

Ship's Operational Repository (SOR) and Ship's Reference Repository (SRR) in EMCIP

Conceptual description and business rules concerning the SOR and SRR initialization

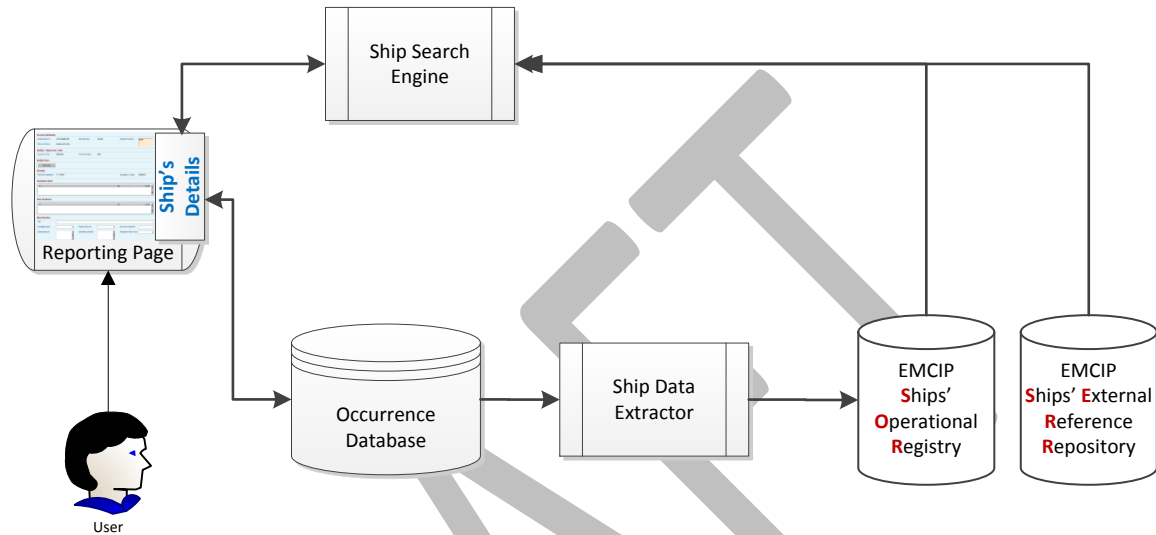


Figure 1 – EMCIP SOR/SERR conceptual diagram

1. Definitions

- User:** any user with appropriate rights to notify an occurrence or report investigation data in EMCIP;
- Reporting Page:** the web page that the user can fill in to report information to EMCIP. This would include casualty notifications and casualty investigation reports;
- Ship's particulars:** the part of the reporting web page where the user inserts the ship's particulars;
- Ship Search Engine:** the component that searches for the ship's particulars in the SOR and SERR. The Ship Search Engine gathers the response from the SOR and SERR and combines the results so that the user can choose what values will become part of the report;
- Ship Data Extractor:** the component which extracts the ship's particulars from the Occurrence Database and stores them in the SOR;
- Occurrence Database:** the main repository of EMCIP where the occurrences reported by the Member States users are stored;
- EMCIP Ships' Operational Registry (SOR):** the repository where the ships' particulars coming from occurrences stored in the Occurrence Database are stored;

- h. **EMCIP Ships' External Reference Repository (SERR):** the repository where the ships' details coming from sources external to EMCIP (e.g. MARINFO) are stored. Data is archived in the SERR for 6 months¹.
- i. **Date/time (DT) of effect** means:
 - in the SOR, it is the DT of casualty of the occurrence from which the ship's record was extracted;
 - in the SERR, it is the DT on which the SERR was last updated.

2. Ship Search Engine

Note: it is assumed that, in first instance, the user will search for a ship while notifying a casualty. While the user is working on a 'draft' notification or investigation report, at any given time, it should be able to manually insert ship's particulars without using the "search ship" functionality; to change the ship's particulars in the reporting form(s) after they have been automatically filled-in by the Ship Search Engine; delete the inserted particulars, replace the inserted ones with new ones following a new search.

- a) The user searches for a ship through a dedicated functionality "Search ship", provided in the reporting page;
- b) Through the Ship Search Engine the system interrogates both the SOR and the SERR. The call is based on:
 - IMO number (and/or);
 - Call sign (and/or);
 - Ship Name **(and)**;
 - DT of (casualty) effect.
- c) The call of the Ship Search Engine to SOR/SERR can get the following results (**note: the Ship Search Engine will retrieve a maximum of two records for each call, one from SOR and another from SERR**):

A. No ships are found

The system displays a message informing the user that there are no ships matching the criteria.

