

# REMOTE Simulator to the SHIPPING

For:

- Skippers/navigators;
- Any stakeholders who involved in shipping process:
  1. Chartering;
  2. Agency;
  3. Transport Logistic;
  4. Crying recruitment;
  5. Investigations;
  6. Port State Control;
  7. Quality Management System;
  8. Safety Management System;
  9. Maritime lawyers;
  10. Others.

The impetuous development and implementation of new technologies in shipping, requires the same impetuous development of personnel training processes to work in modern conditions. This note we try to discuss a new modern method for training operators to control unmanned vessels at a remote distance.

This method guesses the creation of a great (main) simulator in which the main powerful unit is located in one central place, for example, a training center in Rotterdam (Netherlands), HYPACK Training Center (USA) or any others. This great block may consist of several connected modules. This is the navigation bridge, engine room, RIS center, etc.

# TRAINING CENTRE





From the any cities/countries where located control segments that allow you to steering an unmanned vessel at a remote distance from its workplace. Such a control segment may consist of a computer, a monitor screen on which the controlled vessel is displayed, an Inland ECDIS electronic charts, an image of the navigation bridge or its duplicating components, such as a steering wheel, gyrocompass, echo sounder, etc.

The vessels selected in this case from the collection of library vessels available at the training center, for example in Rotterdam. You can work simultaneously with representatives from different cities, companies and countries, choosing each vessel for this and independently planning your voyage. In the process of movement of the vessel in case of its divergence with other vessels, it is possible to broadcast communicate with the operators of these vessels. All these actions are practiced in the Internet space through a dedicated communication channel.

It is assumed that the operator can control the vessel from the RIS center, where he/she receives all current information on the planned route of the vessel and makes adjustments to its movement. So, for example, it processes information regarding changes in the water level, taking into account the available mathematical models of the water surface. It takes into account possible changes in the position and size of the fairway, changes in silting of the bottom topography, etc. In some countries they are already very close to using unmanned vessels, however, even at the preliminary stage of preparation, they are faced with solving such possible problems.



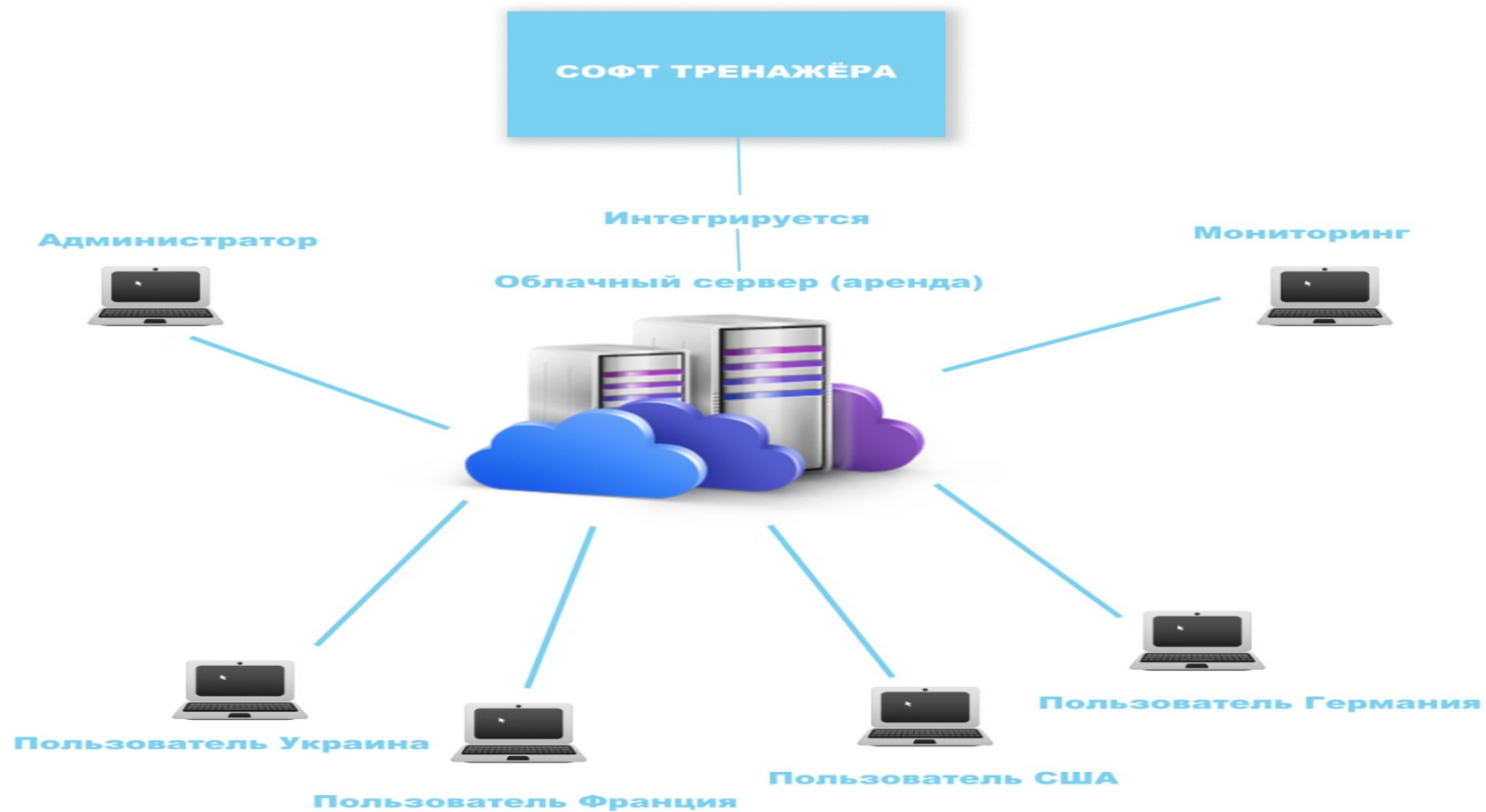
This is a problem of mutual recognition of sound and light signaling of oncoming vessels in a situation when the vessels go towards each other in difficult sailing conditions, for example, one of them with the crew, and the other without it. For an unmanned vessel, for example, it is better to use virtual alarms and virtual AtoNs, but for a vessel with a crew, real ones.



The proposed method allows from one central simulator to conduct simultaneously trainings with several partners, where it is possible to set situations of varying complexity, as well as conduct communications between the direct participants in the training in real time. The central training center can make a timetable for the remote users to apply their simulator. So, there is no need for all training centers to purchase their own simulators, but you can buy advance time at the central training facility. The computer program evaluates the student's actions, and it is unified and the same for everyone.

We propose to realize the principle of a business game at a distance. Consider now how to look like this game in some example.

The concept of development of distance learning, as well as tasks and methods for solving them. Fig.1 shows the general scheme and principle of operation of the proposed simulator. There we would like to show in the central part of the figure, an Internet server is shown, which can be located near the main simulator to ensure stable communication. You should also provide a dedicated Internet channel for training using satellite communications. Each remote user must have the appropriate equipment and software that will allow him to solve the necessary tasks.



**Софт тренажёра должен обладать:**

- **многопользовательской возможностью,**
- **умением работать как с мультискранным системой, так и с монотранной системой**
- **иметь встроенные биллинговые функции либо использовать внешний биллинговый модуль (учёт времени и предоплат пользовательских акаунтов).**
- **отдельное ПО внешний Web интерфейс для регистрации новых пользователей и оплаты услуг Online**



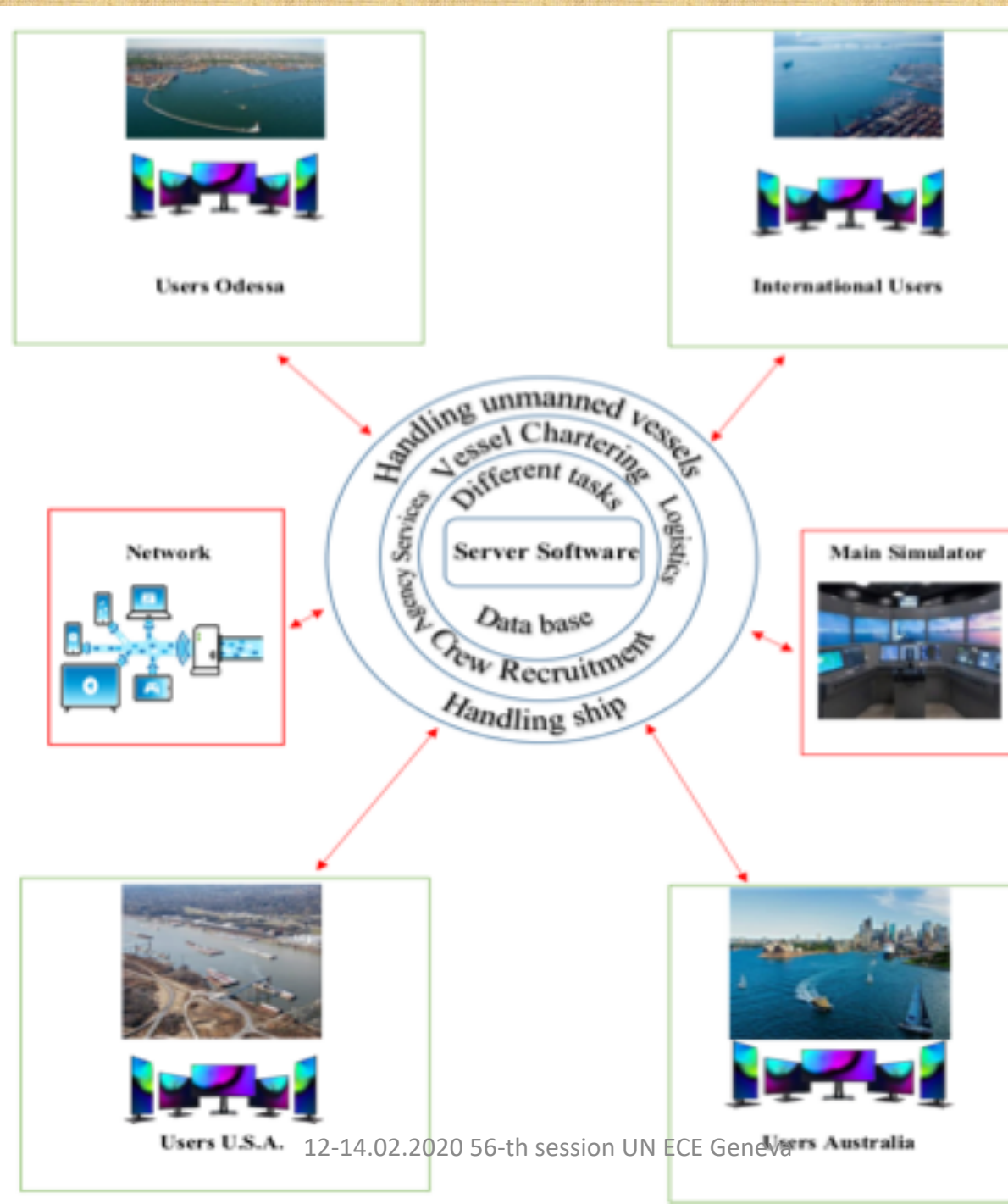


fig.1 general scheme and principle of operation of the proposed simulator





WI - FI



SERVER

Figures which you can see below shows an example segment for a remote user. This segment can consist of a powerful computer, several monitors (preferably at least three), as well as a simulator of a navigational bridge in one of the variations shown in the figure.







Fig.2 Different segments for remote users







Consider a list of tasks that can be solved using the proposed system for training.

