Smart & Eco-friendly Shipbuilding
Equipment International Standards Seminar
2022.7.15 (Fri), Busan Nurimaru APEC House (Webinar)
KMI, KOMERI

Final

Activities of Smart Ship Application Platform (SSAP) Project

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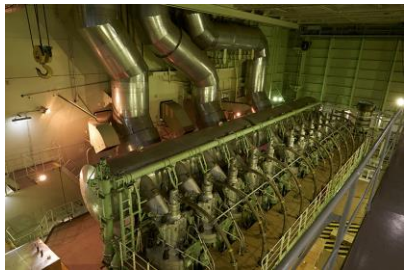
15th July 2022

JSMEA Japan Ship Machinery and Equipment Association

Data sharing in the maritime industry



Shipping
- Safety operation
- Vessel performance analysis
- Fleet operation optimization
- Weather routing

Shipyard
- In-service performance analysis of delivered ships
- Feedback to new ship design

Manufacturer
- Remote condition monitoring
- Remote diagnostics
- After service support

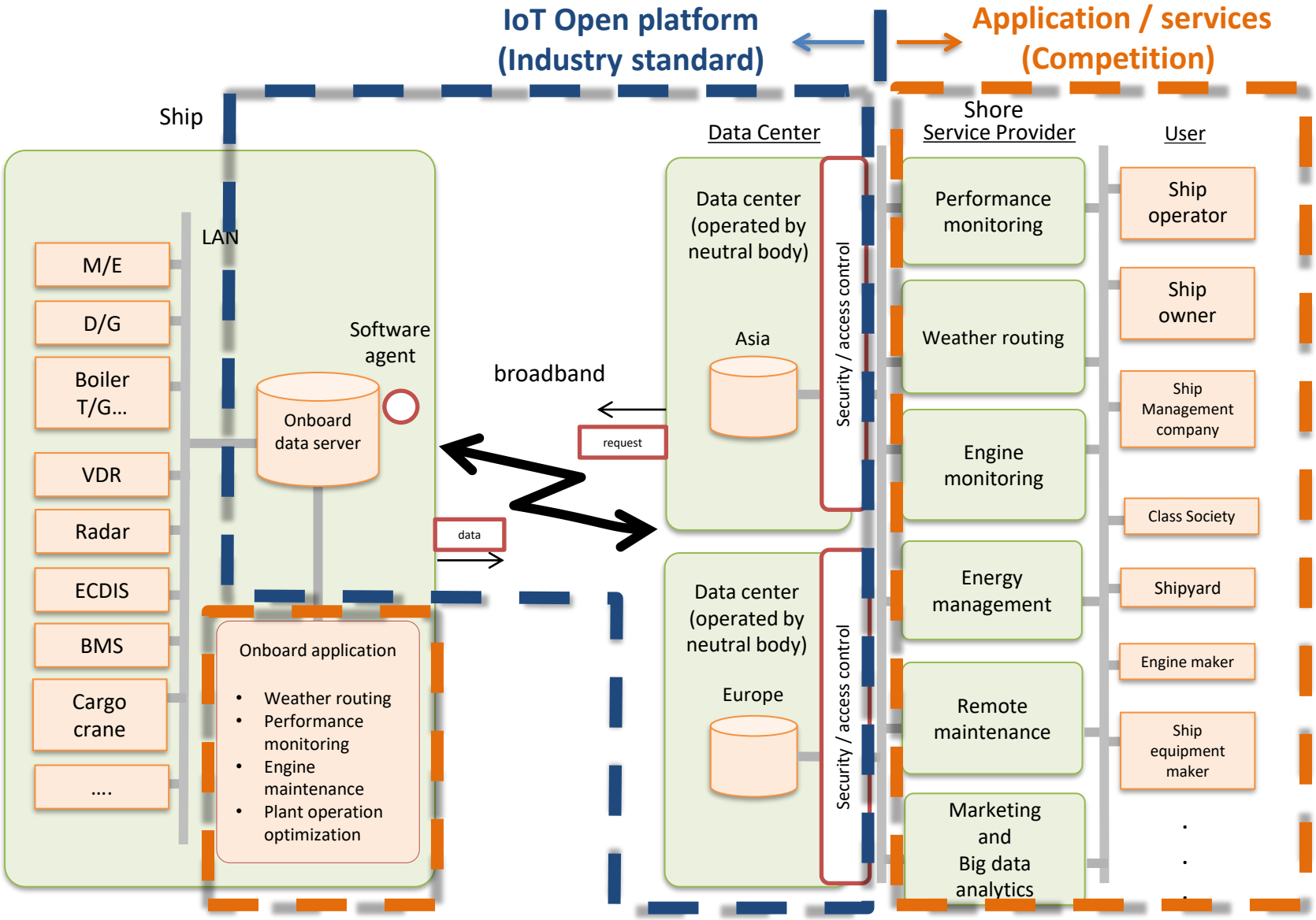
Class Society
- Utilization in class inspection