B. One record is found in SOR, but not in SERR:

- i. The Ship Search Engine retrieves the details from the SOR and gathers them in a separate window;
- ii. The system presents the details to the user which will de-select which information will not be transferred to the notification (see details in section 6);
- iii. The selected values are transferred to the notification the user is drafting.

C. One record is found in SERR, but not in SOR:

- i. The Ship Search Engine retrieves the details from the SRR and gather them in a separate window;

¹ E.g. the SERR is updated once every month, on the 1st day of the month, from January to June. Each update corresponds to a new date of effect. Suppose that there is a ship record updated every time, we will have 6 records for the same ship, with the following dates of effect: 1 Jan, 1 Feb, 1 Mar, 1 Apr, 1 May, 1 Jun. With the next update on 1st July, the record with date of effect 1st Jan will be deleted.

- ii. The system presents the details found in the SRR to the user that will de-select which information will not be transferred to the notification (see details in section 6);
- iii. The selected values are transferred to the notification the user is drafting.

D. **Two records are found**, one in SOR and another in SERR. The following scenarios may be possible:

i. The values included in the two records are **the same**:

- 1. The system presents to the user only one set of values and the user will de-select which information will not be transferred to the notification (see details in section 6);
- 2. The selected values are transferred to the notification the user is drafting.

ii. Some of the values included in the two records are **different**:

- 1. The system presents to the user only one set of the common values. For those fields where different values were found, the system presents both values to the user. The user shall decide if and which one to take into account for the notification;
- 2. The user de-selects which information will be transferred to the notification (see details in section 6);
- 3. The selected values are transferred to the notification the user is drafting.

3. Use of "Date/time of effect"

- a) When the Ship Search Engine calls the SOR and the SERR, it uses the DT of Casualty as a mandatory criterion;
- b) The system applies a "time proximity" rule to retrieve the closest-in-time records of a certain ship. Through the "time proximity" rule, it seeks for the ship's records in SRO and SERR with a DT of effect equal, or the closest (in the past), to the DT of casualty.

4. Initialization of the SOR

- a) The SOR is initialised by extracting the ship's details of the existing occurrences stored in the Occurrence Database.
- b) Every time a notification or investigation report is accepted in EMCIP, the ship details from this occurrence are extracted by the Ship Data Extractor and are stored in the SOR.
- c) The SOR's records are stored with a DT of Effect.
- d) For a given ship, there may be many records in SOR, each of them with a different DT of Effect

5. Initialization of the SERR

- a) The SERR is initialised by copying information about ships extracted from an external source, into it (e.g extracting the values from an Excel file);
- b) Data modelled in SERR shall be compatible with data modelled in SOR, to ensure consistency and a more efficient cross-fertilization of data between the two repositories;
- c) The SERR shall be designed to permit data ingestion through web-services at a later stage.

6. Functional view of search and select in the User Interface

a) Searching a ship

- i. Reporting page "Search ship" function. The user is expected to insert one of, or a combination of, Imo number, Name of ship and Call sign. Then, should the user wish to search for the ship in order to auto-fill the ship's details, it will click on the "Search ship" button. Otherwise, the details are inserted manually by the user.

The screenshot shows a form titled "Vessel" with various input fields for ship details. At the top, there is a dropdown menu showing "1234567. MARIA. ABC123" and three buttons: "Search ship" (highlighted in red), "Add", and "Remove". Below this, the form is organized into rows with labels and input fields:

- IMO number: 1234567
- Name of ship: MARIA
- Call sign: ABC123
- Ship / craft type: (empty dropdown)
- Additional ship type: (empty dropdown)
- Length overall: (empty) m
- Flag State: (empty dropdown)
- Year of build: (empty)
- Length between PP: (empty) m
- Registry no.: (empty)
- Hull material: (empty dropdown)
- Nr. of passengers (voyage): (empty)
- Gross tonnage: (empty)

Figure 2 – Search a ship, criteria and control button

- ii. In order to enable the "Search ship" function, the user shall have inserted the values for "Date of casualty" and "Time of Casualty"

This screenshot shows two input fields side-by-side. The first is labeled "Date casualty" and contains the value "3/3/2014" with a calendar icon to its right. The second is labeled "Time casualty (hh:mm)" and contains the value "20:00".