1. Chartering of ships. To do this, you must enter the database of vessels stored on the server. Then, draw up documents in accordance with the requirements of modernity. Select a vessel for transporting the intended cargo (Fig. 3)

- A cargo owner needs cargo moved (or a ship operator needs an additional ship.)
- He engages a shipbroker who finds suitable ships.
  - After meticulous checking of the ships, the charterer chooses a ship, and via the broker, makes a **FIRST OFFER**.
  - The first offer includes charter/freight rates and other conditions
  - The shipowner either accepts or rejects the offer.
  - Further offers and counter-offers may lead to a charter being **FIXED**, i.e. the shipowner and the charterer agree to the charter, and a **CHARTER PARTY** (a special document) is signed by the owner and the charterer.
  - All details in the charter party govern the charter.

the destination port and the route that the vessel should follow to load the next cargo

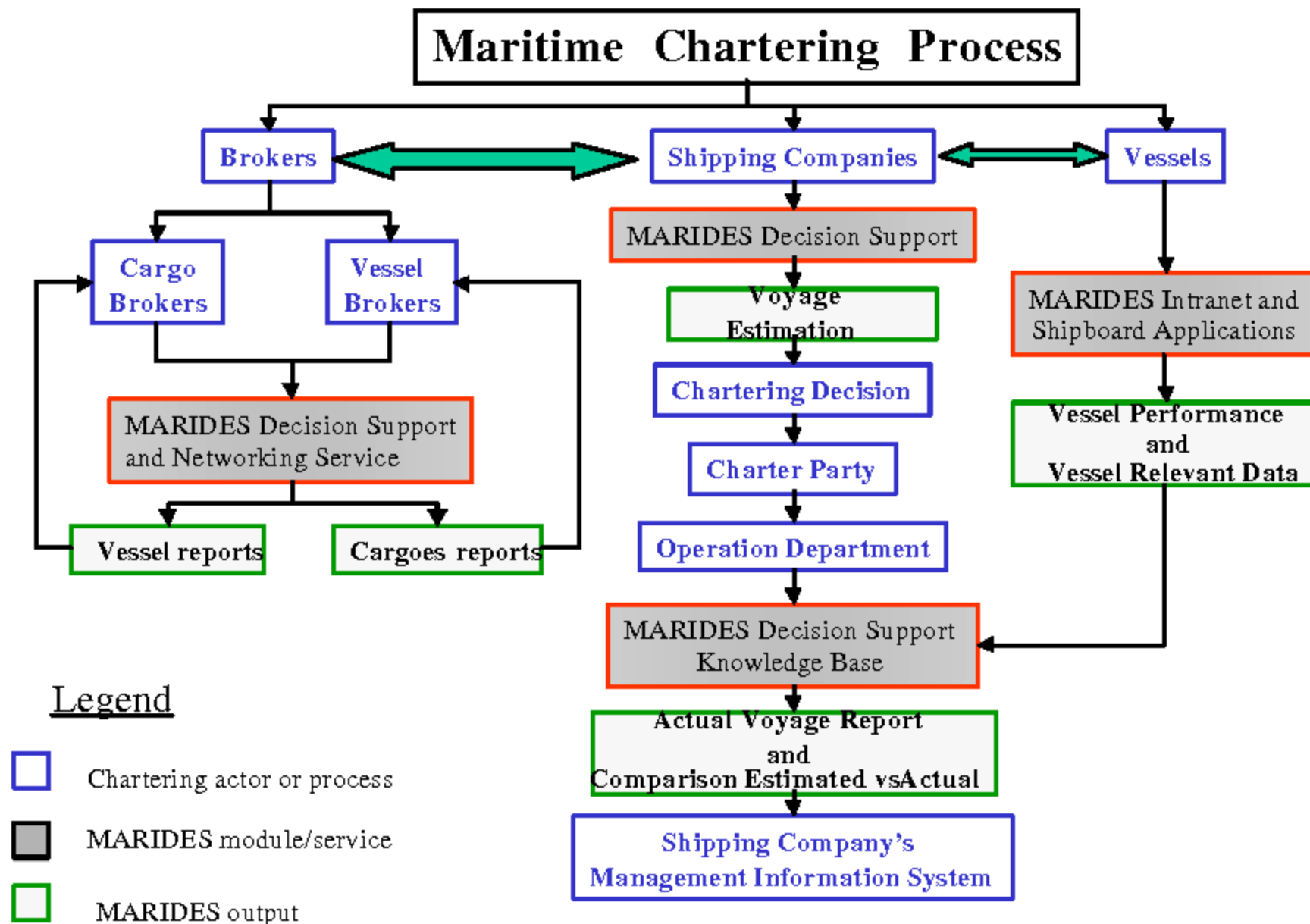
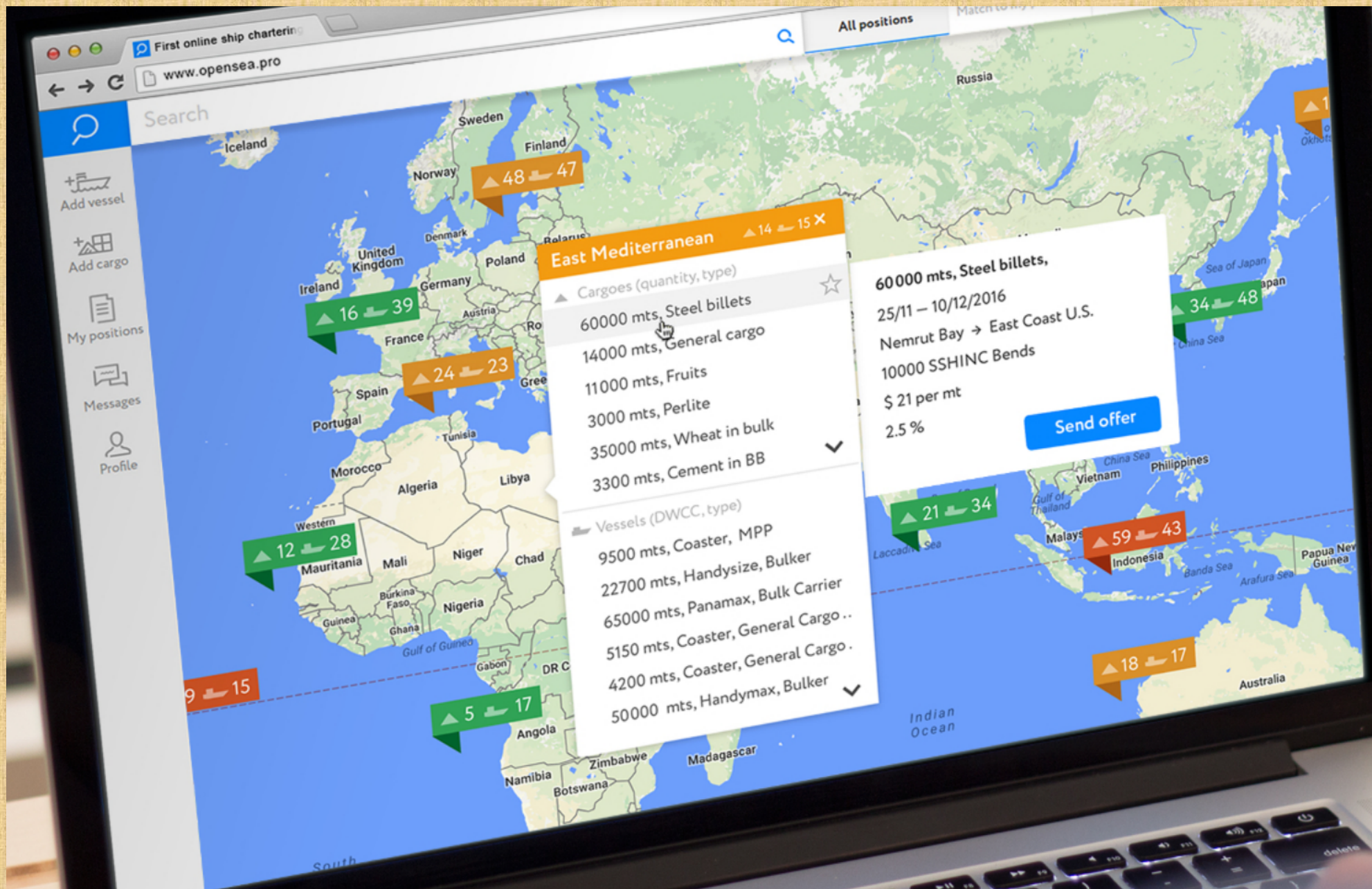


Figure 1 MARIDES incorporation in the maritime chartering chain.

## **Some details that are included in the charter party**

- . Name and IMO number of the ship
- . Date of commencement and end of charter
- . Port (or range of ports) where the charter begins.
- . Port (or range of ports) where the charter will end.
- . Laycan date when the ship must be at a particular place and ready to load/discharge.
- . Cargo to be carried (for voyage or time charters).
- . Exclusions regarding areas of trade, cargoes.
- . Insurance details
- . Rates applicable to the charter and payment details.
- . Laytime agreement. (See below.)





# SKIPPERED CHARTER VESSEL APPLICATION

1. Applicants Name and Mailing Address:

2. Number of years in business:

3. Additional related experience a/o certification:

4. Type of charters: Sightseeing ☐ Dive ☐ Sport Fishing ☐  
Whale watching ☐ Water skiing ☐ Water sports ☐  
Instruction ☐ Other (describe) ☐

5. a. Annual Gross Receipts: b. Number of Charters per year:

6. Indicate typical duration of charter (ie day only or overnights):

7. Any waterskiing or water toys (describe toys): Yes ☐ No ☐

8. a. Are food and beverages provided: Yes ☐ No ☐  
b. Any alcohol served on board: Yes ☐ No ☐  
c. Is food and beverage provided by a third party (ie caterer) Yes ☐ No ☐  
d. Is this third party required to provide proof of liability insurance? Yes ☐ No ☐

9. Number of crew on board any one charter:

10. Are crew covered by Worker's Compensation: Yes ☐ No ☐

11. Maximum number of passengers any one charter:

12. Describe passenger orientation and safety procedures given to passengers prior to boarding:

13. Are passengers required to wear life jackets at all times once onboard: Yes ☐ No ☐

14. Where is the vessel moored:

15. What waters does the vessel operate in:

16. Describe area vessel trailered in if applicable:

17. a. Usual Charter Season:  
b. Lay up period (if applicable):  
c. If laid up please describe lay up method (ashore, afloat etc...) and security details in full:

18. a. Have you had any claims or losses in the past 5 years? If so, please provide details:  
  
b. Have you been involved in any major losses at any time? If so, please provide details:

19. Please complete the attached Owner's/Skipper's Questionnaire for all owners and/or operators.

20) a. Do any of the skippers have first aid training? Yes ☐ No ☐  
b. If yes please describe:

21. a. Prior insurance company: b. Policy No.:  
c. Expiry Date:  
d. Ever been cancelled by an Insurance Company: Yes ☐ No ☐  
e. If yes please advise why:

22.a. Do you have a commercial general liability policy in force: Yes ☐ No ☐  
b. Insurer: c. Policy No.:

VESSEL DETAILS (if more than one vessel please attach separate page with details)					
Vessel Name	Type/Class of Vessel	Year Built	Length	Hull Colour & Material	Hull License Number
Engine Manufacturer	Engine Type (ie in/outboard..)	Year Built	Fuel	H.P. of Each Engine	Maximum Speed
Serial No. of Engines	Date Vessel Purchased	Purchase Price	Current Market Value	Replacement Cost	

Insurance Coverages Requested					
	Insured Value/Limit Of Liability	Deductible	Rate	Annual Premium	
1. Hull and Machinery*					
2. Dinghy and dinghy motor*					
3. Trailer*					
4. Boathouse*					
5. Protection & Indemnity					

\*(Show total values all vessels above but indicate separate values with vessel descriptions)

Agent's Name and Address: \_\_\_\_\_

Agent / broker's signature: \_\_\_\_\_

Applicant's signature: \_\_\_\_\_

By signing this application the applicant declares that all information contained herein is accurate and true to his/her knowledge and understands that non-disclosure or misrepresentation of a material fact may entitle Underwriters to void the insurance. By signing this application the applicant also grants permission for the Insurer, Broker, or their representatives to verify that the above information contained in this application is true.

# SKIPPERED CHARTER SUPPLEMENTARY SAFETY QUESTIONNAIRE

Applicant:

PLEASE ANSWER ALL OF THE FOLLOWING QUESTIONS:	YES	NO
1. Do you have a written safety and procedure manual? If yes, please provide a copy.	<input type="checkbox"/>	<input type="checkbox"/>
2. Do you have a procedure checklist to be followed by all skippers & staff? If yes, please attach a copy.	<input type="checkbox"/>	<input type="checkbox"/>
3. Do you keep a log or journal to record any and all incidents?	<input type="checkbox"/>	<input type="checkbox"/>
4. a. Do you conduct pre-activity briefing with charter passengers? b. Describe in detail:	<input type="checkbox"/>	<input type="checkbox"/>
5. What is the maximum number of passengers allowed per vessel?		
6. Are there any age restrictions for charter passengers?	<input type="checkbox"/>	<input type="checkbox"/>
7. a. Are life jackets provided to all passengers? b. Are passengers required to wear lifejackets at all times whilst aboard vessel?	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
8. a. Are all vessels equipped with communication devices? b. If yes please describe:	<input type="checkbox"/>	<input type="checkbox"/>

APPLICANT'S SIGNATURE: \_\_\_\_\_

By signing this questionnaire the applicant declares that all information contained herein is accurate and true to his/her knowledge and understands that non-disclosure or misrepresentation of a material fact may entitle Underwriters to void the insurance. By signing this application the applicant also grants permission for the Insurer, broker or their representatives to verify that the above information contained in this application is true.



1. Insurance of the selected vessel (fig.4). Execution of relevant documents. Choice of insurance company. Negotiation (possibly by voice or by correspondence) in case of disagreement. Obtaining insurance documents.