Insurance
- New services

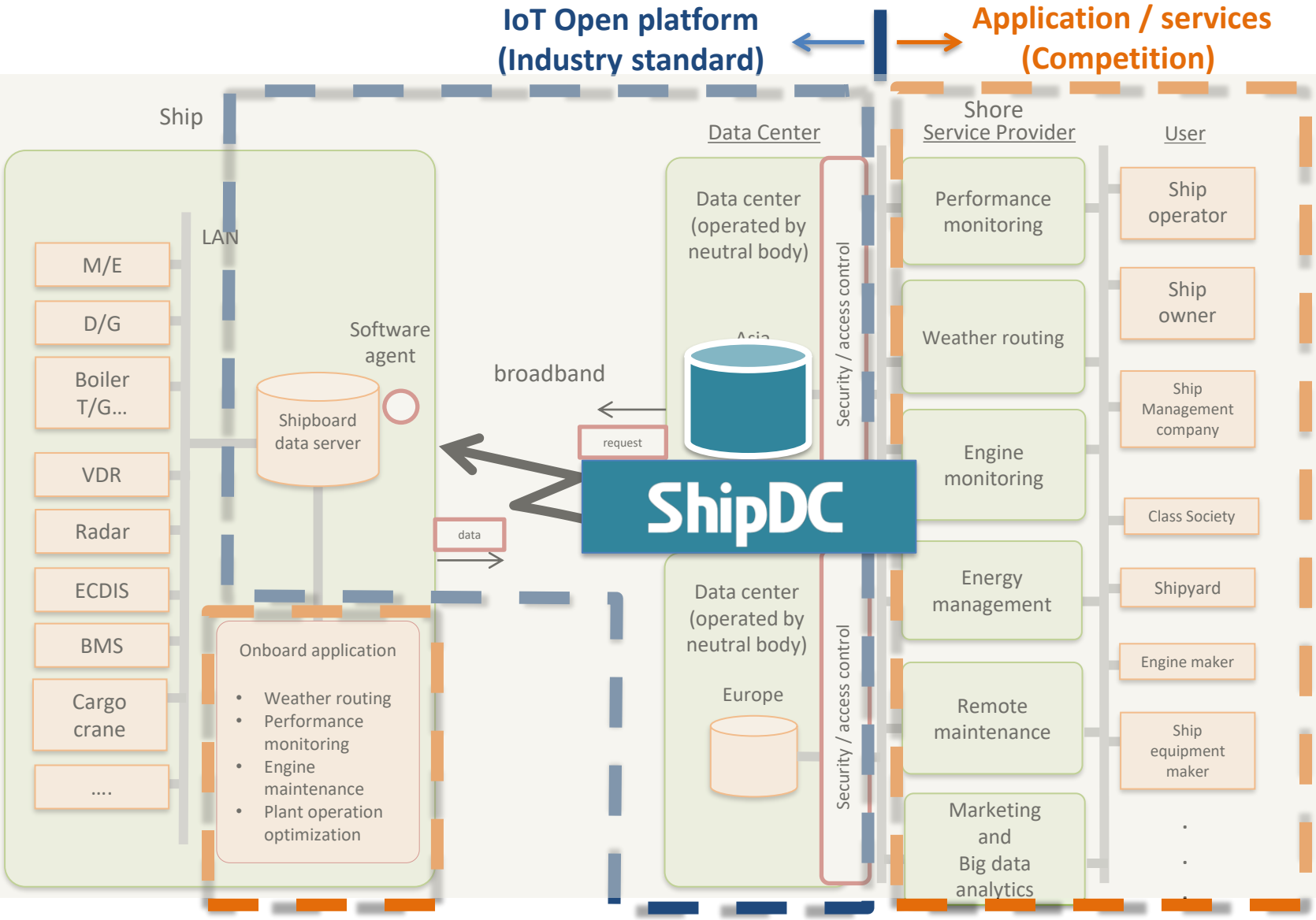
Regulatory use
- Data reporting

Open platform

Open platform concept for data sharing in maritime industry



ShipDC as a data sharing platform at shore

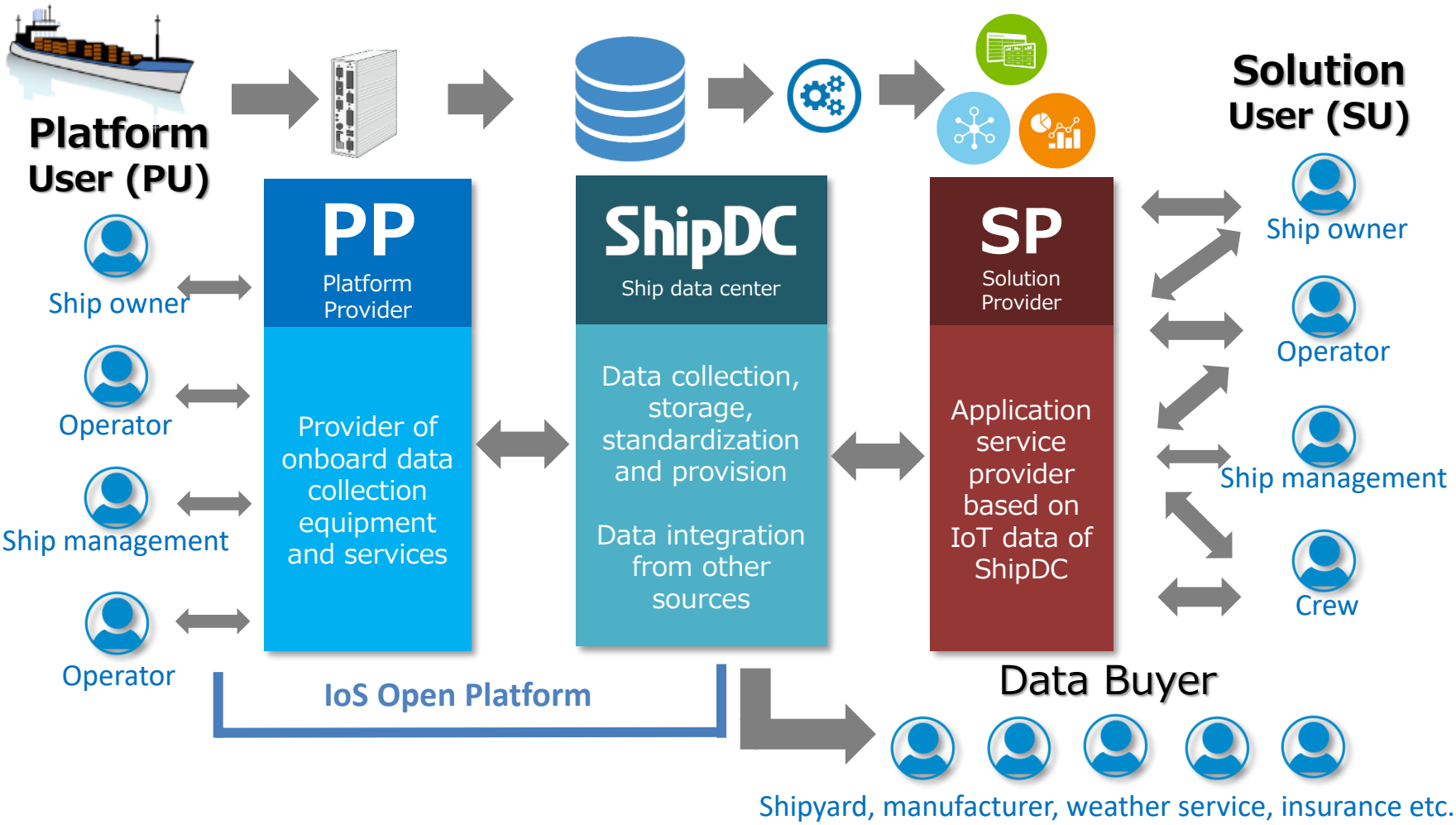


Internet of Ships Open Platform (IoS-OP)
- Data Sharing Ecosystem

65 members
(as of Aug 2021)