Figure 3 – Date/time of casualty

- iii. The picture below represents the information that the call made by the Ship Search Engine will carry when launched.

The image shows a blue-bordered box containing a table of search criteria. The table has two columns: the first column lists the criteria, and the second column shows the values entered by the user.

Date of casualty	3/3/2014
Time of casualty	22:00
IMO number	1234567
Call Sign	ABC123
Name of ship	MARIA


Figure 4 – Representation of search ship call to SOR/SERR

b) Presentation of found values (only one record, or 2 records with equal values)

In case the Ship Search Engine retrieved only one record (or two records with same values), the system shall present only one dataset, like indicated below.

The user shall select the fields that will be transferred to the notification form.

By default, all tick-boxes will be SELECTED.



The screenshot displays a web form titled "Notification data view". At the top, there are two buttons: "Select all" and "Deselect all". Below these, a list of fields is presented, each with a checked checkbox on the left and an input field on the right. The fields and their values are as follows:

Field	Value
IMO number	1234567
Call sign	ABC123
Name of ship	Maria
Registry nr.	R-125689
Flag State	Liberia
Ship / craft type	
Additional ship type	
Gross tonnage	5623
Hull material	Iron
Year of build	2000
Length overall	100 m
Length between PP	97 m
Classif. Society	ABC
Classif. Society (ISM)	ABC
Owner name	Al Capone
Company name	Cosa Nostra
Owner identification nr.	789456
Company identification nr.	456789

Figure 5 – Notification data view (only one record or more records with same values)

c) Presentation of 2 values (a field with 2 different values)

In case the Ship Search Engine retrieves a record with 2 different values, the system shall present the results placed in two columns, like indicated below. A solution should be adopted to highlight which datum was retrieve from the SOR and which one from SERR. Only one value per field may be transferred for those fields where two values were retrieved by the Ship Search Engine.

If the user chooses to transfer the ship particulars without selecting one of the two values, the system shall warn the user that a value should be selected before the transfer is made. The final decision to transfer or not those values remains with the user.

By default, all tick-boxes will be SELECTED. The user shall de-select the fields that will not be transferred to the notification form.

Should the user select or de-select all the values via the "Deselect all" or "Select all" functions, this will not affect those fields for which 2 values were found (e.g. Call sign, IMO number and Name of ship in the example below). The user shall select or de-select them manually in order to enable the transfer of the relevant values.



The screenshot displays a web form titled "Notification data view (different values)". At the top, there are two buttons: "Select all" and "Deselect all". The form is organized into two columns. The left column lists various ship particulars, each preceded by a checked checkbox. The right column contains the corresponding data for these fields, with some fields having two values displayed side-by-side. The data is as follows:

Field	Value 1	Value 2
IMO number	1234567	
Call sign	ABC123	6EDW2
Name of ship	Maria	Luigia
Registry nr.	R-125689	
Flag State	Liberia	Panama
Ship / craft type		
Additional ship type		
Gross tonnage	5623	
Hull material	Iron	
Year of build	2000	
Length overall	100	m
Length between PP	97	m
Classif. Society	ABC	
Classif. Society (ISM)	ABC	
Owner name	Al Capone	
Company name	Cosa Nostra	
Owner identification nr.	789456	
Company identification nr.	456789	

Figure 6 – Notification data view (different values)

7. Alternative view, depending upon “Investigation report type” value

- a) It is assumed that the Ship Search Engine is initially used during the drafting of a notification, regardless of the occurrence type, being a notification or an investigation.
- b) By default, it is assumed that the user will search for a ship while drafting a notification and will be presented with one of the two views proposed before under 6.b or 6.c, as applicable. However, should the user want to insert additional data in the notification, or intends to insert a casualty investigation, it is supposed to introduce more ship’s particulars.

For this purpose, depending on the value introduced in the field “Investigation report type”, the information transferred to the notification/investigation will vary according to the value selected.

- c) In case “No report – Notification only” is chosen as “Investigation report type”, the user will see the ship’s particulars, resulting from the Ship Search Engine call, gathered in the view as proposed in section 6.b or 6.c as relevant (notification data).
- d) In cases where the user chose another value for “Investigation report type”, other than “No report – Notification only”, the system will present the results of the Ship Search Engine call in an enlarged view (notification data + more details).
- e) The paradigm for the presentation, selection, and transfer of values to the notification/investigation form is the same as described under section 2 (e.g. see dotted red boxes in the picture below, indicating different values found for the same fields, where the user will select which one to transfer to the reporting form).

