

Tender specifications
Attached to the Invitation to tender

Invitation to tender N° EMSA/OP/25/2015 for
ICT services related to the design and development of the EMSA Earth Observation Data Centre, and
corresponding helpdesk, corrective and adaptive maintenance services.

Abbreviations

The following table includes a list of abbreviations commonly used in these Tender Specifications.

Abbreviation	Definition
AIS	Automatic Identification System
API	Application Programming Interface
BCF	Business Continuity Facility
COTS	Commercial Off The Shelf
CTM	Criticality/Time Matrix
CSN	CleanSeaNet
CSNDC	CleanSeaNet Data Centre
COTS	Commercial off-the-Shell
CMC	Control Management Console
EICD	External Interface Control Document
EC	European Commission
EMSA	European Maritime Safety Agency
ENC	Electronic Nautical Chart
EO	Earth Observation
EO DC	Earth Observation Data Centre
EU	European Union
FTP	File Transfer Protocol
FWC	Framework Contract
GIS	Geographic Information System
GML	Geography Markup Language
GUI	Graphic User Interface
HTTP	Hypertext Transfer Protocol
ICD	Interface Control Document
ICM	Installation and Configuration Manual
ICT	Information and Communications Technology
IdM	Identity Manager (an Oracle application)
IHP	Incident Handling Procedures
INS	Installation Manual
IMDatE	Integrated Maritime Data Environment

Abbreviation	Definition
IT	Information Technology
IPR	Intellectual Property Rights
LRIT	Long Range Identification and Tracking.
MAP	Maritime Application Portal
MARSURV	Maritime Surveillance
M5D	Message Digest Algorithm
MSS	Maritime Support Services
MSs	Member State(s)
NCA	National Competent Authority
NRT	Near Real Time
OMM	Operational and Maintenance Manual
RDF	Resource Description Framework
REST	REpresentational State Transfer
RPM	Red Hat Package Manager
ROA	Resource Oriented Architecture
S2S	System to System
SDI	Spatial Data Infrastructure
SO	Satellite Owner
SOA	Service Oriented Architecture
SOAP	Simple Object Access Protocol
SP	Service Provider
SRS	Software Requirements Specifications
SSN	SafeSeaNet
STP	Software Test Plan
TDD	Technical Design Document
TF	TeamForge
TS	Technical Specification
VAS	Value-Added Service
VDS	Vessel Detection System
WWW	World Wide Web
XML	Extensible Markup Language

Glossary

Terms specific to Maritime domain

The following table includes a glossary of the relevant terms commonly used in this TS and specific to Maritime domain.

Term	Definition
AIS	The Automatic Identification System (AIS) is an automatic tracking system used on ships and by vessel traffic services (VTS) for identifying and locating vessels by electronically exchanging data with other nearby ships, AIS base stations, and satellites.
CSN	CSN is a satellite based monitoring system for marine oil spill detection and surveillance in European waters. The service is operated by EMSA and provides a range of detailed information including oil spill alerts to Member States, rapid delivery of available satellite images and oil slick positions. More information at: https://csndc.emsa.europa.eu/homepublic
EMSA	EMSA provides technical assistance and support to the European Commission and Member States in the development and implementation of EU legislation on maritime safety, pollution by ships and maritime security. To do this, one of EMSA's most important supporting tasks is to improve cooperation with, and between, MSs in all key areas. In addition, the Agency has also been given operational tasks in the field of oil pollution response, vessel monitoring and in long range identification and tracking of vessels. As a body of the EU, the Agency sits at the heart of the EU maritime safety network and collaborates with many industry stakeholders and public bodies, in close cooperation with the EC. More info at: www.emsa.europa.eu
ENC	The ENC contains all the chart information necessary for safe navigation and may contain supplementary information in addition to that contained in the paper chart (e.g. sailing directions) which may be considered necessary for safe navigation (IMO resolution A.817 (19)).

Terms specific to the Earth Observation domain

The following table includes a glossary of the relevant terms commonly used in this TS and specific to Earth Observation domain.

Term	Definition
Coverage	Coverages represent digital geospatial information representing space/time-varying phenomena.
Dataset	Dataset is a collection of data, vector or raster.
Dataset series	Dataset series is a temporal collection of datasets.
Earth observation	Earth observation is the gathering of information via remote sensing technologies supplemented by earth surveying techniques, encompassing the collection, analysis and presentation of geospatial data.
Geospatial	Geospatial are data and software components which deal with a geographic attributes.
Geospatial service	Geospatial service is a web service that delivers geospatial data.
GML	The Geography Markup Language (GML) is the XML grammar defined by the Open Geospatial Consortium (OGC) to express geographical features. GML serves as a modelling language for geographic systems as well as an open interchange format for geographic transactions on the Internet.
Ingestion	In this document ingestion has to be considered as synonymous of Data Acquisition (see the Background section).
Metadata	A Metadata is a document, typically in XML format, that describes the content of a dataset or a geospatial service.
Process	A process is a software component that transforms data, provides services, or extracts information.
Raster	Raster dataset is a representation of the plant Earth as a surface divided into a regular grid of cells. Raster models are useful for storing data that varies continuously, as in an aerial photograph, a satellite image, a surface of chemical concentrations, or an elevation surface.
Satellite Owner	Satellite Owner is an organization that operates satellites.
Near-real-time	In the context of its use in CSN the term "near-real-time" refers the delay between the download of satellite images and the availability of this information through the CSNDC web services. This delay shall be less than 30 minutes.

SAR	(As Synthetic Aperture Radar). SAR is a form of radar in which multiple radar images are processed to yield higher-resolution images than would be possible by conventional means. Either a single antenna mounted on a moving platform (such as an airplane or spacecraft or satellite) is used to illuminate a target scene or many low-directivity small stationary antennas are scattered over an area near the target area. The many echo waveforms received at the different antenna positions are post-processed to resolve the target. SAR can only be implemented by moving one or more antennas over relatively immobile targets, by placing multiple stationary antennas over a relatively large area, or combinations thereof. SAR has been extensively used in remote sensing and mapping. SAR images are used in VDS.
Sensors	Sensors Within the context of earth observation, sensors are satellite, UAV, in situ or airborne devices which collect geospatial data.
Service Provider	Service Provider is the organization in charge to analyse an Earth Observation product in order to extract the information expected by the EMSA's.
Spatial Data Infrastructure	A Spatial Data Infrastructure a set of Geospatial services orchestrated in order to provide a Service.
Vector	Vector dataset is a representation of the planet Earth using points, lines, and polygons. Vector dataset are useful for storing data that has discrete boundaries, such as features, cost lines.

Terms specific ICT or Project Management domain

The following table includes a glossary of the relevant terms commonly used in this TS and specific to ICT or Project Management domain.

Term	Definition
API	In computer programming, an application programming interface (API) is a set of routines, protocols, and tools for building software applications. An API expresses a software component in terms of its operations, inputs, outputs, and underlying types
Application	An application is a software component designed to help the user perform specific tasks.
Building Block	A Building Block comprises a set of components that can be configured to fit an application purpose.
Client	A client is a piece of computer hardware or software that accesses a service made available by a server.
Component or subsystem	An individual software component is a software package, a web service, a web resource, or a module that encapsulates a set of related functions (or data).
Data Centre	A Data Centre is a facility used to house computer systems and associated components, such as telecommunications and storage systems.

JSON	JSON is a lightweight data-interchange format. It is based on a subset of the JavaScript Programming Language
Interface	An interface is a shared boundary across which two separate components of system exchange information.
Interoperability	Within this context is the ability of systems to exchange information and accept services from other systems, in order to enable them to operate effectively together.
MD5	The MD5 is a message-digest algorithm is a widely used cryptographic hash function producing a 128-bit (16-byte) hash value, typically expressed in text format as a 32 digit hexadecimal number. MD5 is utilized in this TS to verify data integrity.
Process	A process is a software component that transforms data, provides services, or extracts information.
RDF	RDF is a family of World Wide Web Consortium (W3C) specifications. It has come to be used as a general method for conceptual description or modelling of information that is implemented in web resources.
Sensors	Sensors Within the context of earth observation, sensors are satellite, UAV, in situ or airborne devices which collect geospatial data.
Server	A server is a running instance of an application (software) capable of accepting requests from a client and giving responses accordingly. Servers can run on any computer including dedicated computers, which individually are also often referred to as "the server"
Service	Service "Means of delivering value to the customer by facilitating the outcomes customer want to achieve, without the ownership of specific costs and risks" (ITIL definition).
System	A system is a set of interacting or interdependent building blocks forming an integrated whole.
System to Systems	System to systems is a type of interaction between two systems governed by specified interfaces.
Solution	The solution is the system implemented by the contractors
Standard	A standard is an established norm or requirement in regard to technical systems. It is usually a formal document that establishes uniform engineering or technical criteria, methods, processes and practices.
SWOT	A SWOT analysis is a structured method used to evaluate the strengths, weaknesses, opportunities and threats of topic to address.
User interface	Everything designed into an IT system which includes one or more applications which a human being may interact with. This includes, but is not restricted to: display screen, keyboard, mouse, light pen, desktop appearance, illuminated characters, help messages, and how an application program or a Web site invites interaction and responds to it.