- ✓ Stakeholder's role
- ✓ Data ownership rule
- ✓ Transparent and fair data sharing rule

→ Accelerate data driven innovation



SSAP4 Project (Jan 2021 – Dec 2022)
(Smart Ship Application Platform 4)

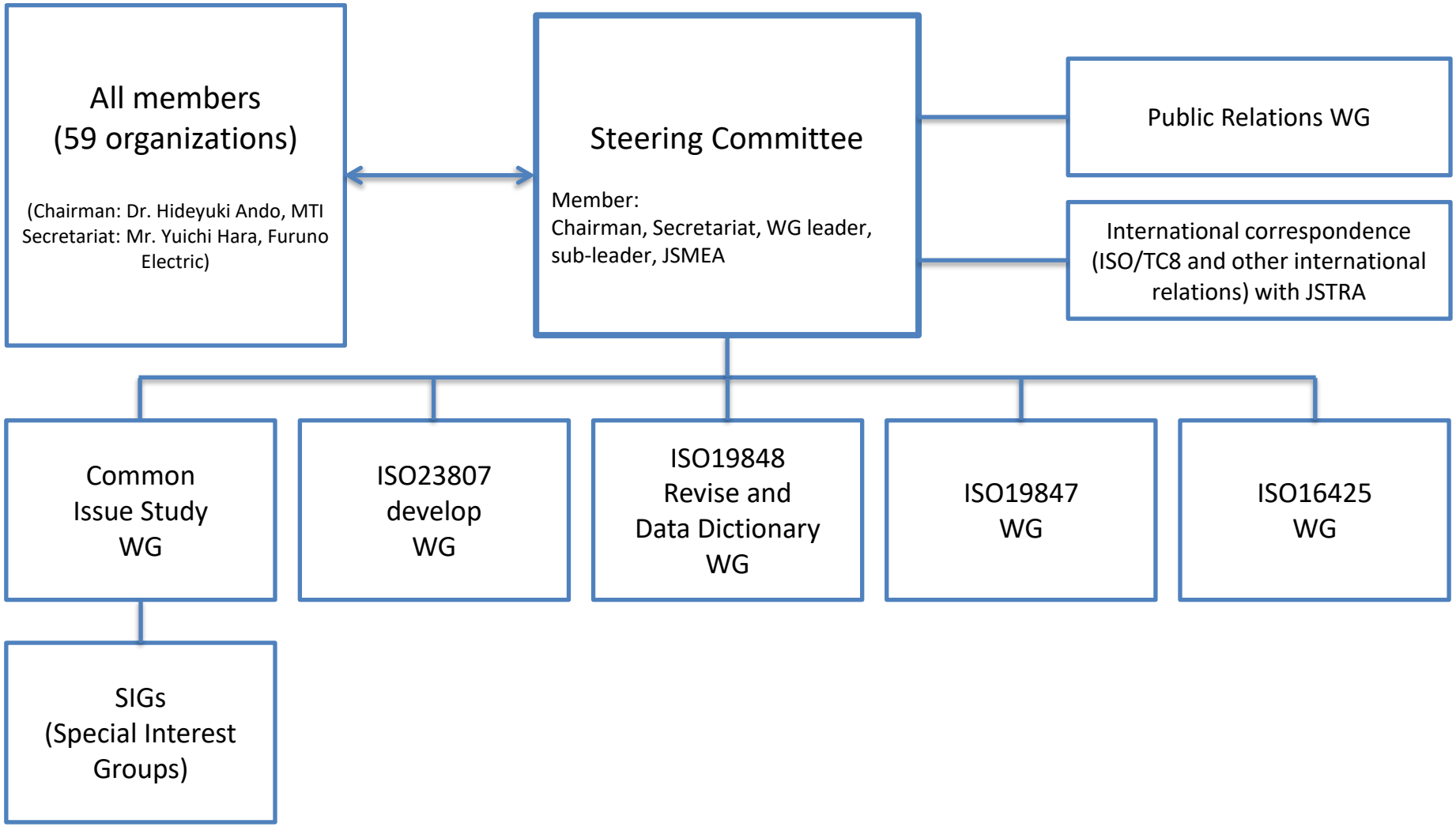
- Participants
  - 59 organizations

- Research project in JSMEA

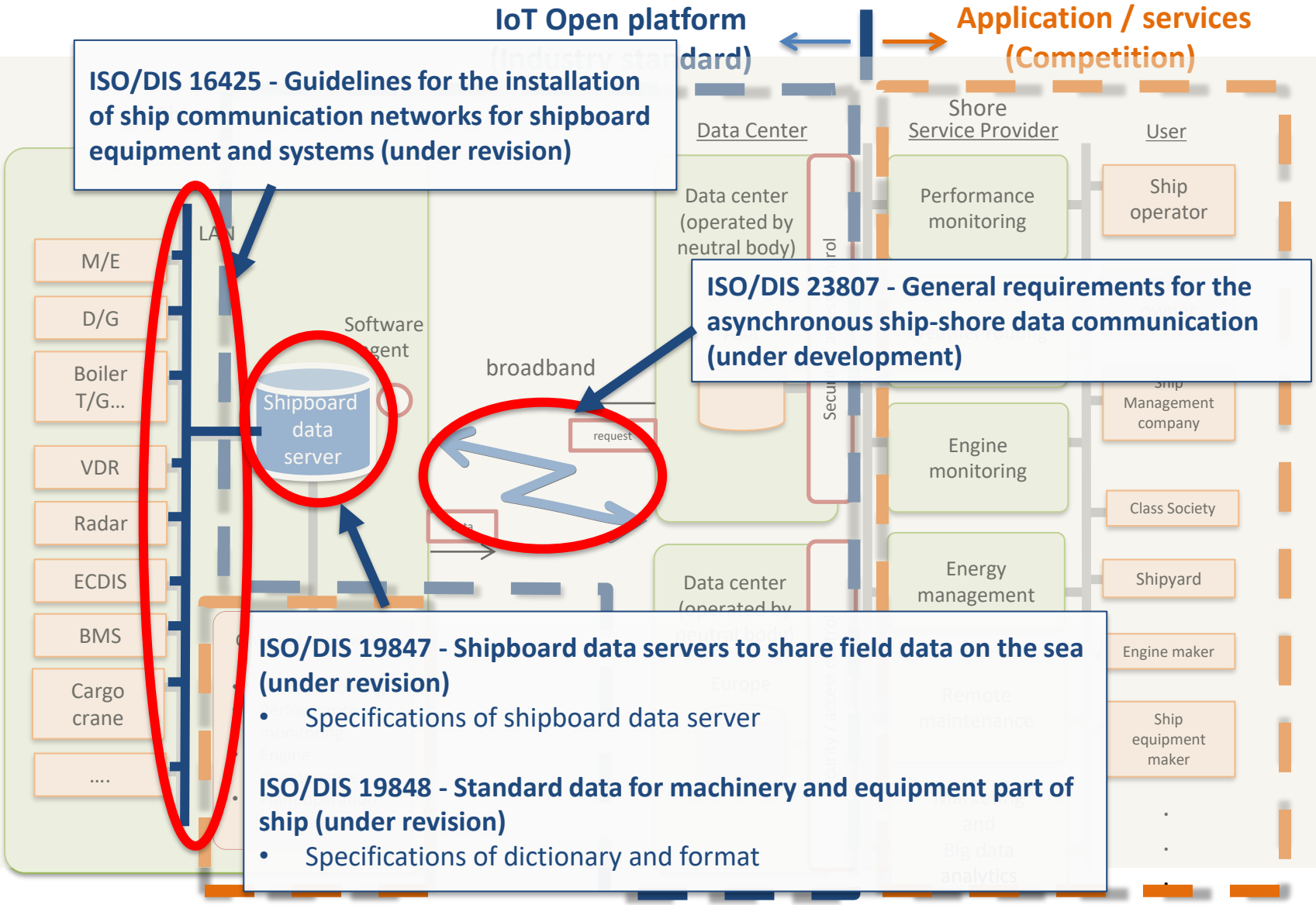
- Action items (WGs)
  - Common Issue Study WG