Fig.3 Vessels database



fig.4 Insurance of the vessel

### TYPES OF MARINE INSURANCE

- Hull Insurance
- Cargo Insurance
- Freight Insurance
- Marine Liability Insurance

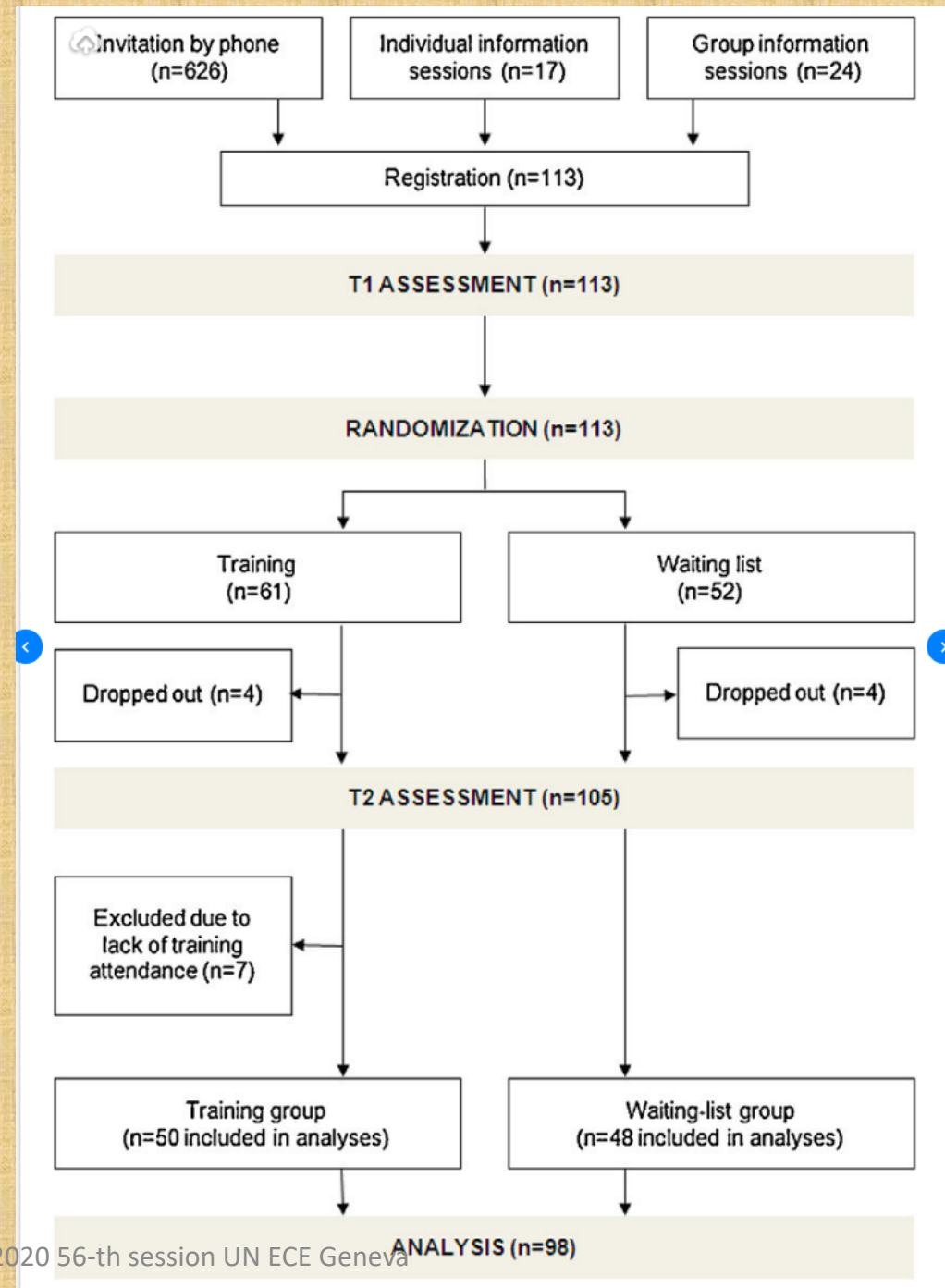
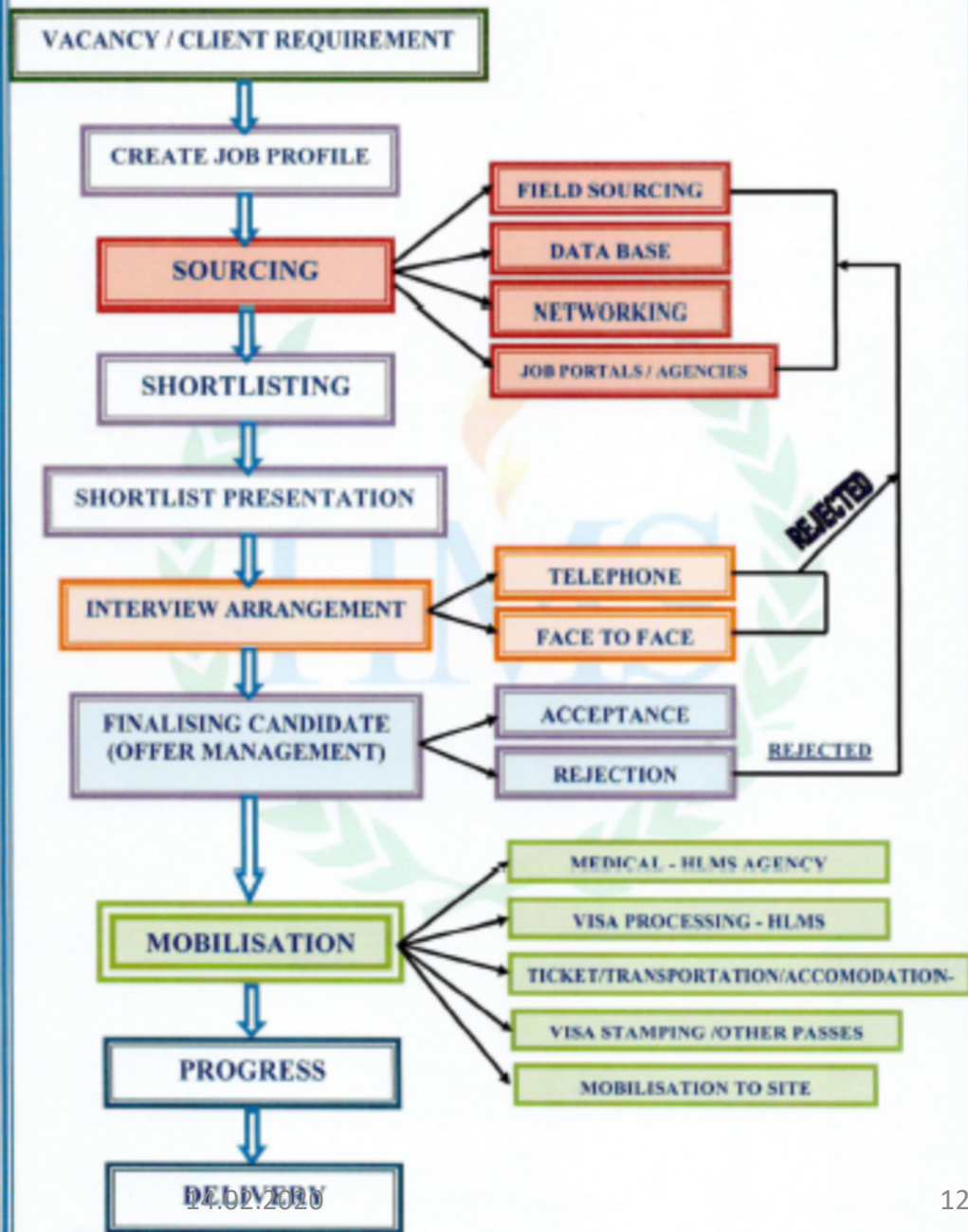




1. Recruitment of crew for work on the selected vessel.  
Interviewing a prospective applicant. All this can be done in real time in the process of bilateral training, remotely.