Web service	A web service a subsystem designed to support interoperable machine-to-machine interaction over internet.
Workflow	A workflow consists of an orchestrated and repeatable pattern of processes.
XML	XML is a markup language that defines a set of rules for encoding documents in a format which is both human-readable and machine-readable. It is defined by the W3C's XML 1.0 Specification and by several other related specifications, all of which are free open standards.

1. Introduction

The European Maritime Safety Agency (hereafter called EMSA or the Agency) was established under Regulation 1406/2002/EC, as amended, for the purpose of ensuring a high, uniform and effective level of maritime safety. One of the Agency's main objectives is to provide technical and scientific assistance to the European Commission and Member States in the proper development and implementation of EU legislation on maritime safety, pollution by ships and security on board ships. To accomplish this, one of EMSA's most important supporting tasks is to improve cooperation with, and between, Member States through the development of EU maritime information systems.

During the last 10 years EMSA has developed several maritime information systems and associated services, namely: SafeSeaNet (SSN), CleanSeaNet (CSN), EU Long Range Identification and Tracking of ships Data Centre (EU LRIT DC) and the Integrated Maritime Data Environment (IMDatE).

Each of EMSA's maritime information systems was initially developed as a stand-alone system addressing specific requirements, functionalities and user communities. In 2010, EMSA initiated the implementation of an Integrated Maritime Data Environment (IMDatE) aiming to create the technical ICT capability to combine, fuse and correlate data and services from SSN, CSN, LRIT, as well as new external sources, to be combined together and tailored to the needs of different user communities relying on maritime services. This integration approach has been recently further evolved into the SafeSeaNet Ecosystem (see Appendix A), which aims to streamline the efforts of systems development, operation and maintenance, by setting-up an interoperable ICT service and resource oriented architecture, based on: standardised interfaces; re-usability of implemented modules by different services, and; harmonisation of the monitoring and operational procedures. Thus the scope of the SafeSeaNet Ecosystem is to set-up a flexible and interoperable ICT maritime platform easily scalable and configurable for facing the future increased diversity of the maritime information services requested by the EU Institutions and EU MSs.

Within the context of the SafeSeaNet Ecosystem this tender aims to procure the 3rd generation of its Earth Observation Data Centre (EODC). The EODC is the Agency's system for the provision of multi-sensors earth observation data (satellite radar and optical, as well as user provided data), in support of a number of EMSA services to user communities in European waters (multi-communities), namely marine monitoring (i.e. oil spill), vessel detection, and border surveillance.

1.2 Background

The EMSA's Earth Observation Data Centre (EODC) comprises two systems (EO-Provisioning and EO-Processing), each of them includes set of building blocks (e.g. for the EO-Processing: Data Ingestion, Data Transformation, and Data Delivery; and for the EO-Provisioning: Satellite Data Sourcing and EO Productions Distribution), composed by a number of components. These provide the following specific functionalities based on standard interfaces (as in Figure 1 - EODC building blocks):

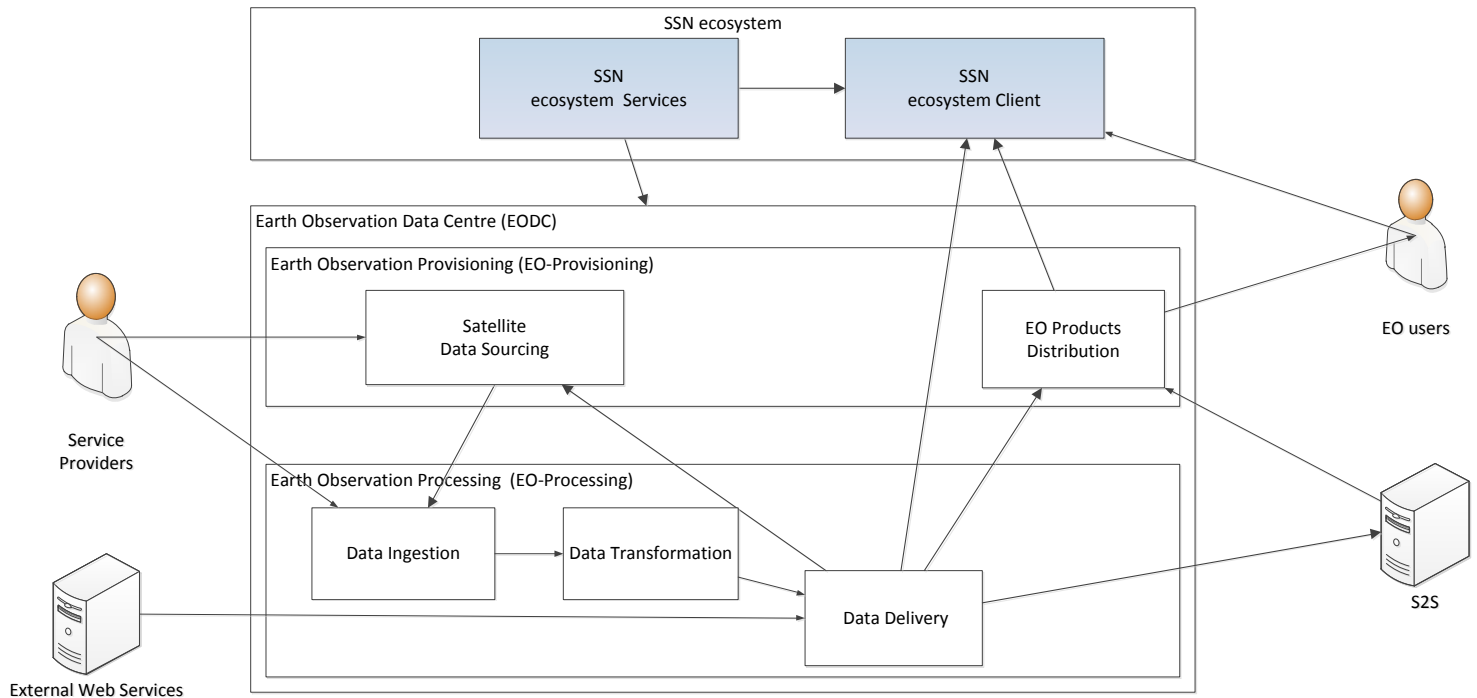


Figure 1 - EODC building blocks

1.2.1 Earth Observation Provisioning (EO-Provisioning)

The EO-Provisioning covers the components and the workflow regarding which sensors (currently satellite and it in the future also other type of Earth Observation sensors as UAV, in situ, etc. ...) must be implemented (**Satellite Data Sourcing**), so that the desired EO products (datasets) can be ordered from the operator/service provider. This system also monitors service provider deliveries within the context of invoicing and associated contract budget execution (financial and journaling components). Based on the EO data acquired and processed the **EO Product Distribution** building block, as currently implemented, delivers added value services such as “Oil Spill Alerting”, “Oil Spill Drifting” and “Vessel Detection” services both to EMSA’s maritime applications (see the SSN Ecosystem) and European Union Member State services.

1.2.2 Earth Observation Processing (EO-Processing)

Once ordered by EMSA and consequently acquired by the relevant satellite and associated operator/service provider, the EO datasets needs to be ingested into the EODC (**Data Ingestion**). This system includes steps such as: validate data integrity, check data quality, and record the timestamp of the information acquired in order to assess their timeliness. Ingested data needs to be further transformed in order to extract the relevant maritime information (**Data Transformation**). Finally the maritime information shall be delivered to several applications that make use these datasets through geospatial standard services (**Data Delivery**).

2. Objective, scope and description of the contract

2.1 Objective

The objective of this procurement procedure is to establish Framework Contract(s) with contractor(s) to design, implement, configure, maintain, and improve all the building blocks that are part of the EMSA's Earth Observation Data Centre.

2.2 Scope

The procurement procedure chosen for the award of the framework contract is an open call for tender. The framework contract is divided into two lots covering the groups of following services:

Lot1 EO-Processing (Data Ingestion, Transformation and Delivery).

Lot2 EO-Provisioning, Earth Observation Data Provisioning (Satellite Data Sourcing, and EO Products Distribution)

A bidder can apply to one or both lots. For the EO-Processing Building Blocks, EMSA requires to implement standardised and interoperable solutions based on Commercial Off-The-Shelf (COTS) Spatial Data Infrastructure (SDI) components, its indeed for this reason that the SDI's building blocks: Data Ingestion, Transformation and Delivery; are bundled in a specific lot, Lot1. For the Earth Observation Data Provisioning functionalities, EMSA is looking for a software company with experience in developing bespoke client application solution (primarily web based) with experience in Earth Observation domain, therefore EO-Provisioning building blocks: Satellite Data Sourcing, and EO products Distribution are bundled into Lot2.

Each of the lots will aim at the conclusion of a separate Framework Contract.