    - Special Interest Groups (SIGs)
  - ISO23807 Develop WG
  - ISO19848 Revise and Data Dictionary WG
  - ISO19847 Revise WG
  - ISO16425 Revise WG
  - Public Relations WG
  - International Correspondent

- Cooperation partner
  - JSTRA, official representative of Japan in ISO/TC8

Organization of SSAP4 Project



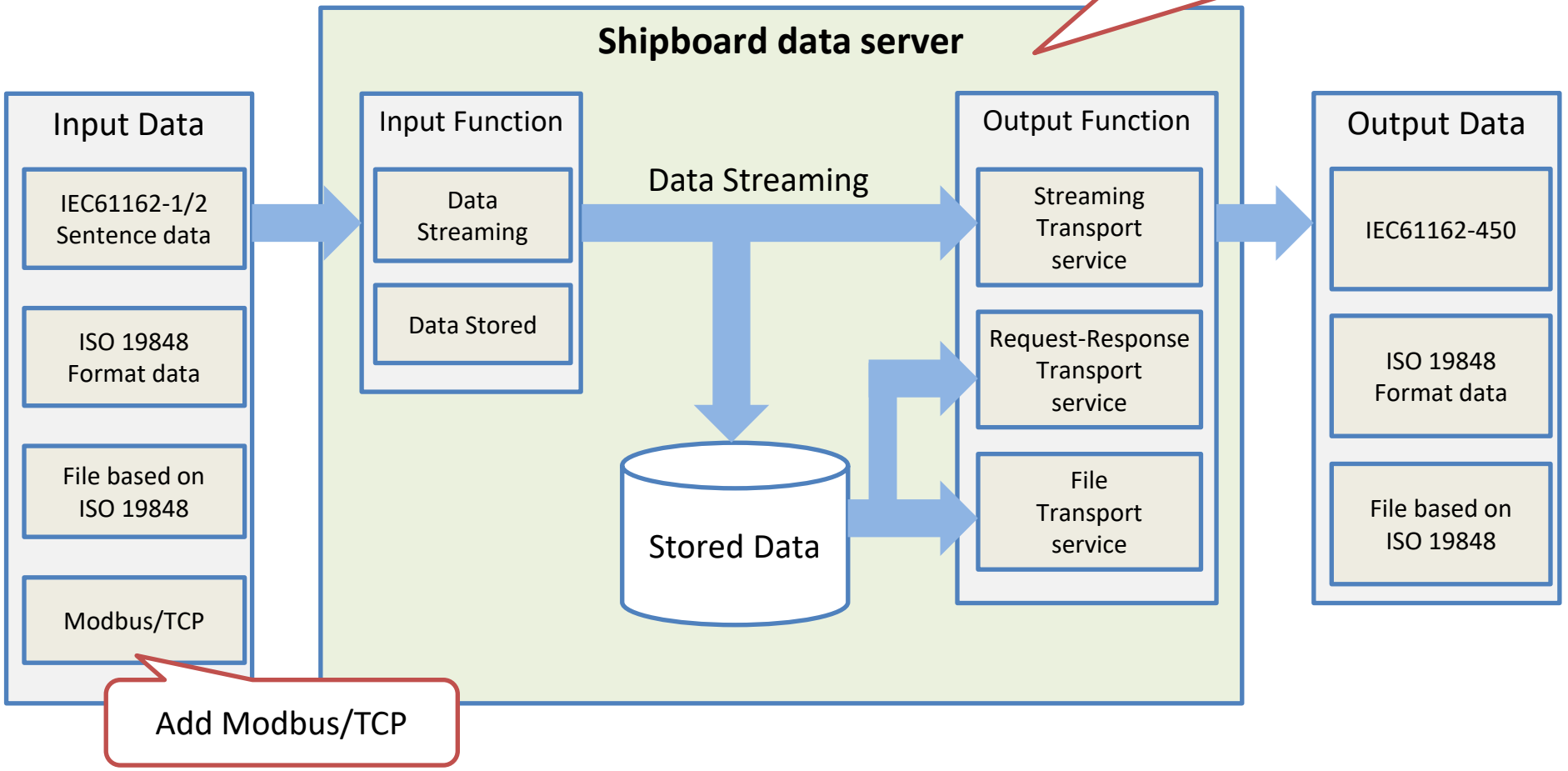
ISO activities regarding the open platform



