

# **Access Management 2.0**

## **Project Delivery**

# TABLE OF CONTENTS

<b>TABLE OF CONTENTS .....</b>	<b>1</b>
<b>Definitions, Acronyms and Abbreviations .....</b>	<b>3</b>
<b>1. Project Phases.....</b>	<b>5</b>
1.1. Initiation.....	5
1.2. Design.....	5
1.3. Development and Test .....	6
1.4. Deployment.....	6
1.5. Go-Live .....	6
<b>2. PROJECT DELIVERABLES .....</b>	<b>7</b>
2.1. Initiation.....	7
2.1.1 Project Management documentation.....	7
2.1.2 Tools for project control .....	7
2.2. Design.....	8
2.2.1 Design Documentation .....	8
2.3. Development and Test .....	9
2.3.1 System documentation .....	9
2.3.2 Functional Prototypes .....	10
2.3.3 Final Version .....	10
2.3.4 User Documentation .....	10
2.3.5 Test Documentation.....	10
2.3.6 Migration procedures and scripts .....	11
2.4. Migration and Deployment.....	11
2.5. Go-Live .....	11
<b>3. Acceptance procedures.....</b>	<b>12</b>
3.1. Issues classification .....	12
3.2. Documentation.....	12
3.3. Final version .....	12
3.4. Final system.....	13
<b>4. Meetings .....</b>	<b>13</b>
4.1. Project management meetings.....	13

<b>TABLE OF CONTENTS .....</b>	<b>1</b>
<b>Definitions, Acronyms and Abbreviations .....</b>	<b>2</b>
<b>1. Project Phases.....</b>	<b>4</b>
1.1. Initiation.....	4
1.2. Design.....	4
1.3. Development and Test .....	5
1.4. Deployment.....	5
1.5. Go-Live .....	5
<b>2. PROJECT DELIVERABLES .....</b>	<b>6</b>
2.1. Initiation.....	6
2.1.1 Project Management documentation.....	6
2.1.2 Tools for project control .....	6

<u>2.2.</u>	<u>Design</u>	<u>7</u>
<u>2.2.1</u>	<u>Design Documentation</u>	<u>7</u>
<u>2.3.</u>	<u>Development and Test</u>	<u>8</u>
<u>2.3.1</u>	<u>System documentation</u>	<u>8</u>
<u>2.3.2</u>	<u>Functional Prototypes</u>	<u>9</u>
<u>2.3.3</u>	<u>Final Version</u>	<u>9</u>
<u>2.3.4</u>	<u>User Documentation</u>	<u>9</u>
<u>2.3.5</u>	<u>Test Documentation</u>	<u>9</u>
<u>2.3.6</u>	<u>Migration procedures and scripts</u>	<u>10</u>
<u>2.4.</u>	<u>Migration and Deployment</u>	<u>10</u>
<u>2.5.</u>	<u>Go-Live</u>	<u>10</u>
<u>3.</u>	<u>Acceptance procedures</u>	<u>11</u>
<u>3.1.</u>	<u>Issues classification</u>	<u>11</u>
<u>3.2.</u>	<u>Documentation</u>	<u>11</u>
<u>3.3.</u>	<u>Final version</u>	<u>11</u>
<u>3.4.</u>	<u>Final system</u>	<u>12</u>
<u>4.</u>	<u>Meetings</u>	<u>12</u>
<u>4.1.</u>	<u>Project management meetings</u>	<u>12</u>

## Definitions, Acronyms and Abbreviations

Definition	Description
AccMng	Access Management
BCF	Business Continuity Framework
CMC	Common Management Console
CSN	Clean Sea Net maritime application
EMSA	European Maritime Safety Agency
EXADATA	An Oracle Database machine which is a modern architecture featuring scale-out industry-standard database servers, scale-out intelligent storage servers, state-of-the-art PCI flash storage servers and an extremely high speed InfiniBand internal fabric that connects all servers and storage
IAM	Identity and Access Management
IdM	EMSA's Identity Management which comprises both Access Management and User Identity Management
IMDatE	Integrated Maritime Data Environment maritime application
LDAP	Lightweight Directory Access Protocol
LRITDC	Long-Range Identification and Tracking Data Centre maritime application
MAP	Maritime Application Portal (Liferay customisation of entry page to act as an "access point" to all of EMSA's Maritime Applications)
MarApps	Abbreviated form of referring to EMSA Maritime Applications
OAM	Oracle Access Management
OIM	Oracle Identity Management
OSB	Oracle Service Bus
Profile	A group of one or more Roles logically combined together. Profiles facilitate the assignment of multiple Roles to a User Account
Provisioning	The act of communicating to a MarApp or to a technical component the creation or modification of an account
RAC	Oracle Real time Application Cluster
Role	A group of permissions (permissions are out of scope of IdM 2.0) that grant or deny access to specific resources. Roles facilitate the assignment of multiple permissions to a User Account
RuleCheck	Application providing EU and International legislation regarding Port State Control
Service	Represents a set of (one or more) Business Functions implemented by an application (MarApp). In the context of the account management, it facilitates the selection of Profiles by filtering the available/visible ones. In context of Provisioning, it defines the technical end point to be called in the provisioning process
SSN	Safe Sea Net maritime application
SSO	Single Sign-On
STCW	Standards of Training Certification and Watchkeeping maritime application
THETIS	The Hybrid European Targeting and Inspection System maritime application

