STM
SEA TRAFFIC MANAGEMENT
Co-financed by the European Union
Connecting Europe Facility
LONDON FINAL CONFERENCE
13 – 14 NOVEMBER 2018
STM DEEP DIVE
EFFICIENCY

What we set out do to

- Validate the architecture of STM, usability of Maritime Connectivity Platform, Key Performace Objectives and the business cases
- Validate STM concept
- Demonstrate the STM concept in
  - Live test beds
  - European Maritime Simulator Network

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What we set out do to

PortCDM

- Analyze differences between different ports
- Invite service developers to develop Port CDM Services

Voyage Management, live test bed

- More efficient winter navigation
- Application for Search and Rescue

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What we set out do to

EMSN

- Simulate and further test different traffic conditions

SeaSWIM

- Use the Maritime Connectivity Platform in the test beds

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Defined output

The STM Validation Project is an important step in ensuring the successful deployment of STM.

- Validated target concept for STM
- Quantitative and qualitative support for the broader development of STM
- Live demonstrators for STM services
- Martime Connectivity Platform supporting SeaSWIM
- An enhanced European Maritime Simulator Network

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Use of the results

The results of the Action will form the basis for

- policy making
- further research and development of STM
- pre-deployment of Sea Traffic Management service
- support for decision-making

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The analysis

- Based on data from test beds: PortCDM, Voyage Management and EMSN.
- Using the KPAs, KPOs and KPIs from MonaLisa2.0
- Concept refinement, updated FSA and CBA

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Efficiency KPOs

- Minimize administrative burden
- Increase situational awareness
- Reduce congestion
- Increase predictability during voyages and in ports
- Decrease integration complexity, improve interoperability
- Increase information transparency
- Increase information quality
- Facilitate just-in-time

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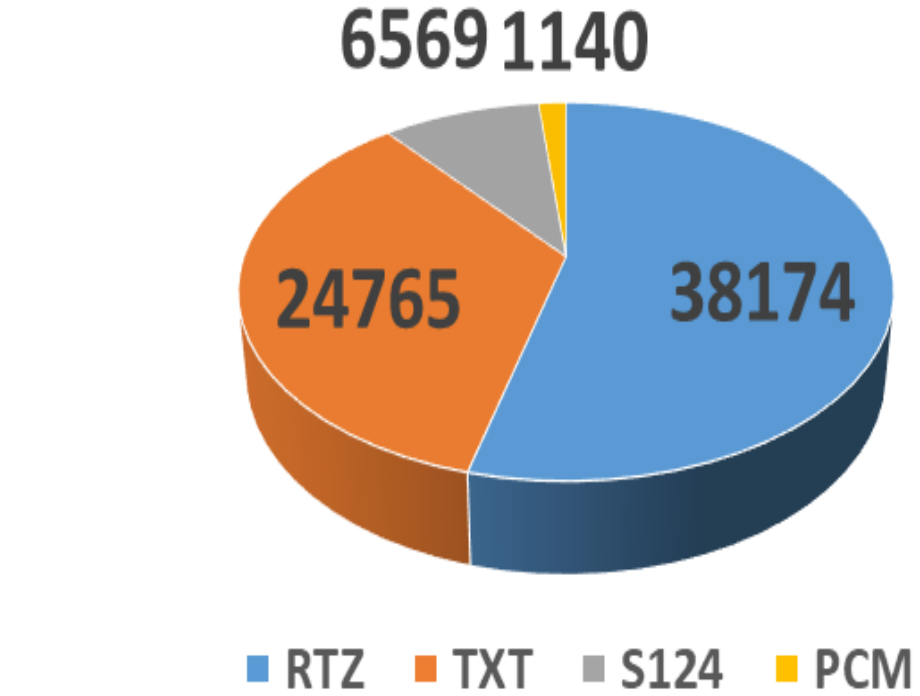
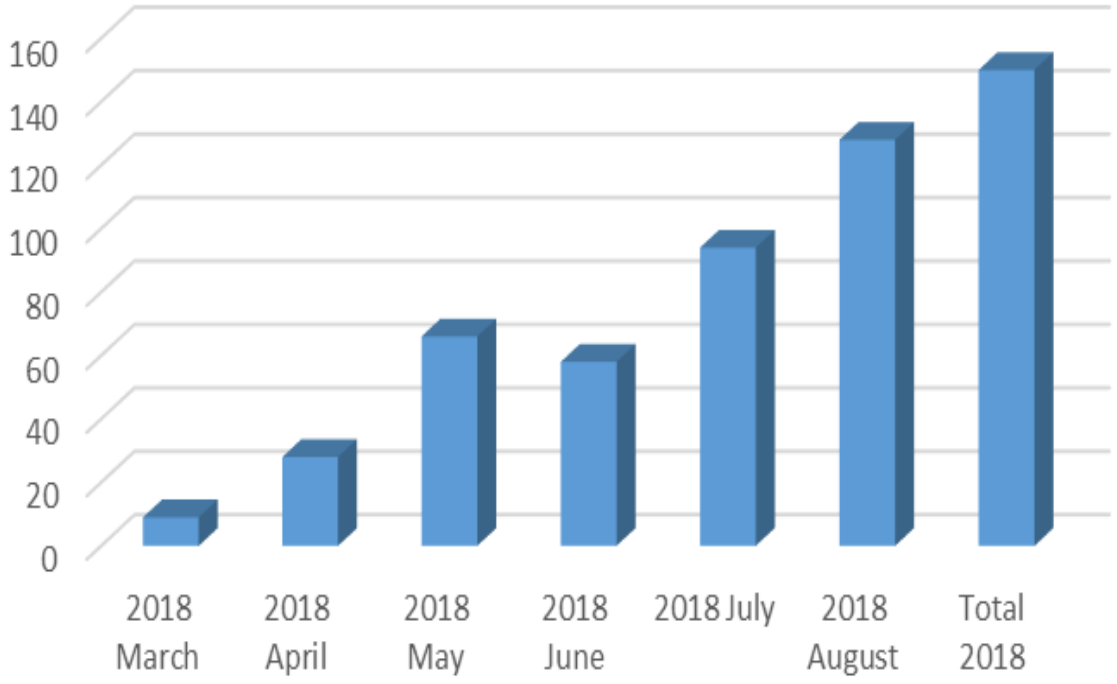
Integration, interoperability, transparency