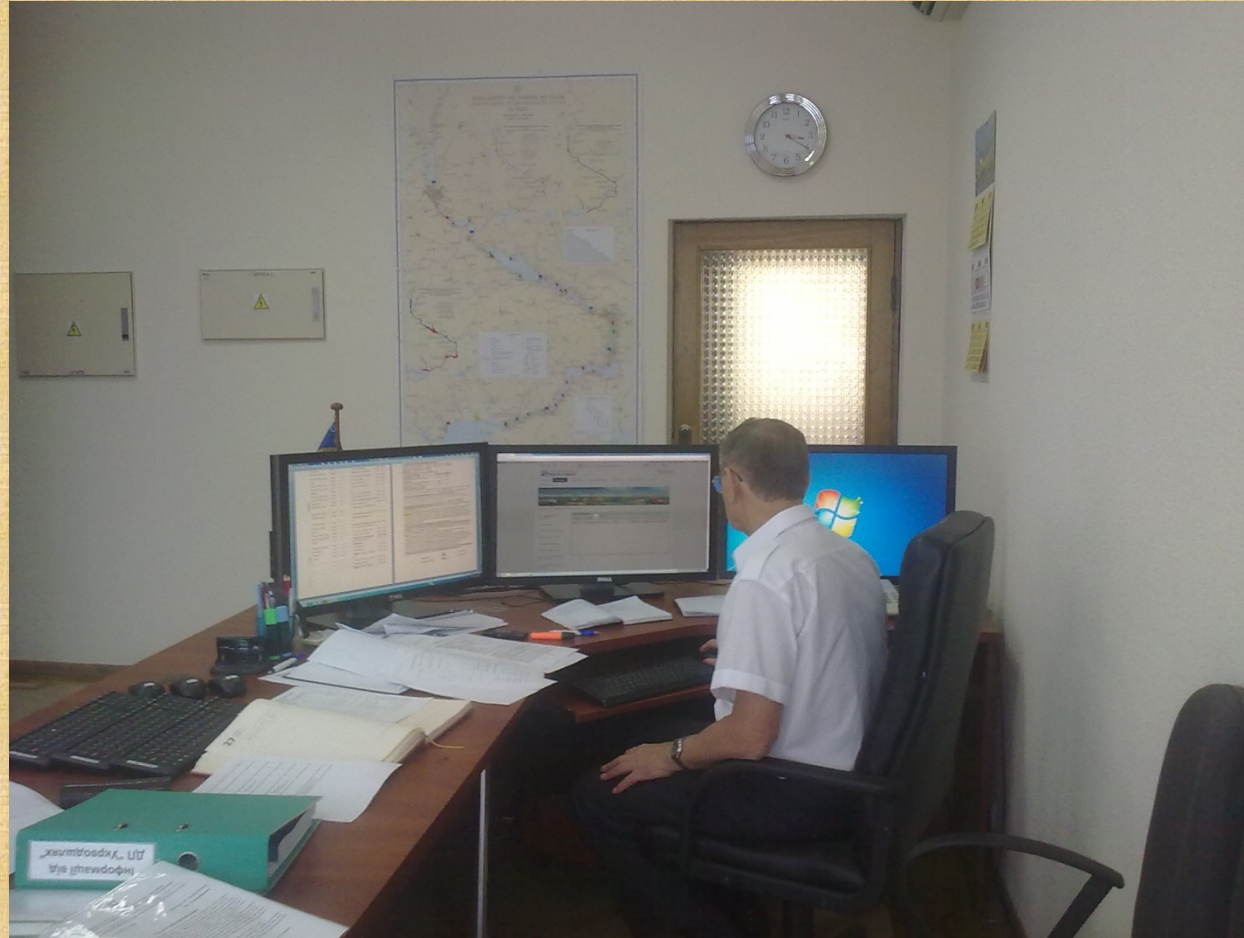


# RECRUITMENT METHODOLOGY





## RIS OPTIONS USING

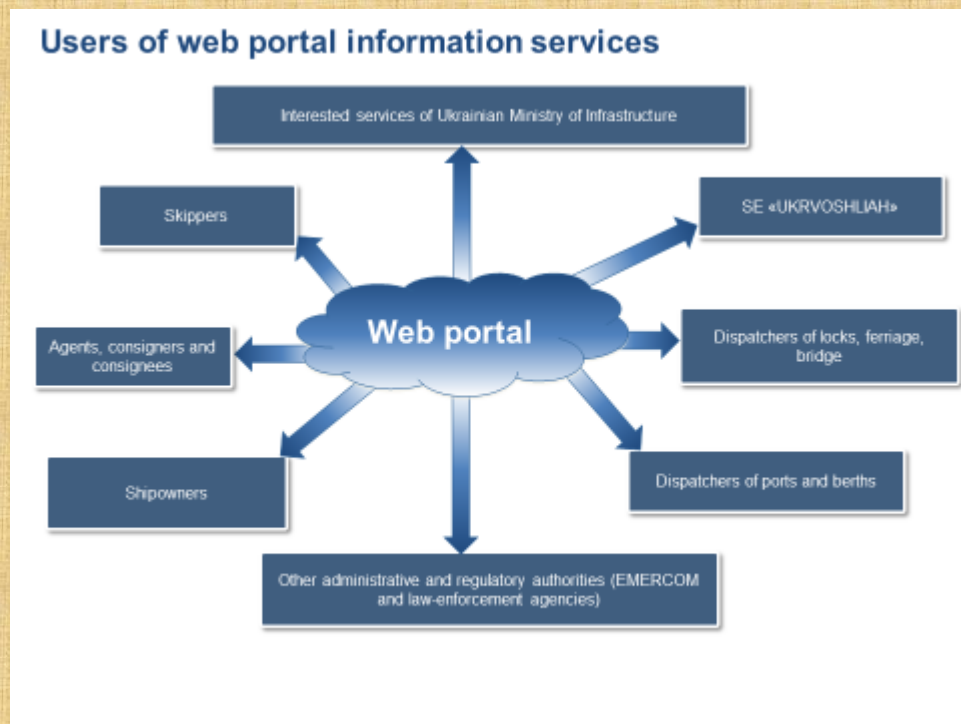


## INLAND ECDIS



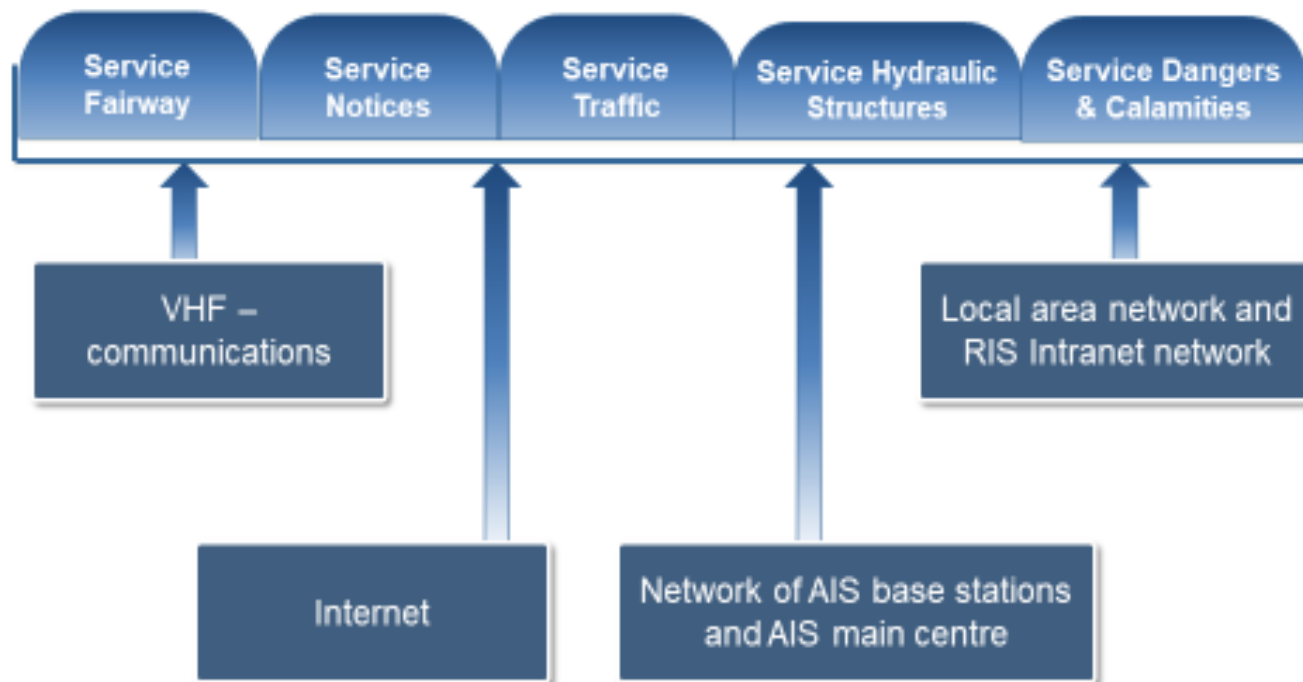


## RIS OPERATIONAL

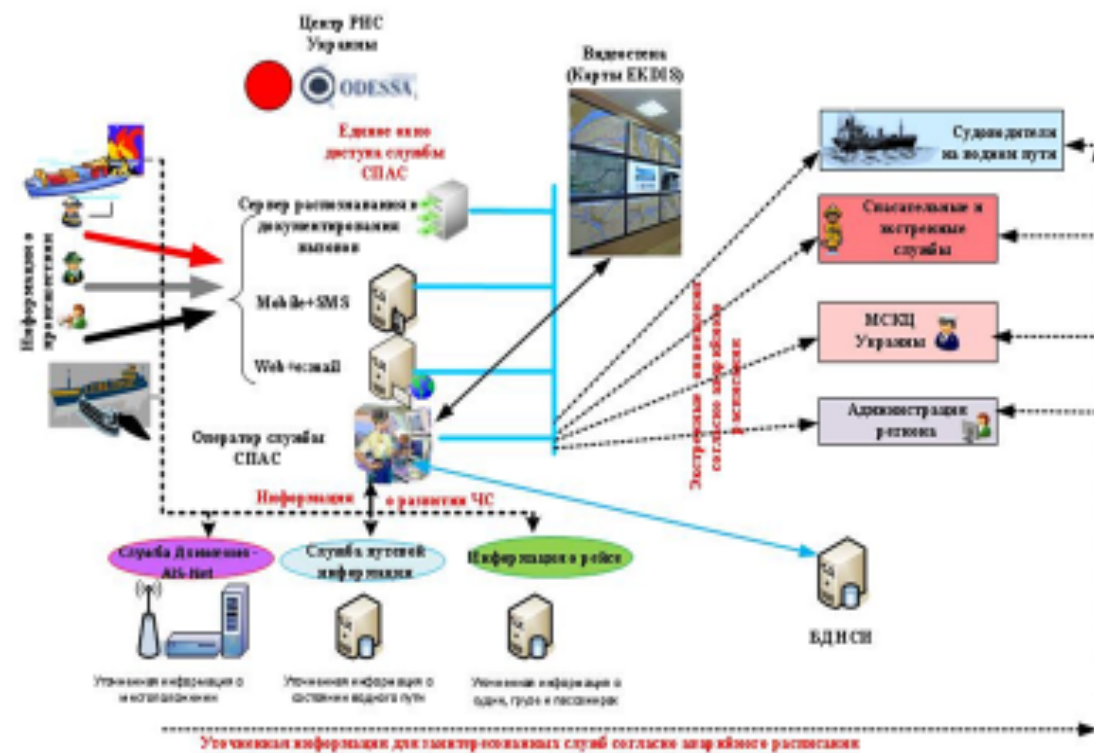




## Technical solutions used by RIS services



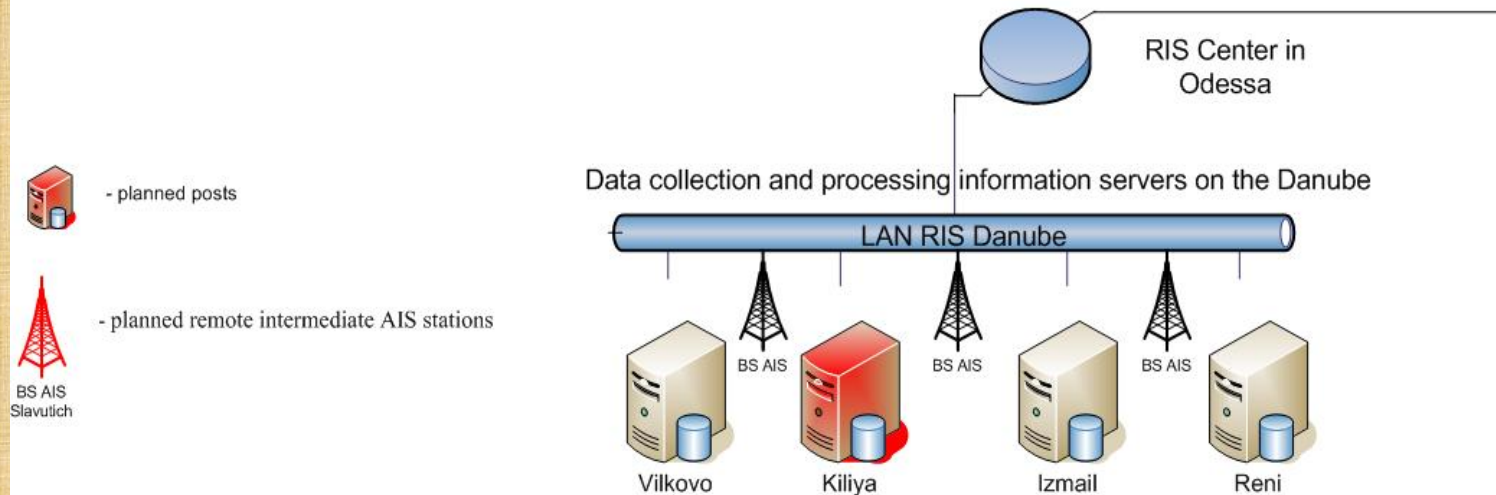
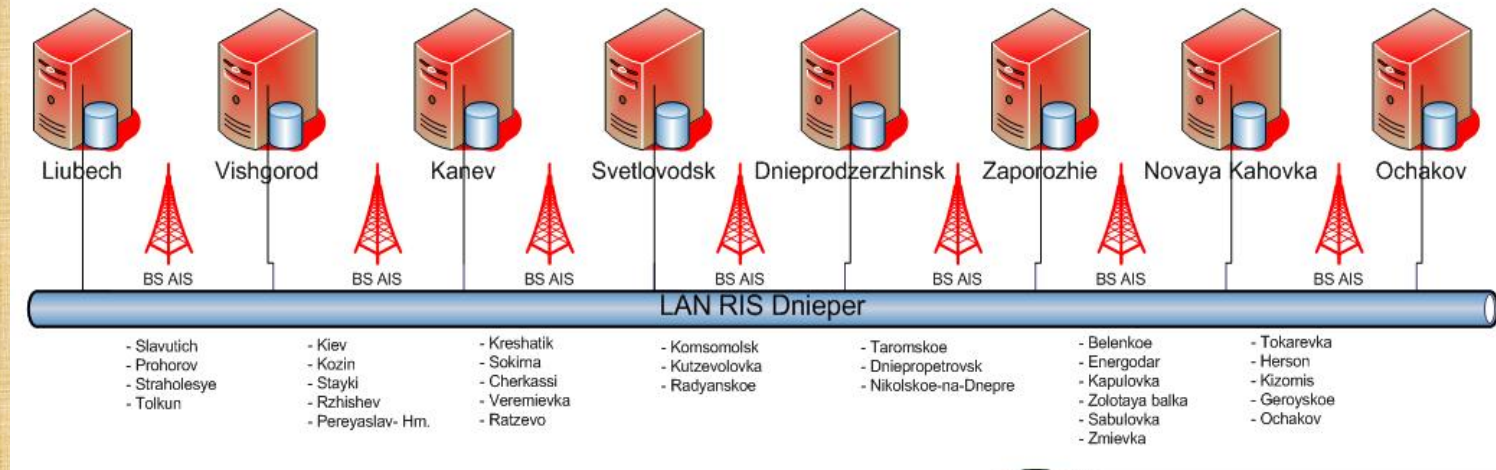
## Общая схема взаимодействия и организация работы службы Спасения и РИС