2.3 Modules

Each of the lots of this procurement covers the following types of tasks:

Module 1 (design, develop, configure, and integrate)	To design, develop, configure and integrate the software components based on specific contract as requested for Lot1 in Appendix B, and for Lot2 in Appendix C.
Module 2 (corrective maintenance and operational support)	To provide 3rd line operational support (Helpdesk for handling incidents), bugs fixing capabilities, and configuration support as specified in Appendices G, H, and I. Each specific contract will have a duration of one year. Should it not be possible to conclude a specific contract on a yearly basis, the service delivery and the corresponding payment should be adjusted proportionally.

Module 3 (upgrade and integrate)	Implement new functionalities within the scope of a Lot, or the changes to the Lot's components. This module will be implemented based on specific contracts.
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Basic information on the SafeSeaNet Ecosystem architecture is provided in Appendix A. The bidders should note that the EMSA System and Application Technical Landscape, which documents the technical solutions, used by EMSA at System level and to provide directions on options and preferable technologies to be considered at Application Level, is provided in Appendix 1 of Annex II (General Conditions) of the Framework Contract (IT).

2.4 Requirements specific to each type of services

References in this document like “Chapter”, “Section” or “Paragraph” are referring to this document unless other reference documents are identified explicitly.

References in this document like “Bidder” or “Tenderer” are to be meant as an economic operator who submits a tender in response to this Call for Tender. The “Contractor” is the company or consortium that will get the tender awarded.

The requirements hereunder apply, per type of task, to any request for services under the framework contract. More specific requirements will be introduced within the context of each specific contract.

It is considered an advantage if the bidder has experience in the transportation sector (maritime, aviation, train, vehicle tracking). Therefore if and when within this tender is requested experience, background, or skills it is recommended to provide such type of examples (see for example Appendix O).

Both Lot 1 and Lot 2 contractors will, *inter-alia*, carry out the following tasks within the context of the foreseen modules. Module 1 and Module 3 services (design, implementation, configuration and deployment):

- a. Analysis of requirements;
- b. Review service interfaces;
- c. Prototyping;
- d. Development/Coding;
- e. Factory acceptance tests (FAT);
- f. Packaging and software delivery;
- g. Support to Site acceptance tests (SAT);
- h. Delivery of automated test scripts and code;
- i. Correction and bug fixing of delivered software releases;
- j. Support the deployment of the components into the EMSA infrastructure;
- k. Fine-tuning the services in order to meet the requested Quality of Service (performance, availability and capacity);
- l. Full system documentation, including, *inter-alia*, design documentation, installation instructions, system security guidelines, test plans and user manual.

Module 2 services (corrective maintenance and operational support):

- a. Control the processing of incidents, reported by EMSA support team and Maritime Support Services, and keep EMSA informed on the status of issues;
- b. Analyse incidents causing unforeseen service interruption and provide feedback to help the required interventions for repair or maintenance by EMSA or its contractors;
- c. Perform changes to the application code to correct errors;
- d. Support the back-up and recovery in case of failure;
- e. Analyse performance bottle-necks;
- f. Fine-tuning the services in order to meet the requested Quality of Service (performance, availability and capacity);
- g. Support the definition of specific probes for monitoring the EODC in the production environment.

2.5. Licensing Policy

EMSA considers as advantage a solution that makes use of COTS. COTS could be either open source or proprietary. For all the open source products to be used in this Data Centre, the bidder shall provide: product name, product versions.

For all the proprietary products to be used in this contract, the bidder shall provide: product name, product versions, type and number of licences necessary to implement the solution requested in Appendices B and C, and costs. The proposed products and solutions do not have to be covered by the available budget of this procurement. The purchase, maintenance and support services for products where EMSA owns licences will be contracted by EMSA and fall outside the scope of the present procedure.

For software developed within the scope of this procurement and for which the Intellectual Property Rights (IPR) will remain with the contractor, the contractor shall provide EMSA with unlimited right to use the software (including source code) in accordance with the Framework Contract(s) provisions, in particular Article 10.1.

For each of the products included in the proposal, the bidder shall provide a clear specification of all intellectual property rights (IPR).

2.6. Security

As a general rule any connection sent/received to/from Internet must be secure. A 2-way Secure Sockets Layer (SSL) shall be used when system-to-system Internet connection (HTTPS) is established.

The manufacturer security best-practices shall be followed for each specific operating system. Any security measures supported and suggested by the manufacturer of the operating system, such as Anti buffer overflows protections or network services isolation, shall be applied.

Security patches and updates must be applied periodically within the maintenance to all software delivered within the service contract.

2.7. Service Levels

The quality of the EODC services, therefore performance, availability and capacity are specified within the context of the technical specification of each lot, for Lot1 Appendix B and for Lot2 Appendix C.

However the contractors shall consider that the EODC service must be available on a 24/7 basis.

The Contractors shall assure availability of all systems, building blocks, and components as follows:

- 97.5% of the time over any 24-hour period;
- 99.5% over any 1 month; and
- 99.9% over a year.

2.8. Quality Assurance

Quality Assurance shall be performed by the Contractors according to industrial best practices. A Quality Management plan shall be provided and discussed during the Kick-off meeting. Any Quality Management standard (including product assurance) followed by the Contractors shall be specified in their bid and any specific tailoring required by this project should be identified and pointed out.

2.9. General Conditions for the Provision of Services

Language

The working language of EMSA is English. The English language shall be used throughout the duration of any activities associated with this Framework Contract for all communication, reports and other documentation.

Since the contractors will need to work exclusively in English, as stated above in these tender specifications, the technical documents part of this tender dossier are provided in English language only. Should the tenderers wish to read the outline of this tender in other languages, they may consult the Contract Notice available under: <http://ted.europa.eu/TED/misc/chooseLanguage.do>

Used products and infrastructure

The technologies and tools to be used for the provision of services and products are listed in Appendix 1 of Annex II – General Terms and Conditions to the ICT Contracts. The personnel providing the service will use only the standard software packages as utilised at the Agency, and no other software may be installed or used without the prior written authorisation of EMSA.

Third party licences for products used in the software implementation

The offers for service and associated specific contracts should, unless explicitly agreed otherwise, not cover the costs of any licence or product required to perform the service. EMSA is in charge to procure such licence or product with a different Framework Contract.

Place of work and access to EMSA environments

The place of work for the tasks shall be the contractor's premises. VPN access could be provided to the EMSA infrastructure and test environments, on the basis of the signature of conditions of use regarding security.

Working time

Except for the helpdesk task and corrective maintenance, the work shall be carried out within the normal working hours/days of EMSA (a calendar will be provided to the contractors when available, usually three months before the end of the previous year). Office hours are from 9 a.m. to 6 p.m. WET (Western European Time) on normal working days.

Under exceptional circumstances and with the previous agreement of both EMSA and the contractors, work might be performed outside of normal working hours/days.

Tests and audits

As a European body, EMSA itself or its external contractors might perform any kind of test or audit on the services provided by the contractors awarded the framework contract following this tender procedure. Checks and audits could in particular be performed in accordance with article I.15 of the General Conditions to the ICT draft Framework contract.

Project team

EMSA reserves the right to evaluate any change or new nomination of members to the contractor's project team. CVs and appropriate documentation of each person foreseen to take up duties shall be presented to EMSA for approval with respect to Specific Requests for Services but in any case at least 15 days before the schedule start date of a specific contract.

2.10. The nature of the contracts

2.10.1 Framework contract(s)

The contract(s) deriving from this procurement procedure is an ICT framework service contract(s) following the template published with these tender specifications. It should be stressed that Framework Contracts involve no direct commitment and, in particular, do not constitute orders per se. Instead, they lay down the legal, financial, technical and administrative provisions governing the relationship between EMSA and the Contractors during their period of validity. The draft Framework Contract specifies the basic conditions applicable to any assignment placed under its terms. The Framework Contract does not preclude EMSA from assigning similar tasks in the areas set out above to other Contractors selected following the EU procurement procedures or from having these tasks carried out by EMSA staff.

2.10.2. Specific contracts

Actual orders will be placed after the Framework Contract(s) is signed and in force, through "Specific Contracts" concluded in performance of the Framework Contract(s). All services will be provided on the basis of two different kinds of Specific Contracts:

- a. **Fixed Deliverable & Timing (FDT)** specific contracts which correspond to the order of a defined project with a number of specified deliverables.
- b. **Time & Means (TM)** specific contracts which correspond to the order of a number of person days to be performed per profile;

Activities in scope of Modules 1 and 2 shall be performed based on Fixed Deliverable and Timing specific contracts. For Module 3 both kinds could be used.

3. Contract management responsible body.

The European Maritime Safety Agency – Unit C.3, Information Services Technical Management, will be responsible for managing the contract.

4. Project Planning and Delivery

The project lifecycle and deliverables are described in Appendix G (these are relevant for Module 1 and 3 for both the lots).