13 November ~200 ships including SAR units and icebreakers

Number of exchanged messages per payload type



Number of active Ships



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FURUNO

PORT OF GOTHENBURG

ADVETO
ADVANCED TECHNOLOGY AB

Port of Rotterdam

Liikennevirasto
Finnish Transport Agency

WÄRTSILÄ

Interoperable!

SWEDISH MARITIME ADMINISTRATION

KYSTVERKET
NORWEGIAN COASTAL ADMINISTRATION

KONGSBERG

SMHI

CIMNE

SAAB TECHNOLOGIES
SAAB

AIRBUS

SSPA

NAVICON
COMPUTER SYSTEMS ENGINEERING

Costa

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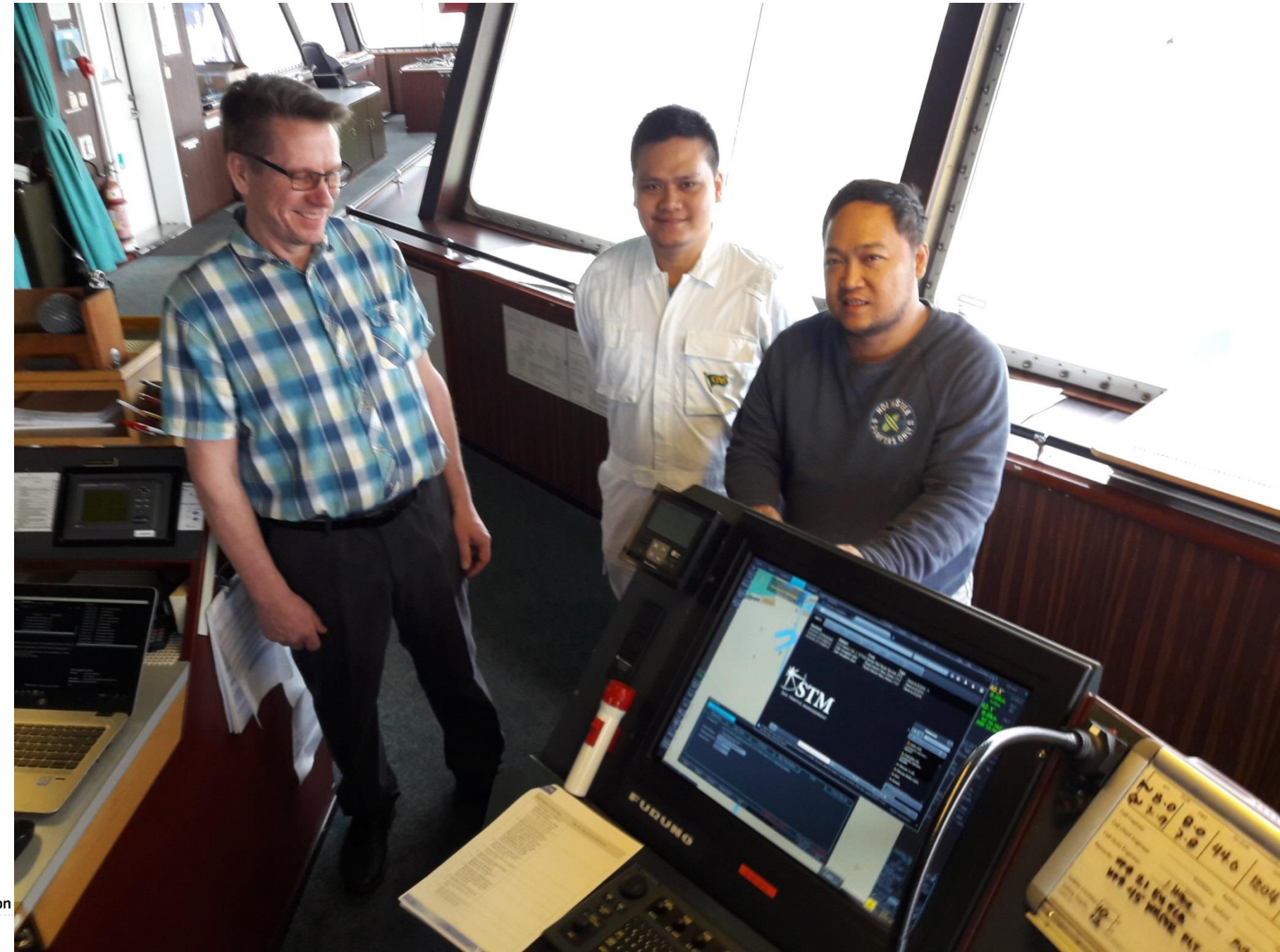
STM ports

STM
SEA TRAFFIC MANAGEMENT



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Connected ships and ports

- ”*I can really see route exchange ship to ship being useful*”
  Navigator on a tanker. **Situational Awareness**
- “*Route suggestions pops up at the worst possible time and only serves as a distraction*”
  2:nd Officer. **Information Quality**
- *“Navigational warnings are useful but delay in receiving service response is a problem*”
  Master on Ro-Ro ship. **Minimize administrative burden, information transparency & quality**

