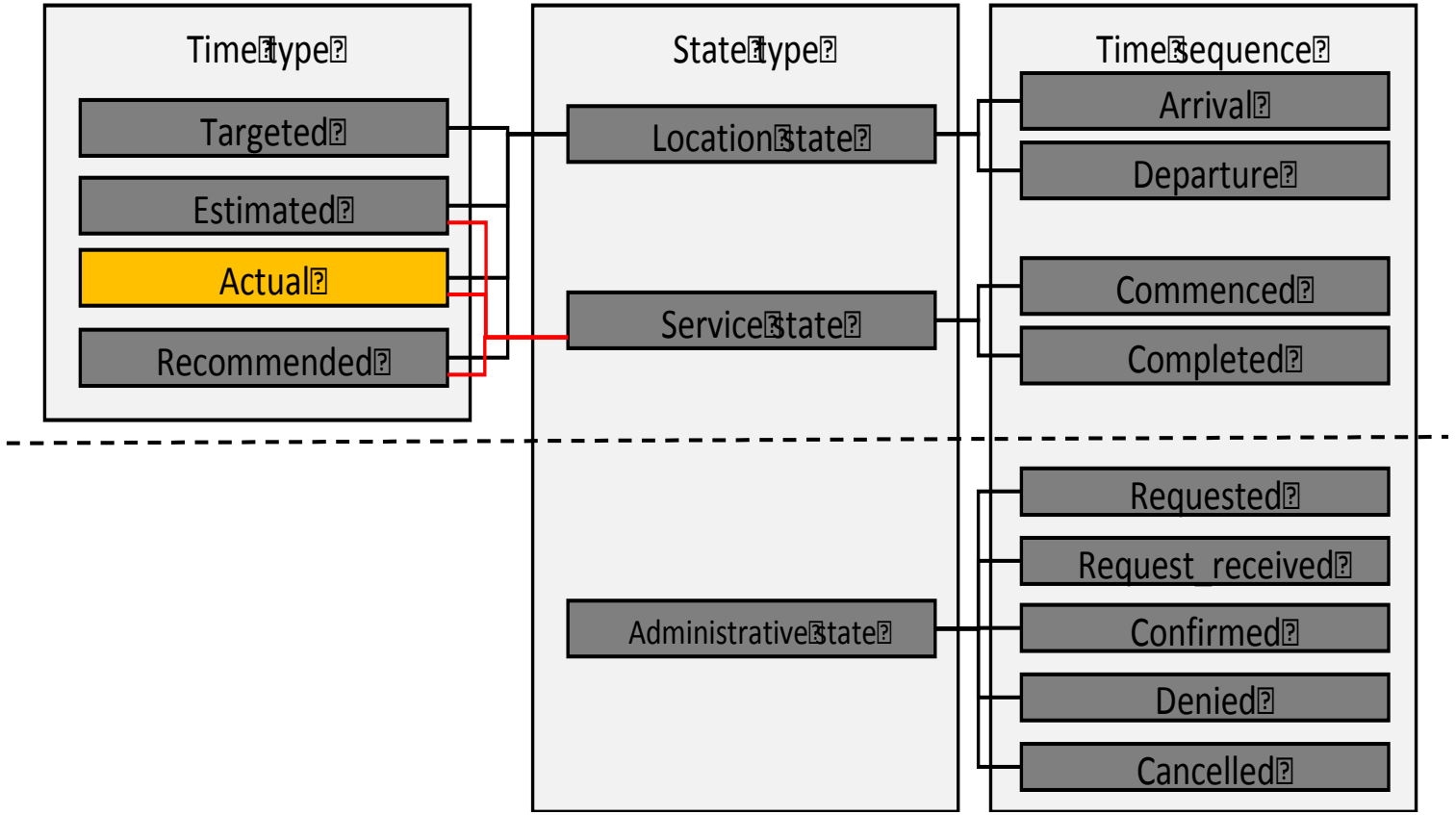
S-211

The Layered Standard Concept



Co-financed by the European Union
Connecting Europe Facility

Port Call Message Format
The composition of Timestamps

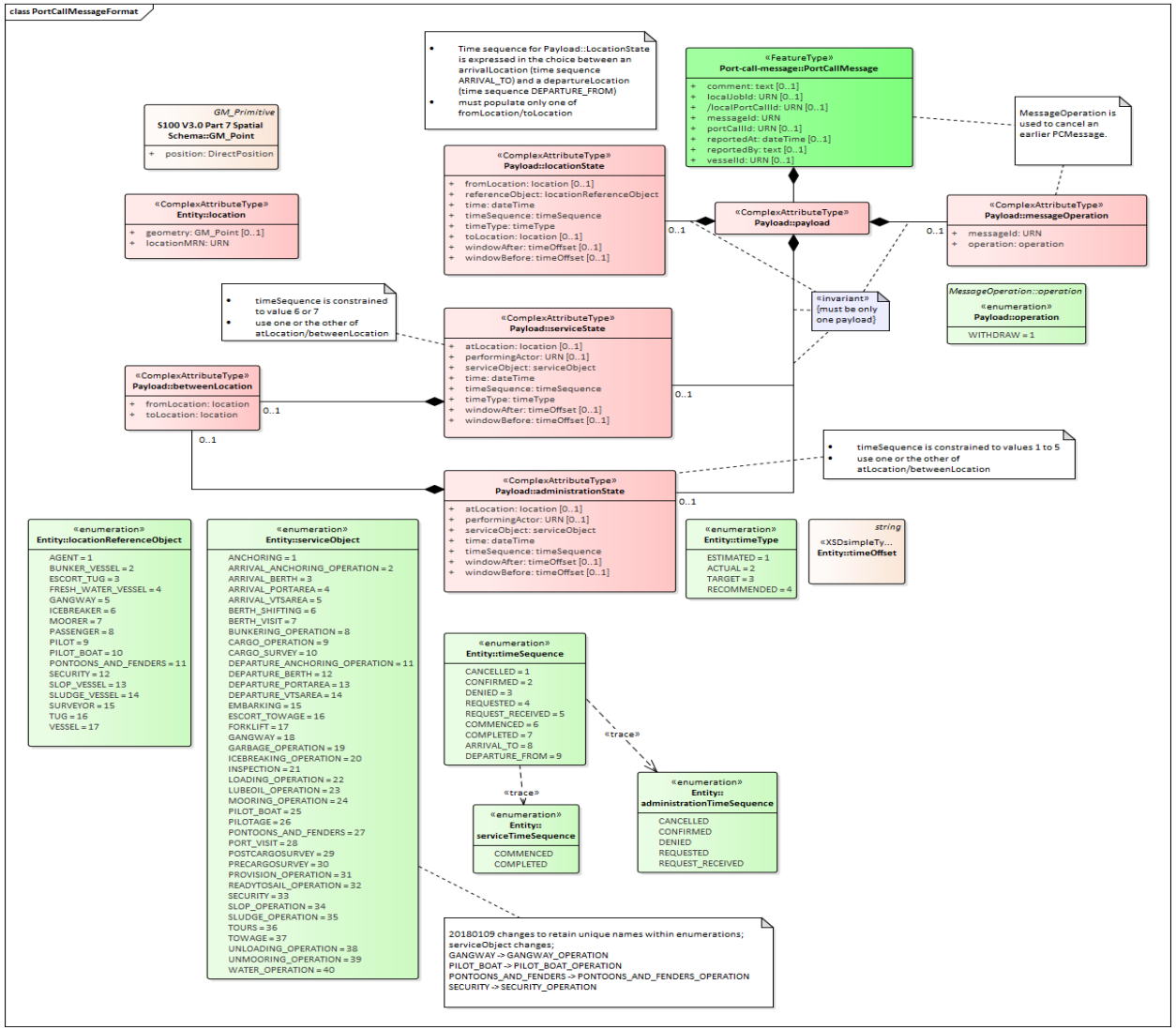


Becoming S-211 standard

Co-financed by the European Union
Connecting Europe Facility

S-211

Development within IALA Domain of the IHO GI Registry

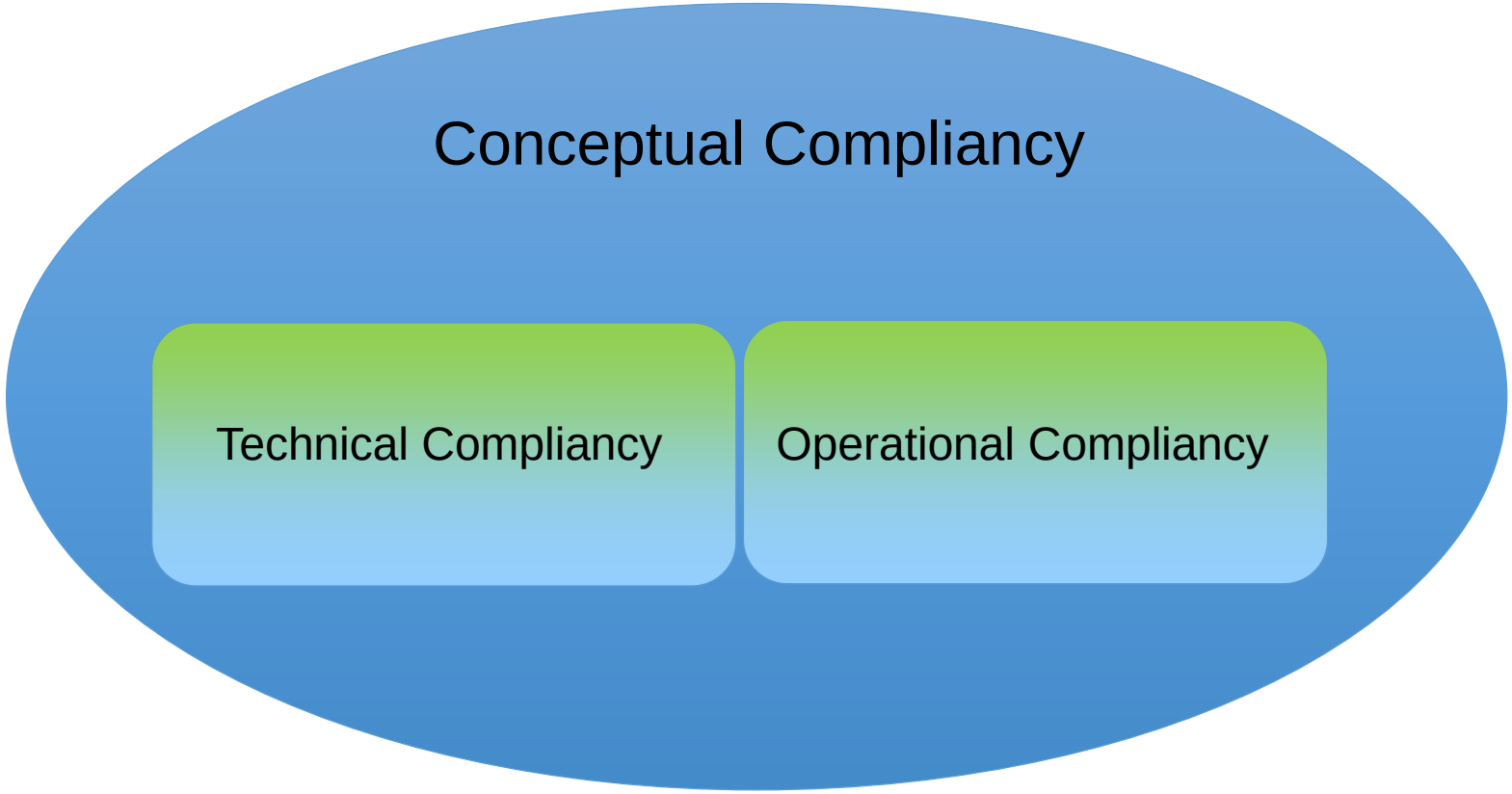


Co-financed by the European Union
Connecting Europe Facility

PortCDM Compliancy

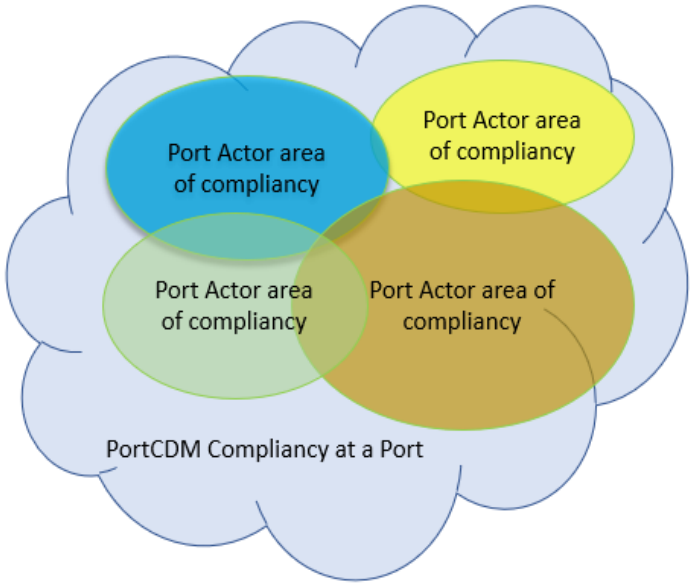
