

Appendix E to Tender Specifications

**Compilation of current
ICDs and planned
business services**

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Definitions and acronyms

Acronym	Description
AIS	Automatic Identification System
AIS SAR	AIS transmitter of the Search and Rescue units e.g. helicopters
CSN	Clean Sea Net
EO	Earth Observation
GUI	Graphical User Interface
IMDatE	Integrated Maritime Data Environment
LRIT	Long-range Identification and Tracking of ships
LRIT-SAM	LRIT Sensitive Area Monitoring
MS	Member States
NCA	National Competent Authority
SA-VAS	Automated behaviour monitoring
S-AIS	Satellite AIS, AIS position reports received by satellite
SAM	SafeSeaNet Accident Module
SAR	Search and Rescue
SAR	For EO products, SAR means Synthetic Aperture Radar
SAR SURPIC	Search and Rescue SURface PICture
SLA	Service Level Agreement
SSN	SafeSeaNet
SSN EIS	SafeSeaNet European Index Server
SSN-GI	Graphical Interface of SafeSeaNet
STMID	Shore Based Traffic Monitoring Infrastructure Database
T-AIS	Terrestrial AIS, AIS position reports received by coastal stations or other ground based stations
UAV	Unmanned Aerial Vehicle
VDS	Vessel Detection System

Acronym	Description
WFS	Web Feature Service
WMS	Web Map Service
WUP	Web User Portal

1. Document Overview

Current interfaces and their respective Interface Control Documents (ICDs)

This document gives a brief description of the ICDs, mapping them to current business services. Services and methods are listed and described. As mentioned in Appendix D during the design phase the contractor shall analyse these business services and propose suitable interfaces to be exposed through the integration layer (OSB).

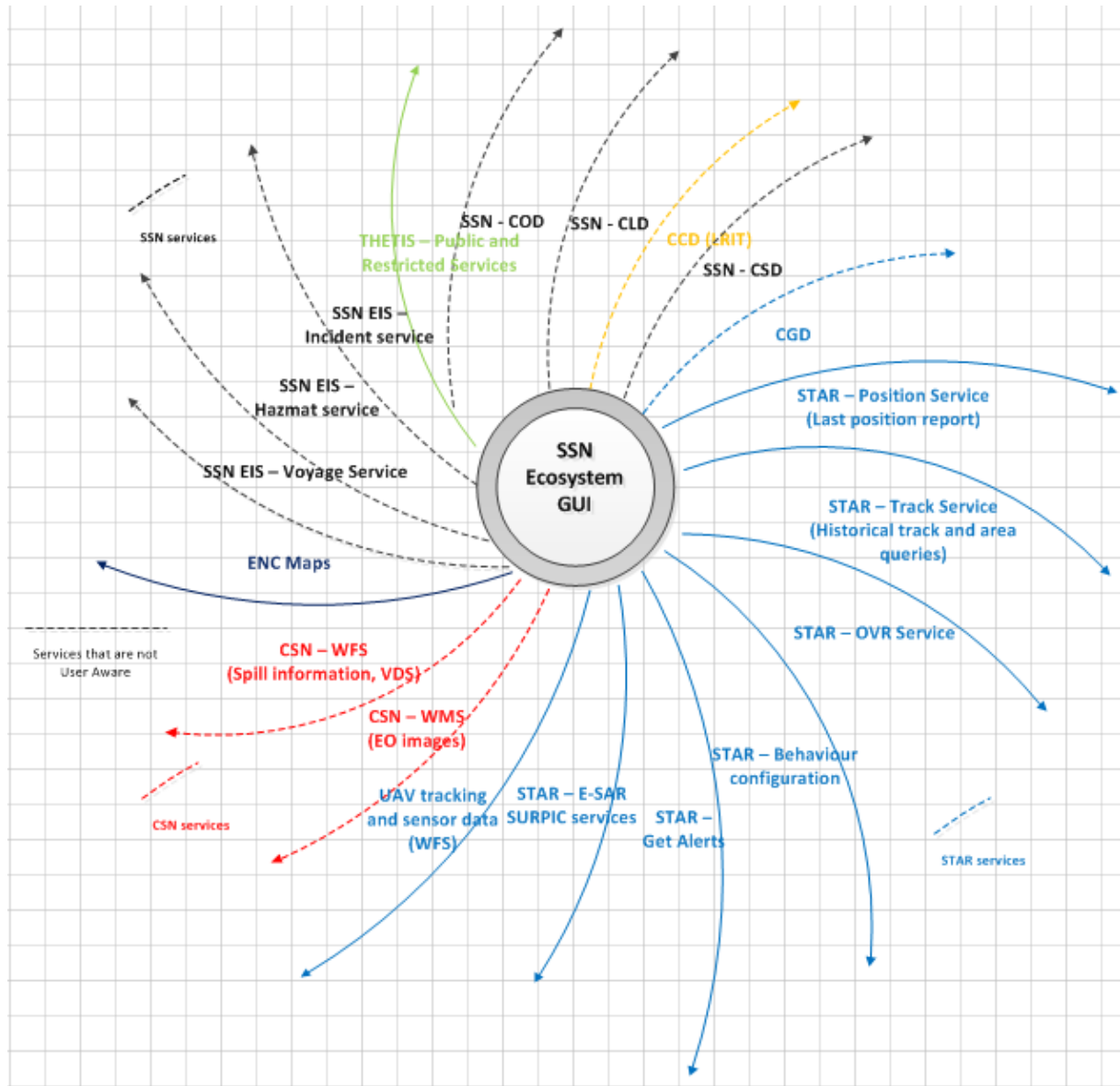
The documents listed could be made available to bidders on request. Any requests for documentation must be made in writing and sent to the e-mail address specified in the invitation to tender.

List of new services needed

Based on the functional requirements, new business services have been identified and will need to be implemented by EMSA. The implementation of these business services is not the scope of this tender; however the contractor shall connect and query these new services.