The dataset being retrieved from SOR/SERR by the Ship Search Engine is described in the annex. The table shows the ship’s details grouped under the main information headings (e.g. identification, registration etc.) and the breakdown of each heading in notification data and more details data.

I - Ship Particulars

Select all
Deselect all

Identification

IMO number	<input checked="" type="checkbox"/> 1234567	Name of ship	<input checked="" type="checkbox"/> Maria
Call sign	<input checked="" type="checkbox"/> ABC123	MMSI nr.	
Registry nr.	<input checked="" type="checkbox"/> R-125689		

Registration

Flag State	<input checked="" type="checkbox"/> Liberia	Port of registry	
Ship / craft type		Additional ship type	
Classif. Society	<input checked="" type="checkbox"/> ABC	Ship's boat	
Polar class		Classif. Society (ISM)	<input checked="" type="checkbox"/> ABC

Gross Tonnage

Gross tonnage	<input checked="" type="checkbox"/> 5623	Displacement	
Deadweight	<input checked="" type="checkbox"/> 7940 t <input type="checkbox"/> 7964	TEU	

Structure

Year of build	<input checked="" type="checkbox"/> 2000	Year of major conversion	
Date keel laid		Major conversion type	
Hull material	<input checked="" type="checkbox"/> Iron	Nr. of hulls	
Hull construction		Hull number	
Building yard		State of the shipyard	

Measurements

Length between PP	<input checked="" type="checkbox"/> 97 m	Length overall	<input checked="" type="checkbox"/> 100 m
Breadth		Moulded depth	
Max. Draught		Freeboard	
Reg. length		Freeboard type	

Propulsion

Service speed		Total propulsion power	
Propulsion type		Nr. main engines	
Unatt. machinery space		Nr. propellers or jets	
Bolard pull			

People

Nr. of crew	<input type="checkbox"/> 12 <input checked="" type="checkbox"/> 14	Maximum nr. of people	
Nr. of passengers			

Owner

Owner name	<input checked="" type="checkbox"/> Al Capone	Owner identification nr.	<input checked="" type="checkbox"/> 789456
Company name	<input checked="" type="checkbox"/> Cosa Nostra	Company identification nr.	<input checked="" type="checkbox"/> 456789

Figure 7 – Enlarged view of notification data + more details

Annex

Dataset being retrieved from SOR/SERR by the Ship Search Engine

Identification		
#	Field number	Field name
	Notification data	
1	451	IMO Number
2	463	Name of Ship
3	429	Call Sign
4	480	Registry nr.
	More details	
5	461	MMSI nr.
	Registration	
#	Field number	Field name
	Notification data	
6	441	Flag State
7	490	Ship/craft type
8	525	Additional ship type
	More details	
9	474	Port of Registry
10	4230	Ship's boat
11	430	Classif. Society
12	431	Classif. Society (ISM)
13	473	Polar class
	Gross Tonnage	
#	Field number	Field name
	Notification data	
14	444	Gross tonnage
	More details	
15	439	Displacement
16	435	Deadweight
17	484	TEU
	Structure	
#	Field number	Field name
	Notification data	
18	448	Hull material
19	495	Year of build
	More details	
20	434	Date keel laid
21	496	Year of major conversion
22	489	Major conversion type
23	468	Nr. of hulls
24	446	Hull construction
25	449	Hull number
26	428	Building yard
27	483	State of the shipyard

Measurements		
#	Field number	Field name
	Notification data	
28	452	Length between PP
29	454	Length overall
	More details	
30	427	Breadth
31	462	Moulded depth
32	440	Max. draught
33	442	Freeboard
34	546	Reg. length
35	488	Freeboard type
Propulsions		
#	Field number	Field name
	Notification data	
36	482	Service speed
37	485	Total propulsion power
38	479	Propulsion type
39	465	Nr. main engines
40	492	Unatt. Machinery space
41	466	Nr. propellers or jets
42	425	Bollard pull
	More details	
People		
#	Field number	Field name
	Notification data	
43	467	Nr. of crew
44	470	Nr. of passengers
45	456	Maximum nr. of persons
	More details	
Owner		
#	Field number	Field name
	Notification data	
46	472	Owner name
47	471	Owner identification nr.
48	433	Company name
49	432	Company identification nr.
	More details	