INVITATION TO TENDER N° AO/024/16

Provision of IT Development and Maintenance Services

ANNEX 2 — TECHNICAL SPECIFICATIONS

Lot 2 – SAP development and maintenance services

Table of Contents

1. INTRODUCTION

The European Union Intellectual Property Office (EUIPO) is the European Union agency responsible for registering trade marks and designs that are valid in the 28 Member States of the European Union.

The aim of the present Call for Tender (CfT) is to obtain technical assistance in relation to SAP Solutions, i.e. SAP Software Development and Maintenance services, including Applications Operations.

It is envisaged that the Framework Contracts resulting from this CfT will be run by the EUIPO Digital Transformation Department (DTD), which is responsible for supplying all necessary information technology services to the EUIPO in order to support the organisation and enable it to achieve its goals, in support of the EUIPO Strategic Plan 2020[1]:

The aim of this Lot 2 is to procure services for SAP Software Development and Maintenance, with a view to:

- Enhancing quality of services delivered
- Access to the best available skills in the market
- Reducing cost
- Reducing software time to develop
- Managing risk

The CfT is structured in three lots. Prospective tenderers can apply for one or more lots.

The content of this document is related to LOT 2 and it provides:

- A description of the required services for LOT 2
- A description of the contract execution mechanism for LOT 2
- A description of the main processes and quality activities related to LOT 2
- A description of the staff profiles that are required for LOT 2.
- A description of the technical architecture for SAP technologies in place at EUIPO

See further detail in section below *2.2 Work in the scope of the lot*. For Lots 1 and 3 a separate Technical Specification document is included with the Tender Documents.

[1] https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/contentPdfs/Strategic_plan_2020/strategicplan2020_en.pdf

2. DESCRIPTION OF THE WORK TO BE PERFORMED

2.1. Overview of EUIPO's IT and SAP Environment

EUIPO has a modern IT infrastructure comprising approximately 80 core business and e-business applications to perform the examination of the Trade Marks and Designs. Making regular hardware and software upgrades, by using new technologies and making service improvements, is an important factor for EUIPO's productivity and reliability.

SAP is understood as an ecosystem at EUIPO. A project is underway to implement a system landscape with SAP as backbone and SuccessFactors as the main system for user interaction. Additionally, SAP Business Planning and Consolidation (BPC) will be implemented to cover the needs of budget planning, workforce planning and establishment plan simulations.

The large majority of the SAP development activities will be directly related to the execution of the second Strategic Plan 2016-2020 which is a continuation of the Strategic Plan 2011-2015 successfully completed about a year ago.

The third line of action of the Strategic Plan 2016-2020, *"Foster an effective and secure digital environment"*, has launched several projects and activities to modernize both IT applications and IT infrastructure. Primarily supporting 2 strategic Goals:

- Improve operational effectiveness
- Enhance access to IP system and IP knowledge.

A dynamic and knowledgeable organisation needs to be supported by an effective and secure digital environment with streamlined digital operations, strong IT security, and highly available systems, all of which must be delivered in a cost-effective manner.

The objective of the Framework Contracts (FWCs) that EUIPO may sign with the winning tenderers of the present CfT is to provide services that are necessary to enable the successful implementation of all the SAP related projects detailed in the Strategic Plan 2016 – 2020. The FWCs must also provide the right tools to maintain the day to day operations including corrective activities under strict Service Level Agreements and must enable adaptations to the SAP system as part of an IT landscape of over 80 systems based on different technologies.

2.2. Work in the scope of the lot

The following section provides an overview of the SAP Application Support & Maintenance Services and defines the SAP Services the Contractor shall provide.

In the context of LOT 2, Contractors will perform services of development and maintenance of the SAP system: General services, SAP software development (strategic projects), adaptive maintenance, corrective maintenance and application operations for the EUIPO.

For the implementation of the Strategic Plan 2011-2015 the Office has used a set-up of services that contemplated on-site; off-site; 3rd party site and near-site service solutions, which have proven to be very effective for a number of reasons. In particular, the use of on-site and near-site solutions, where needed for practical or technical reasons, as well as for reasons of continuity of the service has facilitated efficient implementation of Contractors' services especially in the timely delivery of solutions in critical situations.

The implementation of Strategic Plan 2020 has started in 2016, and while there is still need to run some services which might require special coordination and control from an on-site/near-site location, the Office's intention is to request more services to be implemented off-site.

Implementation of services will be provided by means of Specific Contracts or Purchase Orders.

LOT 2 includes all the activities necessary for the provision of services for the design, development, deployment and maintenance of the EUIPO's SAP system. It concerns the implementation of complete new applications as well as the adaptation of existing ones. It would also cover developments required for the integration of SAP technologies with other information systems external to the EUIPO.

In essence LOT 2 covers the following SAP services:

- ***General Services:*** service management, takeover and handover of applications.
- ***Software Development for Strategic Projects****:* implementation of new SAP modules mostly linked to the EUIPO Strategic Plan 2020, and customisation and configuration of SAP system.
- ***Application Operations of SAP system****:* SAP Management and Administration, SAP Basis Support, Database Administration, Planned Software Upgrades/Patching and Technology Refreshment and Replenishment.
- ***Adaptive Maintenance of SAP system****:* changes or adaptations to the EUIPO's SAP application managed via the 'Plan IT Investment' process.
- ***Corrective Maintenance of SAP systems****:* resolution of incidents and problems related to the EUIPO's SAP system.

The "SAP system" covers the systems as described in Chapter 6 and additional modules as identified during the period of the FWC which would be based on SAP technologies.

The software development and maintenance activities are carried out within the context of the EUIPO's overall Quality Controls contained in ANNEX C: Software Development Lifecycle (SDLC).

LOT 2 does not include any work related to information systems non-based on SAP technologies; this is in the scope of LOT 1.

2.3. EUIPO Work Processes

The section below summarise the ISO-certified processes that EUIPO follows, and Contractors must adhere to. The full process descriptions are available in Annex C, Annex D and Annex E.