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Vessel Traffic Services

- *“AIS is the biggest progress I have seen. STM will be the next.”*
  VTS Manager, Tarifa. **Situational Awareness**
- *”Radar, AIS, STM. Those steps are equal in the history of VTS”*
  VTS Training Officer, Gothenburg. Increase **Predictability and Situational Awareness**

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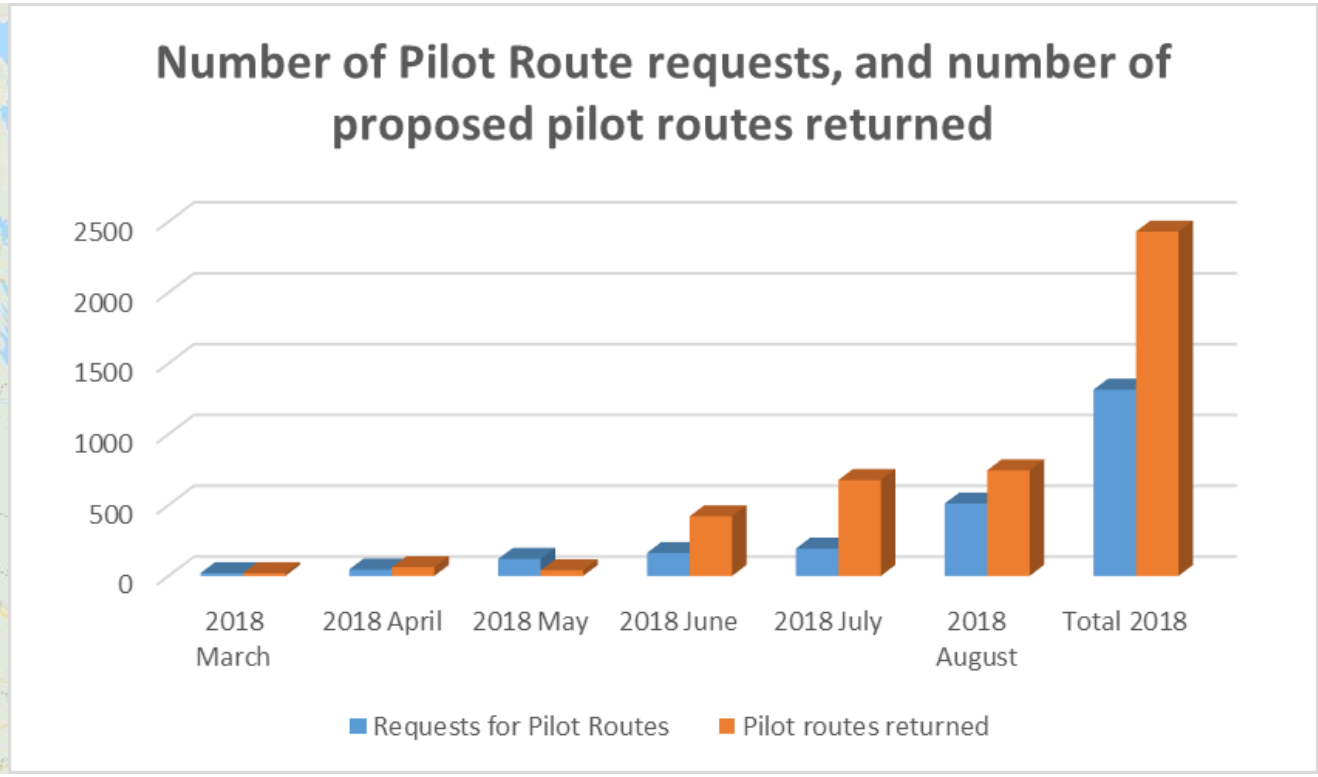
Pilot route service