2. Ecosystem GUI – Existing backend services

The existing backend services are listed according to the figure below:



In the description of ICDs, the mapping between the services and the ICDs is made.

The dotted lines indicate services that are not user aware and so an authorisation service will need to be added to these services or alternatively implemented within the integration layer.

3. Description of ICDs

This chapter contains the description of the services and methods of the ICDs available.

3.1 IMDatE ICD Interface Control Document v1.4

This document contains the interface specification for the majority of IMDatE services. These will be used in the formation of the STAR system. Services listed are of type SOAP 1.2.

This ICD covers the following existing services:

- STAR – Position Service (Last position report)
- STAR – Track Service (Historical track and area queries)
- STAR – OVR Service
- STAR – Behaviour configuration
- STAR – Get Alerts
- STAR – E-LRIT SURPIC services
- UAV tracking and sensor data (WFS)

Name Web Service	Description
TrackService	<p>This service is used to get the ship positions tracks from the IMDatE internal database. Ship tracks can be composed by any combination of the various data sources managed by the IMDatE (e.g. T-AIS, S-AIS, LRIT, etc.).</p> <p>The tracks can be returned with the original positions points and/or interpolated and smoothed and/or extrapolated.</p> <p>The service is used internally by the IMDatE applications, e.g. by the WUP and by all business processes that need to retrieve ship position. data, but it is also exposed externally to other applications.</p> <p>The service returns ship positions in CDF format. All complex types and simple types of the CDF are not described here, as they refer to the CDF documentation.</p>
Name Methods	Description
getTracksByBoundingBox	This method gets the ship positions tracks defined by a bounding box area and by a time window.
getTracksByVesselId	This method gets the ship positions tracks defined by a ship ID and by a time window.

Name Web Service	Description
PositionService	This service is used to get the ship position from the IMDatE internal database
Name Methods	Description
getCurrentVesselPosition	This method returns the current ship position for a given vessels ID.
getPositions	This method returns the current ship positions for a given bounding box and time window.

Name Web Service	Description
getPositionsCount	This method returns the count of vessel current positions for a given bounding box and time window.

Name Web Service	Description
FusionService	This service is used to fuse ship positions
Name Methods	Description
fuseAndSmooth	This service can be used for fusing the ship positions. A CDF shall be provided in input, containing a certain number of positions. The output contains a CDF with the fused positions, according to the parameters defined by the user.

Name Web Service	Description
RestServices	The services listed below are of type HTTP GET
Name Methods	Description
getPositions	Returns vessel positions matching the defined criteria
getPositionsCount	Returns the count of vessel current positions for a given bounding box and time window
getCurrentVesselPosition	Returns the current ship position for a given vessels ID
grid	Returns the ships counts in the specified time range over a 4-level geohash grid
getAlerts	Returns all the alerts specified by the search criteria
ovrInfo	Get Ship Particulars for a given vessel
getVoyages	Get ship voyages for specified interval
getImdateId	Retrieve the Imdate ID from other ship particulars
getActiveIncidents	Returns the currently active incidents
getIncidentDetails	Returns additional information for the incidents of type SHIP_INCIDENT, e.g. data about the ship position, etc
getIncidentsInAreaByBoundingBox	Returns the incidents inside an area defined by the bounding box syntax and a time window
getIncidentsInAreaByWKT	Returns the incidents inside an area defined by the WKT syntax and a time window

Name Web Service	Description
OVR Services	The services listed below covers “Operational Vessel Registry” (OVR)
Name Methods	Description
ovrInfo	Returns Ship Particulars for a given vessel

Name Web Service	Description
voyages	Returns all the voyage info for a vessel in the specified time window
imdateId	Retrieve the Imdate ID from other ship particulars
deleteProjectOvr	Deletes ALL project specific additional information about vessels
createProject	Creates a project
populateProjectOvr	Populates the project specific additional information about ships

Name Web Service	Description
Incidents Services	The services listed below cover Incidents
Name Methods	Description
getActiveIncidents	Returns the currently active incidents
getIncidentDetail	Returns additional information for the incidents of type SHIP_INCIDENT, e.g. data about the ship position, etc.
getIncidentsInAreaByBB	Returns the incidents inside an area defined by the bounding box syntax and a time window
getIncidentsInAreaByWKT	Returns the incidents inside an area defined by the WKT syntax and a time window
getIncidentsForShip	Returns the incidents given a vessel and a time window

Name Web Service	Description
Distributions Services	The services listed below cover distributions
Name Methods	Description
set	Inserts or updates a distribution
getDistributionConfiguration	Returns the distribution with the given id
deleteDistributionConfig	Deletes the distribution with the given id

Name Web Service	Description
GeoRegistry Services	The services listed below cover Georegistry, CGD
Name Methods	Description
ows	Wrapper for wfs invocation

Name Web Service	Description
JMS Services	The services listed below cover “Java Message Service” (JMS)
Name Methods	Description
imdate.lo.queue	Queue for cdf messages
imdate.ovr.queue	Queue for Operation Vessel Registry messages
imdate.topic	Topic for cdf enriched messages
imdate.uncorrelated.queue	Queue where uncorrelated positions are sent

Name Web Service	Description
SA-VAS Monitoring Services	<p>The SA-VAS monitoring Web Service is in charge of exposing all the “probes” (gauges, counters, business metrics, managed beans) implemented in the SA-VAS, within both engine and nodes. These probes provide to the observer a mean to access a large panel of information giving a good overview about the health and performance of the monitored instances.</p> <p>Note that an element (engine or node) that is <u>not</u> up and running will not answer any request. In this case, resquest will end up in timeout.</p> <p>On the other hand, sending a request for a bean that <u>does not</u> exist (like a wrong bean name) will result on a ‘<i>status=404</i>’ response.</p> <p>The protocol used is Jolokia v1.2.2, which is a JSON-over-HTTP proctol with a REST flavour</p>
Name Methods	Description
L1positionMeter	Meter which measures the rate of consumed L1 positions ingested by the node over time. In addition to the mean rate, this meter also tracks 1, 5, 15 minutes moving average and the total count as well.
eventMeter	Meter which measures the rate of consumed SAVAS events ingested by the node over time. In addition to the mean rate, this meter also tracks 1, 5, 15 minutes moving average and the total count as well.
analysisCounter	Counter which measures the total number of node analysis currently started.
ping	Managed bean which returns, inter alia, the last communication date from a node on the engine (ping through the RMI protocol).
pingMeter	Meter which measures the rate of ping from nodes to the engine over time. In addition to the mean rate, this meter also tracks 1, 5, 15 minutes moving average and the total count as well.