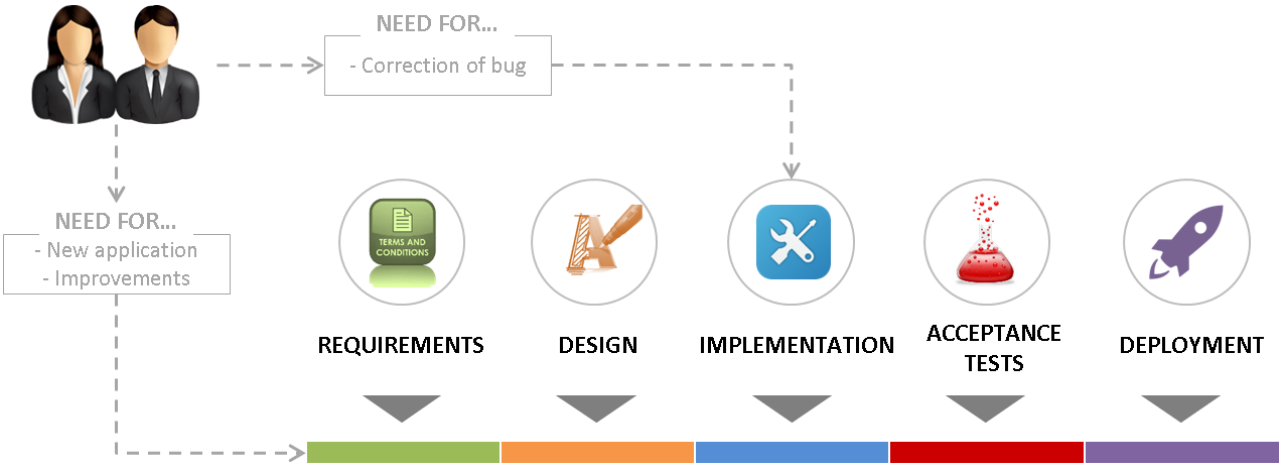
2.3.1. IT Processes: the "Software Development Lifecycle" Process (SDLC)

ISO 9001 certification has been granted for all EUIPO's processes, including IT processes. The ISO processes described below must be followed, but Tenderers must also consider how to incorporate the standard defined SAP methodologies (e.g. ASAP, Activate) in the relevant processes.

The Software Development Lifecycle (SDLC) process describes an overall structured approach to information management and it is composed of a number of clearly defined phases. It guides the software development process for new systems implementations or for adaptations to existing

systems. It prescribes various documents and deliverables for each phase. Each successive phase of SDLC leverages the documentation and knowledge gained from the previous phases.

The graph below gives an overview of the SDLC process at the EUIPO.



The Software Development Lifecycle is...
... an iterative process
... based on a cross team collaboration
... flexible to adjust the type of development (new/adaptive vs. corrective)

As shown above, the SDLC process at the EUIPO consists of five phases: requirements definition, design, implementation, testing and deployment.

The SDLC is integrated with quality management principles, providing a process-driven focus and proactive problem prevention. It has a service-level orientation focusing on continuous measurement and improvement. As such, the Contractor must comply with the quality management standards and principles established throughout the Office.

SDLC refers to discrete software projects and bids, or special adaptive work that EUIPO determine must follow this process.

The process also takes into account the required roles and responsibilities of the organisation and considers the cross-departmental collaboration required to achieve the desired result (i.e. purchase and project management).

The process is subject to the continuous improvement cycle within the Quality Management system in place in the organisation (see Annex C for full process description, including deliverables and roles).

The role of the Contractor in the process is mapped in the following table:

WORK INSTRUCTION Software Development Life Cycle — service involvement

Activity	Title	Contractor Role
2	Analyse requirements and produce requirements package	Business analyst

5	Provide more information/documentation to the project manager	Business analyst
7	Manage requirements package review	Business analyst
8	Finalise Design Document	Development Service Provider
9	Support the Quality Assurance and Control provider	Business analyst
11	Update the SRS	Business analyst
12	Prepare environments. Update Disaster Recovery Procedure and Business Continuity Plan	Supplier support to DevOps and Operations Teams
13	Develop code	Development Service Provider
14	Accompany software development	Business analyst
15	Deliver Implementation Package	Development Service Provider
16	Review of implementation package	Business analyst
17	Install in dedicated environment	Supplier support DevOps Team
18	Support Quality Assurance and Control provider	Business analyst
20	Prepare and support UAT	Business analyst, Development Service provider
25	Install and check in production-like environment (if applicable)	Supplier support DevOps Team
27	Organize Rollout and Deploy in Production	Supplier support DevOps and Operations Teams
28	Perform rollback	Supplier support DevOps Team

2.3.2. IT Processes: “Plan IT Investments” Process

This process supports the optimization of IT investments (Requests for Changes) and serves as a gateway for the involvement and collaboration of the business and IT in the planning and prioritization of IT-enabled change.

This process helps the EUIPO to understand better and respond more rapidly to the needs of its stakeholders, while ensuring added business value by investing optimally.

Requests start with an assessment of the benefits that are expected to stem from the change. This assessment is based on the business needs and challenges. Technology development, budgetary factors and current IT capabilities are then included to give a holistic view of the situation. The organisation can then translate these considerations into plans and investment decisions to derive the greatest business value from every single investment, which are then put forward to the Executive Director for decision.

The process is subject to the continuous improvement cycle within the Quality Management system in place in the organisation. (see Annex D for full process description, including deliverables and roles).

The role of the Contractor in the process is mapped in the following table:

WORK INSTRUCTION Plan IT investments — service involvement

Step	Title	Contractor Role
7	Receive and analyse the request	Subject Matter Expert or Supplier
20	Implementation	Supplier

2.3.3. IT Processes: “Manage incidents and problems” Process

Incident management refers to activities aimed to restore normal service operation as quickly as possible while minimising any adverse impact on business operations. It includes incident detection and recording, investigation and diagnosis, resolution and recovery, and finally closure.

Problem management can proactively avoid the occurrence of incidents, errors, and additional problems. A problem investigation helps to discover the root cause of incidents, to improve or correct the situation and to prevent the incident from recurring. It is related to activities undertaken to minimise the adverse impact on the business.

The process is subject to the continuous improvement cycle within the Quality Management system in place in the organisation. (see Annex E for a full process description, including deliverables and roles).

