Appendix 4
Project Delivery

TABLE OF CONTENTS

This document details the requirements for the delivery of "**Work Package 1. Development of an interactive web-based Reporting Module**" and provision of services until final acceptance of the system excluding warranty.

It defines how the project shall be delivered, what phases are required, deliverables that must be provided and when and how they will be accepted by EMSA.

1. Project Phases

Five major phases are foreseen from the signature of the contract until the final system is accepted, which are:

- Initiation
- Design
- Development and Test
- Deployment
- Go-Live

Deliverables are expected for each phase.
If one deliverable is not accepted by EMSA during one phase, no acceptance of any deliverable of the following phase can be done.

The working language, the working documents and all deliverables must be in English.
Documentation shall be provided in MS Office format. If agreed by EMSA, other tools and formats might be used if they can be read and modified by EMSA without licence costs.

1.1 Initiation

The objective of this initiation phase is to have a mutual understanding and agreement of methods and means that will be used for the completion of the project.

Immediately after the signature of the contract the contractor shall prepare the kick-off meeting to cover at least the following subjects:

- objectives and organization
- contractor's team
- project tools
- project plan
- methodologies and procedures
- content and level of detail of the project management documentation

During this phase, the contractor is asked to work in close contact with EMSA in order to create a common view of the whole project.

Deliverables

1. Initiation Document
2. Project Management Documentation

1.2 Design

The objective of the design phase is to create a complete set of functional and technical specifications identifying what and how is to be implemented and the methodologies that shall be used to verify and validate the project execution.

During the design phase the data migration and/or data loading strategy (if needed) must be defined. These strategies must be fully aligned with the design of the new system taking into consideration two mandatory requirements:

- Impact on the existent integrated applications and/or components shall be minimum and non-disruptive.
- The migration and/loading procedures must follow a phased approach; a “big-bang” migration is in principle a solution to be avoided.

In addition, by the end of the Design Phase, the complete scope of a required Functional Prototype (see next chapter) shall be proposed by the contractor, discussed and agreed with EMSA.

Deliverables

1. Design Documentation
2. Draft System Documentation (must include InfraX requirements if any)
3. Data Migration and/or Data loading Strategy
4. Test Strategy and Draft Test Specification
5. Scope of the Functional Prototype

1.3 Development and Test

The objective of this phase is to develop and test the final version of the system.
The application will be developed according to the deliverables of the design phase.
Before delivery the contractor must test the developed application to verify the conformity with expected results and validate that the procedures as stated during the previous phases have been applied. The contractor shall respect the “two chamber principle” which means that the team in charge of the tests shall be different from the team in charge of the design and development. Tests cannot be executed before prior acceptance of Test documentation by EMSA. Test results shall be transmitted to EMSA.

During this phase the contractor is responsible for:

- Preparing system documentation;
- Delivering a Functional Prototype;
- Delivering a final version of the system;
- Preparing test documentation;
- Testing final version before its delivery and report test results to EMSA.

Version Control is mandatory. All deliverables (e.g. source code, scripts) shall be submitted to a Version Control system; EMSA prefers git (gitlab.com) but svn is also available. See Appendix 5 - Working Procedures Service Requirements for more information.

Functional Prototype

During the development phase the contractor is requested to provide an intermediary delivery in the form of a Functional Prototype with defined and agreed scope. In this intermediary, the contractor shall deliver:

- The Functional Prototype implementation;
- Documentation on functional and technical aspects;
- System building procedures;
- Source code and supporting documentation;
- Installation and deployment scripts;
- Documentation on tests carried out by the contractor on the prototype before its delivery (test specification, test cases, test scripts and test results);
- Release notes.

The scope of the prototype shall be defined and agreed immediately at the end of the previous phase, always following the indications provided by the Design Phase.

Deliverables

1. Implementation of the Functional Prototype based on the requirements defined above
2. Implementation of the final system based on the requirements (source code, build procedures, database scripts, configuration files and others needed elements)
3. Data migration and data loading implementation (source code, scripts, configurations, and other needed elements)
4. Deployment, installation documentation, procedures and scripts
5. System and InfraX documentation
6. Detailed technical implementation documentation
7. Operation and Maintenance documentation
8. Test documentation (Test Specification, Test Cases, Test Data, Test Results)

1.4 Deployment

Deployment starts as soon as all deliverables of the development phase are delivered to EMSA.
The objective of the deployment phase is to configure and make the final version available and fully running on its environments:

- Test;
- Pre-Production/Quality;
- Production.

During this phase EMSA will perform acceptance tests to accept the final version, the system documentation, the user documentation and the training materials.

NOTE: According to EMSA's policies, Contractors have different levels of access to the environments:

- TEST environments: open access without root or sysdba privileges
- PRE-PROD environment: restricted and limited access
- PRODUCTION environment: no access (if needed, exceptions might be considered)

Installation and deployment must be automatized through scripting. These scripts shall be developed and tested during the previous phase and shall be used in this phase, being a brand-new version or an upgrade of the previous version.

Deliverables

1. System deployed in TEST
2. Detailed deployment documentation that will allow EMSA to execute the deployment in PRE-PROD and PRODUCTION
3. Updated set of documentation
4. Updated set of installation and deployment scripts

1.5 Go-Live

The go-live phase starts after the final version is accepted by EMSA. The objective of this phase is to:

- Execute migration from the old system to the new system;
- PRODUCTION final deployment and roll-out;

- Obtain an optimum configuration of the system and maximal performance in the production environment by fine tuning the complete technical infrastructure;
- Perform necessary correction and adjustments of the system while it is used by end users in real situations.

The go-live phase ends at the final acceptance of the system.