UMC	User Management Console
User Account	Defines the identity behind a user. It is composed of a set of attributes that characterizes the identity

This document details the requirements for the delivery of AccMng 2.0 and provision of services until final acceptance of the system excluding warranty.

It defines how the AccMng 2.0 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

Six 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
- Training

Deliverables are expected for each phase. They are detailed in *Chapter 2 – Project Deliverables* of this document. If one deliverable is not accepted by EMSA during one phase no acceptance of any deliverable of the following phase can be done.

Within their offers, bidders shall describe in detail, what is the proposed project approach, planning, skills, time and effort

### 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 should prepare the kick-off meeting to cover at least the following subjects:

- objectives and organization
- contractor 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.

### 1.2. Design

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

The migration of data from the current AccMng to AccMng 2.0 is also in the scope of the AccMng 2.0 project as is the migration of application integrations. During the design phase the migration strategy must be defined. This strategy must be fully aligned with the design of the new IdM 2.0 system taking into consideration two mandatory requirements:

- Impact on the existent integrated applications and/or components shall be minimum and non-disruptive.

- The migration procedure must follow a phased approach; a “big-bang” migration is not an acceptable solution.

### 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 should respect the “two chamber principle” which means that the team in charge of the tests should 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 should be transmitted to EMSA.

During this phase the contractor is responsible for:

- Preparing system documentation;
- Delivering a final version of the system;
- Preparing User documentation, including training support material;
- Preparing Test documentation;
- Testing final version before its delivery and report test results to EMSA.

Factory Acceptance Tests (FAT) at the Contractor's premises is foreseen for the last prototype (see 2.3.2) and for the final version (see 2.3.3). Usually FAT sessions will be done before the mentioned deliveries.

### 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 evaluated)

### 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 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.

## 2. PROJECT DELIVERABLES

All documentation must be provided in electronic format compatible with MS Office

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

Within their offers, bidders shall list all proposed deliverables and refer the project plan milestone where they will be delivered.

### 2.1. Initiation

All deliverables of the initiation phase shall be delivered to EMSA at least 2 working days before the kick-off meeting.

#### 2.1.1 Project Management documentation

Project management documentation should reflect the project management methodology proposed by the contractor in its bid. It should include at least the following documents:

- Project charter: details the understanding of the project, the different methodologies to be used and the first project baseline (in line with the first project plan).
- Project plan: must at least include the following items: project charter, project management approach, scope, Work Breakdown Structure (WBS), project team, Gantt chart, deliverables milestones, working locations, meetings planning and reports.
- List of outstanding and closed Action Items.
- Flash report: simple report on the status on the project containing (at least) ongoing tasks, resources usage, progress status, and issues foreseen.
- Agenda of the meetings: the contractor is responsible for providing detailed agenda and additional requests 3 days before the meetings for all relevant meetings held between EMSA and the contractor.
- Minutes of the meetings: the contractor is responsible for providing the minutes of the meetings for all relevant meetings held between EMSA and the contractor. The minutes of the meetings must include at least the topics discussed, decisions taken and action items with indication of the person responsible and deadline of the actions.

#### 2.1.2 Tools for project control

Unified Modelling Language (UML) should be used for object and system modelling.

EMSA suggests the use of ArgoUML (open source) or Altova UModel as the UML modelling tool. The contractor is free to use any another UML modelling tool (and any other additional tool) as long as he guarantees its compatibility with one of the previous tools.

Project progress controlling method will be proposed by the contractor. EMSA suggests EVM (Earned Value Management).