The role of the Contractor in the process is mapped in the following table:

WORK INSTRUCTION Manage Incidents and Problems — service involvement

Step	Title	Contractor Role
1	Raise incident	Supplier
3	Proceed with investigation and assess need for re-prioritisation	Subject Matter Expert
8	Implement, test and install the solution / workaround	Subject Matter Expert or Provider
11	Log problem in Remedy and prioritise	Supplier
12	Investigate root cause	Provider
18	Implement, test and install the final solution / Fix / for Problem record	Provider

2.3.4. Quality and Monitoring

The EUIPO will monitor the quality of the service provided by the Contractor. The quality activities of the SAP services (development and maintenance of the software) under this LOT 2 will follow a standard approach which is provided by a specialized supplier already working already in the EUIPO (Software Quality provider), and which will be independent from the Contractor that will implement or maintain the software under LOT 2. This task will be performed by means of Software Quality Assurance and Software Quality Control.

Software Quality Assurance

The Software Quality Assurance (SQA) is the function of software quality that assures that the standards, processes, and procedures are appropriate for the project and are correctly implemented. Within DTD, the Quality team is responsible for these activities.

Every new SAP Software Development project or Adaptive maintenance initiative of the EUIPO's SAP environment shall include assurance activities. The project manager in liaison with the Quality team decides the type, amount and the level of formality of such activities, based on the assessment of the project, its risks and its development and operational environment. Therefore, the software assurance is tailored to each project and begins by the production of a Quality team document named Master Test Agreement (MTA), which is sent together with the software specifications when a new offer is requested from the Contractor. The MTA defines the test approach (functional, security, stress and performance).

In addition, the Software Quality provider shall execute ad-hoc Quality audits and will produce reports which contains findings and recommendations (with priorities) where required to bring the project into conformance with standards and/or procedures as defined for the ad-hoc audit. The Contractor must allow the Software Quality provider to perform audits on behalf of EUIPO to verify that:

- proper control procedures are being followed;
- required documentation is maintained;
- the Contractor's status report accurately reflects the reality;

- the configuration management activities are performed;
- the baselines are controlled;
- software development libraries are correctly used;
- approved changes to the baseline are made properly and consistently;
- verification and validation are performed according to the plan;
- the testing activities are performed adequately and efficiently;
- the test reports are accurate and complete;
- resolution of nonconformities and defects takes place as agreed.

Software Quality Control

Software Quality Control (SQC) is the function of software quality that checks that the project follows its standards, processes, and procedures, and that it produces the required internal and external (deliverable) products. Within the DTD, the Quality team is responsible for these activities, which are mainly performed by a specialised supplier already in place (Software Quality provider) during the Site Acceptance Tests. Activities related to Quality Control are listed below and must be also performed by the Contractor before delivering any software to the EUIPO.

- Verification of key project documents: the purpose of the document verification is early detection of errors in documentation, in order to increase the quality of the product in the next phases of development.
- Elaboration of test plans: a test plan will allow the systematic and organised execution of functional and non-functional tests including any unit or service tests needed to check integration between different systems or components.
- Formal validation of the delivery: this will include checking of continuous build and automatic deployment.
- Functional testing: to verify that the applications operate according to their functional specifications. This is when applicable sanity tests or non-regression tests will be performed.
- Security testing: to verify that the applications operate according to their security requirements and to any security standards set for the software (when applicable).
- Stress and performance testing: to verify that the applications operate according to their defined response times, and are able to handle the load they have been required to handle in the non-functional specifications (when applicable).
- Code review: to determine the quality of the code developed, and to ensure that it meets the required targets as defined in the non-functional specifications.

The EUIPO uses the Jira tool to manage all the issues found during the development and test processes, which is also used by the Software Quality provider. The Contractor must use this tool to complete information when required about the issues found and their resolution and to share results of SAT and UAT with the EUIPO.

During the Site Acceptance Test (SAT), regular review meetings may take place at the EUIPO's premises with the Contractor, the Software Quality provider and the EUIPO, in order to monitor the progress of the tests and analyse the results as appropriate.

In order to improve transparency, the specialised Software Quality provider will report findings by means of periodical Reports both to the member of staff responsible at the EUIPO and to the Quality team. The member of staff responsible at the EUIPO will inform the Contractor of the final outcome of the testing/checking, with all the defects and non-compliance issues that must be resolved before the deliverable is accepted.

The Office will monitor the execution of all Specific Contracts continuously. Therefore, in addition to the required reports mentioned in section *3.9 Reporting*, the Contractor must provide access to the EUIPO for the staff of the relevant Contractor. More generally, the DTD may request the Contractor's physical attendance at review meetings, which will take place in Alicante during project execution. These review meetings may involve stakeholders of different natures, for instance, staff from different EUIPO departments and third-party contractors if applicable.

2.4. Services

This chapter describes the SAP services that are expected to be delivered by the Contractor. The Tenderers are required to describe and demonstrate their capacity to deliver all the requested services in conformity with the Office's architecture principles and technical guidelines.

The EUIPO expects the Contractor to have sufficient knowledge of and expertise in the different SAP technologies to be able to implement the services required efficiently. The Contractor must be certified as a SAP Partner Center of Expertise (PCOE).

The Contractor must apply IT best practices and methodologies that guarantee the correct delivery of services for example ITIL. The Contractor is also expected to use structured project management methodologies such as PRINCE2, PMP or similar to ensure the adequate governance of projects requested by the Office.

In the following sections, we describe how the SAP services contained in this LOT 2 is structured into groups of services.

2.4.1. General Services

2.4.1.1. Services in the takeover and handover of applications

The takeover and handover of applications concerns the transfer of one SAP module / system from or to a Contrator to or from another Contractor, or to the EUIPO.

Transition IN

The succesful Contractor will be asked to take over the maintenance and management of the SAP system in use at EUIPO as indicated in section 6 Description of EUIPO SAP System.

A Specific Contract will be signed between the EUIPO and the Contractor for this purpose. One of the objectives of the Specific Contract will be to request the Contractor to carry out a process of knowledge transfer with the Transition-out Contractor or the EUIPO, in a way that will enable the Contractor to assume full responsibility for maintenance of the EUIPO SAP systems.

The Contractor must accept the responsibility for maintenance of all the Office's IT systems in the scope of this LOT. The Contractor must carry out a process of knowledge transfer from the previous contractor and must consolidate a knowledge base of the Office's SAP systems.

The Contractor must provide a detailed plan, team structure and risk assessment (i.e. a list of risks and contingency measures) before the transfer of the responsibility starts and keep it up to date for the whole duration of the transition in.