Minimize administrative burden, increase predictability

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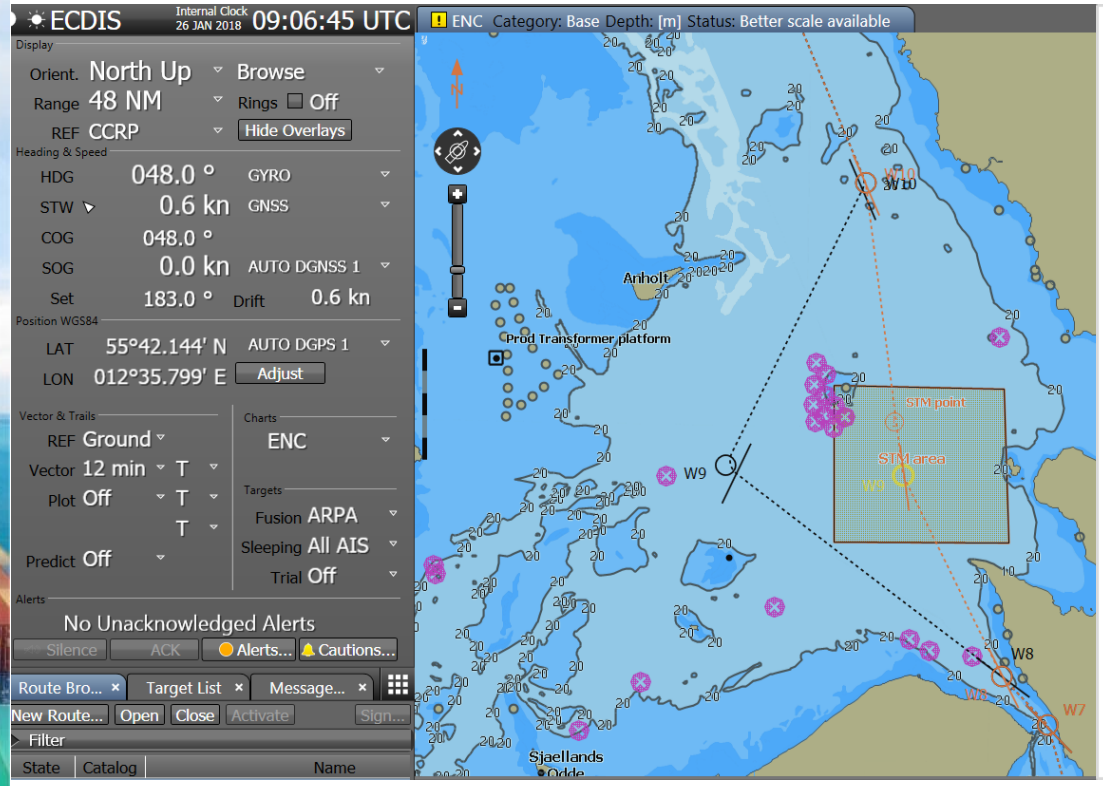
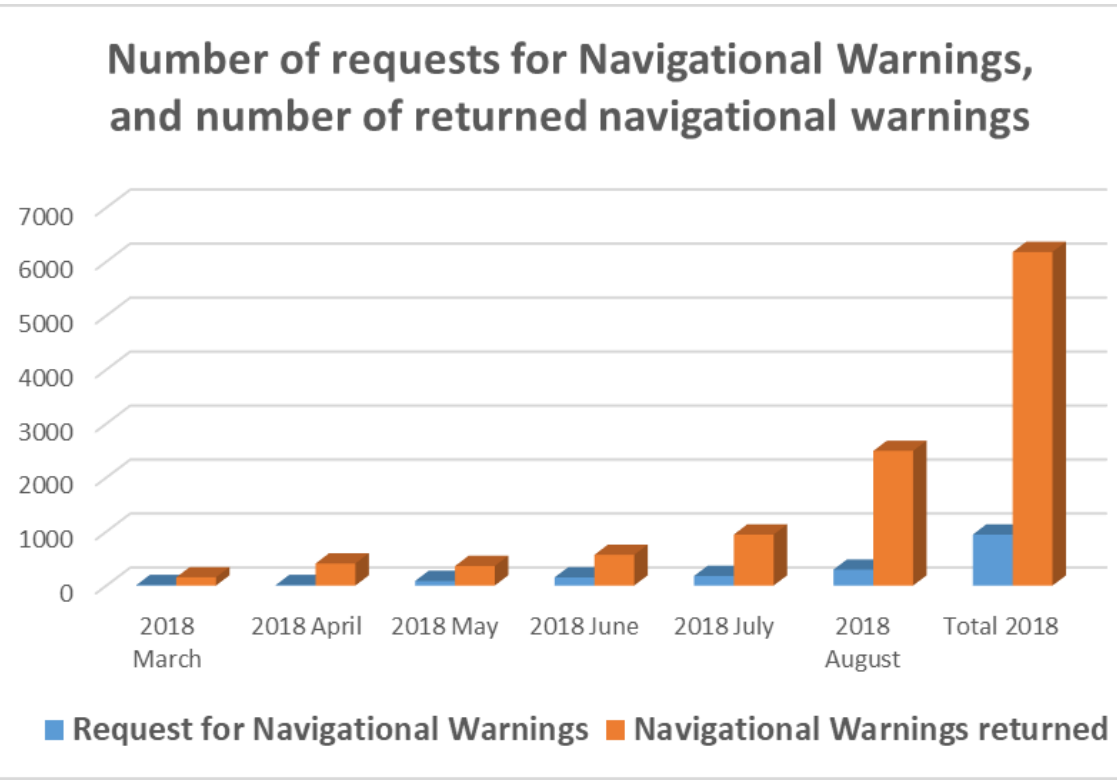
Navigational warning service





Decrease integration complexity, improve interoperability

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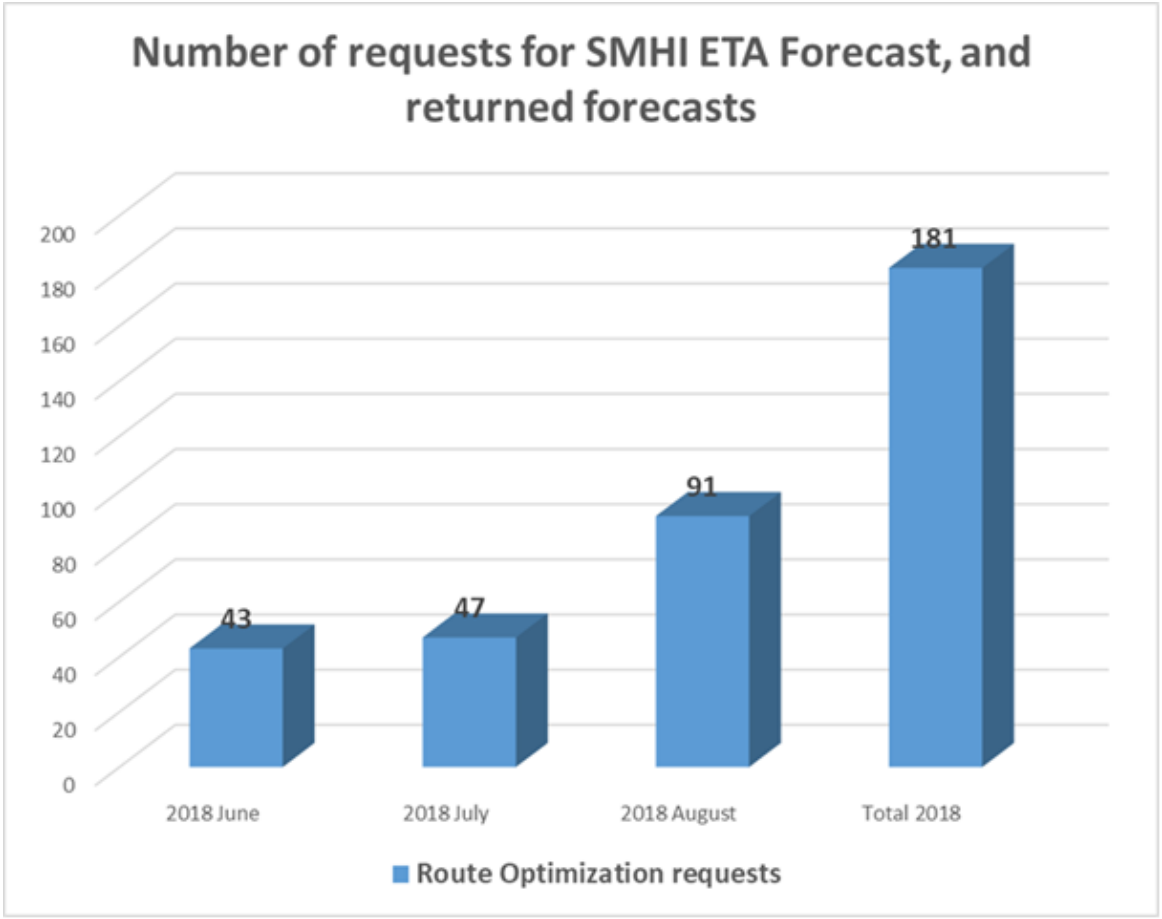
Route ETA forcast by SMHI