Co-financed by the European Union
Connecting Europe Facility

Compliancy Aspects

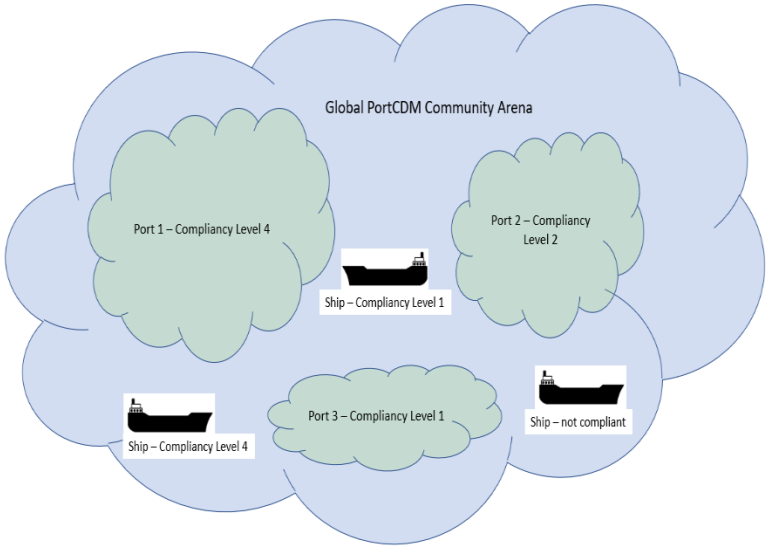


Co-financed by the European Union
Connecting Europe Facility

Vertical and Horizontal Compliancy



Vertical Compliancy Levels – Within a Port



Horizontal Compliancy Levels – Between Ports globally

Co-financed by the European Union
Connecting Europe Facility

Compliancy Maturity Levels

Level	Short description	Details
1	Basic foundation	Capabilities to share of timestamps (PCMF)
2	Real-time data sharing	PCMF sharing platform established
3	Core port call actors included	Core port call actors share PCMF data
4	Outside actors included	PCMF sharing with outside actors established
5	All port call actors included	All actors are using real time PCMF data sharing
6	Actors use CDM	Actors use full Collaborative Decision Making
7	Continuous Improvement	Actors use continuous improvement processes

Co-financed by the European Union
Connecting Europe Facility

Next Steps in PortCDM

- Developing Compliancy Documents and adopting it in IPCDM council
- Fully develop S-211 for PCMF and get it endorsed by IALA and referenced by IEC
- Establishing Regional and/or national coordination clusters
- Certify PortCDM systems (compliancy acceptance)
- Establish PortCDM in key ports

Co-financed by the European Union
Connecting Europe Facility

STM
SEA TRAFFIC MANAGEMENT

THINK DIFFERENT

MAKE THINGS HAPPEN

MAKE A DIFFERENCE

For questions do not hesitate to contact:

Michael Bergmann
Michael.Bergmann@ri.se

Co-financed by the European Union
Connecting Europe Facility