The preliminary work will be based on establishing a solid analysis of the architecture of the EUIPO's SAP environments, including details of all hardware and software. This information must be stored in a knowledge base so that data can be easily retrieved and changes can be easily recorded. During this phase the Contractor must acquire sufficient knowledge to maintain the systems.

The knowledge base must be validated by the EUIPO before the Contractor can assume responsibility for the maintenance of the relevant systems.

The knowledge base must contain all associated documentation, including but not limited to SAP process descriptions, functional and technical specifications, software architecture documents, database models, integration contracts, test plans, installation instructions, test routines, monitoring routines and data related to software quality control.

On a system-by-system basis, once the EUIPO has validated the knowledge base completed by the Contractor for a particular SAP system, the transfer of responsibility for that SAP system from the incumbent Contractor to the Contractor selected under the CfT will take place. Given the size and complexity of the EUIPO's SAP systems, it is expected that the Contractor will assume responsibility for the maintenance for different systems in different stages. EUIPO will ultimately decide the SAP systems that will be transferred and the stages in which that transfer will occur.

Each of these stages is expected to last a period of time of no longer than 2 months. In principle, and unless exceptionally otherwise agreed with the EUIPO, the Contractor must have completed the transfer of responsibility of all the SAP systems to be maintained under LOT 2 within the first 6 months of the contract.

The Contractor must procure and install any software available in the market needed for the execution of the maintenance during the transition IN. The Contractor must be able to install all the SAP systems selected by the EUIPO at their near-site and off-site premises. All SAP and other software installations on the Contractor's premises must be validated by the EUIPO as being valid for operational use. EUIPO must be able to test the SAP applications working at the Contractor's site, in order to ensure the correct functioning of the near-site and off-site environments. Under no circumstances will the EUIPO purchase (and/or loan) any software or hardware for the Contractor to use at its premises.

The Contractor must be able to access the SAP system remotely from their near site and offsite premises, in order to conduct simple maintenance tasks.

The Contractor must continue to support and maintain software quality control tools, data and processes, including automated unit and functional tests, code quality statistics and reviews, automated release scripts and procedures.

Additionally, the Contractor must collaborate with and/or supervise part of the transition out work of the incumbent Contractors. Note that the incumbent Contractors' locations of work include the Alicante area and are not limited to the EUIPO's premises, as the bulk of the relevant IT services are delivered from a near-site location.

Transition OUT

At some point during the contract, the Office may request the Contractor to prepare a technical and financial proposal to transfer the SAP systems to a third party or to the EUIPO.

The EUIPO will request the Contractor to transfer the know-how about all related software, up-to-date documentation and knowledge to a third party or to the EUIPO. The length of time given to carry out the transfer will be determined by the EUIPO.

The Contractor must then carry out a process of knowledge transfer and the transfer of the responsibility of the Office's SAP systems to the other party or to the Office. After completion of the transition-out phase, only services for developing new SAP projects may be requested.

Transition IN of a particular system

At some point during the contract the EUIPO may request the Contractor to prepare a technical and financial proposal to take over a particular SAP module or service.

The Contractor must carry out a process of knowledge transfer between a third-party Contractor/EUIPO and itself, so that it can assume responsibility for maintenance of the SAP system.

In the case of a very large or complex system, a Specific Contract may be requested and raised for this purpose.The Contractor must provide a detailed plan and risk assessment (i.e. a list of risks and contingency measures) before transfer of the responsibility starts and keep it up to date for the whole duration of the transition in of that system.

The preliminary work will be based on establishing a solid view of the architecture of the SAP module/system, including all hardware and software details. This information will be stored in a knowledge base, from which it can easily be retrieved and changes can easily be recorded. The Contractor must acquire sufficient knowledge to maintain the system during this stage.

The knowledge base must be validated by the EUIPO before the new Contractor can assume responsibility for the maintenance of the given system.

The knowledge base must contain all associated documentation, including (but not limited to) functional and technical specifications, software architecture documents, database models, integration contracts, test plans, installation instructions, test routines, monitoring routines and data related to software quality control.

Once EUIPO has validated the knowledge base completed by the Contractor for a particular SAP module or service, the transfer of responsibility for that system from the third-party Contractor/EUIPO to the new Contractor may take place.

The Contractor must be able to install all the SAP systems selected for transfer by EUIPO for access at their near site and offsite premises. All SAP and other software installations on the Contractor's premises must be validated by EUIPO to be valid for operational use. EUIPO must be able to test the applications working in the Contractor's site in order to ensure the correct functioning of the near site and offsite environments. In no circumstances EUIPO will purchase (and/or loan) any software or hardware for the Contractor to use in its premises.

The Contractor must be able to find and apply the technical solutions to access the SAP systems concerned at its own premises, if requested to work off-site/near-site. The installation on the Contractor's premises must be validated by EUIPO as being considered operational. The EUIPO must be able to test the applications working at the Contractor's site in order to ensure the correct functioning of the near-site and off-site environments. Under no circumstances will the EUIPO purchase (and/or loan) software or hardware for the Contractor to use at its premises.

Additionally, the Contractor may be asked to collaborate with the third-party Contractors and/or to supervise part of its transition-out work . Note that third-party Contractors' work locations may not be limited to the EUIPO's premises.

Transition OUT of a particular system

At some point during the contract or at the end of the contract, the EUIPO may request the Contractor to prepare a technical and financial proposal to transfer a SAP system/module to a third party or to the EUIPO.

The EUIPO will request the Contractor to transfer all the know-how/ownership related software, up-to-date documentation and knowledge to a third party or to the EUIPO, whereby the time to carry out the transfer will be determined by EUIPO.

During the transition-out stage of a particular SAP system/module, the Contractor will only receive requests related to the correction of incidents considered critical for that system. Once the transition out has been completed, the Contractor will no longer receive requests for that system.

2.4.2. Services for ad-hoc reinforcement of teams and knowledge management

The Contractor must proactively manage the knowledge within their teams.

While the Contractor is expected to be able to provide high-quality services using its own resources, it is possible that certain specialised skills may not be available when needed in a particular project, release, etc. The Contractor will have to ensure that it is in a position to find these skills in the market and absorb them into its team as needed in order to fulfill its commitments.