Name Web Service	Description
ping	Managed bean which returns, inter alia, the number of lost connections from this engine to the node and the date of the last failed communication to a node.
status	Managed bean which returns the status (connection lost, connected) of the node thread responsible to maintain the link with the engine. Moreover, the date of the last status change is also given.
slots	Managed bean which returns the free slots available for node instance, the maximum slots available for node instance and the list of the process instances currently running on the node.
ping	Managed bean which returns, inter alia, the last communication date coming from the engine to this node (ping through the RMI protocol).
status	Managed bean which gives the status of the service in charge of managing the dissemination of alerts raised from surveillances to the jms consumers). Gives the number of alerts which failed to be sent, the last date of success and last date of failure.
parameters	Managed bean which gives the characterization of the surveillance: identifier, name, userId, template name, status, assigned node, creation timestamp, expected start timestamp, actual start timestamp, expected stop timestamp, actual stop timestamp.
checkedPositionMeter	Meter which measures the rate of the checked positions (inserted in the surveillance queue) to the surveillance over time. In addition to the mean rate, this meter also tracks 1, 5, 15 minutes moving average and the total count as well.
processedPositionMeter	Meter which measures the rate of consumed positions (accepted positions according to COI) processed by the surveillance over time. In addition to the mean rate, this meter also tracks 1, 5, 15 minutes moving average and the total count as well.
positionQueueRatio	Gauge which measures the ratio of pending positions in the surveillance queue by the surveillance queue size (parameter of the node configuration).
alertMeter	Meter which measures the rate of the total alert raised (CAP) by the node over time. In addition to the mean rate, this meter also tracks 1, 5, 15 minutes moving average and the total count as well.
lastAlert	Managed bean which returns the characterisation of the last raised alert (creation date/time, stop date and ships list).
parameters	Managed bean which gives the characterization of the on-event processing instance: identifier, name, userId, on-event template name, status, assigned node.

Name Web Service	Description
processedEventMeter	Meter which measures the rate of the processed events to the on-event processing instance over time. In addition to the mean rate, this meter also tracks 1, 5, 15 minutes moving average and the total count as well.
positionConsumerThread	Managed bean which returns the characterization and state of the thread in charge of consuming positions from JMS.
eventConsumerThread	Managed bean which returns the characterization and state of the thread in charge of consuming events from JMS.
keepAliveThread	Managed bean which returns the characterization and state of the thread in charge of maintaining the connection to the node.

Name Web Service	Description
Engine Magaged Beans	Managed bean which returns, inter alia, the last communication date from a node on the engine (ping through the RMI protocol)
Name Methods	Description
timestamp	Timestamp of the last received "ping" from a node.

Name Web Service	Description
Other Services	The services listed below cover that accepts different inputs, generally daemons installed via rpm
Name Methods	Description
imdate-vds-reader	Generates position CDF for correlation process
imdate-incident	Store incident reports into database
imdate-npr-reader	Generates CDF messages from NMEA

Name Web Service	Description
Route Planner Java API Services	This service is used to extrapolate the positions of a mobile. If port of call information is available, the service computes a path from the last known position of the mobile to its destination, and the extrapolation is performed on it. If it is not available, extrapolation is performed on a straight line, using the last known position, speed and heading of the mobile, and stops in any case before entering in land
Name Methods	Description
extrapolateRoute	Extrapolates a position until a specified date, with a specified step, on a route calculated by the service

3.2 WFS Specification for providing video information to IMDatE/STAR

The provision of information for the video is done via a number of information layers to be exposed via WFS. The background scenario is that of a mobile (it could be a vessel, a helicopter, aircraft, etc.) that is moving around a certain location/area (for example in the surrounding of an oil spill) and detecting video data about that event. There are basically the following data types:

- Positions of the mobile
- Sensor coverage (i.e. coverage of the video being taken by the mobile)
- Video streaming data
- Oil spill information

For some of these data, 2 different types of layers are provided:

- A layer with the current position (to be used in real time monitoring)
- A layer with historical information (to be used for analysis on the past data, e.g. performing queries in the past)

Name Layer	Description
VIDEO_MOBILES_CURRENT	This layer includes the current position (e.g. the last position available) for the mobile that is taking video information
Name Attribute	Description
VIDEO_MOBILE_ID	A unique ID of the mobile being used
MOBILE_INFO	A set of info related to the mobile. E.g. if the mobile is a ship, this could be the list of IMO, MMSI, Ship name, Call Sign, and Flag
POS_TIME	UTC time of the current position
POSITION	A geometry of type point
UPDATE_TIME	Time of update of the record in this layer

Name Layer	Description
VIDEO_MOBILES	This layer contains the history of all positions for all mobiles involved in the campaign. The feeding rule is that every time a new record is inserted in this table, the VIDEO_MOBILES_CURRENT layer is also update with the current position for each given mobile ID. Basically this layer is very similar for the VIDEO_MOBILES_CURRENT, with the only difference that this layer stores all positions for a given mobile and not only the last one (=current)
Name Attribute	Description
VIDEO_MOBILE_ID	A unique ID of the mobile being used
FEATURE_ID	The unique ID of a record in this table. It identifies uniquely a given position for a given mobile
MOBILE_INFO	A set of info related to the mobile. E.g. if the mobile is a ship, this could be the list of IMO, MMSI, Ship name