Increase predictability, improve interoperability, facilitate just-in-time

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Winter navigation in Finland and Sweden

Decrease administrative burden, reduce congestion

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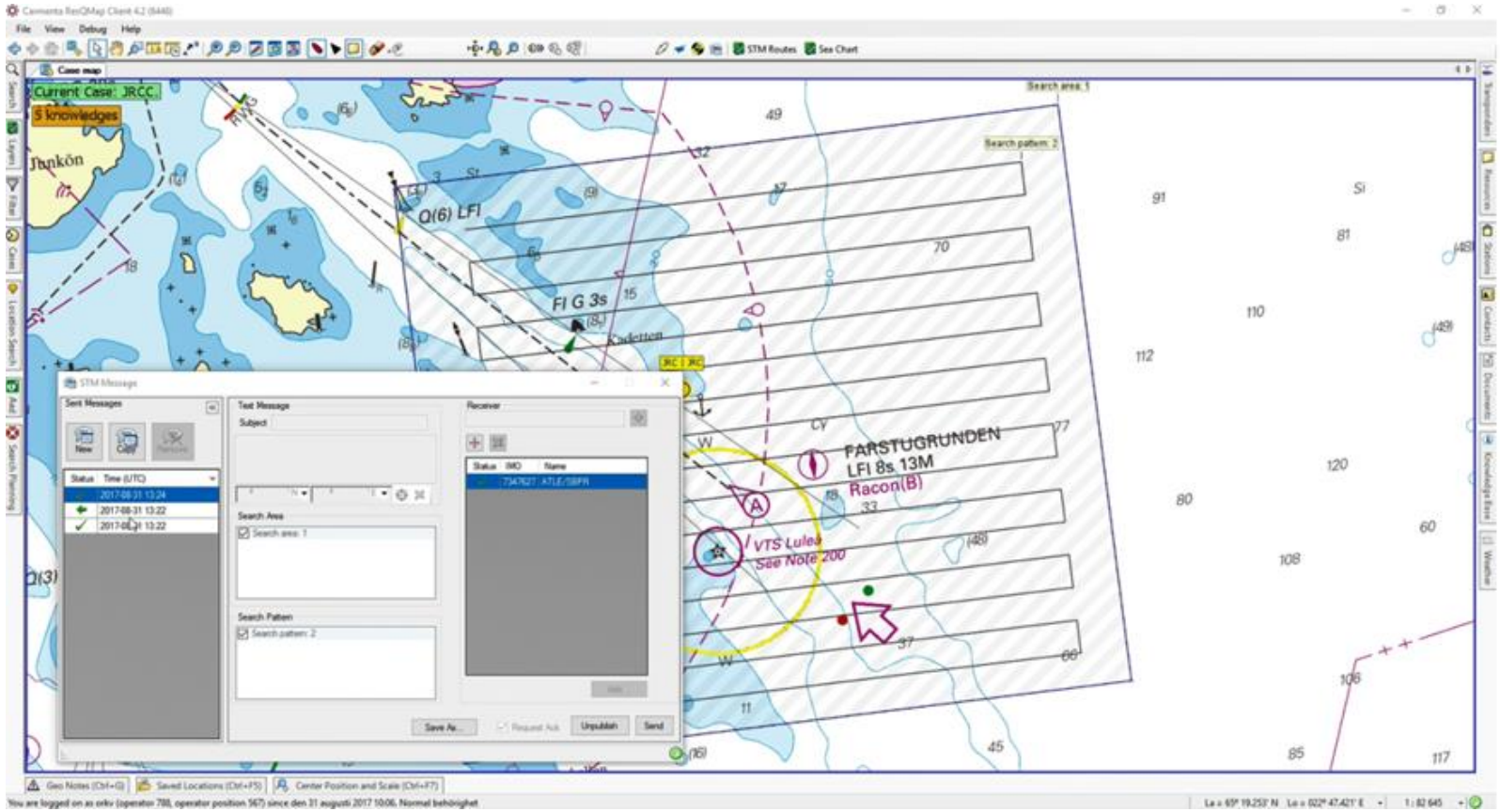
Search and Rescue