The choice of how to identify and procure such specific skills/profiles (subcontracting, training, recruitment, etc.) is left to the Contractor to decide, taking into account the precise situation when those skills/profiles are required. Note that any profile must fully meet the expertise requested by the assigned function, as stated in the relevant purchase order/Specific Contract. Whenever a replacement is needed, the Contractor must submit the new CV to the EUIPO for prior approval, following the procedure described in sections *3.4.1 Time & Means (TM) orders* and *3.4.2 Proximity Time & Means (PTM) orders*.

The Contractor is expected to acquire, maintain and share a solid knowledge of the different business areas covered by this contract.

The Contractor must provide a systematic approach for knowledge management, more specifically regarding the training of new staff members and knowledge sharing among the team. The Contractor must ensure continuity in the provisioning of the service in the different business areas of the Office regardless of personnel rotation, absences or departures.

In addition, the Contractor is expected to be able to develop and maintain standards for the analysis area.

2.4.3. Services related to SAP Software Development (Strategic Projects)

SAP Software Development projects will be executed when the Contractor is required to configure and customise a SAP module or service. This process starts from business requirements in the shape of software specifications, high-level architecture guidelines, and a set of acceptance criteria defined in a Master Test Agreement document.

The deployment of SAP technologies at the EUIPO must be carried out following the guidelines and recommendations of the commercial vendor behind the product (SAP). The EUIPO expects the Contractor to have sufficient knowledge of and expertise in the different SAP technologies to be able to implement the services required efficiently.

The Contractor's SAP Functional Consultant will be required to work with EUIPO to develop business requirements. The Contractor will be expected to write a detailed analysis of the IT system to be built, to design a SAP high-quality solution that is aligned with the EUIPO's architecture standards, and build the software and test it following a test plan to guarantee that the product fulfils the acceptance criteria.

Requests for new projects based on SAP technologies are mostly related to the EUIPO's Strategic Plan 2020. The implementation of new projects always follows the Software Development Life Cycle Process (SDLC) as presented in section *2.3.1 IT Processes: the "Software Development Lifecycle" Process (SDLC).*

The project is approved by the EUIPO's Executive Director and the work is requested from the Contractor in most cases under a 'fixed-price' model at a near-site/off-site location. The Contractor must respond with an offer that is proportional to the services requested.

EUIPO reserves the right to perform a 'benchmarking' exercise with a third party to confirm that the effort is in line with the work requested.

During project execution, regular meetings between the Contractor and the EUIPO are held at the Office's Alicante premises to follow and monitor the project's progress as stated in *section 3.9 Reporting*. Based on the nature of the project, the Contractor may be requested to perform agile software development.

2.4.3.1. Requirements Development and Analysis services

The Contractor must provide Business Analysis services for SAP Projects, resulting in a formally approved requirements package and updated System documentation reflecting the adaptations or modifications introduced by the Project.

The Contractor will be requested to carry out tasks that go into determining the needs or conditions to meet for a new or altered product, taking into account the possibly conflicting requirements of the various stakeholders, such as administrators and users. At the end, the Contractor must produce a requirements package which contains (but it is not limited to) a software requirements specification document which shall include a description of the behaviour of the SAP system to be delivered. All requirements must be actionable, measurable, testable, related to identified business needs or opportunities, and defined to a level of detail sufficient for system design.

The Contractor will prioritise and progressively elaborate the solution requirements in order to enable the implementation team to implement a technical solution that will meet the needs of the EUIPO and the involved stakeholders. It includes the planning of analysis activities, the analysis of documentation generated during the pre-project activities phase to define solutions that meet those needs, assessing the current state of the business to identify and recommend improvements and the verification and validation of the resulting requirements. It includes the preparation of a set of business test scenarios.

The Contractor will define the scope of the work and the amount of time and resources needed to complete the deliverable, input to the project planning, management of the requirements elicitation and documentation, taking into account the communications that are planned during the work to be done.

The Contractor will propose a set of tools and methods to obtain the useful information from all the stakeholders concerning the system's requirements and business needs (e.g. workshops, interviews, etc.)

The Contractor will proceed to analyse all the inputs that are specified for this phase. Basic information to be processed is the behaviour of the SAP system, its functionality, possible external interfaces (e.g. interaction with existing software/hardware), its performance (availability, response

time, recovery time, etc.), its attributes (e.g. maintainability, security), the legal/regulatory context, and other constraints (standards, limited resources, policies, etc.).

The Contractor will define and implement a working methodology to perform an efficient review and approval cycle of the requirements package. The Contractor will also propose a working methodology aimed at keeping up to date all the analysis related documentation belonging to the EUIPO's SAP platform, so that project / request for changes modifications are duly reflected into the repository of SAP system's documentation. This documentation includes – but it is not limited to – software requirements specification, Business Blueprint, information models, business test scenarios, configuration documents, etc.

2.4.3.2. Prototyping services

The Contractor may be requested to prepare one or several prototypes for a new idea to allow potential users to evaluate the practicality of the eventual SAP product by actually trying it out, rather than by being based on descriptions. After preliminary requirements have been defined, a simple working model of the SAP system must be constructed to show the users visually what their requirements may look like when they are implemented into a finished system. A prototype will be discarded after it has been used in order to clarify viability and perhaps reorient and/or specify the preliminary requirements to a level of detail sufficient for system design.

2.4.3.3. Development support services

The Contractor must ensure the requirements defined in the released requirements package are clearly presented and communicated to the Contractor's implementation team. The SAP Functional Consultant and the SAP implementation team must work together to ensure there are no gaps in the development process.

The SAP Functional Consultant must provide clarifications to the implementation team and additional teams where required. Clarifications may require consultation with the affected business area for functionality or with the architecture team for feasibility aspects.

These services shall result in a formal Clarification Log and (if applicable) an updated (and formally approved) new version of the requirements package.

2.4.3.4. Design, implementation and verification services

Based on a software requirements specification document, the Contractor must design, customise and configure a SAP solution and test it before delivering it to the EUIPO. The system may be a modification of an existing SAP module or service or deployment of a completely new module or service.

The EUIPO architecture team is responsible for the production of the first part of the design documentation: the High Level Architecture document (HLA), which will be complemented by the Security Architect if the system has been classified as 'specific' in terms of Information Security compliance. The design documentation may be finalised by the architecture team, or it may be completed by the Contractor as part of the implementation package.