EMSA will provide the contractor a Project Site in EMSA's deployment of JIRA. The contractor shall maintain this Project Site updated containing, at least:

- Latest stable version of all document deliverables,
- Latest stable version of the prototype or system,



The project site provided by EMSA includes version control of all documentation and source code, making it possible to retrieve at any time previous versions and the last stable version of source code and documentation.

## 2.2. Design

Design documentation should be prepared in close collaboration with EMSA's personnel.

### 2.2.1 Design Documentation

Design Documentation should cover:

1. Functional design specifications,
2. Technical design specifications,
3. A draft version of the Software Test Plan containing at least the test strategy,
4. Migration strategy.

#### 2.2.1.1. Functional Design Specifications

Functional design specifications will be used as guidelines for the implementation of the system, if and where implementation is needed (as the project is primarily an upgrade and not a new development).

As a minimum they should describe in detail the functionalities that will be available on the system by means of the implementation.

#### 2.2.1.2. Technical Design Specifications

Technical design specifications will be used as a blueprint for the system implementation, in as what regards to any implementation necessary. They describe how the system will be implemented in order to cope with functional specifications.

They should include as a minimum:

- Conceptual and physical system architecture,
- Modules and components,
- Process, workflows and algorithms design and documentation,
- Infra-structure definition and sizing for Test, Pre-Production and Production environments,
- Interface definitions.

Within their offers, bidders shall describe as a minimum the proposed architecture, software components (including their objectives), infrastructure and expected sizing. Description shall be detailed enough to allow EMSA to understand and evaluate the technical solution being proposed.

#### 2.2.1.3. Migration strategy

The first version of the Migration Strategy defining processes, procedures and tools used to execute the migration of data and application integration from the current Access Management system to AccMng 2.0 shall be complemented and detailed during the next phase.

Within their offers, bidders shall describe as detailed as possible how they plan to address the migration from the current Access Management System to the new one, explaining also the foreseen steps and tasks.

## 2.3. Development and Test

If needed the contractor and/or EMSA may suggest modifying the content of the deliverables of the design phase. These modifications should be agreed by EMSA.

### 2.3.1 System documentation

#### 2.3.1.1. Operational and Maintenance Documentation

Operational and maintenance documentation must explain how the system should be operated and maintained on a daily basis. It should include the following documentation:

- Installation manual,
- Operation and Maintenance manual<sup>1</sup>,
- HOW-TO (step by step) Manual and template explaining how to expand the system<sup>2</sup>

#### 2.3.1.2. System building procedures

System building procedures should allow EMSA to completely build the latest version of the system at any moment.

System building procedures shall be executed in EMSA's build environment. EMSA build environment is based on a Linux server containing the following list of tools<sup>3</sup>:

- Jenkins V2.222.1 (build procedures shall use Jenkins groovy pipeline)
- Nexus V3.22.0-02
- Sonarqube 7.9.3.33349 Its (with default quality gate)

Version Control shall be done using gitLab.

The contractor must provide all the necessary information to EMSA to prepare the configurations for building the system.

Upon delivery of the any version the contractor should provide an automatic build procedure with the complete source code, additional software packages and code generators. Build procedures shall be in line with build tools and versions used at EMSA build environment.

If it is the case, for each code generator used during development a correspondent generator should be provided to EMSA.

#### 2.3.1.3. Infrastructure (HW and SW) and deployment/installation documentation

The contractor is requested to provide a complete and detailed architecture definition and sizing for the following environments:

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

Servers per environment will be provided inside the EMSA Data Centre (virtualized), according to "EMSA System and Application Landscape".

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<sup>1</sup> Including (but not limited to) start, stop, logs, purge and archive, reset to initial state (only for TEST env), monitoring points and procedures

<sup>2</sup> Including (but not limited to) how to integrate a new application, how to add new roles, ....

<sup>3</sup> Versions may change during project execution

The contractor is responsible for the installation of needed Software packages in the TEST environment; a detailed deployment, installation and configuration document shall be prepared for Pre-Production and Production environments. EMSA together with the contractor's support will install and configure those two environments.

In order to correctly size the production environment the contractor must consider the following elements: system architecture, implementation, non-functional requirements and the performance requirements.

For the production environment, detailed information about requirements for server's characteristics, network, bandwidth, base software, databases, security and accessibility shall be provided to EMSA. For the other environments, the same level of information must be provided with an indication of expected performance.