Decrease administrative burden, improve situational awareness

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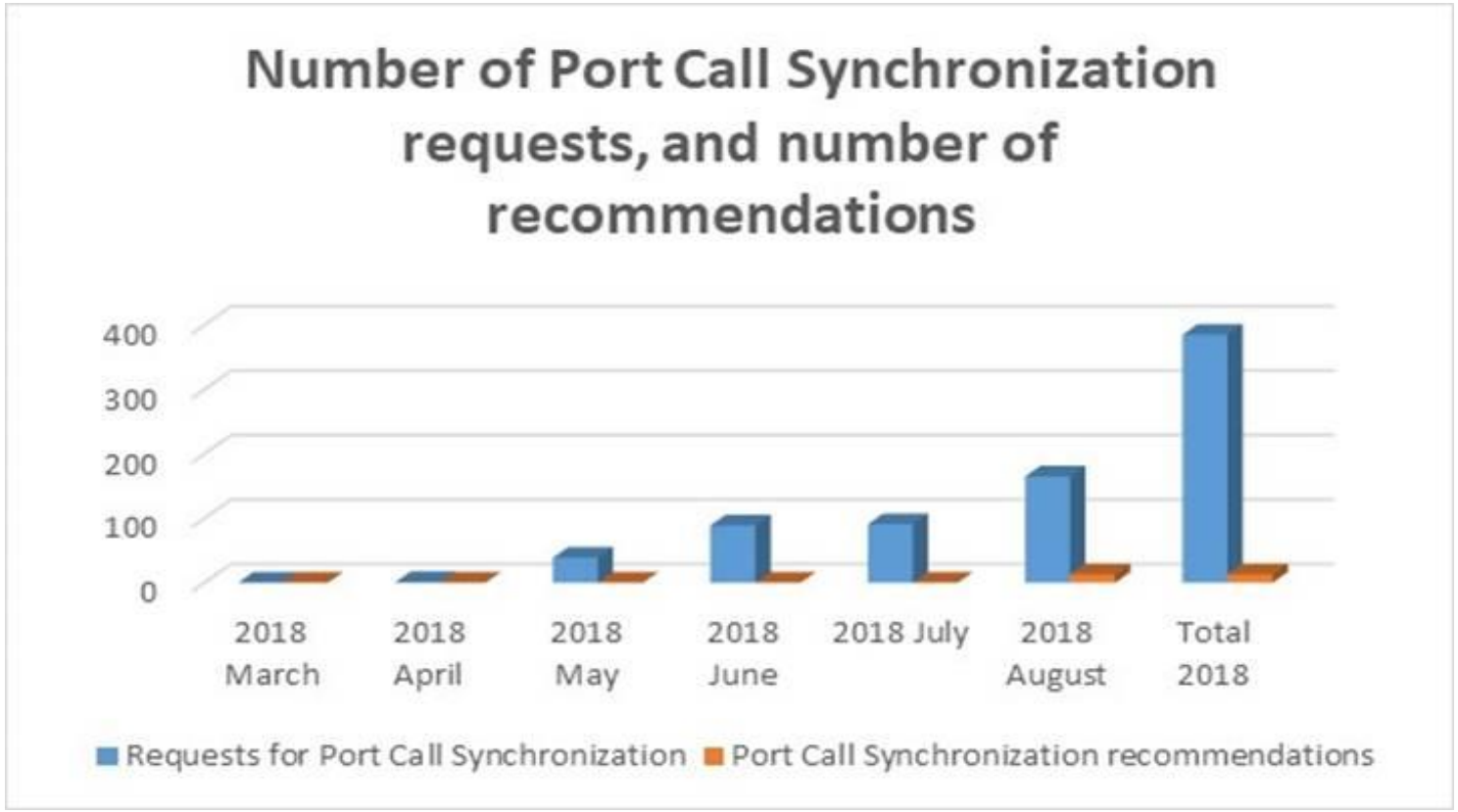
Port call synchronization