The purpose of the design and implementation phases is to create a solution that exhibits the required behaviour, fulfils the required technical specifications, and in general performs according to best practices in areas of:

- **performance**: the amount of system resources it consumes (processor time, memory space, disks, network): the fewer, the better. This also includes correct disposal of some resources, such as cleaning up temporary files and lack of memory leaks;
- **reliability**: how often the results of a program are correct;
- **robustness**: how well a program anticipates problems not due to programmer error. This includes situations such as incorrect, inappropriate or corrupt data, unavailability of required resources, such as memory, operating system services and network connections, and user error;
- **usability**: the ergonomics of a program: the ease with which a person can use the program for its intended purpose, or in some cases even unanticipated purposes;
- **portability**: the range of computer hardware and operating system platforms on which the source code of a program can be compiled/interpreted and run;
- **security**: adherence to market standards and in particular to the EUIPO's security standards;
- **maintainability**: the ease with which a program can be modified by its present or future developers in order to make improvements or customisations, fix bugs and security holes, or adapt it to new environments.

The Contractor must also take advantage of standard SAP methodologies, tools and best practices (e.g. ASAP, Activate) where this would benefit EUIPO in the management of SAP Service Delivery.

Where there is advantage in doing so, the Contractor is expected to leverage SAP's Business Blueprint for Projects to exploit the relevant business scenarios, business processes and process steps that are already defined. The Contractor will conduct business process workshops to document the relevant business scenarios and processes, in order to define the Business Blueprint and create project documentation for the SAP module or service to be configured and customised. This will enable the Contractor to design a high-quality solution which is aligned with EUIPO's architecture standards and standard SAP methodologies (where appropriate). SAP software will be configured and tested to assure that the acceptance criteria is fulfilled and to allow EUIPO to realise its business objectives.

When drafting their offers, tenderers are invited to demonstrate that they adopt SAP's standard methodologies.

In the case that the design documentation would be completed by the Contractor as part of the implementation package, the Contractor will perform SAP design specification services to produce design specifications that meet the EUIPO's technical architectural standards and identify and describe the most cost-effective solution to the implementation option under consideration. The Contractor must:

- Incorporate the EUIPO's architectural guidelines into the design, including application extensibility, maintainability, scalability, robustness and reliability.
- Obtain the EUIPO oversight and approval through coordination with the appropriate EUIPO architectural or technical oversight authority.

The following are the minimum, but not limited to, activities that the Contractor is required to perform:

Table 1. High-Level Application Design Related Activities

High-Level Design Related Activities
1. Create and deliver the high-level, functional design document from the business processes, functional and non-functional requirements, including design features, user interface Changes, and performance requirements.
2. Develop SAP Business Blueprint to demonstrate support of business processes and requirements
3. Develop prototype applications to demonstrate support of requirements (e.g., demonstration of the requirements using screen mockup techniques) as and when required/ requested by EUIPO
4. Develop technical risk assessment and mitigation strategy
5. Develop and provide cost and schedule estimates
6. Develop, document and maintain SAP technical design and environment configuration based on EUIPO and SAP design specification standards and requirements including IT architecture, functional, performance, availability, maintainability, security and IT continuity and disaster recovery requirements
7. Determine and document required component upgrade, replacement and/or conversion specifications (e.g., software and their associated hardware and networks)
8. Provide application configuration instructions that support the prototype
9. Provide high-level logical data model

Table 2. Detailed SAP Design Related Activities

Detail SAP Design Related Activities
1. Assist EUIPO to refine SAP design standards and documentation
2. Update Business Blueprint
3. Create the detailed SAP design document with support from EUIPO from the business, process, functional and non-functional requirements and high-level design
4. Create design to contain security features in compliance with EUIPO security policies, including external and EUIPO role based security models.
5. Provide planned technology design that specifies all components, program modules, data stores, interfaces, interface components and associated operations procedures for the application
6. Document and present implementation options evaluated as required by the requirements document to support the EUIPO SDLC process
7. Document technical requirements, logical and physical data models
8. Develop and implement rigorous Unit Testing cases, with the goal of their reuse in subsequent Regression Testing
9. Define implementation and deployment policies, enhancement and project schedules, and staffing requirements to meet deployment and delivery requirements
10. Provide revised application development and implementation cost and schedule estimates

Programming/Development

This service includes the development and/or remediation of objects (e.g. workflow, reports, interfaces, conversions, enhancements, and forms) to support the SAP systems.

Any changes to standard objects in SAP modules or components which would jeopardise future upgrades of the sofware, are not permitted. Any exception must obtain prior authorisation from the EUIPO.

This service includes activities related to the programming fixes and enhancements of SAP and SAP-related products (e.g. Business Objects or Interfaces). This service ensures that the objects placed in

the production environment meet technical standards; provides job procedure documentation such as scheduling requirements and re-run procedures; establishes and adjusts the batch schedule; and repairs application defects. Expected to be done by the Programmer/Analysts.

The following are the minimum, but not limited to, activities that the Contractor is required to perform:

Table 3. Programming and Development Related Activities

Programming and Development Activities Related Activities
1. Review EUIPO's existing technical standards (e.g. naming conventions)
2. Recommend programming, development, and technical documentation policies, procedures, and standards in conformance to requirements where applicable
3. Establish overall programming and development schedule
4. Provide overall programming and development module delivery schedule for EUIPO acceptance
5. Perform all necessary programming, development, unit and string testing, scripting, configuring or customizing of application modules as required to develop and implement the design plans and specifications
6. Recommend modifications and performance-enhancement adjustments to system software and utilities based on EUIPO performance standards
7. Manage all programming and development efforts using industry-standard project management tools and methodologies, such as ABAP Workbench
8. Conduct predetermined development status reviews and provide written report on results to EUIPO

2.4.3.5. SAP integration and implementation services

This service includes configuration, customization and enhancement of existing SAP functionalities, with associated integration work; application, report and interface development; and data loading, rollout, integration, testing and training services.

The Contractor must have the required technology-specific capabilities described in this technical specification. However, value must be delivered beyond cost savings in the delivery of services, in the form of integrated business capabilities. Business integration focuses on the Contractor's ability to offer extensive integrated business capabilities in its SAP application management service and delivery organization.