Minimum deliverables associated with Module 2 are:

- a. Provision of the services required respecting the requirements, procedures and service levels.
- b. Including results of analysis of each incident in TeamForge (the tool used by the Agency for Application Lifecycle Management – EMSA will provide the contractors with one account to access the EMSA TeamForge repository).
- c. Quarterly reports for the services provided.
- d. Quarterly, if requested by EMSA, one day technical coordination meeting at EMSA premises, or Teleconference followed by a meeting report.

5. Timetable

The indicative date for signature of the Framework Contract(s) is first quarter 2016. Lot1 - Module 1 and Lot 2 – Module 1 will be implemented through single specific contracts. These specific contracts are expected to start shortly after the signature of the Framework Contract and the main milestones for this module are shown below.

5.1 Lot 1 Timetable and Milestones

5.1.1 Module 1

All the requirements described in the Appendix B shall be implemented at maximum three releases (release 1.0, release 2.0 and release 3.0). While the scope of each release shall be agreed during the “Software development plan”, the plan is:

Task Number	Name	Duration	Predecessors (Task Number)
1	First specific contract (SC), Lot1 – Module 1	0 days	
2	Release 1.0 Design	8 wks	1
3	Release 1.0 Implementation	24 wks	2
4	Release 1.0 Delivery Testing Environment	1 wk	3
5	Release 1.0 Testing	7 wks	4
6	Release 1.0 Delivery Production Environment	2 days	5
7	Release 1.0 closure	4 wks	6
8	Data Migration execution (design/implementation during Release 1.0 phases)	1 wk	6
9	Data Migration testing	1 wk	8

10	Data Migration closure	4 wks	9
11	Service Migration Phase	8 wks	9
12	Release 1.0 golive	1 day	11
13	Release 2.0 Design	8 wks	9
14	Release 2.0 Implementation	16 wks	13
15	Release 2.0 Delivery Testing Environment	2 days	14
16	Release 2.0 Testing	7 wks	15
17	Release 2.0 Delivery Production Environment	1 day	16
18	Release 2.0 closure	4 wks	17
19	Release 3.0 Design	4 wks	17
20	Release 3.0 Implementation	16 wks	19
21	Release 3.0 Delivery Testing Environment	2 days	20
22	Release 3.0 Testing	7 wks	21
23	Release 3.0 Delivery Production Environment	1 day	22
24	Release 3.0 closure	4 wks	23

After each release, an interim report shall be produced (closure).

- A. **Project Management.** Quarterly the contractors shall provide a report on the status of the project, including, if required proposals on updating project plan and risk registry. Monthly the contractors shall provide a report on the status of on-going tasks, resource usage, progress status and issues foreseen.
- B. **Design phase.** During the Design phase the following documents needs to be provided by the contractors: Project Plan, Risk Management Plan, Creation of Risk Registry and other project documents; Draft Software Development Plan (SDP); Test Plan (TPL); Interface Control Document (ICD); Technical Design Document (TDD). The Design phase is concluded with the approval of the documents by EMSA.
- C. **Implementation phase.** The implementation phase is concluded with the delivery in the EMSA's testing environment of the release (SAT). Before the delivery into the EMSA environments, the contractors shall call a meeting at his premises in order to review the releases (FAT).
- D. **Testing.** Per release the contractors can deliver at maximum three releases candidates (RC1, RC2, and RC3). Each Release Candidate requires in average 1/2 weeks of tests. Between two releases the contractors have 1/2 weeks for delivering a new release.
- E. **Delivery in Production.** If the test succeeds the release can be installed in EMSA production environment. Only when the release is installed in such environment the release is approved by EMSA.
- F. **Closure.** Within 4 weeks since a release is delivered in production the contractors shall review the documents provided during the design phase, produce the interim report, and in addition edit: Operational Maintenance manual (OMM) and the Incident Handling Procedures (IHP).

5.1.2 Module 2

Tentative Date	Documents Deliverables to be submitted	Comments	Event
T2	Specific Contract: release 1.0 into production	Start when first release moved to production.	Signature of Specific Contract Annual meeting at EMSA
	Monthly reports	Evaluation of the quality of the service	Monthly conference calls
Yearly - End of SC	Final Report	Summarising the tasks performed, the software deliveries made, dates and references of the deliverables mentioned above and any recommendations not covered by these.	

5.1.3 Module 3

Tentative Date	Documents Deliverables to be submitted	Comments	Event
	Specific contract (SC)	As and when needed for specific developments Implementation plan and timetable discussed SC presented and signed during Kick-off meeting	Kick-off meeting SC signed
End of SC	Final Report	Summarising the tasks performed, the software deliveries made, dates and references of the deliverables mentioned above and any recommendations not covered by these.	

5.2 Lot 2 Timetable and Milestones

All the requirements described in the Appendix C shall be implemented at maximum three releases (release 1.0, release 2.0 and release 3.0). While the scope of each release shall be agreed during the “Software development plan”, the plan is:

Task Number	Task Name	Duration	Predecessors (Task Number)
1	Start	1 day	
2	Release 1.0 Design	6 wks	1
3	Release 1.0 Implementation	16 wks	2
4	Release 1.0 Delivery Testing Environment	3 days	3
5	Release 1.0 Testing	7 wks	4
6	Release 1.0 Delivery Production Environment	3 days	5
7	Release 1.0 Closure	4 wks	6
8	Data migration execution (design/implementation during Release 1.0)	1 wk	6
9	Release 1.0 golive	1 day	8
10	EO-Processing release 1.0 golive	1 day	
11	Release 2.0 Design	8 wks	10
12	Release 2.0 Implementation	16 wks	11
13	Release 2.0 Delivery Testing Environment	2 days	12
14	Release 2.0 Testing	7 wks	13
15	Release 2.0 Delivery Production Environment	1 day	14
16	Release 2.0 closure	4 wks	15

After each release, an interim report shall be produced (closure).

- A. **Project Management.** Quarterly the contractors shall provide a report on the status of the project, including, if required proposals on updating project plan and risk registry. Monthly the contractors shall provide a report on the status of on-going tasks, resource usage, progress status and issues foreseen.
- B. **Design phase.** During the Design phase the following documents needs to be provided by the contractors: Project Plan, Risk Management Plan, Creation of Risk Registry and other project documents; Draft Software Development Plan (SDP); Test Plan (TPL); Interface Control Document (ICD); Technical Design Document (TDD). The Design phase is concluded with the approval of the documents by EMSA.
- C. **Implementation phase.** The implementation phase is concluded with the delivery in the EMSA's testing environment of the release (SAT). Before the delivery into the EMSA environments, the contractors shall call a meeting at his premises in order to review the releases (FAT).
- D. **Testing.** Per release the contractors can deliver at maximum three releases candidates (RC1, RC2, and RC3). Each Release Candidate requires in average 1/2 weeks of tests. Between two releases the contractors have 1/2 weeks for delivering a new release.
- E. **Delivery in Production.** If the test succeeds the release can be installed in EMSA production environment. Only when the release is installed in such environment the release is approved by EMSA.

F. Closure. Within 4 weeks since a release is delivered in production the contractors shall review the documents provided during the design phase, produce the interim report, and in addition edit: Operational Maintenance manual (OMM) and the Incident Handling Procedures (IHP).

5.2.1 Module 2

Tentative Date	Documents Deliverables to be submitted	Comments	Event
T2	Specific Contract: release 1.0 into production	Start when first release moved to production.	Signature of Specific Contract Annual meeting at EMSA
	Monthly reports	Evaluation of the quality of the service	Monthly conference calls
Yearly - End of SC	Final Report	Summarising the tasks performed, the software deliveries made, dates and references of the deliverables mentioned above and any recommendations not covered by these.	

5.2.2 Module 3

Tentative Date	Documents Deliverables to be submitted	Comments	Event
	Specific contract (SC)	As and when needed for specific developments Implementation plan and timetable discussed SC presented and signed during Kick-off meeting	Kick-off meeting SC signed
End of SC	Final Report	Summarising the tasks performed, the software deliveries made, dates and references of the deliverables mentioned above and any recommendations not covered by these.	

Value of the Contract

The maximum budget available for this contract is of 1,800,000 Euro excluding VAT, divided as follows: Lot 1 up to EURO 1,200,000, Lot 2: up to EURO 600,000.

Lot1: Module 1 up to EURO 600,000; Module 2 up to EURO 70,000 yearly basis; Module 3 up to EURO 320,000.

Lot2: Module 1 up to EURO 250,000; Module 2 up to EURO: 30,000 yearly basis; Module 3 up to EURO 230.000.

2. Terms of payment

Payments shall be issued in accordance with the provisions of the **draft framework service contract** (IT) available on the Procurement Section under the call to tender EMSA/OP/25/2015 on the EMSA website at the following address: <http://emsa.europa.eu/work/procurement.html>

3. Terms of contract

In drawing up a bid, the tenderer should bear in mind the terms of the draft framework service contract (IT).

EMSA may, before the contract is signed, either abandon the procurement or cancel the award procedure without the tenderers being entitled to claim any compensation.