Name Layer	Description
POS_TIME	UTC time of the current position
POSITION	A geometry of type point
UPDATE_TIME	Time of update of the record in this layer

Name Layer	Description
VIDEO_SENSOR_COV_CUR	This is the layer storing the current sensor coverage. This layer also contains the reference to the live video stream
Name Attribute	Description
VIDEO_MOBILE_ID	A unique ID of the mobile being used
SENSOR_NAME	Name of the sensor
SENSOR_COVERAGE	The coverage of the sensor, expressed as a polygon
URL	A unique URL pointing to a video being streamed by a server
MIMETYPE	Mimetype of the video
SENS_TIME	Sensing time of the sensor coverage
UPDATE_TIME	Update time of this record

Name Layer	Description
VIDEO_SENSOR_COV	Sensor coverage of the video, to be used for historical queries. The feeding rule is that every time a new record is inserted in this table, the VIDEO_SENSOR_COV_CUR layer is also update with the current position for each given mobile ID. Basically this layer is very similar for the VIDEO_SENSOR_COV_CUR, with the only difference that this layer stores all sensor coverage areas for a given mobile and not only the last one (=current).
Name Attribute	Description
VIDEO_MOBILE_ID	A unique ID of the mobile being used
FEATURE_ID	The unique ID of a record in this table. It identifies uniquely a given sensor coverage instant for a given mobile. The sensor coverage is moving as the mobile is moving
SENSOR_NAME	Name of the sensor
SENSOR_COVERAGE	The coverage of the sensor, expressed as a polygon
SENS_TIME	Sensing time of the sensor coverage
UPDATE_TIME	Update time of this record

Name Layer	Description
VIDEO_VIDEOS	This layer stores the basic information about the videos being recorded. It includes the video location and the start stop time of each video. This contains the historical records of the various videos being taken. Basically the videos are divided into clips that have a known duration (start and stop time) and fed into this layer, which is used for historical queries
Name Attribute	Description
VIDEO_MOBILE_ID	A unique ID of the mobile being used
FEATURE_ID	The unique ID of a record in this table. It identifies uniquely a given position for a given mobile
SENSOR_NAME	Name of the sensor
VIDEO_LOCATION	A point indicating the position of the video
URL	A unique URL pointing to a video being streamed by a server
MIMETYPE	Mimetype of the video
VIDEO_START	Start time of the video clip
VIDEO_STOP	Stop time of the video clip
UPDATE_TIME	Time of updating this record

Name Layer	Description
VIDEO_OIL_SPILLS	This is the layer for storing information about the oil spill
Name Attribute	Description
VIDEO_SPILL_ID	A unique ID of the oil spill
FEATURE_ID	The unique ID of a record in this table. It identifies uniquely a given oil spill position
SENSOR_NAME	Name of the sensor
OILS_COVERAGE	The coverage of the oil spill, expressed as a polygon
RECORD_TIMESTAMP	Sensing time of the oil spill position
RECORD_UPDATE	Update time of this record

3.3 SafeSeaNet System Interface Guide Part B.V – Ship particulars exchange

This document defines the general requirements of the interface between an external application and the traffic monitoring system SafeSeaNet (SSN) with the scope of exchanging notifications and requests for details concerning:

- MS2SSN_ShipParticulars_Not
- MS2SSN_ShipParticulars_Req

- MS2SSN_ShipParticulars_Res

Services listed are of type SOAP.

Note that in the following services, the exchange of information is between the member states (MS) and the Safe Sea Net (SSN) system. The GUI is not directly affected by that.

These services are only listed to bring clarity.

Name Web Service	Description
MS2SSN_ShipParticulars_Not	<p>The MS2SSN_ShipParticulars_Not message is sent by a Member State or system linked to SafeSeaNet (e.g. THETIS, LRIT DC database) in order to notify SafeSeaNet new insertions or updates in the ship registry maintained by the data provider.</p> <p>This notification already contains all its detailed information. Therefore, SafeSeaNet may store the details of the notification in its ship registry (following automatic, semi-automatic and/ or manual validation against other external sources) and will then act as the Data Provider when a request for getting ship particulars comes in</p>

Name Web Service	Description
MS2SSN_ShipParticulars_Req	<p>The MS2SSN_ShipParticulars_Req is sent by a Member State system or THETIS or any other system to be linked to SSN in the future (data requester) in order to request the ship particulars of a specific ship registered into the SSN database.</p>

Name Web Service	Description
MS2SSN_ShipParticulars_Res	<p>The SSN2MS_ShipParticulars_Res message is the response sent by SafeSeaNet to a Member State system or EMSA system (e.g. THETIS) any other future system to be connected to SSN requesting ship particulars from SSN</p>

Name Web Service	Description
SSN_Receipt	<p>It is sent a SafeSeaNet as a confirmation message to every notification message received from the member state (MS)</p> <p>(MS2SSN_<SSN_Tx_Type>_Not), (MS2SSN_<SSN_Tx_Type>_Req), (MS2SSN_<SSN_Tx_Type>_Res or SSN2MS_<SSN_Tx_Type>_Res)</p> <p>In case that any of aforementioned messages is not compliant to the corresponding XSD or if the notification is invalid the status code "InvalidFormat" is set in the message</p>

3.4 SafeSeaNet System Interface Guide Part B – Incident Report Data Exchange-v1.20

This document defines the general requirements of the interface between an external application and the traffic monitoring system SafeSeaNet (SSN) with the scope of exchanging notifications, distributions, acknowledgements and requests for details concerning:

- MS2SSN_Alert_Not
- MS2SSN_IncidentDetail_Not
- SSN2MS_IncidentDetail_Tx
- SSN2MS_IncidentDetail_Tx_Ack
- MS2SSN_Alert_Req
- SSN2MS_Alert_Req
- MS2SSN_Alert_Res
- SSN2MS_Alert_Req
- MS2SSN_IncidentDetail_Req
- SSN2MS_IncidentDetail_Res

Services listed are of type SOAP.