The Contractor must be familiar with standard SAP integration tools and protocols, including Remote Function Call (RFC), Hana Cloud Integration (HCI) and Simple Object Access Protocol (SOAP)

2.4.3.6. Assistance to testing and installation

The Contractor must assist the Office or its service providers to install and test the SAP solutions delivered and solve any questions that may arise during installation and testing.

Although the Software Quality Control is provided by another service provider (refer to section *2.3.4 Quality and Monitoring)*, a dedicated EUIPO installation team (DevOps team) will perform the installation in EUIPO environments, following the instructions provided by the Contractor in the delivered documentation. The Contractor will be expected to assist both the DevOps and Quality teams with expert knowledge on the SAP software in order to perform their duties of testing and installation of the software in EUIPO environments. Refer to section *5.2 EUIPO SAP Technical Environments.*

The User Acceptance Test (UAT) is the validation mechanism for assessing new implementations and confirming with the business that they meet all the business's needs and comply with requirements

before the adaptations/modifications go into production. The User Acceptance Test (UAT) is carried out during the Acceptance Test phase by a series of EUIPO stakeholders. The Contractor's SAP Functional Consultant must assist the EUIPO stakeholders in conducting the User Acceptance Test, to ensure consistency with the requirements before the adaptations/modifications go into production.

The Contractor must prepare test scenarios that are written in business language and representative of the changes described in the requirements, so that the business stakeholders can execute them during the user acceptance test phase.

The Contractor will provide clarifications when needed and log and classify any defects identified at this stage.

At the end of this stage, the Contractor must produce a formal user acceptance test report and (if applicable) the number of logged issues or requests for change whenever the functionality has deviated from what was expected by the users.

The Contractor must also support the EUIPO when requirements analysis has not been previously performed. This is typically the case when a UAT is conducted for a corrective release and/or a technical migration (e.g. software version upgrade), where — given the nature of the changes — the analyst is not expected to participate in the requirements elicitation phase, but can be requested to conduct the UAT.

2.4.3.7. Innovation Services

The EUIPO requires the Contractor to deliver innovation services in support of the EUIPO stated objectives.

The Contractor must have a deep understanding of the industry, SAP technology and emerging opportunities for improvement.

Innovation strategy and progress should be reported and include:

- Initiative identification
- Expected benefits
- Overall approach to implementation
- Status of innovation initiatives

2.4.4. Services for Adaptive maintenance

Upon the Office's request, the Contractor must perform adaptive maintenance on the Office's SAP systems.

Adaptive maintenance covers all requests for enhancing and adapting existing functionality to improve the SAP's usability and applicability, or for extending the existing SAP applications with new functionality. It also includes all measures to ensure compliance of the SAP applications with modifications of the environment and underlying software, such as version upgrades which includes timely upgrading to supported versions of the product.

It will be the Contractor's responsibility to provide regular reports and planning to EUIPO in order to properly manage the right versions of SAP products, dependencies and the needed upgrades. The Contractor will take into account the standard administrative time required by the EUIPO and the IT processes as described in section *2.3.1 IT Processes: the "Software Development Lifecycle" Process (SDLC).*

Adaptive maintenance also provides enhancements for users, improvements in the documentation and recoding to improve performance, maintainability or other attributes of the SAP software.

Requests for Adaptive maintenance are managed by the EUIPO via the 'Requests for Change' procedure (Plan IT Investments — see Annex D) and are approved by the EUIPO's top management.

As an indicative figure, the number of Requests for Change implemented in the year 2016 is 7 for the whole EUIPO's SAP platform.

2.4.4.1. Types of Adaptive changes

The EUIPO classifies the adaptive changes to be made in three different categories:

- **Mandatory changes**. These are changes that must be made due to legislative changes or compliance. There are no priorities in this case, and these changes must be implemented on a certain date, usually fixed by directives or regulations.
- **Business continuity changes**. These are technical adjustments and hygiene factors needed to ensure ongoing business activities. These typically include renewal of hardware, or software version upgrades. Priorities are established based on a risk management view of initiatives. A certain percentage of all IT investments must belong to this category.
- **Continuous improvements.** These are improvements that are made to adapt business processes and improve functionalities in existing applications. Their priority is established based on the benefits achieved with each change, and usually only those changes providing a return on investment are implemented.

2.4.4.2. Managing an Adaptive maintenance release

The EUIPO may request the Contractor to implement modifications to a SAP system at any time, with a view to adapting its functions. This release may also include the correction of a malfunction that has resulted in the existence of low/medium/high priority incidents.

The Contractor must provide Business Analysis services for SAP Requests for Change, resulting in a formally approved requirements package and updated System documentation reflecting the adaptations or modifications introduced by the Request for Change.

The Contractor must warn the Office of any possible risk due to end of support by the vendor of any product/version used in our SAP systems, within a reasonable time and with sufficient information so as to allow the Office to complete a process of upgrade or migration.

The Contractor must continue to carry out contracted services relating to a particular SAP system (or group of systems) even if EUIPO chooses not to follow a vendor's recommendation for upgrade (in as much as the underlying product is not the source of the fault itself).

The Contractor will be given a bundle containing the description of each adaptation requested and the description of each incident that the EUIPO intends to solve. The Contractor will have to submit a proposal for the whole bundle, with a project plan and the detail of cost and effort associated specifically with each element in the bundle. A proposal for reporting must be agreed with the Office as indicated in section *3.9.1 Operational Reports.*

The Contractor must deliver the bundle in one single release, unless otherwise agreed with the Office, and not to deliver several releases, one per incident/change. If there are other high-priority incidents scheduled for the same release, then they must be bundled and delivered together, in order to attain a maximum of one release per system per go-live.

Modifications to one SAP system will often require modifications to other systems in order to accomplish the new business functionality. In turn, those modifications may entail further modifications to other systems, etc. For as long as the Contractor is maintaining all those systems, the Contractor must deliver them all, with their integrations properly tested, along with the system being enhanced. In the case where a third party is maintaining some of the affected systems, the EUIPO will enter into an agreement with that third party in order to perform the required modifications; however, the Contractor in charge of the main enhancement must deliver everything, including the scope prepared by the third party after performing proper integration testing.