Increase predictability on ships and in ports, facilitate just-in-time

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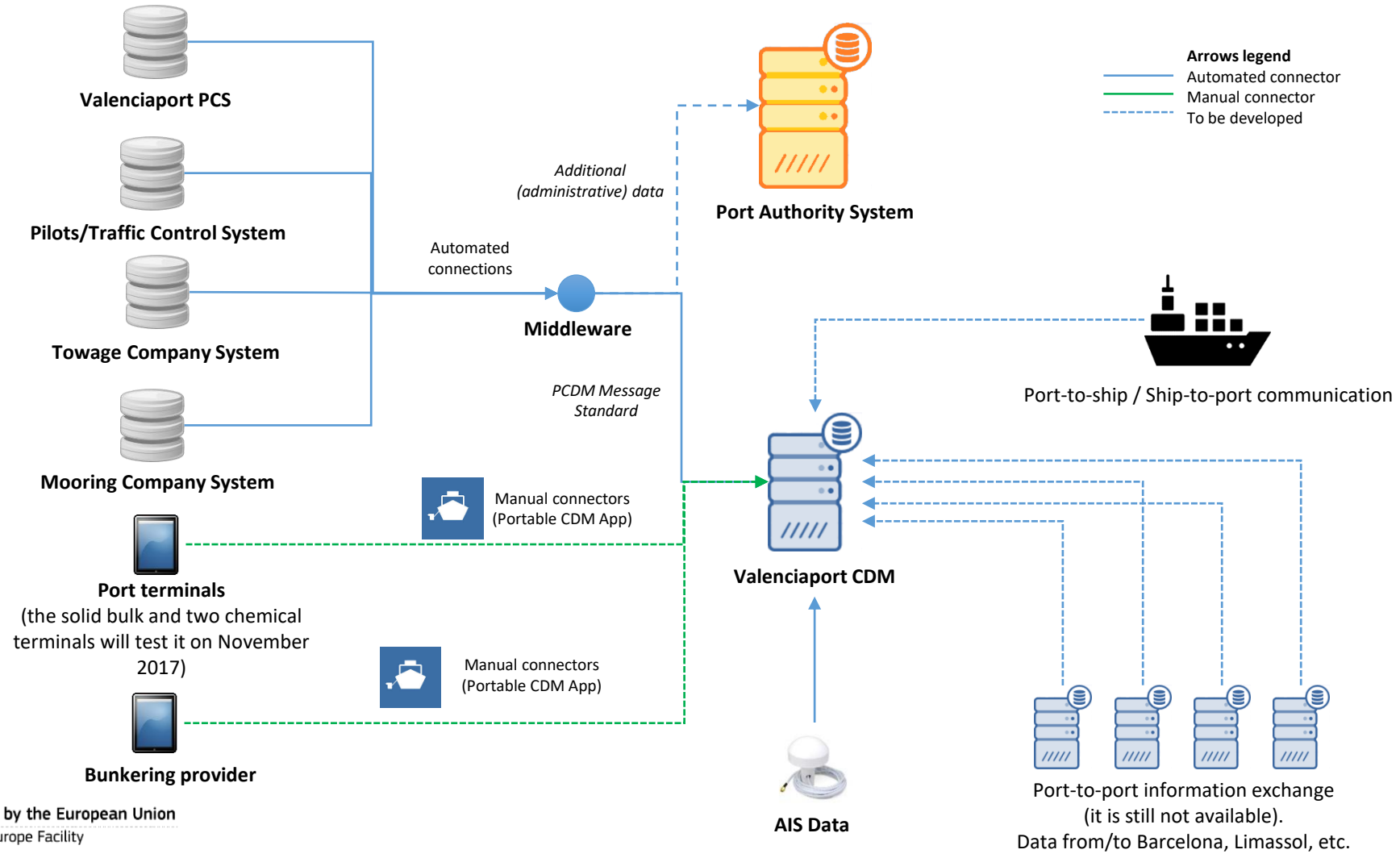
A focus month in Valencia



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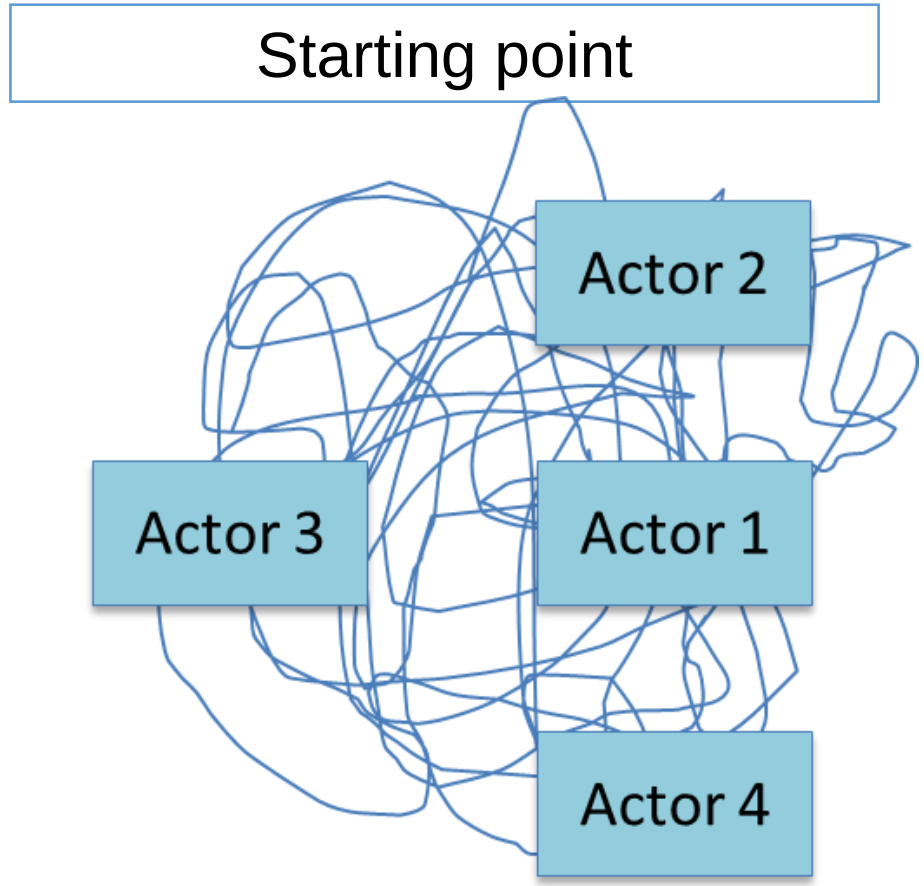
A focus month in Valencia



- Large volumes of paperwork.
- Redundancy of information
- No real-time data exchange.
- Numerous phone/radio calls.