4. Sub-contracting

If the tenderer intends to either sub contract part of the work or realise the work in co-operation with other partners he shall indicate in his offer which part will be subcontracted, as well as the name and qualifications of the subcontractor or partner. (NB: overall responsibility for the work remains with the tenderer).

The tenderer must provide required evidence for the exclusion and selection criteria on its own behalf and when applicable on behalf of its subcontractors. The evidence for the selection criteria on behalf of subcontractors must be provided where the tenderer relies on the capacities of subcontractors to fulfil selection criteria¹. The exclusion criteria will be assessed in relation to each economic operator individually. Concerning the selection criteria, the evidence provided will be checked to ensure that the tenderer and its subcontractors as a whole fulfil the criteria.

5. Requirements as to the tender

Bids can be submitted in any of the official languages of the EU. The working language of the Agency is English. Bids must include an English version of the documents requested under point 14.5 & 15.1 of the present tender specifications.

The tenderer shall complete Tenderer's checklist.

¹ To rely on the capacities of a subcontractor means that the subcontractor will perform the works or services for which these capacities are required.

If the tenderer intends to either sub contract part of the work or realise the work in co-operation with other partners (Joint Offers) he shall indicate in his offer by completion of the form – Information regarding joint offers and subcontracting.

The tender must be presented as follows and must include:

Signed cover letter indicating the name and position of the person authorised to sign the contract and the bank account on which payments are to be made.

Financial Form completed, signed and stamped; available on the Procurement Section (Financial Form) on the EMSA Website at the following address: <http://emsa.europa.eu/work/procurement.html>

Legal Entity Form completed, signed and stamped and requested accompanying documentation, available on the Procurement Section (Legal Entity Form) on the EMSA Website at the following address: <http://emsa.europa.eu/work/procurement.html>

Tenderers are exempt from submitting the Legal Entity Form and Financial Form requested if such a form has already been completed and sent either to EMSA or any EU Institution previously. In this case the tenderer should simply indicate on the cover letter the bank account number to be used for any payment in case of award.

Part A: all the information and documents required by the contracting authority for the appraisal of tenders on the basis of the points **13, 14.2-14.3** of these specifications (part of the Exclusion criteria)

Part B: all the information and documents required by the contracting authority for the appraisal of tenders on the basis of the **Economic and Financial capacity** (part of the Selection criteria) set out under point **14.4** of these specifications;

Part C: all the information and documents required by the contracting authority for the appraisal of tenders on the basis of the **Technical and professional capacity** (part of the Selection Criteria) set out under point **14.5** of these specifications.

Part D: all the information and documents required by the contracting authority for the appraisal of tenders on the basis of the **Award Criteria** set out under point **15.1** of these specifications;

Part E: setting out **prices** in accordance with **point 12** of these specifications.

6. Price

The Price for the provision of ICT services delivered according to the conditions of the framework contract shall include for both the lots:

1. A fixed price for Module 1 for the design, development, configuration, deployment and implementation of the business and technical requirements, for Lot1 Appendix B, and for Lot2 Appendix C. Estimated travel and daily

subsistence allowance expenses (assuming a meeting(s) will take place for the milestones indicated in the timetable must show separately.

2. A fixed price per year of corrective maintenance (Module 2 - Helpdesk and corrections). Estimated travel and daily subsistence allowance expenses (assuming one person attending one meeting of one day duration at Lisbon) must be shown separately.
3. For Module 3 a fixed price per person day for each of the following profiles of the contract:
 - i. Project manager (PM).
 - ii. Software architect (SA).
 - iii. Senior application developer (SAD).
 - iv. Junior application developer (JAD).
 - v. System Administrator (SYSA)
 - vi. Data base administrator (DBA).
 - vii. Release manager (RM).
 - viii. Test manager (TM).
 - ix. Problem and Incident manager (PIM)
 - x. Quality Assurance Officer (QAO)

A price for travel and accommodation should be quoted for one person for a one day meeting in Lisbon. Moreover, in the event of an extra day of meeting, the tenderer should provide the price for daily subsistence. These estimates will constitute the maximum amount of travel and daily subsistence expenses to be paid for one person to attend a one day meeting in EMSA. These estimates should be quoted separately.

Prices must be quoted in Euro.

Prices must be fixed amounts, non-revisable and remain valid for the duration of the contract.

Under Article 3 and 4 of the Protocol on the privileges and immunities of the European Union, EMSA is exempt from all duties, taxes and other charges, including VAT. This applies to EMSA pursuant to the Regulation 1406/2002/EC. These duties, taxes and other charges can therefore not enter into the calculation included in the bid. The amount of VAT must be shown separately.

7. Joint Offer

Groupings, irrespective of their legal form, may submit bids. Tenderers may, after forming a grouping, submit a joint bid on condition that it complies with the rules of competition. Such groupings (or consortia) must specify the company or person heading the project and must also submit a copy of the document authorising this company or person to submit a bid.

Each member of the consortium must provide the required evidence for the exclusion and selection criteria. The exclusion criteria will be assessed in relation to each economic operator individually. Concerning the selection criteria

the evidence provided by each member of the consortium will be checked to ensure that the consortium as a whole fulfils the criteria.

If awarded, the contract will be signed by the person authorised by all members of the consortium. Tenders from consortiums of firms or groups of service providers, contractors or suppliers must specify the role, qualifications and experience of each member or group.

8. Information concerning the personal situation of the service provider and information and formalities necessary for the evaluation of the minimum economic, financial and technical capacity required

14.1. Legal position – means of proof required

When submitting their bid, tenderers are requested to complete and enclose the **Legal Entity Form** and requested accompanying documentation, available on the Procurement Section (Legal Entity Form) on the EMSA Website at the following address: <http://emsa.europa.eu/work/procurement.html>

14.2. Grounds for exclusion - Exclusion criteria

To be eligible for participating in this contract award procedure, tenderers must not be in any of the following exclusion grounds:

- a) they are bankrupt or being wound up, are having their affairs administered by the courts, have entered into an arrangement with creditors, have suspended business activities, are the subject of proceedings concerning those matters, or are in any analogous situation arising from a similar procedure provided for in national legislation or regulations;
- b) they have been convicted of an offence concerning their professional conduct by a judgement which has the force of res judicata;
- c) they have been guilty of grave professional misconduct proven by any means which the contracting authority can justify;
- d) they have not fulfilled obligations relating to the payment of social security contributions or the payment of taxes in accordance with the legal provisions of the country in which they are established or with those of the country of the contracting authority or those of the country where the contract is to be performed;
- e) they have been the subject of a judgement which has the force of res judicata for fraud, corruption, involvement in a criminal organisation or any other illegal activity detrimental to the Union financial interests;
- f) They have been the subject of the administrative penalty for being guilty of misrepresentation in supplying the information required by the contracting authority as a condition of participation in the procurement procedure or failing to supply information, or being declared to be in serious breach of his obligation under contract covered by the budget.

14.3 Evidence to be provided by the tenderers

For this purpose the Declaration on Honour available on the Procurement Section on the EMSA Website (<http://emsa.europa.eu/work/procurement.html>) shall be completed and signed.

Please note that the tenderer to whom the contract is to be awarded shall provide additional proof evidencing eligibility.

For situations described in 14.2 (a), (b) and (e), production of a recent extract from the judicial record is required or, failing that, a recent equivalent document issued by a judicial or administrative authority in the country of origin or provenance showing that those requirements are satisfied. Where the tenderer is a legal person and the national legislation of the country in which the tenderer is established does not allow the provision of such documents for legal persons, the documents should be provided for natural persons, such as the company directors or any person with powers of representation, decision making or control in relation to the tenderer.

For the situation described in point 14.2. (d) above, recent certificates or letters issued by the competent authorities of the State concerned are required. These documents must provide evidence covering all taxes and social security contributions for which the tenderer is liable, including for example, VAT, income tax (natural persons only), company tax (legal persons only) and social security contributions.

For any of the situations 14.2.(a), (b), (d) or (e), where any document described in two paragraphs above is not issued in the country concerned, it may be replaced by a sworn or, failing that, a solemn statement made by the interested party before a judicial or administrative authority, a notary or a qualified professional body in his country of origin or provenance.

If the tenderer is a legal person, information on the natural persons with power of representation, decision making or control over the legal person shall be provided only upon request by the contracting authority.

When the tenderer to be awarded the contract has already submitted relevant evidence to EMSA, it remains valid for 1 year from its date of submission. In such a case, the reference of the relevant project(s) should be mentioned and the Contractor is required to submit a statement of confirmation that their situation has not changed.⁴

14.4. Economic and financial capacity – Selection criteria

Requirements:

- The tenderer must be in stable financial position and the economic and financial capacity to perform the contract.

Evidence:

- Financial statements for the last three years for which accounts have been closed.
- Statement of overall turnover and turnover relating to the relevant services for the last three financial years.
- Tenderers are exempt from submitting the documentary evidence if such evidence has already been completed and sent to EMSA for the purpose of another procurement procedure and still complies with the requirements. In this case the tenderer should simply indicate on the cover letter the procurement procedure where the evidence has been provided.