ГОСУДАРСТВЕННОЕ ПРЕДПРИЯТИЕ  
**ДЕЛЬТА ЛОЦМАН**

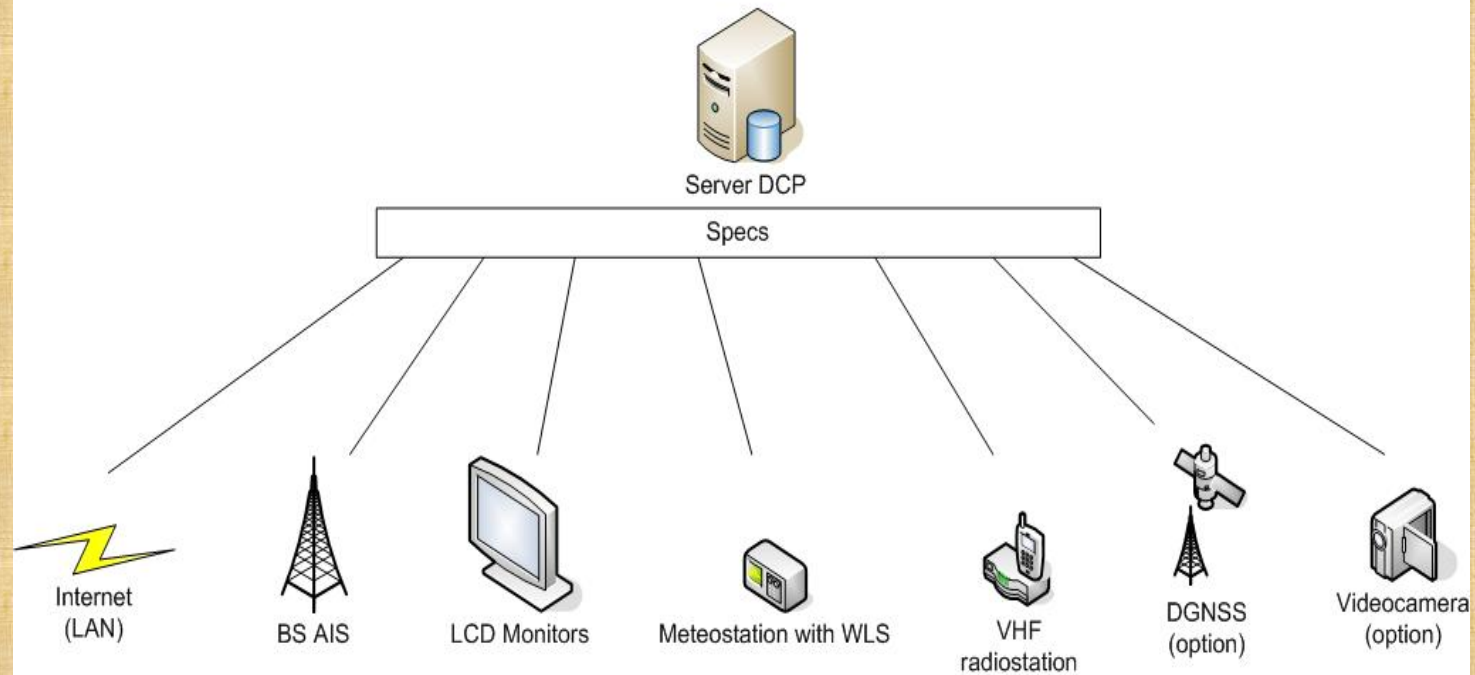
## RIS general structure in Ukraine

### Data collection and processing information servers on the Dnieper

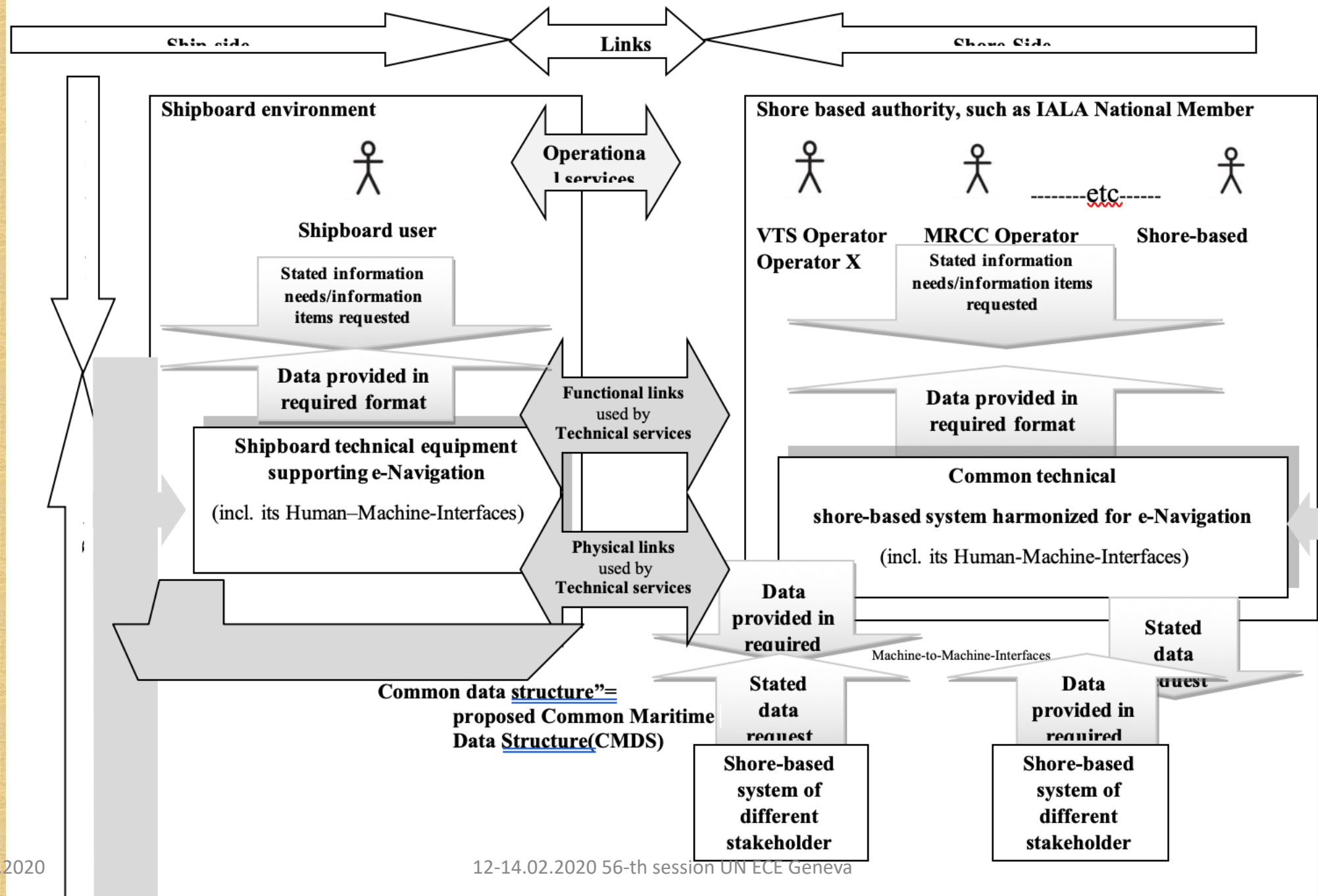




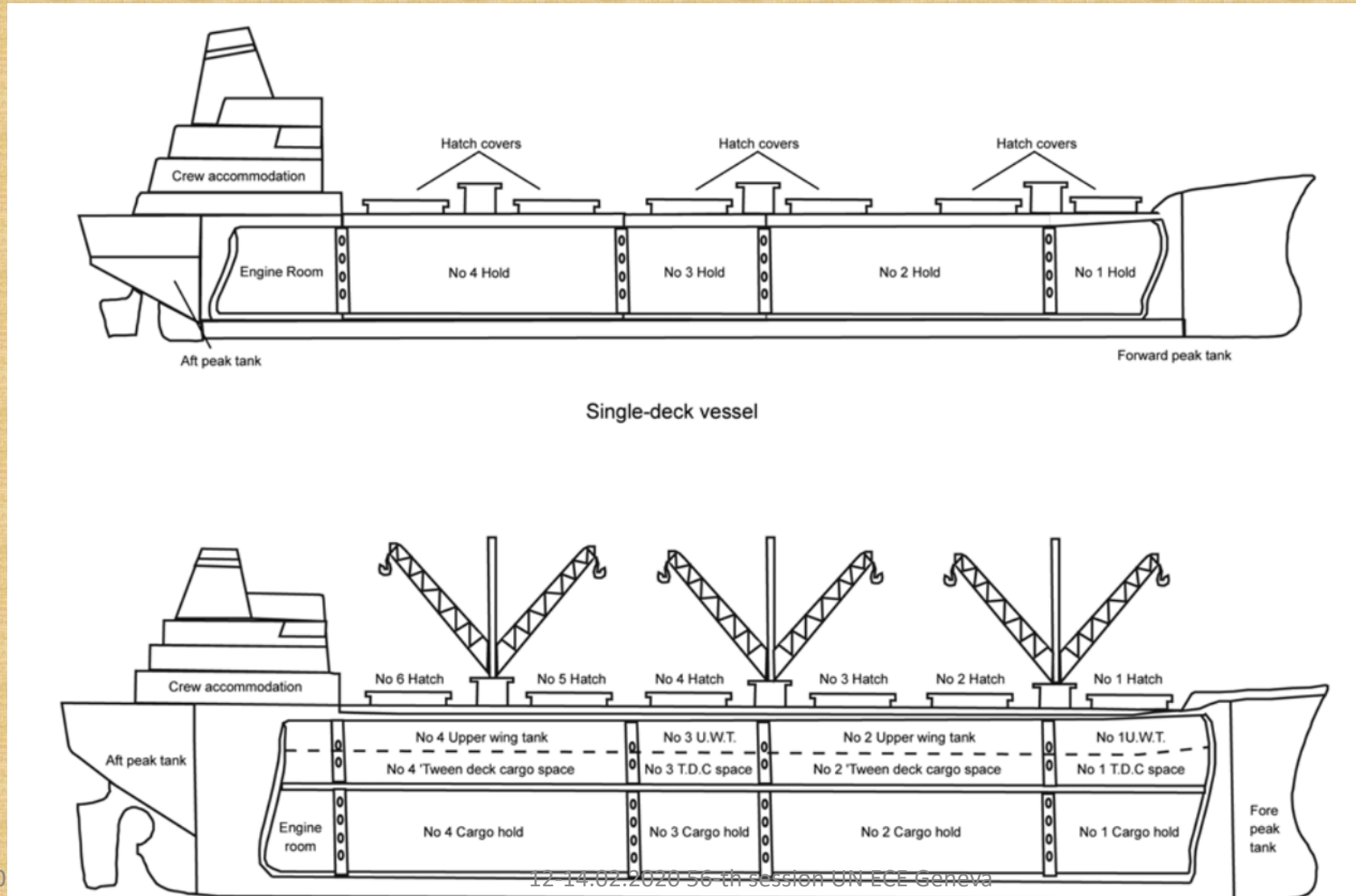
## Server data collection and processing (Server DCP) information on the Dnieper



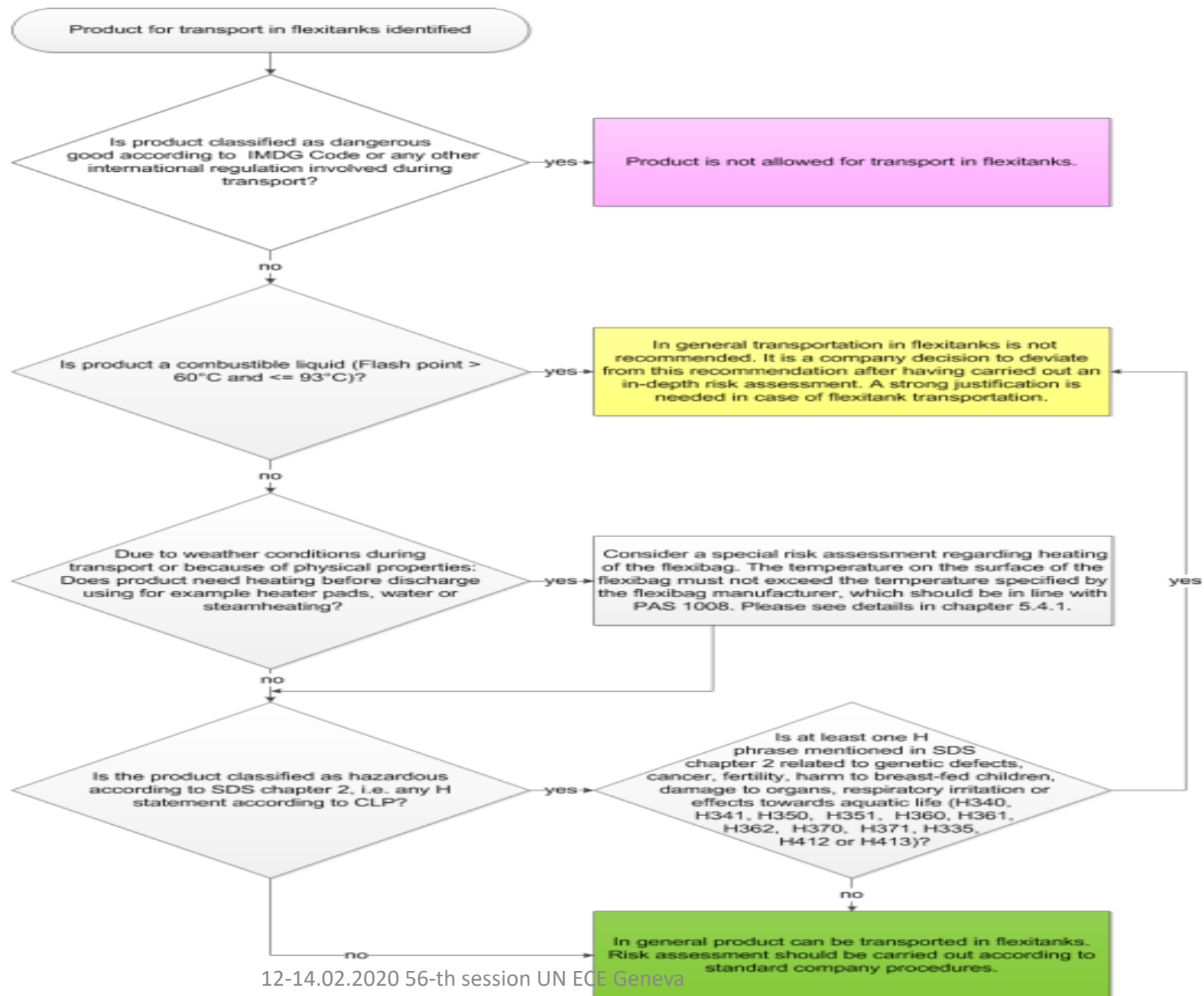
- \* BS AIS – base station of automatic identification system
- \* WLS – water level sensor
- \* VHF – very high frequency
- \* DGNSS – differential global navigation satellite system



1. Loading and unloading for the selected type of cargo. Work with various types of ship cargo devices. Monitoring the stability of the vessel during cargo operations.