Deliverables

1. Final versions of all deliverables mentioned in the above chapters.

2. Timetable

The table below lists the major milestones of the project. Detailed Planning and concrete delivery dates of all deliverables will be defined during the initiation phase and recorded in the project plan.

	Dates	**Milestones**
T0	Nov-2019	Signature of the Contract
T1	T0 + 2 weeks	Kick-off meeting
T2	T0 + 4 months	Work Package 1: Delivery of the Functional Prototype Word Package 3, Task 1: Delivery of the Study medium-term report
T3	T0 + 8 months	Work Package 1: Final version Work Package 3, Task 1: Study Draft Report
T4	T0 + 10 months	Work Package 1: Final Acceptance in PRODUTION Work Package 3, Task 1: Study Final Report
T5	T0 + 11 months	Work Package 2: Kick-off meeting Work Package 3, Task 2: Kick-off meeting
T6	T0 + 17 months	Work Package 2: Maintenance Report Work Package 3, Task 2: Final Acceptance in PRODUTION
T7	T0 + 18 months	Contract end

The contractor shall deliver to EMSA all deliverables of the initiation phase at least 2 working days before the kick-off meeting.

For each milestone, EMSA and the contractor will agree on the full list of deliverables during the initiation and planning phase. In any case, requirements defined in this document shall be respected unless explicitly agreed and documented in the Project Management documentation.

3. Acceptance procedures

For each deliverable, EMSA provides a formal indication of the acceptance, conditional acceptance or rejection of the deliverable to the contractor.

3.1 Issues classification

EMSA will classify issues found on software into 3 different categories according to their impact and severity:

- Blocking issues: structural problems or serious issues (functional or technical[1]) considered as limitations of the implementation with very high probability of interfering with the expected result. The contractor will be

[1] Security issues included

obliged to correct/execute all issues considered in the category. Blocking issues stop any kind of acceptance procedure until the correction is provided.

- Critical issues: problems or issues that do not conform to the requirements or specifications or best practices or considered to be the wrong approach to obtain the result, but for each one of them a workaround is available. Correction of Critical issues is mandatory for the next delivery,
- Minor issues: changes considered to be a better solution but without a deep impact in the quality of the system. The correction/execution of the issues of this category will be decided case by case.

Each issue identified by EMSA will be registered, described and assigned to the relevant part for being addressed; the tracking tool included in the Project site shall be used for this purpose. The contractor (or other relevant part) is requested to track and monitor the treatment of each issue, using the change management procedures. The acceptance tests and the classification of the issues are made in collaboration between EMSA and the contractor. The outcome of the acceptance procedure is positive if no issue is found by EMSA. If issues are found by EMSA during the acceptance procedure, the contractor is requested to immediately correct them and the acceptance procedure restarts from the date of the delivery of the corrected deliverable.
EMSA can decide to conditionally accept the deliverable when some issues remain uncorrected and those issues are not blocking to the system. In order to accept such remaining issues the contractor shall propose a deadline for delivering the correction and for EMSA to accept it. EMSA will take the decision on conditional acceptance of the product after evaluation of each remaining issue.
No acceptance shall be made by EMSA without a successful execution of the automatic build procedure.

3.2 Documentation

In the case of documentation, EMSA will provide comments and/or reservations which will be transmitted to the contractor within **15 working days** of the date of delivery. Based on the comments and/or reservations EMSA will either accept or reject the deliverables. In the case of rejection the contractor will be requested to provide a new appropriate revision.
For complex and/or critical documents, exceptions can be agreed between EMSA and the Contractor.

3.3 Final version

The final version of the system will be evaluated by EMSA when available and running on the test, quality and production environments.
Before the final version is accepted, EMSA will verify if:

- All issues detected in the previous acceptance tests have been corrected;
- It conforms with the functional specifications;
- It conforms with the technical specifications;
- Non-functional requirements are met;
- It works correctly in EMSA's environments according to all requirements and specifications.

If EMSA discovers any issues, these will be transmitted to the contractor within **20 working days** of the date of deployment in PRE-PRODUCTION (or PRODUCTION). Based on these issues EMSA will either accept or reject the version. In the case of rejection the contractor will be requested to provide a new appropriate version.

In case a blocking issue is found, the acceptance period is frozen until a corrected version is made available on the production environment by the contractor.

3.4 Security Standards

Security and penetration tests will be executed by EMSA over the delivered system. The contractor shall address security aspects since the beginning of the project taking into consideration the security best practices, in particular OWASP recommendations. Security issues will considered as blocking issues.

4. Meetings

4.1 Project management meetings

At each project management meeting (quantity and frequency shall be proposed), the contractor shall present an updated project status report.
In addition to the project status reports, between the project management meetings, the contractor needs to deliver to EMSA a flash report if exceptional events occur.

Items on the Action list, risk registry and planning will be reviewed during project management meetings.

The contractor is responsible for providing a detailed agenda and supporting documents for the meetings, support the discussions during the meeting, and provide the minutes of the meetings. The detailed agenda and supporting documents must be provided by the contractor 2 working days before each meeting. The minutes of the meetings must include at least the topics discussed, decisions taken and action items with indication of the responsible person and deadline for the actions.

ABOUT THE EUROPEAN MARITIME SAFETY AGENCY

The European Maritime Safety Agency is one of the European Union's decentralised agencies. Based in Lisbon, the Agency 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. It has also been given operational tasks in the field of oil pollution response, vessel monitoring and in long-range identification and tracking of vessels.

European Maritime Safety Agency
Praça Europa 4
1249-206 Lisbon, Portugal
Tel +351 21 1209 200
Fax +351 21 1209 210
emsa.europa.eu

EMSA