- If, for some exceptional reason which EMSA considers justified, a tenderer is unable to provide one or other of the above documents, he may prove his economic and financial capacity by any other document which EMSA considers appropriate. In any case, EMSA must at least be notified of the exceptional reason and its justification in the tender. EMSA reserves the right to request any other document enabling it to verify the tenderer's economic and financial capacity.

14.5. Technical and professional capacity – Selection criteria

The tenderer's technical capacity will be evaluated on the basis of the following criteria that will be applied to the legal entity submitting the offer and not to any mother company or company of the same group.

To prove their technical and professional capacity the tenderers shall provide proof of the following mandatory criteria with their application:

- a) The suitability of the tenderer's organisational structure to supply the services covered by the Framework contract. This description should include:
 - i. An overview of the company departments mentioning the currently allocated number of staff and levels;
 - ii. Description of the relationship of this company and those of the group if relevant;
 - iii. Description of the quality assurance procedures;
 - iv. The contractor ability to offer all services under the present contract in the English language;
- b) Taking into account the Lot1 and/or Lot2 capabilities (Appendix O – Capabilities), the tenderer shall provide the description of at least three "Relevant Projects" no more than five within the last 5 years, the project description shall include information requested in Appendix O (Projects).
- c) The suitability of the tenderer's key technical and management persons who will be delivering the service under the proposed contract. The description should include detailed curriculum vitae in europass format, where the professional experience of the proposed team for execution of the framework contract.

CVs for the following profiles are required per lot. The minimum requirements per profile are:

Project Manager (PM)

One PM for each lot. In case the bidder applies for Lot1 and Lot2, one PM for both the lots is recommended.

Education

- University degree(s) in the IT or Engineering field;
- Excellent English verbal and writing skills;

Professional experience

- More than 7 years of experience as a project manager of ICT projects (proven experience, not attendance of seminars);
- Experience in projects involving different countries related to the production of systems and coordination with beneficiaries' personnel;
- Experience in operational systems;

Software Architect (SA)

One SA for each lot. In case the bidder applies for lot1 and lot2 one SA for both the lots is recommended.

Education

- University degree(s) in the IT field or Engineering field;
- Excellent English verbal and writing skills;

Professional experience:

- Minimum 5 years in processes and methods of an established Earth Observation architecture functions, involved in architecture definition, specification, change management and in providing architecture supervision and support to IT delivery projects, and at least two geospatial projects related to either the transportation or earth observation sector.
- Minimum 3 years in applying standard architecture frameworks (if possible to be documented with certifications);
- Minimum 5 years in design, implementation and governance of a geospatial Service Oriented Architecture (SOA) and Resource Oriented Architecture (ROA);
- Minimum 3 years of experience in the software technologies described in the Appendix D.

Senior Application Developer (SAD)

One SAD for lot2 and one SAD for Lot1. In case the bidder applies for lot1 and lot2, however the bidder shall provide 3 SAD's profiles.

Education

- University degree(s) in the IT field or Engineering field;
- Good English verbal and writing skills.

Professional experience

- Minimum 5 years of experience in projects involving Earth Observation implementation for operational systems, and at least two geospatial projects related either to the transportation or earth observation sector.
- Minimum 3 years in application design (at least 5 years of experience in analysing user requirements and translating them into functional, technical, and testing specifications).
- Minimum 3 years of proven experience (not attendance of seminars) in business requirements and processes analysis.
- Minimum 3 years of experience in the software technologies described in the Appendix D.

Junior Application Developer (JAD)

Two JAD for Lot2 and one JAD for Lot1. In case the bidder applies for Lot1 and Lot2, however the bidder shall provide 3 JAD's profiles.

Education

- University degree(s) in the IT field or Engineering field.
- Good knowledge of English language;

Professional experience

- Minimum 3 years of experience in the software technologies described in the Appendix D.

System Administrator (SYSA)

One SYSA for Lot1 and one SYSA for Lot2. In case the bidder applies for Lot1 and Lot2, however he shall provide two SYSA's profiles, one each Lot.

Education

- University degree(s) in the IT field or Engineering field;
- Good knowledge of English language;

Professional experience

- Minimum 7 years of working experience, 4 of which as a System Administrator. Introducing and integrating software components into existing Data Centre environments. Analysing system logs and troubleshooting any reported problems. Responsibility for security. Responsibility for documenting the configuration of the system. System performance tuning.

Data base administrator (DBA)

One DBA for Lot1 and one DBA for Lot2. In case the bidder applies for Lot1 and Lot2, however he shall provide two DBA's profiles, one each Lot.

Education

- University degree(s) in the IT field or Engineering field;
- Good knowledge of English language;

Professional experience

- Minimum 7 years of working experience, 4 of which as a DBA;

Release manager (RM)

One RM for each lot. In case the bidder applies for Lot1 and Lot2 one RM for both the lots is accepted.

Education

- University degree(s) in the IT field or Engineering field;
- Good knowledge of English language;

Professional experience

- Minimum 3 years of working experience, 3 of which as release manager

Test manager (TM)

One TM for Lot1 and one TM for Lot2. In case the bidder applies for Lot1 and Lot2, however he shall provide two TM's profiles, one each Lot.

Education

- University degree(s) in the IT field or Engineering field.
- Good knowledge of English language;

Professional experience

- Minimum 5 years of working experience, 3 of which as test manager

Problem and Incident manager (PIM)

One PIM for Lot1 and one PIM for Lot2. In case the bidder applies for Lot1 and Lot2, however he shall provide two PIM's profiles, one each Lot.

Education

- University degree(s) in the IT field or Engineering field.
- Good knowledge of English language;

Professional experience

- Minimum 5 years of working experience, 3 of which as problem and incident manager

Quality Assurance Officer (QAO)

One QAO for Lot1 and one QAO for Lot2. In case the bidder applies for Lot1 and Lot2, one QAO is accepted for both the lots.

Education

- University degree(s) in the IT field or Engineering field.
- Good knowledge of English language;

Professional experience

- Minimum 5 years of working experience, 3 of which as problem and incident manager

Detailed Curriculum Vitae of the team members who will be delivering the service under the proposed contract should be provided using the Template in Appendix O and the CVs in EuroPass format.

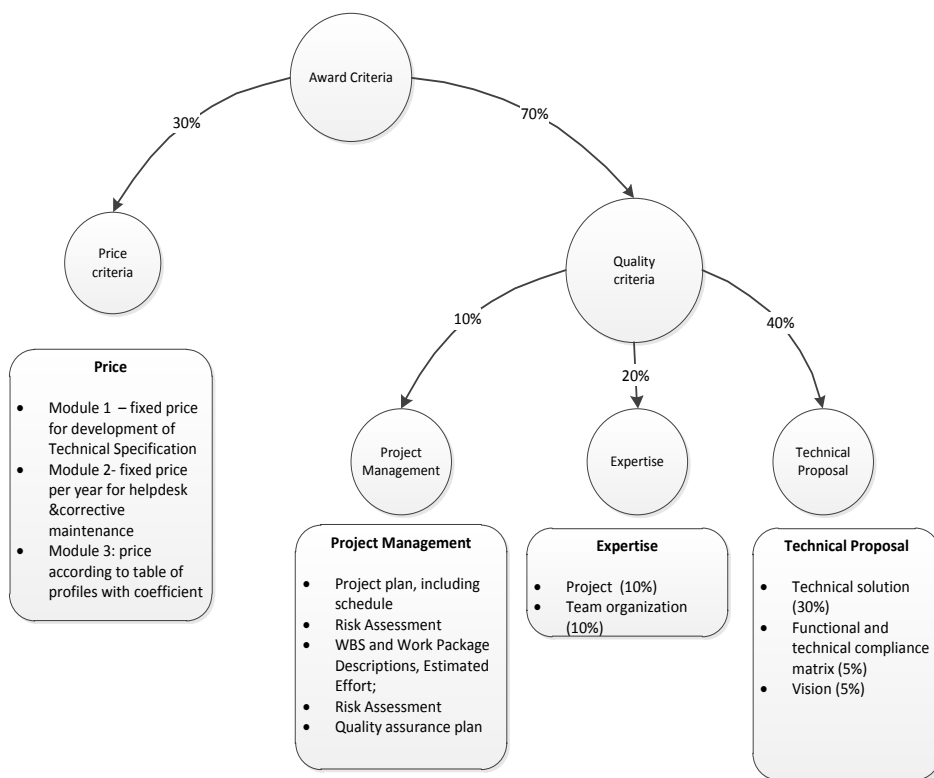
Bids that do not comply with the selection criteria under 14.4 and 14.5 will not be taken into consideration for the award of the contract nor be evaluated for the award criteria.

9. Award criteria

Only the tenders meeting the requirements of the exclusion and selection criteria will be evaluated in terms of quality and price. The contract will be awarded to the tenderer who submits the most economically advantageous bid (the one with highest score) based on the quality and price criteria and their associated weightings indicated in the diagram and text in this section.