Revision of ISO/DIS 19847

Additional Specifications of shipboard data server

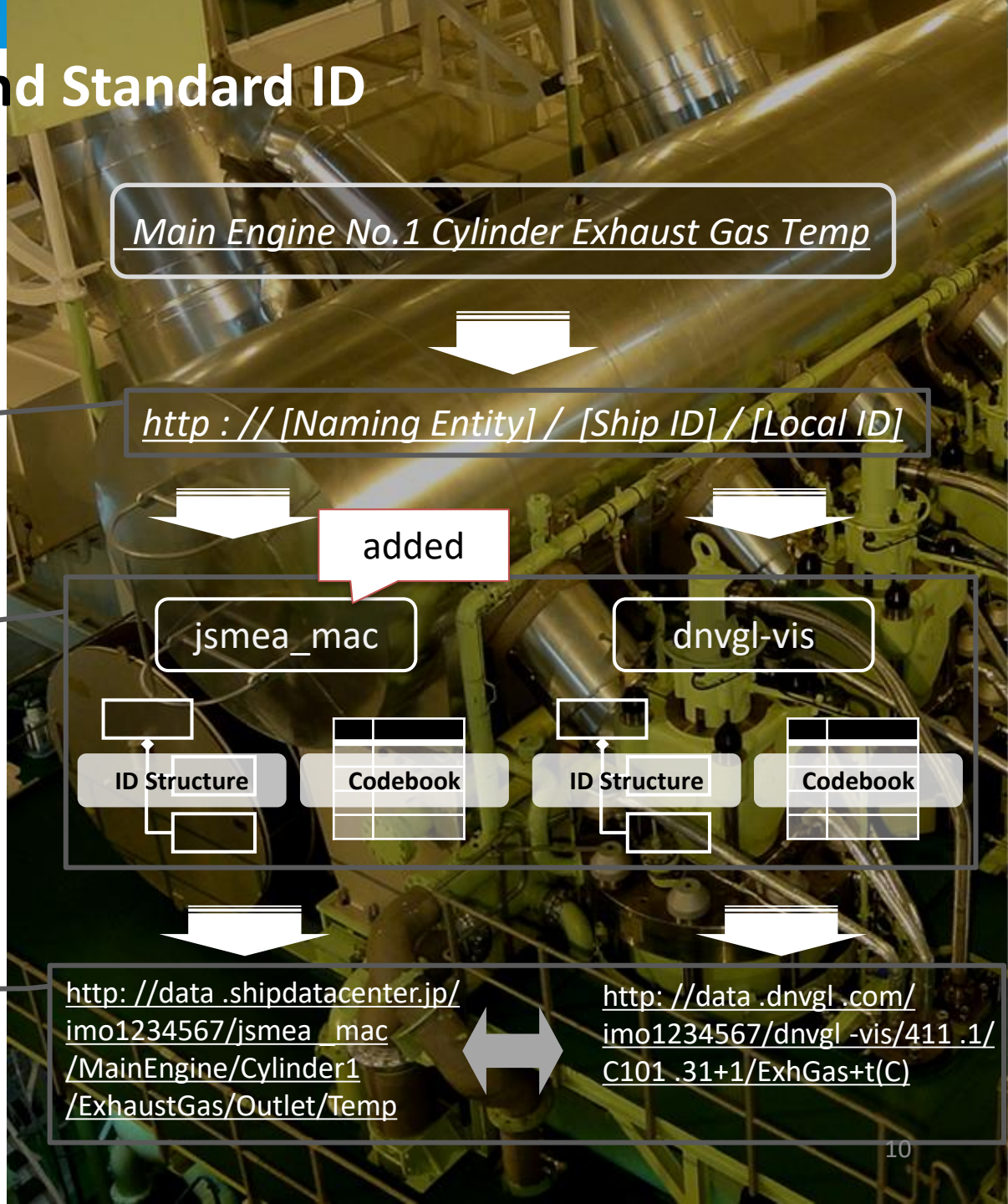
- Update test requirements
- Update data calculation functions
- Add cyber security requirements