This ICD covers SSN incident service.

Note that in the following services, the exchange of information is between the member states (MS) and the Safe Sea Net (SSN) system. The GUI is not directly affected by that. These services are only listed to bring clarity.

Name Web Service	Description
MS2SSN_Alert_Not	<p>The MS2SSN_Alert_Not.xml message is sent by a Member State to SafeSeaNet in order to notify SafeSeaNet that the Member State holds some information about a specific incident type.</p> <p>The type of reports supported are:</p> <p>SITREP : Situation Report</p> <p>POLREP: Pollution Report</p> <p>Waste: Waste Reporting Alert</p> <p>Lost/found Containers: Containers/Packages drifting at sea</p> <p>Others: Other than the list above</p>

Name Web Service	Description
MS2SSN_IncidentDetail_Not	<p>The message is sent by a Member State to SafeSeaNet in order to notify SafeSeaNet that in turn will distribute to the recipient Member States information about a specific incident type. The new IncidentDetails message shall be used as an alternative to the Alert notifications</p>

Name Web Service	Description
SSN2MS_IncidentDetail_Tx	<p>The message is sent (distributed) by SafeSeaNet in accordance with the distribution list included in the MS2SSN_IncidentDetail notification.</p> <p>The message contains the consolidated details regarding the Incident Report (Incident details and all feedbacks received).</p> <p>Note: in the case where an incident report is deleted by the data provider, the message is distributed to all recipients which had received the Incident Report</p>

Name Web Service	Description
SSN2MS_IncidentDetail_Tx_Ack	<p>The message is sent by SafeSeaNet to the data provider of the <i>MS2SSN_IncidentDetail_Not</i> as a receipt message indicating the consolidated status of the distribution to the list of recipient Member States</p>

Name Web Service	Description
MS2SSN_Alert_Req	<p>The message is sent by a Member State (data requester) to SafeSeaNet in order to request the incident notification details about a given incident type.</p> <p>In order to ensure backward compatibility, the Alert request mechanism implemented in SSN also allows retrieving the incident notification details about a given incident type provided via the MS2SSN_IncidentReport_Not notifications. In this respect the necessary protocol conversion mechanism shall be implemented in the central SSN system</p> <p>Requests (<i>MS2SSN_<SSN_Tx_Type>_Req.xml</i>) and its corresponding XML response (<i>SSN2MS_<SSN_Tx_Type>_Res.xml</i>) should only be implemented by a Member States willing to develop their own data requester interface instead of using the browser-based web interface supplied by SSN</p>

Name Web Service	Description
MS2SSN_Alert_Res	<p>The message is sent by the Member State owning the notifications details (data provider) to SafeSeaNet in answer to its request for getting the incident notification details about a given incident type.</p> <p>A prerequisite to this message is that the different incident details can be modelled as XML (XML schema) and that all Member States agree upon a common version.</p>

Name Web Service	Description
SSN2MS_Alert_Req	<p>The message is sent by SafeSeaNet to the Member State owning the incident notification details (data provider) in order to request the incident notification details about a given incident type.</p>

Name Web Service	Description
SSN2MS_Alert_Res	<p>The message is the final response sent by SafeSeaNet to a Member State requesting the incident notification details about a given incident type (data requester).</p>

Name Web Service	Description
MS2SSN_IncidentReport_Req	<p>The MS2SSN_IncidentReport_Req.xml message is sent by a Member State (data requester) to SafeSeaNet in order to request the latest port notification details about a given vessel.</p> <p>In order to ensure backward compatibility, the IncidentDetail request mechanism implemented in SSN also allows retrieving the incident notification details about a given incident type provided via the MS2SSN_Alert_Not notifications given that the IncidentDetails reported in the MS2SSN_Alert_Not sent by the data provider are in XML or UrlDetails format and can be retrieved by SSN within the Timeout values defined by the data requestor.</p> <p>The maximum number of Incidents in a SSN2MS_IncidentReport_Res message is limited to the 10 latest incidents identified by the "GetIRInformation" element specified.</p>

Name Web Service	Description
SSN2MS_IncidentReport_Res	<p>The SSN2MS_IncidentReport_Res.xml message is the response sent by SafeSeaNet to a Member State (data requester) requesting the latest port notification details for a given vessel</p>

Name Web Service	Description
SSN_Receipt	<p>It is sent by SafeSeaNet as a confirmation message to every notification message received from the member state (MS) (MS2SSN_<SSN_Tx_Type>_Not), (MS2SSN_<SSN_Tx_Type>_Req), (MS2SSN_<SSN_Tx_Type>_Res or SSN2MS_<SSN_Tx_Type>_Res)</p> <p>In case that any of aforementioned messages is not compliant to the corresponding XSD or if the notification is invalid the status code "InvalidFormat" is set in the message otherwise the status code will be set to "OK"</p>

3.5 SafeSeaNet System Interface Guide – Ship Call Voyage Data Exchange-v1.20

This document defines the general requirements of the interface between an external application and the traffic monitoring system SafeSeaNet (SSN) with the scope of exchanging notifications and requests for details concerning:

- MS2SSN_PortPlus_Not
- MS2SSN_ShipCall_Req
- MS2SSN_ShipCall_Res
- SSN2MS_ShipCall_Res

This ICD cover the SSN EIS Hazmat Service and STAR voyage service.

Note that in the following services, the exchange of information is between the member states (MS) and the Safe Sea Net (SSN) system. The GUI is not directly affected by that. These services are only listed to bring clarity.