### 2.3.2 Functional Prototypes

During the development phase the contractor is requested to provide intermediate deliveries; one functional prototype with incremental scope:

- Prototype 1: must include a minimum of 2 fully end-to-end integrated systems,

Scope and deliveries for this prototype shall be proposed in the offer and discussed and agreed during the Kick-off meeting.

### 2.3.3 Final Version

The final version of the system delivered to EMSA should contain:

- System implementation (containing all required components described in the Technical Specification)
- Related source code, build procedures and supporting documentation,
- Complete system documentation,
- Test documentation,
- Release notes.

Factory Acceptance Tests (FAT) at the Contractor's premises is foreseen for the final version.

Of somewhat special importance is the treatment of critical functionalities for Access Management, namely password management, the integration into Access Management of a new Maritime Application, the creation of a new Access Point (i.e. new URI for accessing EMSA systems), the complete Login procedure and also the complete Logout procedure, just to name a few.

Within their offers, bidders shall describe as detailed as possible how they will address the Access Management Critical Functionalities; as a minimum, bidders must address the ones referred above, login, logout, integration of a new Maritime Application, creation of a new access Point.

### 2.3.4 User Documentation

#### 2.3.1.4. User documentation

User documentation should include:

- A guide to explain how to access and use the core functionalities,

Text should be supported by illustrations and screen captures all through the user documentation.

### 2.3.5 Test Documentation

Test documentation should cover at least 80% of the functionalities of the system.

Tests to be performed by the contractor must cover the two following objectives:

- Verification tests: verify that the product is in line with the functional and technical requirements and design specifications and that implementation best practices were applied,
- Validation tests: verify that procedures and activities as described in the project plan, change management procedures and software development plan were applied.

The test documentation and test results should provide evidence that these objectives are met.

Test documentation should detail all necessary documents to plan, design, execute and report tests. This should include as a minimum the Software Test Plan with all details regarding the test process:

- Definition of the Software Test Plan Structure and global strategy,
- Reference to the different test phases to be implemented,
- Definition of the detailed test strategy presenting an overall perspective of testing and identifying individual test phase plans for unit, integration, functional, performance, load and stress test phases. Each test phase plan should include at least:
  - Description of the test phase strategy, standards and practices,
  - Test phase supporting guidelines, criteria and metrics
  - Completion criteria for the test phase,
  - Test phase implementation templates.
- Results achieved with the test phase implementation including at least:
  - Test cases,
  - Test scripts,
  - Data sets (when applicable),
  - Test results,
  - Test phase report.
- Reference to the test environment(s) to be used,
- Software Test plan execution planning,
- Software Test team responsibilities and staff.

Test results should be added to each test plan once the corresponding tests have been executed.

The contractor will be responsible for preparing all documentation including test cases, test scripts, test data to be used and test and pre-production environments.

The contractor shall also provide a set of automated tests based on jmeter (or, upon EMSA's agreement, any other more convenient tool) with the main objectives of testing the performance of an authentication and authorization cycle.

### 2.3.6 Migration procedures and scripts

Migration procedures and scripts shall be delivered by the contractor.

These procedures will be tested in the TEST and Pre-Production environments aiming to achieve the accurate, reliable and secure migration of data and applications in the Production environment.

## 2.4. Migration and Deployment

Deliverables of the deployment phase are:

- Final version of the system deployed and fully working in the three environments,
- Data and application migration executed according to the defined strategy,
- Updates of the system documentation, user documentation and training materials, if needed,
- Updates of the deliverables of the design phase, if needed.

## 2.5. Go-Live

Deliverables of the Go-live phase are:

- Updates of the system documentation, if needed,

- Report on the tasks undertaken by the contractor and their results,
- Final system.

### 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<sup>4</sup>) considered as limitations of the implementation with very high probability of interfering with the expected result. The contractor will be 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,

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<sup>4</sup> Security issues included

- 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 **twenty 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.

### 3.4. Final system

The final system will be evaluated by EMSA when the accepted final version will be available in the production environment. EMSA will verify that the system operates correctly while being used by end users in real life situations.

The Final system is accepted within an acceptance period of **twenty working days** from the PRODUCTION date under the condition that no blocking issues as described in chapter [3.14.1](#) are found.

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.

## 4. MEETINGS

### 4.1. Project management meetings

At each project management meeting, the contractor should 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.

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

The contractor is responsible for providing detailed agenda and supporting documents for the meetings, support the discussions during the meeting, and providing the minutes of the meetings. The detailed agenda and supporting documents must be provided by the contractor 3 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 of 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.

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