Standard Codebook and Standard ID

Revision of ISO/DIS 19848

Standard data for machinery and equipment of ship



Standard

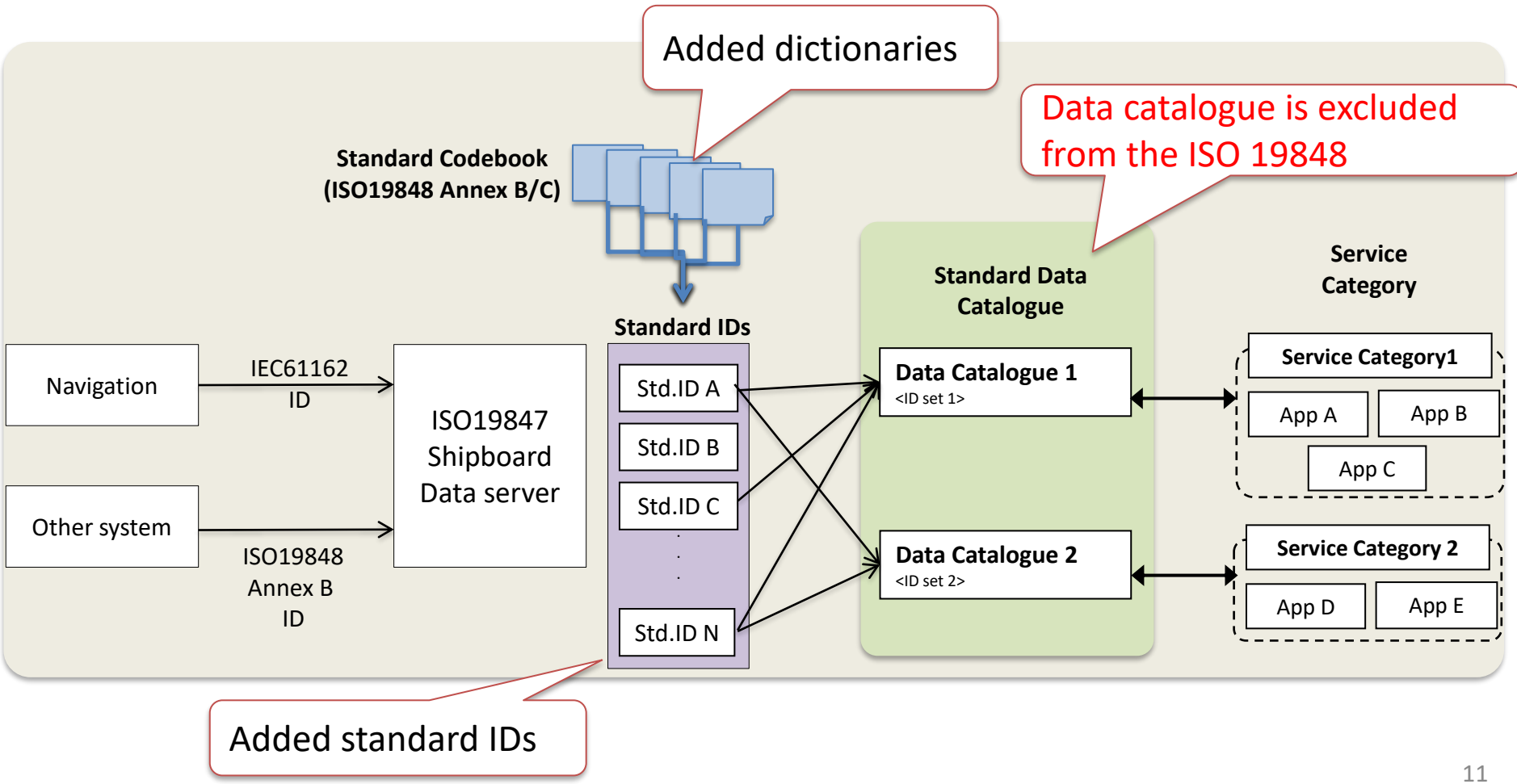
- Standard naming structure
  - URL style hierarchical ID
  - Globally ID consists of naming entity, ship ID and Local ID
- Codebook
  - Multiple naming rules can be applied to allow domain diversity
  - Naming rule defines how to compose Local ID
- Standard ID
  - Standard ID can be defined for interoperability and data catalogues

Added

Revision of ISO/DIS 19848

Standard data for machinery and equipment of ship

Regarding IoT sensor data naming framework, data catalogue concept, dictionaries and standard IDs are added in the revision.



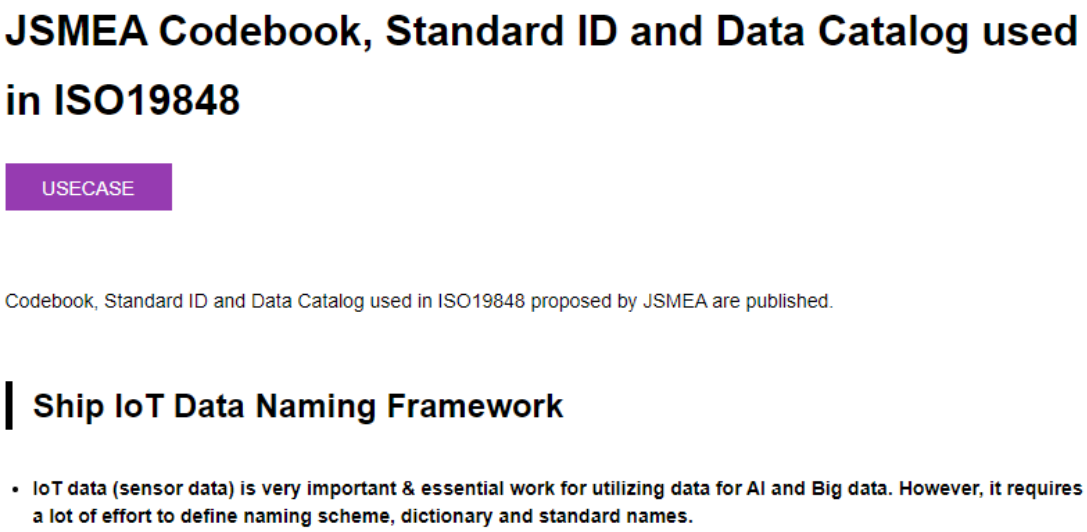
Revisions of ISO/DIS 19848

1. **Establishment of a maintenance scheme for the data catalogue/codebook**
   - Naming Entity takes responsibility for version control
   - LocalID or DataChannelList should contains version information.

2. **Standardization of ON-OFF (event) data**
   - Alert/Event specific properties
   - The way to represent Alert / Event data