9.1 Award criteria for Lot1

The following award criteria are applicable for Lot1



The respective quality criteria are provided below.

15.1.1. Quality criterion 1 ($W_1 = 10\%$): Project Management

The criterion will be assessed based on the following Documentation, including:

- Project plan for the implementation of the requirements described in Appendix B;
- This should also include as a minimum a work breakdown structure, description of work packages as well as the estimated effort for each task and a relevant schedule/timeplan;
- Roles, tasks and responsibilities of each member of the proposed team;
- A risk assessment should also be described;
- Description of the quality assurance plan for the project;
- The Proposed team structure and the involvement and interaction of each team member within the project and available for execution of the activities requested by the Agency.

15.1.2. Quality criterion 2 ($W_1 = 20\%$): Expertise

The criterion will be assessed based on the following Documentation, including:

- Quality of the “Projects” (10%), as reported in the Appendix O – Projects, based on the relevant technologies as provided within the context of the section Appendix O (Capabilities).

- ii. Quality of the team (10%) based on the proposed team organisation, professional merit and the description of the responsibilities of each member within the team and profiles of staff members (in this respect the tenderers should fill-in the staff list as in Appendix O (Team)).

15.1.3. Quality criterion 2 ($W_2 = 40\%$): Technical proposal for Module 1

The criterion will be assessed based on the technical proposal responding to the functional and technical requirements as provided in Appendix B.

The proposal shall address the following elements:

- i. Technical solution for implementing the Module 1 requirements (30%).

The bidder shall review the Lot1- Module 1 Technical Specification and propose a solution taking into account at least four complementary viewpoints (for further details on the following viewpoints the bidder could make reference to the Reference Model of Open Distributed Processing):

 - 1) The enterprise viewpoint, which focuses on the business requirements and how to meet them;
 - 2) The information viewpoint, which focuses on the semantics of the information and the information processing. It describes the information managed by the system and the structure and content type of the supporting data;
 - 3) The service viewpoint, which combines the computational viewpoint and the engineering viewpoint. The computational viewpoint enables distribution through functional decomposition on the system into objects which interact at interfaces. The engineering viewpoint, which focuses on the mechanisms and functions required to support distributed interactions between software components in the system;
 - 4) The technology viewpoint, which focuses on the choice of technology of the system. It describes the technologies chosen to provide the processing, functionality and presentation of information.
 - 5) The bidder shall review and define the approach and plan for the integration of the Module1's components. The integration approach and plan shall take into account the needs to integrate the components into both the other EODC building blocks, and the other SSN Ecosystems components.
 - 6) The bidder shall design, develop and deploy a solution that implements the following system requirements: availability, interoperability, scalability, maintainability, modularity, portability, recoverability, reliability, robustness, fault tolerance, in compliance with the performance requested in this Technical Specification. If the bidder intends to address other system attributes, these will be considered as an advantage. Within the context of this tender, the bidder shall describe how it intends to: (i) implement, (ii) regularly measure (based on SMART criteria), and (iii) assess the quality of its proposal for at least one of the requested system attributes. The bidder shall present a plan to recovery the situation in case the quality of the system is considered not compliant against the expected outcomes.
- ii. Compliance Matrix (5%)
 - (1) The criterion will be assessed based on the following document proving understanding of the EMSA requirements in Appendix B. Please note that the compliance matrix should not only indicate "yes/no/partial compliance" for each requirement, but provide a justification and explanation.
- iii. Vision (5%)
 - (1) The bidder shall provide his vision about the technological trends of Spatial Data Infrastructures and geospatial technologies applied to the Earth Observation sector.
 - (2) The bidder shall perform a SWOT analysis of the solution proposed to implement the EODC's against the trends provided.

15.1.4. Price of the bid ($W_{\text{Price}} = 30\%$)

For this lot the price of the bid shall be calculated as the sum of the following three prices:

- ($P_{\text{Module 1}}$) The fixed price for the design, development, configuration and implementation of the Module 1 as described in Appendix B.
- ($P_{\text{Module 2}}$) The yearly fixed price of helpdesk and corrective maintenance multiplied by 4 (potential number of module 2 specific contracts) as described in Appendices G, H, and I
- (P_{Scenario}) The Price of the following standard scenario for services (P_{Scenario}) that shall be calculated by multiplying the price per person day for each profile by a “coefficient” reflecting the relative use of each profile for the tasks foreseen in this framework contract (for Module 3). This scenario is not use for evaluate the compliance of the economical proposal against the FWC ceiling, but to compare the different proposal of the tenderers.

	Price offered / Day / Profile in the bid A	Person days for the price evaluation B	Total A x B
Project Manager	P_M	50	
Software Architect	P_A	50	
Senior Programmer	P_{SP}	70	
Junior Programmer	P_P	100	
System Administrator	SYSA	100	
Data Base Administrator	DBA	20	
Release manager	RM	10	
Test manager	TM	15	
Test manager	TM	15	
Quality Assurance Officer	P_{QA}	10	
Total for scenario			

Travel and subsistence cost (P_{Travel})* - One person for a one day meeting in EMSA, at Lisbon	
The cost (P_{Add}) of an additional day of meeting per person in EMSA, at Lisbon	

*These price will not be taken into consideration for the evaluation of the bid, but will become part of the price of the relevant Specific Contracts.

The price of the bid constitutes the sum of the prices for a, b and c as identified above.

Note:

Following the award of the FWC, EMSA will draw a specific contract based on the requirements included in the Appendix B and the price quoted for it (P_{Module1}).

15.1.5. Evaluation process

For all bids evaluators will give marks between 0-10 (half points are possible) for each quality criterion.
The score is calculated as

$$S = SQ + SP$$

where:

The average quality for quality criterion i is

$$Q_i = \frac{1}{\text{number of evaluators}} * \sum_{\text{evaluator}} \text{mark of the evaluator for quality criterion } i$$

The overall weighted quality is

$$Q = \sum_i Q_i * W_i$$

The score for quality is

$$SQ = \frac{Q}{Q \text{ of the bid with highest } Q} * 100 * \sum_i W_i$$

The score for price is

$$SP = \sum_i \frac{\text{lowest Price}_i \text{ of all bids}}{\text{Price}_i} * 100 * W_{\text{Price}_i}$$

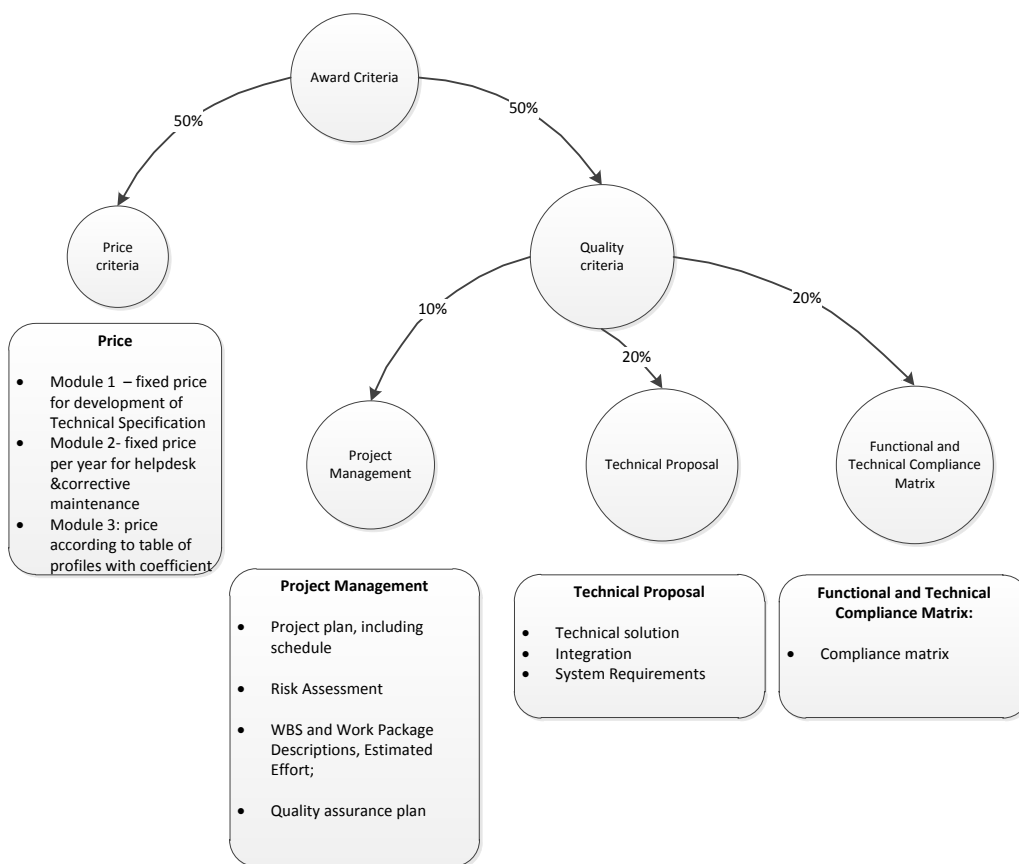
Only bids that have reached:

- a minimum of 50 % for Q_1 ,
- a minimum of 60 % for Q_2 ,
- a minimum of 60 % for Q_3 ,

will be taken into consideration when calculating the score for quality SQ , score for price SP and score.