1. Steering of the selected vessel in the sea and river traffic areas. Development of maneuvering tasks, anchoring, setting up to the berth in various weather conditions.
2. Steering of an remote autonomous cargo ship. In this case, it is possible to solve the problem of the divergence of an unmanned vessel and a vessel with a crew on board, considering the communication issues of these vessels. You can also consider the problem of orienting the ship in space with respect to virtual and physical AtoNs.

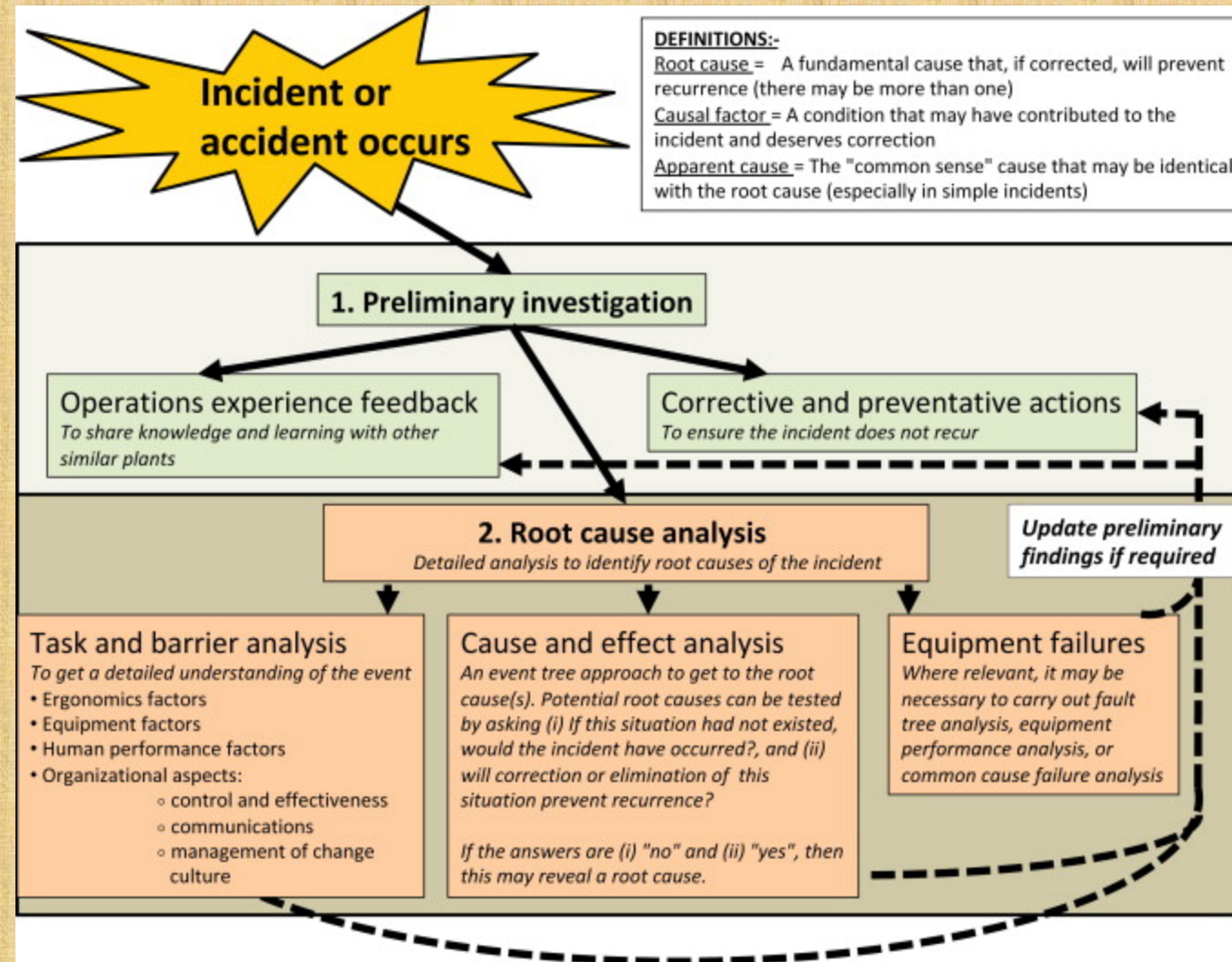


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# 1. Tasks on the divergence of ships, as well as broadcast on a collision course with a person who is simultaneously training and may be on another continent. It all happens in real time.

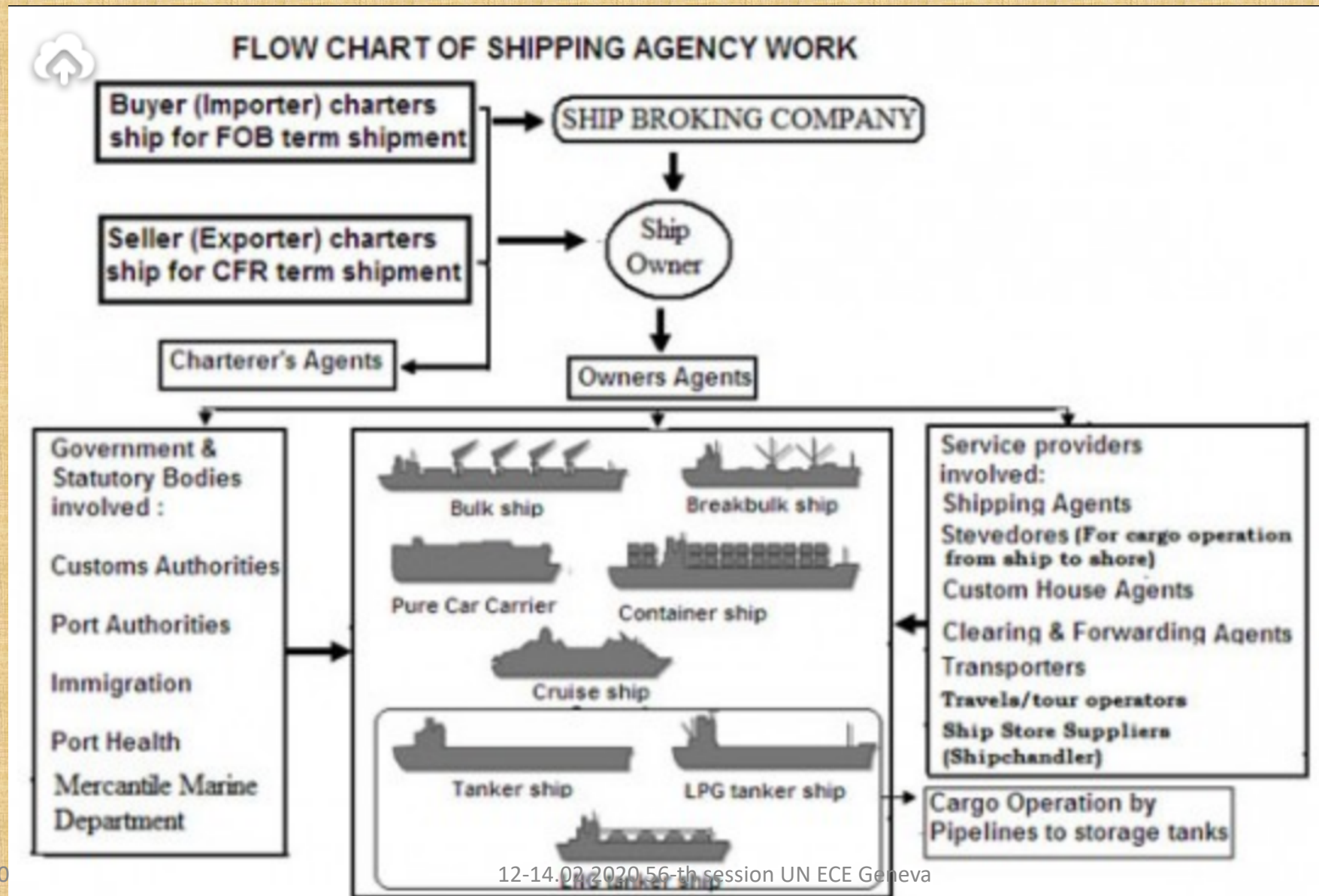


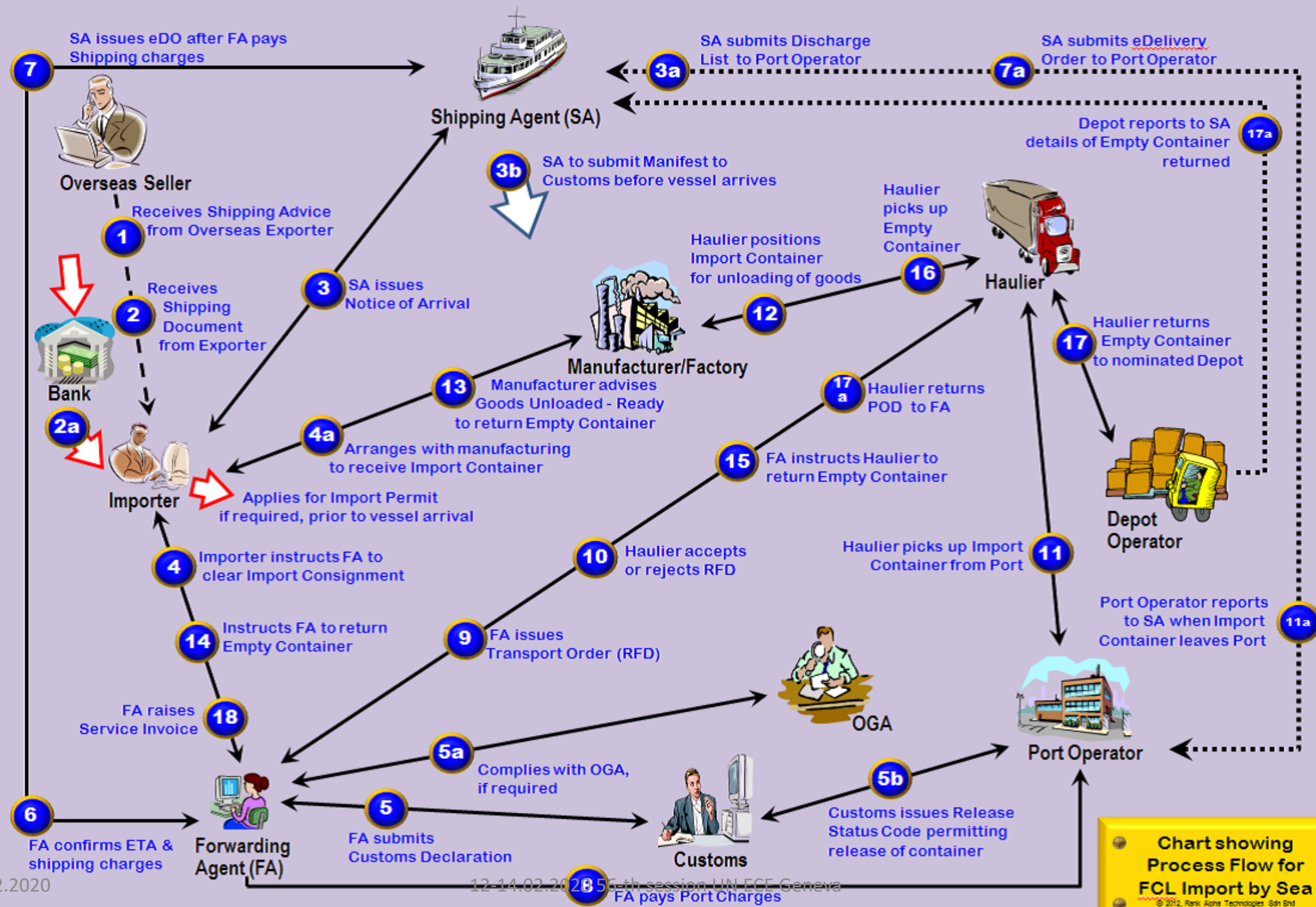


1. Consideration of tasks in the law of the sea and river. Protecting the interests of seafarers by examples of typical and often arising in this field of activity. In case the vessels collided during the training, this example is considered for training skippers and lawyers. Any incident that occurred during the training can also be considered, such as: stranded, piling on the pier etc.