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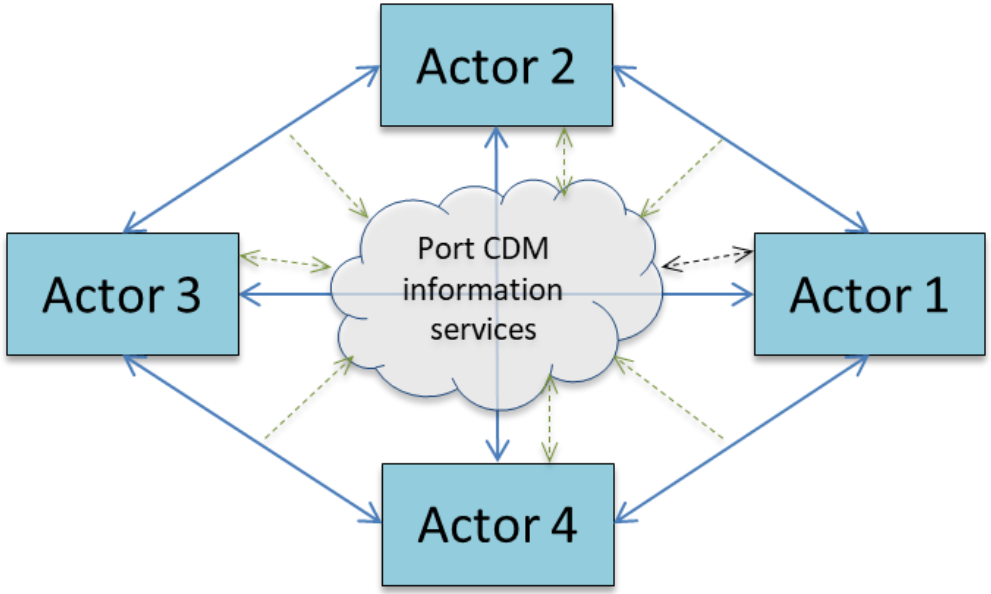
Desired situation



- High reliability and accuracy of the information shared (real-time information at the right time to the right agent).
- Minimizing information redundancy.
- Reduction of phone / radio calls.
- Simplifying administrative procedures.

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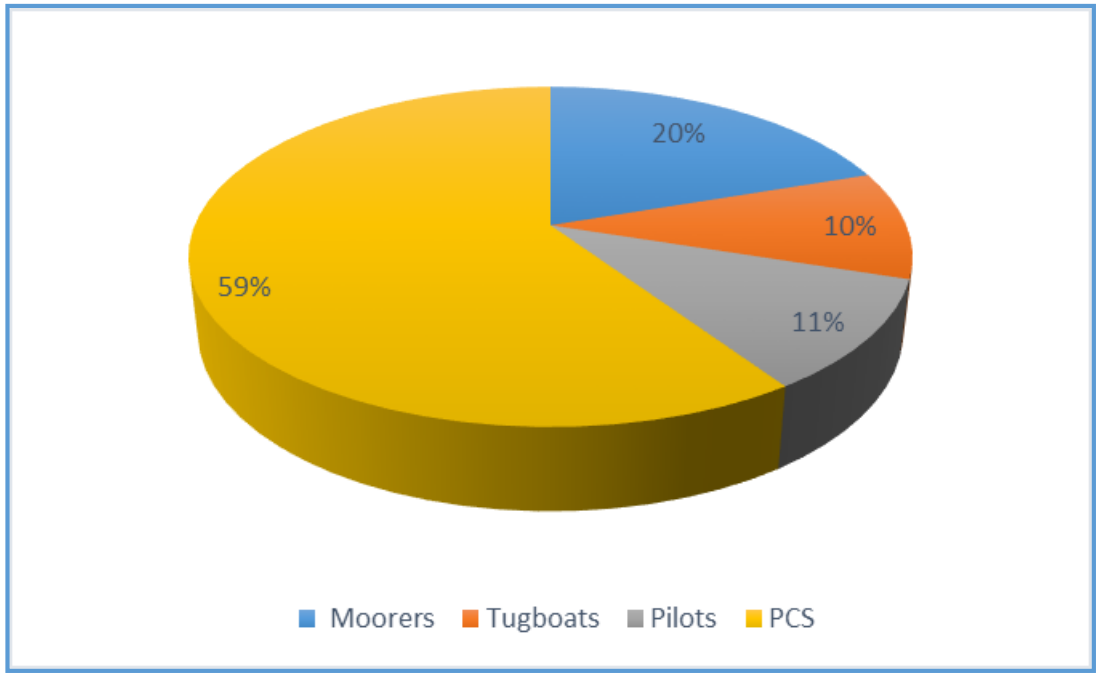
A focus month in Valencia

The results

Source	Number of messages
Moorers	4154
Tugboats	2160
Pilots	2221
PCS	12498



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A focus month in Valencia

The results

Kind of ship	Turnaround time (Traffic Area)	Tme At Berth Average	Operating Time Average	% at berth	% Operating
CAR CARRIER	26:59:00	18:05:00	13:51:24	67,0%	51,4%
CHEMICAL TANKER	11:43:00	10:00:00	9:22:30	85,3%	80,0%
CONTAINERSHIP	25:03:15	22:13:58	17:33:55	88,7%	70,1%
GENERAL CARGO	16:23:30	14:17:30	13:30:00	87,2%	82,4%
PAX	21:58:00	20:17:30	15:57:30	92,4%	72,6%
RO-PAX	7:40:05	7:03:26	6:30:37	92,0%	84,9%
RO-RO	15:01:36	13:31:36	12:11:00	90,0%	81,1%
TOTAL	**15:07:52**	**13:17:01**	**11:06:13**	**87,8%**	**73,4%**

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Port call optimization

- *Pilots, Mooring Companies and Towage Company enter same information twice – in their own systems and in the Port Authority's. Connectors should be ready and stable by the end of 2018.*
- *Getting real time data and predictions will improve the overall port efficiency.*
- *Reliable predictions will allow terminals to plan their operations more efficiently.*
- *Limited number of tug boats, can be used in two ports. Real time information allows optimization of resources.*

Gabriel Ferrús Clari, R&D Project Manager,
Valenciaport Foundation

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