JSMEA Codebook, Standard ID and Data Catalog

https://www.jsmea.or.jp/ssap/topics/jsmea_iso19848.html

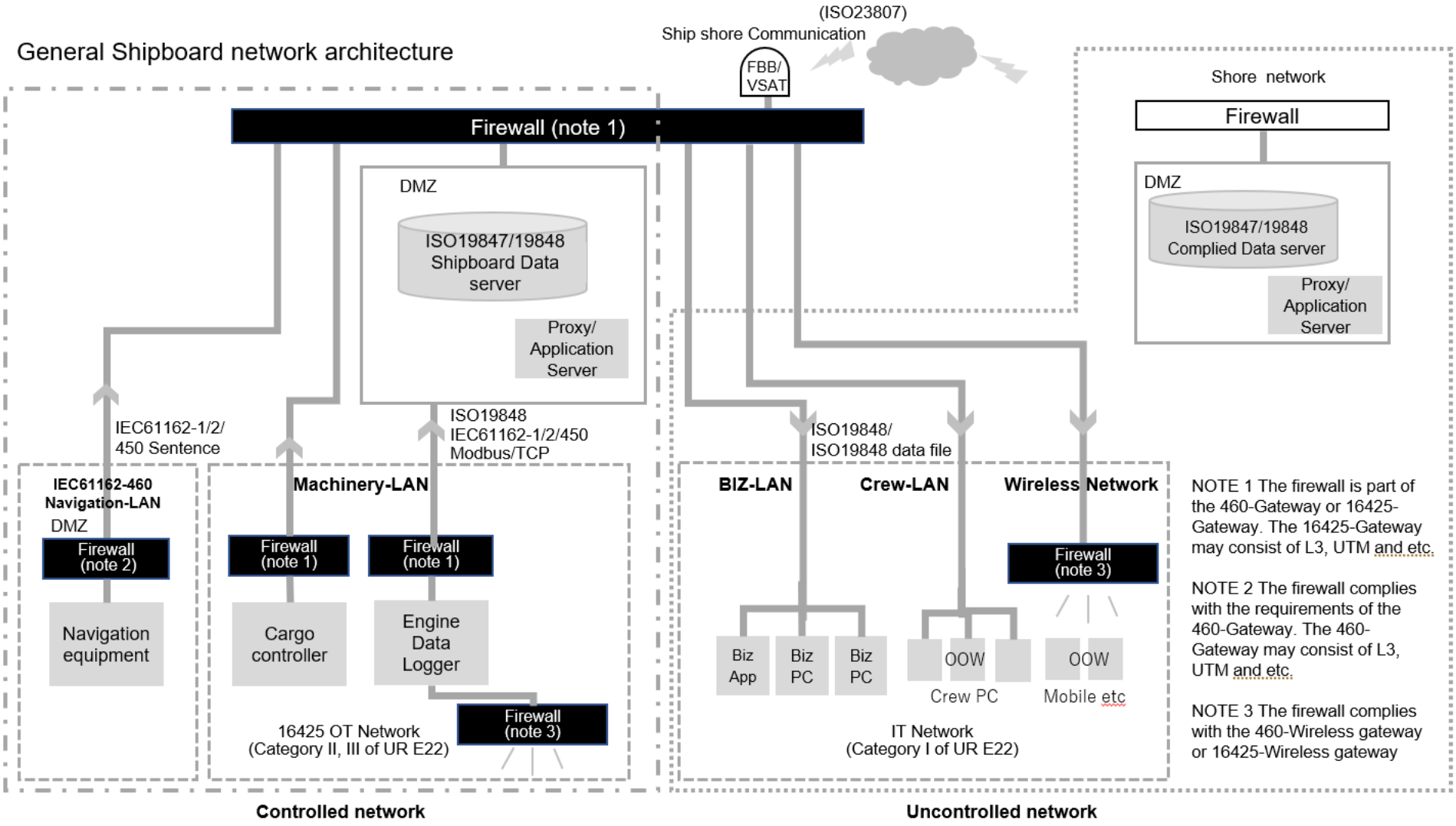


Current plan for maintenance of JSMEA codebook

- JSMEA codebook will be maintained on the web page with version information and change history.
- The workflow to revise JSMEA codebook will be published on the web page for to clarify the procedure.