# 1. Ship agency. Preparation and execution of documents for the departure and arrival of the vessel. Logistic operations.







# 1. Border control. Preparation and execution of documents required when crossing the border. Testing of possible contingencies.



14.02.2020

Name of State  
Logo of State (Name of Office)  
\_\_\_\_\_



(1)

## REFUSAL OF ENTRY AT THE BORDER

On \_\_\_\_\_ at (time) \_\_\_\_\_ at the border crossing point \_\_\_\_\_

We, the undersigned, \_\_\_\_\_ have before us:

Surname \_\_\_\_\_ First name \_\_\_\_\_

Date of birth \_\_\_\_\_ Place of birth \_\_\_\_\_ Sex \_\_\_\_\_

Nationality \_\_\_\_\_ Resident in \_\_\_\_\_

Type of identity document \_\_\_\_\_ number \_\_\_\_\_

Issued in \_\_\_\_\_ on \_\_\_\_\_

Visa number \_\_\_\_\_ type \_\_\_\_\_ issued by \_\_\_\_\_

valid from \_\_\_\_\_ until \_\_\_\_\_

For a period of \_\_\_\_\_ days on the following grounds: \_\_\_\_\_

Coming from \_\_\_\_\_ by means of \_\_\_\_\_ (indicate means of transport used, e.g. flight number), he/she is hereby informed that he/she is refused entry into the country pursuant to *(indicate references to the national law in force)*, for the following reasons:

- ☐ (A) has no valid travel document(s)
- ☐ (B) has a false/counterfeit/forged travel document
- ☐ (C) has no valid visa or residence permit
- ☐ (D) has a false/counterfeit/forged visa or residence permit
- ☐ (E) has no appropriate documentation justifying the purpose and conditions of stay.

The following document(s) could not be provided: \_\_\_\_\_

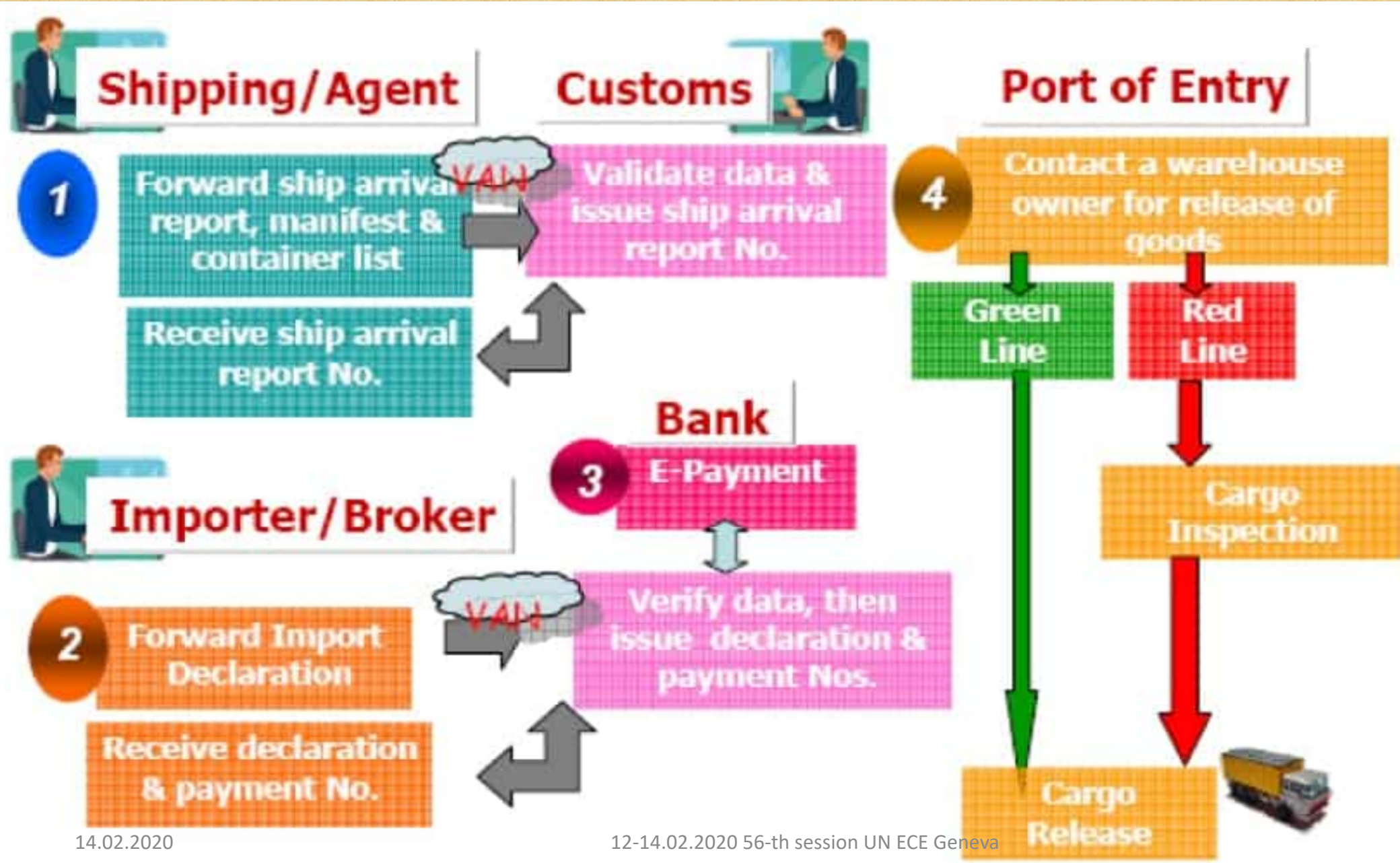
- ☐ (F) has already stayed for 90 days in the preceding 180-day period on the territory of the Member States of the European Union
- ☐ (G) does not have sufficient means of subsistence in relation to the period and form of stay, or the means to return to the country of origin or transit
- ☐ (H) is a person for whom an alert has been issued for the purposes of refusing entry
  - ☐ in the SIS
  - ☐ in the national register

- ☐ (I) is considered to be a *threat to public policy, internal security, public health or the international relations* of one or more of the Member States of the European Union *(each State must indicate the references to national law relating to such cases of refusal of entry)*.

Comments

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Customs inspection. Preparation and execution of documents at the port of the consignor and con





## *Documents Required*

### *Single consignment*



Informal Import Declaration and Entry (B.C. Form No. 177.

Clearance of Single Consignee's Shipment pursuant to CMO 10-91.

Philippine Passport of an Individual  
Certificate of Exemption, (letter of request to DOF ).

Packing List

Bill of Lading

Permit to Deliver Imported Goods (B.C. Form No. 194.



### *Consolidated*



Clearance of Consolidated Shipment under CMO 54-89 and CMO 79.90.

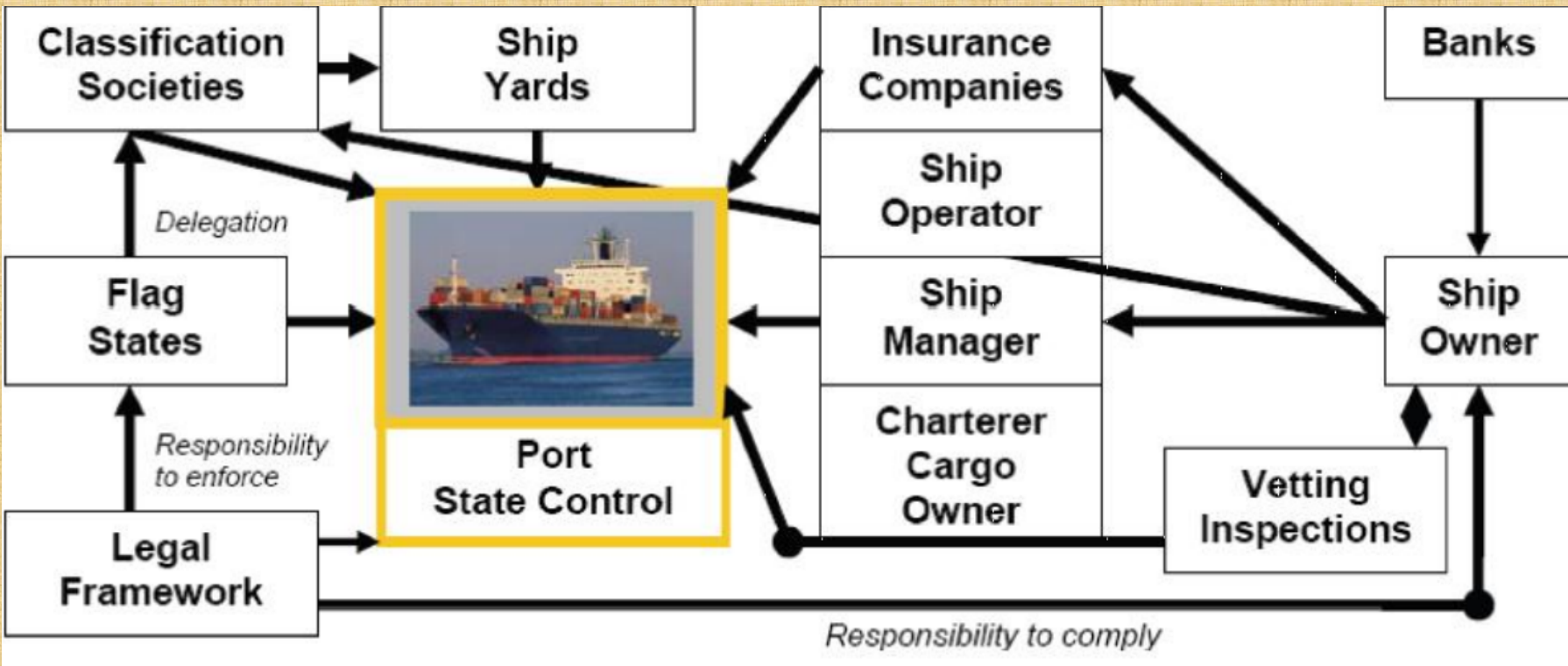
Bill Of Lading

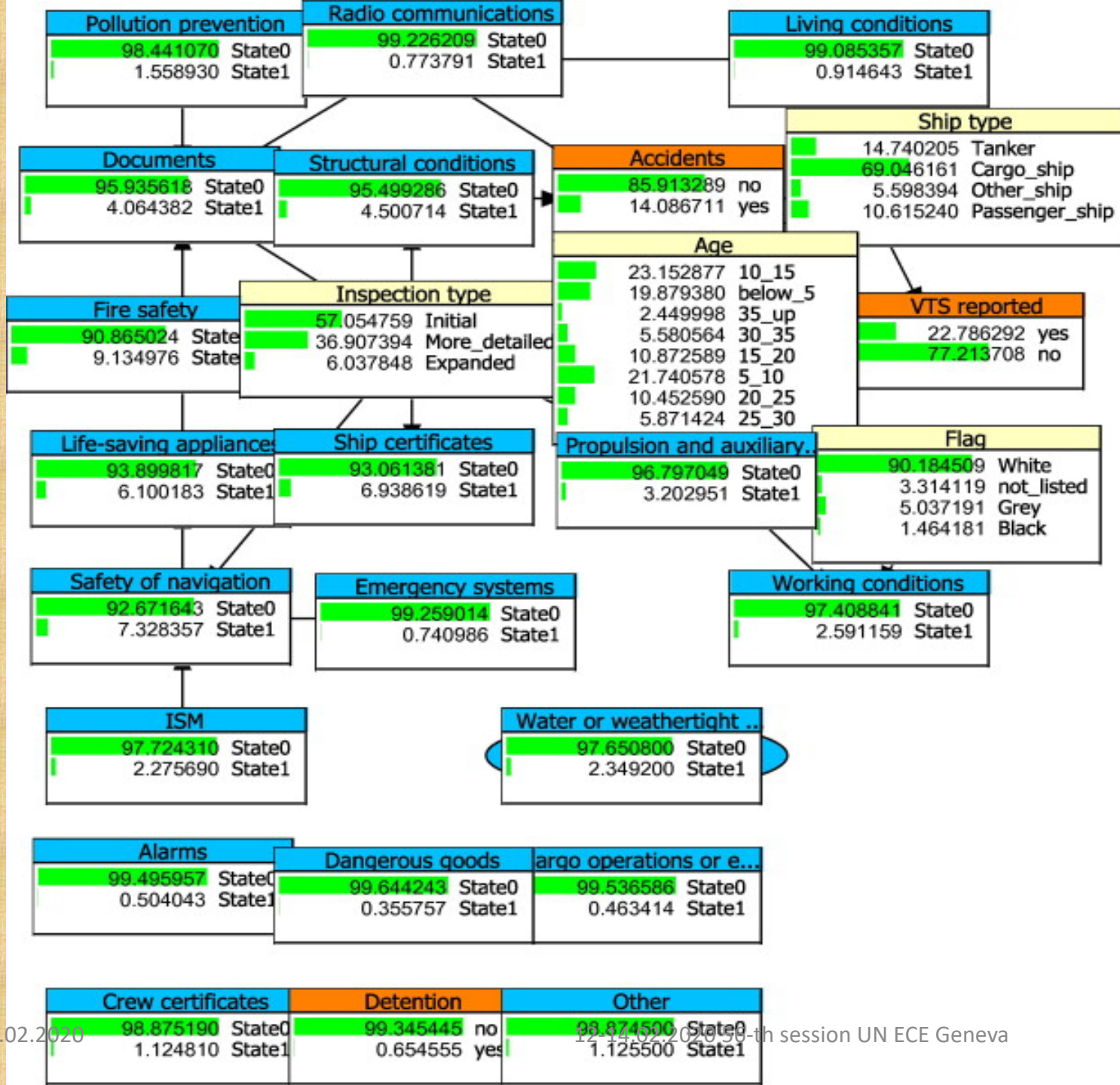
Packing List

.Permit to Deliver Imported Goods (B.C. Form No. 194.