9.2 Award criteria for Lot2 (Earth Observation Data Provisioning)

The following award criteria are applicable for Lot2 – the Earth Observation Data Provisioning (EO-Provisioning).



The respective quality criteria are provided below.

15.1.6. Quality criterion 1 ($W_1 = 10\%$): Project Management

The criterion will be assessed based on the following Documentation, including:

- i. Project plan for the implementation of the requirements described in Appendix C;
- ii. A risk assessment should also be described;
- iii. A minimum work breakdown structure shall be provided, description of work packages as well as the estimated effort for each task and a relevant schedule/timeplan. Roles, tasks and responsibilities of each member of the proposed team. The Proposed team structure and the involvement and interaction of each team member within the project and available for execution of the activities requested by the Agency.
- iv. Description of the quality assurance plan for the project;

15.1.7. Quality criterion 2 ($W_2 = 20\%$): Technical proposal for Module 1

The criterion will be assessed based on the technical proposal responding to the functional and technical requirements as provided in Appendix C. The proposal shall address, as a minimum the following:

- i. Technical solution for implementing the EO-Provisioning's Module 1 requirements.
The bidder shall review the EO-Provisioning Module 1 Technical Specification and propose a solution taking into account at least the following four complementary viewpoints (for further details about the following viewpoints the bidder could make reference to the Reference Model of Open Distributed Processing):

- 1) The enterprise viewpoint, which focuses on the business requirements and how to meet them;
 - 2) The information viewpoint, which focuses on the semantics of the information and the information processing. It describes the information managed by the system and the structure and content type of the supporting data;
 - 3) The service viewpoint, which combines the computational viewpoint and the engineering viewpoint. The computational viewpoint enables distribution through functional decomposition on the system into objects which interact at interfaces. The engineering viewpoint, which focuses on the mechanisms and functions required to support distributed interactions between software components in the system;
 - 4) The technology viewpoint, which focuses on the choice of technology of the system. It describes the technologies chosen to provide the processing, functionality and presentation of information.
- iv. Integration approach and plan
- 1) The bidder shall review and define the approach and plan for the integration of the Module1's components. The integration approach and plan shall take into account the needs to integrate the components into both the other EODC building blocks, and the other SSN Ecosystems components.
- v. System Requirements and Integration
- The bidder shall design, develop and deploy a solution that implements the following system requirements: availability, interoperability, scalability, maintainability, modularity, portability, recoverability, reliability, robustness, fault tolerance, in compliance with the performance requested in this Technical Specification. If the bidder intends to address other system attributes, these will be considered as an advantage. Within the context of this tender, the bidder shall describe how it intends to: (i) implement, (ii) regularly measure (based on SMART criteria), and (iii) assess the quality of its proposal for one requested system attributes. The bidder shall present a plan to recovery the situation in case the quality of the system is considered not compliant against the expected outcomes.

15.1.8. Quality criterion 3 ($W_3 = 20 \%$): Requirements compliance matrix

The criterion will be assessed based on the following document proving understanding of the EMSA requirements in Appendix C . Please note that the compliance matrix should not only indicate "yes/no/partial compliance" for each requirement, but provide a justification and explanation.

15.1.9. Price of the bid ($W_{\text{Price}} = 50\%$)

For this lot the price of the bid shall be calculated as the sum of the following three prices:

- d. The fixed price for the design, development and implementation of the module 1 technical requirements described in Appendix C.
- e. The fixed price per year multiply for 4 (the number of potential module 2 specific contracts) of helpdesk and corrective maintenance ($P_{\text{Module 2}}$) for based on the service level and conditions as in Appendices G, H, and I.
- f. The Price of the following standard scenario for services (P_{Scenario}) that shall be calculated by multiplying the price per person day for each profile by a "coefficient" reflecting the relative use of each profile for the tasks foreseen in this framework contract (for Module 3). This scenario is not use for evaluate the compliance of the economical proposal against the FWC ceiling, but to compare the different proposal of the tenderers.

Price offered / Day / Profile in the bid	Person days for the price evaluation	Total A x B
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	A	B	
Project Manager	P _M	50	
Software Architect	P _A	50	
Senior Programmer	P _{SP}	100	
Junior Programmer	P _P	150	
Data Base Administrator	DBA	20	
Release manager	RM	10	
Test manager	TM	15	
Quality Assurance Officer	P _{QA}	10	
Total for scenario		435	P _{Scenario} = Σ(AxB)

Travel and subsistence cost (P _{Travel})* - One person for a one day meeting in EMSA, at Lisbon	
The cost (P _{Add}) of an additional day of meeting per person in EMSA, at Lisbon	

*These price will not be taken into consideration for the evaluation of the bid, but will become part of the price of the relevant Specific Contracts.

The price of the bid constitutes the sum of the prices for points a, b and c as identified above.

Note:

Following the award of the FWC, EMSA will draw a specific contract based on the requirements included in the Appendices C, D, E and F and the price quoted for it (P_{Module1}).

15.1.10. Evaluation process

For all bids evaluators will give marks between 0-10 (half points are possible) for each quality criterion.

The score is calculated as

$$S = SQ + SP$$

where:

The average quality for quality criterion i is

$$Q_i = \frac{1}{\text{number of evaluators}} * \sum_{\text{evaluator}} \text{mark of the evaluator for quality criterion } i$$

The overall weighted quality is

$$Q = \sum_i Q_i * W_i$$

The score for quality is

$$SQ = \frac{Q}{Q \text{ of the bid with highest } Q} * 100 * \sum_i W_i$$

The score for price is

$$SP = \sum_i \frac{\text{lowest } Price_i \text{ of all bids}}{Price_i} * 100 * W_{Price_i}$$

Only bids that have reached:

- a minimum of 50 % for Q_1 ,
- a minimum of 60 % for Q_2 ,
- a minimum of 60 % for Q_3 ,

will be taken into consideration when calculating the score for quality SQ , score for price SP and score.

10. Contracts will not be awarded to tenderers who, during the procurement procedure:

- a) are subject to a conflict of interest
- b) are guilty of misrepresentation in supplying the information required by the contracting authority as a condition of participation in the contract procedure or fail to supply this information.

11. False declarations

Without prejudice to the application of penalties laid down in the contract, tenderers and contractors who have been guilty of making false declarations concerning situations referred to in points 14 and 15 above or have been found to have seriously failed to meet their contractual obligations in an earlier procurement or grant shall be subject to administrative and financial penalties set out in Article 145 of Commission Delegated Regulation of 29.10.2012 on the rules of application of Regulation (EU) No 966/2012 of the European Parliament and of the Council on the financial rules applicable to the general budget of the Union.

12. Intellectual Property Right (IPR)

Please consult the contract for IPR related clauses.

If the results are not fully created for the purpose of the contract this should be clearly pointed out by the tenderer in the tender. Information should be provided about the scope of pre-existing rights, their source and when and how the rights to these rights have been or will be acquired.

In the tender all quotations or information originating from other sources and to which third parties may claim rights have to be clearly marked (source publication including date and place, creator, number, full title etc.) in a way allowing easy identification.

13. Special negotiated procedure under Article 134(1)(f)

EMSA may at a later stage exercise the option to increase the estimated value of the contract via negotiated procedure with the successful tenderer in accordance with Article 134(1)(f) of the Rules of Application to the Financial Regulation

14. List of Appendix

Below is the list of all Appendix of relevance to this open tender procedure.

The bidder should note that Appendices J, K L, M and N of the tender specifications only provide a summary of the relevant technical documents for current Earth Observation Data Centre (former CleanSeaNet Data Centre – CSNDC). Should the bidder require the referred Appendices in their entirety, they can be made available upon written request to the dedicated email box OPEN252015@emsa.europa.eu. This documentation will be provided directly to the bidder and not published on the EMSA website.

Appendices:

- A. SSN Ecosystem Architecture
- B. EO-Processing - Technical Specification
- C. EO- Provisioning TOR - Technical Specification
- D. ICT Architecture, System and Application Technical Landscape
- E. Access and Identity Management Guide
- F. Initial Quality Gate for Java Projects
- G. Project Delivery
- H. Working Procedure and Service Requirements
- I. Corrective Maintenance and Operational Support
- J. CSNDC Technical Design Document
- K. CSNDC Interface Control Document
- L. CSNDC Operation and Manual
- M. CSNDC Incident Handling Procedures
- N. CSNDC Installations
- O. Template for bidders
- P. Central Organizations Databased - COD
- Q. Central Access Rights Database – CARD
- R. Central GeoRegistry Database – CGD
- S. SafeSeaNet Ecosystem Graphical User Interface