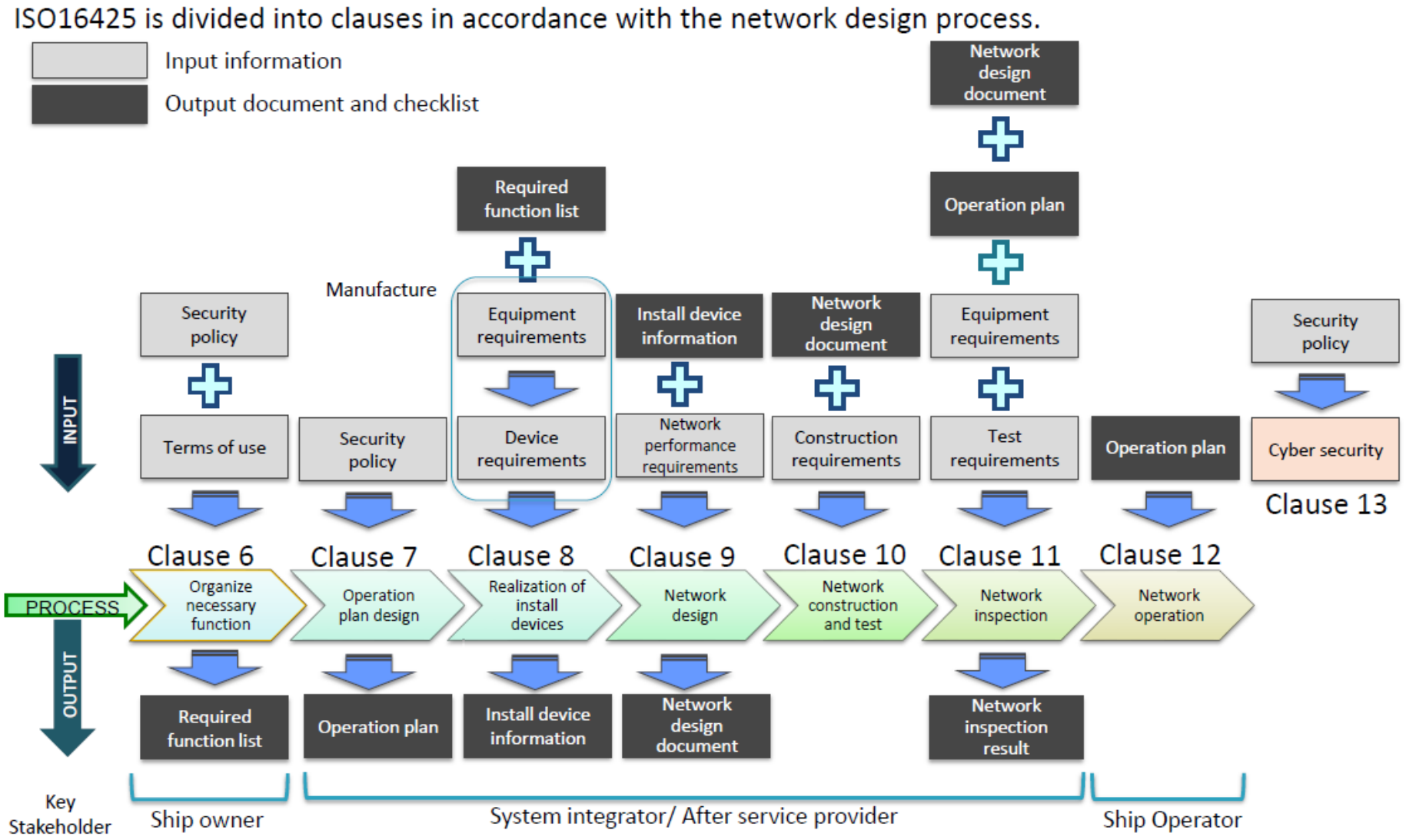
Revision of ISO/DIS 16425

Guidelines for the installation of ship communication networks for shipboard equipment and systems



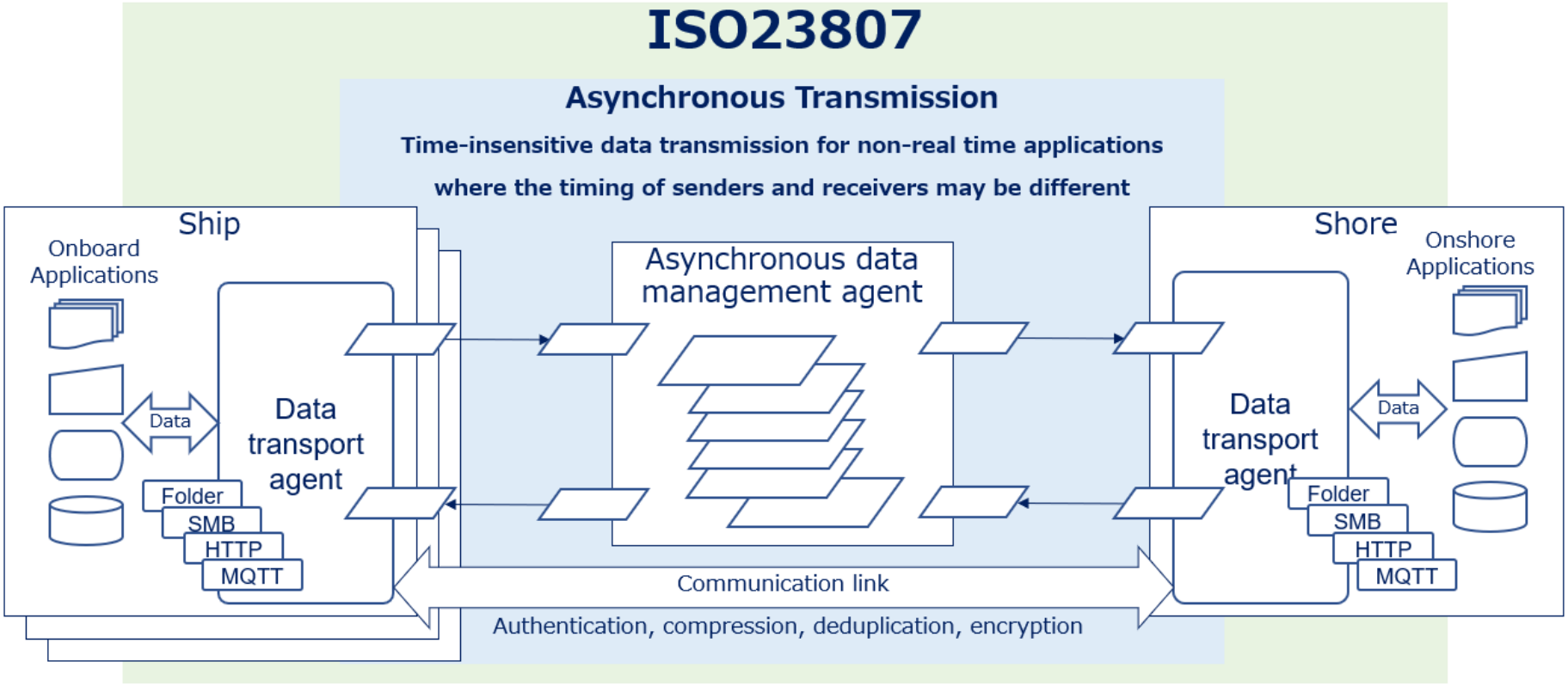
Ref. ISO/DIS 16425 Annex 1

Revision of ISO/DIS 16425



ISO DIS 23807

General requirements for the Asynchronous time-insensitive ship-shore data transmission



Ref. ISO/DIS 23807

Status of ISO 23807, 16425, 19847, 19848

ISO #	Status	Next step	ISO standards establishment
ISO 23807 Ship-shore asynchronous communication	DIS	FDIS voting (22 Dec 2022)	Mar 2023
ISO 16425 rev Onboard network	CD skip	DIS voting (30 Sep 2022)	Sep 2023
ISO 19847 rev Shipboard data server spec.	CD skip	DIS voting (30 Sep 2022)	Sep 2023
ISO 19848 rev Data model and format	CD skip	DIS voting (30 Sep 2022)	Sep 2023

Summary

- SSAP are working on ISO related activities for realizing the open platform concept for data sharing in maritime industry.

- Acceleration of data driven innovation is promoted by IoS-OP, a data sharing ecosystem.

- SSAP4 is working on the following ISO DISs
  - **ISO DIS 19847** rev. Shipboard data servers to share field data on the sea
  - **ISO DIS 19848** rev. Standard data for machinery and equipment part of ship
  - **ISO DIS 16425** rev. Guidelines for the installation of ship communication networks for shipboard equipment and systems
  - **ISO DIS 23807** General requirements for the ship-shore asynchronous data communication

Thank you very much for your attention

Smart Ship Application Platform 4 (SSAP4) Project

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