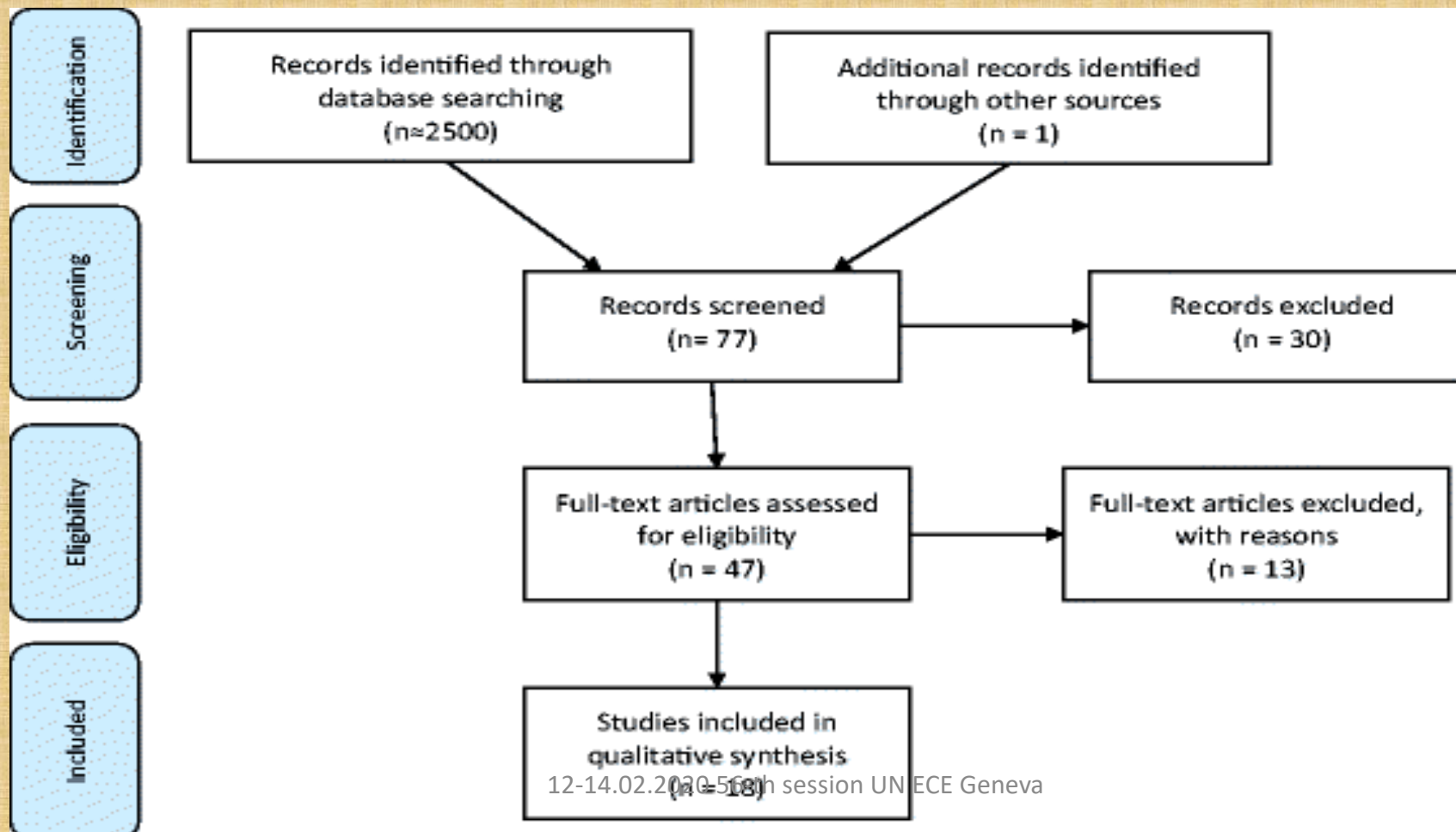


1. Port State Control. Here it is possible to choose a classification society and draw up the relevant documents regarding the ship's safety & security, which must be presented for verification to port state control.





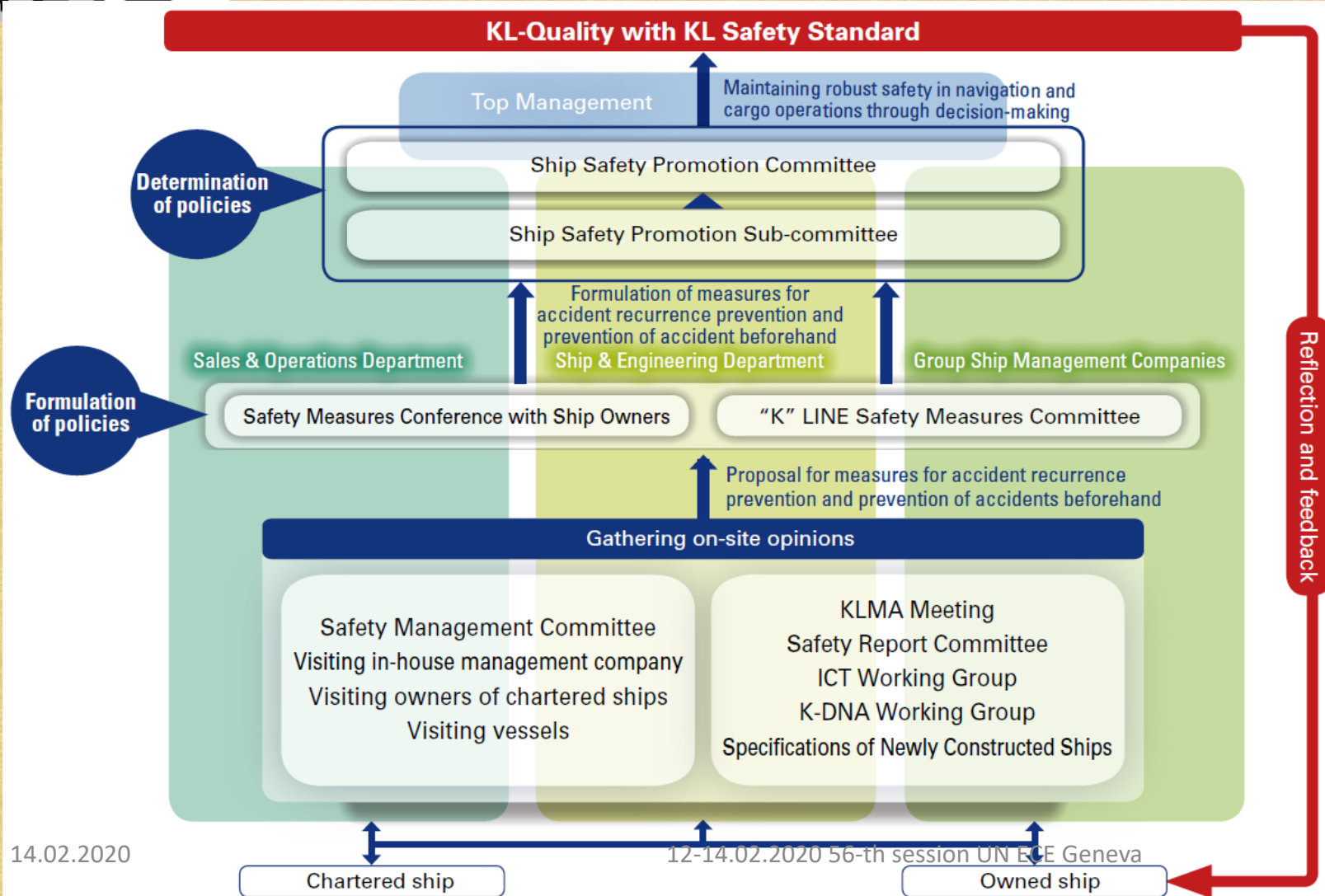
# 1. The interaction of the vessel with the VTS. The solution of various tasks on the movement of the vessel in the VTS area







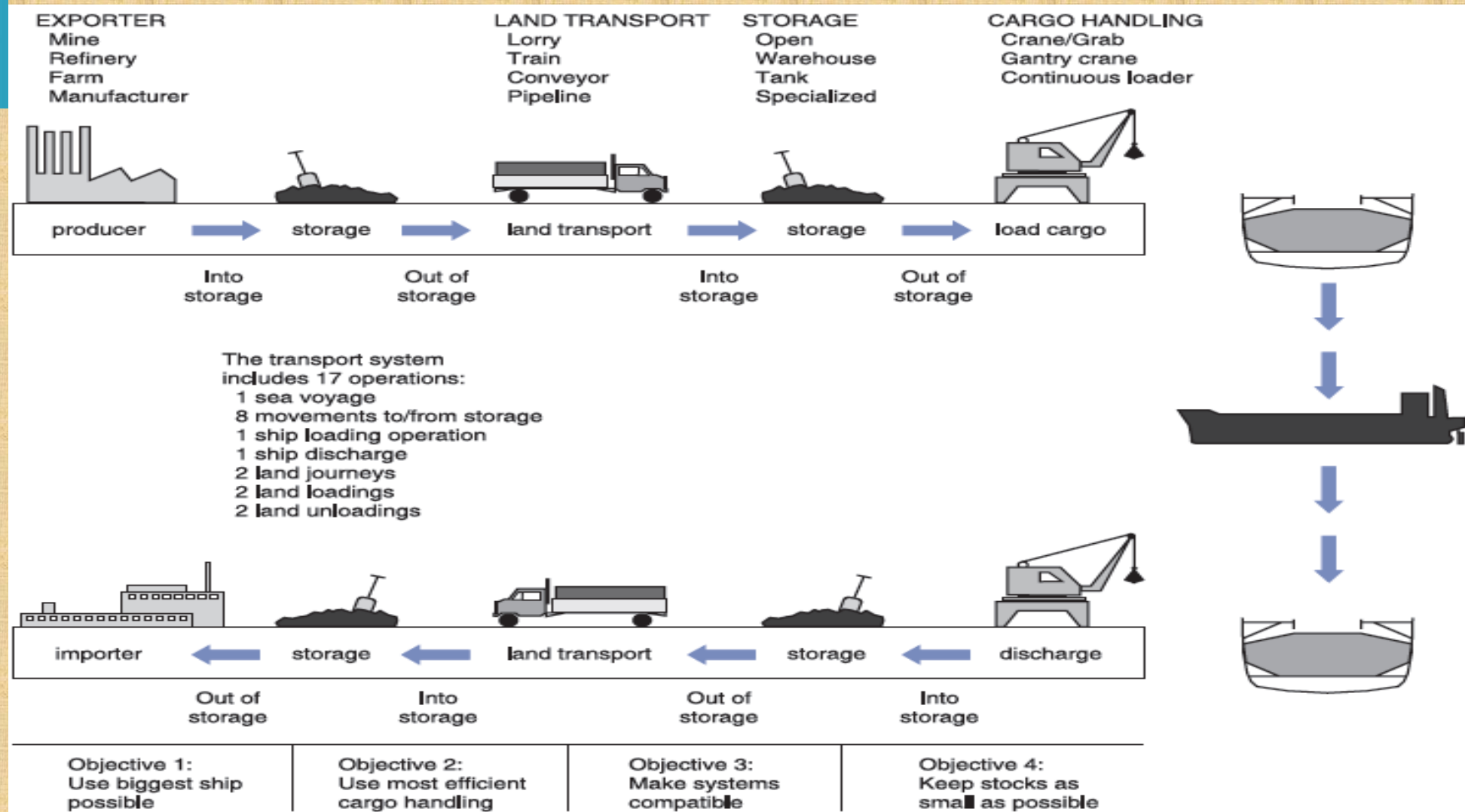
# Preparation documents regarding of the Safety Management System in Company and Vessels.



14.02.2020



## Transport Logistic



**Figure 11.2**  
Elements in the bulk transport system

# Q M S - I S O 9000





# THANK YOU VERY MUCH FOR YOUR ATTENTIONE