Name Web Service	Description
MS2SSN_PortPlus_Not	Serves the incoming Message Notifications

Name Web Service	Description
MS2SSN_ShipCall_Req	<p>The MS2SSN_ShipCall_Req.xml message is sent by a Member State (data requester) to SafeSeaNet in order to request the operational information (ship specific/ ship call specific/ port of call specific)</p> <p>SWuch kind of XML request (MS2SSN_<SSN_Tx_Type>_Req.xml) and its corresponding XML response (SSN2MS_<SSN_Tx_Type>_Res.xml) should only be implemented by a Member State if it wants to develop its own data requester interface instead of using the browser-based web interface supplied by SSN</p>

Name Web Service	Description
MS2SSN_ShipCall_Res	The MS2SSN_ShipCall_Res.xml message is sent by the Member State holding the notifications details (data provider) to SafeSeaNet in answer to its request for getting the relevant, to the request made, notification details (e.g. Hazmat, Waste or Security) about a given vessel

Name Web Service	Description
SSN2MS_ShipCall_Res	The SSN2MS_ShipCall_Res.xml message is the final response sent by SafeSeaNet to a Member State requesting the operational information stored in SSN (at EIS or national level about a given vessel, a given port, a specified time period and/or a combination of the three (data requester)

3.6 LRIT TR XML Interface Control Document V0.2

This document describes the EU DC XML External Interfaces of the EU LRIT Data Centre system.

This XML Interface between external systems and the EU LRIT CDC allows the external systems to request and receive LRIT information.

The XML Interface will guarantee a secure and reliable communication with external systems.

The **SAR-SURPIC** services are based on LRIT services.

Name Web Service	Description
LRIT2ES_Not	<p>The EU LRIT DC sends position reports by calling the Irit2ESNot operation in the remote LRIT2ES Web Service made available by the ES.</p> <p>The distribution of Position Reports is done using Stream data flow, or by responding to an On Demand data flow. The LRIT Notification contains the ship identification and the ship position coordinates and timestamps. To one LRIT Notification message corresponds one, and only one, LRIT Position Report</p>

Name Web Service	Description
ES2LRIT_Position_Req	<p>The ES can submit an "LRIT Position Request" to the EU LRIT DC through the XML Interface by calling the es2LRITPositionReq operation in the ES2LRIT Web Service.</p> <p>A Position Request corresponds to an On Demand data flow</p>

Name Web Service	Description
ES2LRIT_DDP_Req	<p>The ES can submit an “LRIT DDP Request” to the EU LRIT DC through the XML Interface by calling the es2LRITDDPReq operation in the ES2LRIT Web Service.</p> <p>A DDP Request corresponds to a Request / Response data flow.</p> <p>An ES can make a DDP Request by sending an ES2LRIT_DDP_Req message to retrieve a DDP file</p>

Name Web Service	Description
LRIT2ES_DDP_Res	<p>The EU LRIT DC sends a DDP File by calling the Irit2ESDDPRes operation in the LRIT2ES Web Service.</p> <p>A DDP Response corresponds to a Request / Response data flow.</p> <p>The DDP file is in ZIP format and it is attached to the XML message</p>

Name Web Service	Description
ES2LRIT_Journal_Req	<p>The ES can submit an “LRIT Journal Request” to the EU LRIT DC through the XML Interface by calling the es2LRITJournalReq operation in the ES2LRIT Web Service.</p> <p>A Journal Request corresponds to a Request / Response data flow.</p> <p>The requested Journal data is selected by type of Journal (exchanged messages, position reports, position requests, user activities) and by period. An ES can make a Journal Reques</p>

Name Web Service	Description
LRIT2ES_Journal_Res	<p>The EU LRIT DC sends a Journal Dump file by calling the Irit2ESJournalRes operation in the LRIT2ES Web Service.</p> <p>A Journal Response corresponds to a Request / Response data flow.</p> <p>The Journal Dump file is in ZIP format and it is attached to the XML message</p>

Name Web Service	Description
LRIT2ES_Negative_Res	<p>The EU LRIT DC sends a LRIT Negative Response by calling the Irit2ESNegativeRes operation in the LRIT2ES Web Service.</p> <p>A Negative Response corresponds to a Request / Response data flow.</p> <p>The LRIT Negative Response message corresponds to the IMO Receipt message (message type 7). The Negative Response is returned by the EU LRIT DC whenever the requested position report is not available or the requestor is not entitled to the data. The negative response message is also returned if message consistency checks on the request received by the ES do not pass</p>

Name Web Service	Description
LRIT_SystemStatus	<p>The EU LRIT DC sends a LRIT System Status by calling the IritSystemStatus operation in the LRIT2ES Web Service.</p> <p>The ES sends a LRIT System Status by calling the IritSystemStatus operation the ES2LRIT Web Service.</p> <p>A System Status message corresponds to a heartbeat data flow.</p> <p>The LRIT System Status reports the service level of the EU DC and it is sent with a periodicity of one message every 30 minutes</p>

Name Web Service	Description
ES2LRIT_ShipParts_Req	<p>The ES can submit an "LRIT Ship Particulars Request" to the EU LRIT DC through the XML Interface by calling the es2LRITShipPartsReq operation in the ES2LRIT Web Service.</p> <p>A Ship Request corresponds to a Request / Response data flow.</p> <p>An ES can retrieve ship(s) information or do a stop/start on a ship based on certain criteria</p>

Name Web Service	Description
LRIT2ES_ShipParts_Res	<p>The EU LRIT DC sends a LRIT Ship Particulars message by calling the Lrit2ESShipPartsRes operation in the LRIT2ES Web Service.</p> <p>A Ship Response corresponds to a Request / Response data flow.</p> <p>The Ship Particulars message contains all details regarding a ship or a group of ships as stored in the EU LRIT DC database at the moment of the request. The details include the ship integration and reporting status</p>

3.7 Clean Sea Net External Interface Control Document

The document defines the software interfaces between CSN-DC and all the external entity involved in any of the business processes.

Services listed are geospatial web services.

This ICD covers the following services:

CSN-WFS, Spill information

CSN-WMS, EO (Earth Observation) images

Name Web Service	Description
Web Feature Service	WFS is used to request Oil Spill and Vessel Traffic data and detected vessels data from CSNDC
Name Methods	Description
GetCapabilities	This method will return the list of capabilities for WFS
DescribeFeature	This method will return the description of feature
GetFeature	This method will return feature

Name Web Service	Description
Web Map Service	The WMS is used for serving raster data of EO images
Name Methods	Description
GetCapabilities	This method will return the list of capabilities for WMS
GetMap	This method will return map

Name Web Service	Description
Catalog Service On The Web	This is used to store catalogue metadata of the EOP products
Name Methods	Description
GetCapabilities	This method will return the list of capabilities for EOP
GetRecordById	This method will return the record by the ID specified
GetRecords	This method will return the list of records

3.8 Country Code Base Registry CCBR OSB Interface v1.1

The objective of this document is to describe the services made available (through web services) on the Oracle Service Bus platform to be used by the Country Base Registry clients. By using those web services, the clients (the EMSA applications) will be able to get the most up-to-date information about Countries, MID's and Callsign's

These services will be used across the system in future development.

Name Web Service	Description
CBR / OSB WebServiceInterface	The Oracle Service Bus platform will make available four web services with the following operations to be used by the Country Code Base Registry clients
Name Methods	Description
signSubscription	By calling this WebMethod an external system (Application identified by appAcronym) signs for the subscription service.
updateSubscription	By calling this WebMethod an external system (Application identified by appAcronym) updates his web service announcement endpoint.
revokeSubscription	By calling this WebMethod an external system (Application identified by appAcronym) revokes the subscription service.
Subscribe	By calling this WebMethod an Application subscribes to the announcement service for the: <ul style="list-style-type: none"> Country identified by alpha2code. Regional Agreement identified by the Regional Agreement Code. Country Type identified by the country Type Code.
Unsubscribe	By calling this WebMethod an Application unsubscribes to the announcement service for the: <ul style="list-style-type: none"> Country identified by alpha2code. Regional Agreement identified by the Regional Agreement Code. Country Type identified by the country Type Code.

Name Web Service	Description
getServiceSubscribers()	Returns the list of subscribed external systems.
getSubscriptionOperations	Returns the list of the operations performed by an external system (Application identified by appAcronym) matching the search criteria (between the startDate and endDate including boundaries). If no dates are provided, this WebMethod should return the full list of operations.
getServiceSubscribersList	Returns the list of subscribed external systems for a specific country. The service subscribers presented in this list will receive an announcement about an operation (insert, update or delete) performed over a country.
updateServiceAnnouncementStatus	Since the service announcement is handled by the CCBR OSB Services, this method is used to store in the database information about the announcement sent to the ES.

Name Web Service	Description
Manage Countries WebService	This web service is used to manage (add, update or delete) information about countries and associated MID's and Callsign's
Name Methods	Description
insertCountry	This method is used to insert a new country in the database
updateCountry	This method is used to update the data of an existent country in the database
deleteCountry	This method is used to delete a country from the database
insertMID	This method is used to insert a new MID in the database
updateMID	This method is used to update the data of an existent MID in the database
deleteMID	This method is used to delete an existent MID from the database
insertCallsign	This method is used to insert a new Callsign in the database
updateCallsign	This method is used to update the data of an existent Callsign in the database
deleteCallsign	This method is used to update the data of an existent callsign in the database

Name Web Service	Description
County Information Web Service	This web service is used to request information about countries and associated MID's and Callsign's
Name Methods	Description
getCountryList	This method is used to return the list of countries and respective details and has in consideration the provided search criteria. The search criteria will work as an "AND" operator, meaning that this method will return only the countries matching with all the provided input parameters
getCountryFullList	This method is used to return the full list of countries and respective details
getSubscriptionCountryList	This method is used to return the list of subscribed countries and respective details for a specific external application. It includes also all countries added because they are part of a Regional Agreement or Country Type
getCountry	This method is used to return the country with respective details
getParentCountry	This method is used to return the details of the parent country. The child country is identified by the input parameter
getChildCountryList	This method is used to return the details of the child countries of a parent country. The parent country is identified by the input parameter
getCountryMIDList	This method is used to return all the MID's (Maritime Identification Digits) associated with a specific country. The country is identified by the input parameter
getCountryCallsignList	This method is used to return all the Callsign's associated with a specific country. The country is identified by the input parameter
getCountryFlagImageList	This method is used to return all the flag images (small, medium, large) of all existing Countries.
getCountryFlagImages	This method is used to return the flag images (small, medium, large) of a specific Country
getCountryFlagImage	This method is used to return a flag image with a specific size (small, medium or large) of a specific Country
getCountryFlagImageLocation	This method is used to return the location (URL) of the flag image with a specific size (small, medium or large) of a specific Country
getCountryFlagImageLocationContext	This method is used to return the location context (URL) of the country flag images location
getCountryHistory	This method is used to return the history country information in a specific time or a period of time. Start and end dates are included in the boundaries when present

Name Web Service	Description
getSubscribedCountries	This method is used to return the list of individually subscribed countries and respective details for a specific external application. It does not include countries added because they are part of a Regional Agreement or Country Type.
getSubscribedCountryTypes	This method is used to return the list of subscribed country types
getCountryCategories	This method is used to return the list of country categories
getCountryTypes	This method is used to return the list of country types
getSubscribedRegionalAgreements	This method is used to return the list of subscribed country types

Name Web Service	Description
Announcement Web Service	This web service is used to send announcements to external systems
Name Methods	Description
notify	This method is used by the country base registry to deliver a change announcement to an external system

Name Web Service	Description
User Groups and Access Rights	WS-Security (Web Services Security) an extension to SOAP is used to apply security to web services. In the CCBR it is used to pass credentials to authenticate the user to the OSB, no encryption is used

3.9 BARschemaproposal

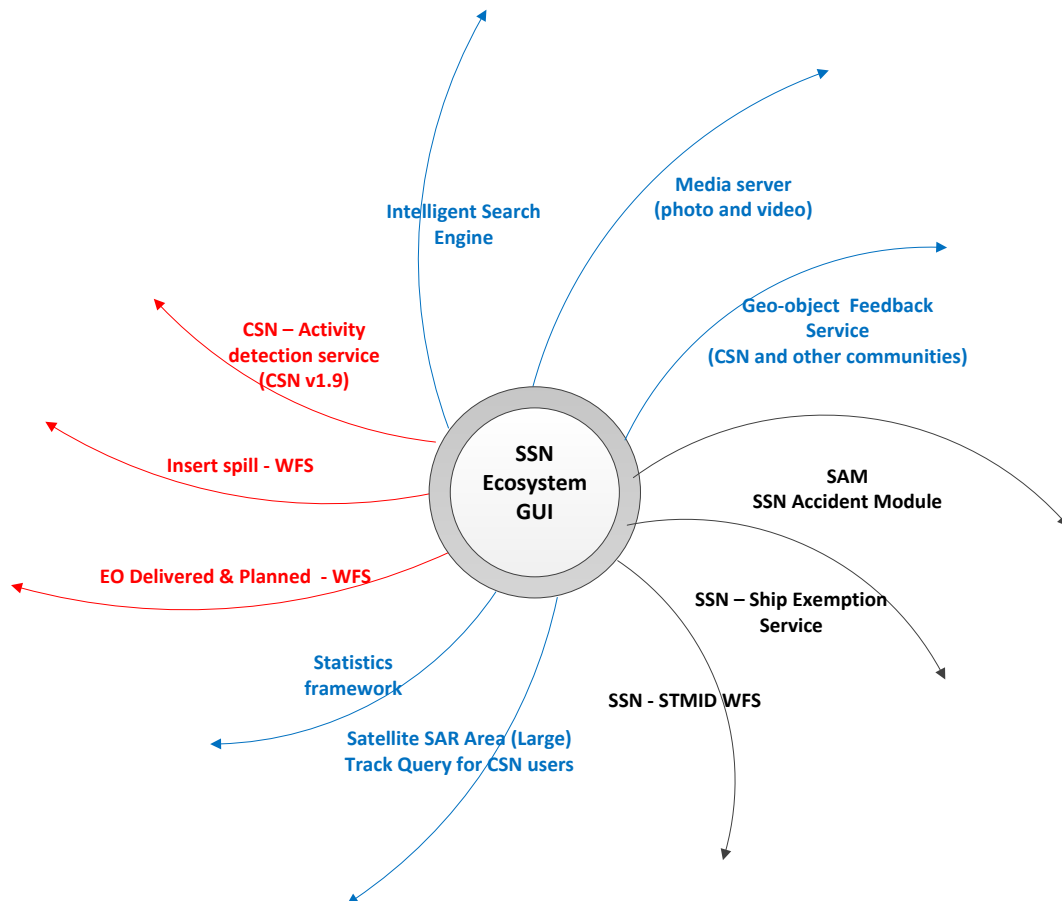
The SSN – COD services, called BAR are listed in the BARschemaproposal document that later on can be handed to the contractor.

3.10 BLRschemaproposal

The SSN – CLD services, called BLR are listed in the BARschemaproposal document that later on can be handed to the contractor.

4. Ecosystem GUI – new backend services

The following business services have been identified during assessment of the business requirements and will need to be implemented in STAR, EO DC and SSN EIS systems. The implementation of these business services is not the scope of this tender; however the contractor shall connect and query these new services.



Name Web Service	Description
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Name Web Service	Description
SAM (SSN Accident Module)	The SafeSeaNet Accidents Module (SAM) combines information on significant accidents from MS incident reports provided to SSN (e.g. sinking, groundings, collisions, contacts, fires, explosions, loss of life, significant injuries/pollution/cargo loss, etc.) and from other sources (e.g. the European Commission media monitoring service, commercial maritime information systems and a wide range of maritime-oriented Internet sources). The information is used, both to feed the module, and also to produce daily accident reports for EU decision makers and technical /operational support staff. The main three SAM components (GUI, database and input tool) are now to be transferred to the SSN Ecosystem
Media Server (Photo and Video)	Photos or videos taken for example by a UAV (Unmanned Aerial Vehicle) in an area of operation and this media can be queried by the user. The media server shall act as an aggregator of information.
Geo-object Feedback Service (CSN and other communities)	With this service, the user shall have the ability to report an observation not only on possible oil spills but on any other Geo-object.
SSN Ship exemption service	This will provide details on the exemption of specific reporting requirements for given vessels.
CSN Activity detection Service (CSN v1.9)	The service will detect activities (Satellite detection for example) for specific features that are linked with the interest to EMSA and which can be used for different types of surveillance
STMID	<p>The main objective of the Shore-based Traffic Monitoring and Information Database (STMID) is to use SafeSeaNet to simplify and facilitate the sharing of information regarding the MS designated authorities with the Commission and other MS.</p> <p>Each Authority and each associated area of responsibility represent a feature (geographical object) that can be displayed on the map. The Authorities will be placed using their LOCODE unless geographical coordinates are provided</p> <p>SSN Ecosystem GUI shall be able to display the STMID authorities' locations and contact details as well as their areas of responsibility.</p> <p>The STMID will expose the main information through a WFS interface.</p>
Satellite SAR-Area (Large)	This service supports the queries for ship tracks over very large areas, like those required for satellite images. It pre-computes the ship tracks in order reduce the query and display time.
Statistics Framework	With this service it shall be possible to generate statistics based on different attributes.

Name Web Service	Description
EO Delivered and Planned - WFS	This service will make EO delivered and planned images exposed through WFS
Insert Spill - WFS	With this service the user shall be able to insert spill manually geo tagged and commented
Intelligent Search	<p>This service will enable the user to search in two different modes: simple and advanced.</p> <p>Simple mode is based on input data and the results are the amount of hits in different categories, the user can choose which category to enter to get details.</p> <p>Advanced mode includes other identifiers and different combination of them.</p>