The Contractor must have the capacity to carry out several adaptive maintenance releases for different modules in parallel. The Contractor must be capable of providing the services ordered rapidly, with a high degree of quality. The Contractor must carry out the work as agreed according to the given specifications, respecting the delivery deadlines and the overall cost for the work.

The Contractor must communicate all updates at least daily to EUIPO's code repository. Updates to documentation and software quality activities must accompany all maintenance activities. Adaptive changes must always be reflected in documentation and software quality artefacts. However, the Contractor may be required to improve these areas, even in the absence of software changes.

2.4.4.3. Planned Software Upgrades/Patching

Planned software upgrades/ patching activities include but are not limited to:

- Upgrade to a new software release
- Implement Support Packages
- Conflict Resolution Transports

The following are the minimum, but not limited to, activities that the Contractor is required to perform.

Table 4. Planned Software Upgrades / Patching Related Activities

Service Planned software upgrades/patching
1. Co-ordinate modification adjustment
2. Conduct modification adjustment
3. Conduct Testing in development system and confirm test completion
4. Conduct Acceptance Test in test system and confirm test completion
5. Conduct final check in Production system
6. Confirm proper operations via mail

2.4.4.4. Technology Refreshment and Replenishment

Technology Refreshment and Replenishment (TR&R) are the activities associated with refreshing the SAP infrastructure on a continual basis to ensure that the system components stay current with evolving industry standard technology platforms.

The following are the minimum, but not limited to, activities that the Contractor is required to perform.

Table 5. Technology Refreshment and Replenishment Related Activities

TR&R Related Activities
1. Recommend and establish TR&R life-cycle management policies, procedures and plans appropriate for support of EUIPO business requirements
2. Manage, maintain, and update as necessary, the approved TR&R policies, procedures, and plans
3. Perform the necessary tasks required to fulfill the TR&R plans
4. Provide management reports on the progress of the TR&R plans

2.4.5. Services for Corrective maintenance

2.4.5.1. Priority Corrective Maintenance

Priority corrective maintenance covers incidents that seriously affect the services provided by the SAP systems. Incidents are either discovered during the use of the productive system by the end-users, by the administrators who assure the operation of the SAP system or through automatic system monitoring. In such an event, the EUIPO will contact the Contractor with all information gathered on the incident. Priority is assigned by the EUIPO.

The primary task of the Contractor in the event of a serious incident is to restore service either by resolving the problem, or by providing a workaround within the shortest time frame possible, to minimise disruption to the business.

In the event that a workaround is applied, the original problem must be analysed and a solution proposed as soon as possible. Additionally, the Contractor must be available to lend technical support to the production administrators.

A **Critical-priority incident** has the highest priority of all incidents. It must be fixed within a very short time frame, within 24 hours.

When required, a specific patch must be supplied by the Contractor in order to fix the incident. This patch is expected to be installed without prior regression testing; therefore, it must target precisely the change to restore service. The documentation delivered with the patch must be limited to what is necessary for installation: short release notes, installation instructions and a brief description of a test case to prove the service is restored.

The Contractor must inform proactively, at least twice a day, or to a timetable agreed with the EUIPO, on the progress and/or delays to the fixing of a critical incident.

A **High-priority** incident has a lesser impact than a critical incident but the Contractor must deliver a fix within a specified SLA, 10 days, and always in accordance with a schedule agreed with the EUIPO. Usually the period between the priority being raised to High and the go-live of the patch will be no more than 30 calendar days.

2.4.5.2. Non-priority Corrective maintenance

Non-priority corrective maintenance covers analysis and development of patches for incidents of a medium/low priority.

Analysis must be carried out systematically for all incidents referred to the Contractor — the objective is to provide advice to the user on how to work around the incident and to inform the EUIPO of the proposals and options for correction. Any development of patches for non-priority incidents must be performed only after an agreement has been reached between the Contractor and the EUIPO.

The Contractor will agree the content of a release to address corrective changes with the EUIPO. The release must clearly describe all the incidents that are addressed with the bundle delivered.

The Contractor must have the capacity to carry out in parallel several corrective maintenance releases for different SAP systems. The Contractor must be capable of providing the services ordered rapidly and with a high degree of quality. The Contractor must carry out the work as agreed, respecting the delivery deadlines.

All software deliveries must meet the defined quality criteria as described by the Software Development Life Cycle process (Annex C). These criteria include (but are not limited to) the evidence of successful tests and other quality controls, updates to documentation and release scripts.

2.4.5.3. Incident Management

The Contractor will provide Incident Management Services in the form of Tier 2 and 3 Support. SAP solution analysts will investigate and diagnose Level 2 and Level 3 incidents transferred from the Service Desk.

This includes supporting activities associated with restoring normal application operation as quickly as possible and minimizing the adverse impact on business operations of EUIPO so that the best possible levels of service quality and availability are maintained.

The primary activities of Incident Management include:

- Incident classification and initial support
- Incident investigation and diagnosis
- Incident escalation
- Incident resolution and recovery
- Incident ownership, monitoring, tracking, and communication

The Contractor shall provide knowledge capture and transfer regarding Incident resolution procedures to support the objective of increasing the number of Incidents capable of being resolved by Tier1 Support.

Transition to the Contractor of Services for Incident Management will start on the expiry of the contract with the incumbent Contractor.

2.4.5.4. Problem Management

The Contractor must provide Problem Management Services to minimize the adverse impact of Incidents on EUIPO's business caused by the root cause of Problems within SAP to prevent recurrence of Incidents by determining the Problem causing such Incidents so that Contractor can initiate actions to improve or correct the situation.

Contractor shall provide reactive Problem Management Services by diagnosing and solving Problems in response to one or more Incidents that have been reported through Incident Management and provide proactive Problem Management to identify and solve Problems and known errors before Incidents occur in the first place, including performing predictive analysis activities, where practical, to identify potential future Problems, develop recommended mitigation plans, and implement approved corrective mitigation actions and processes. Contractor will also maintain, update and disseminate information about Problems and the appropriate workarounds and resolutions, so that the number and impact of Incidents occurring within SAP is reduced over time.

The primary activities of Problem Management include:

- Problem control
- Error control
- Proactive prevention of Problems
- Identifying trends that could result in Incidents or Problems
- Performing major Problem reviews
- Providing Problem Management reporting

The Contractor must provide Problem Management Services for all Problems that are determined to be related to the SAP system set forth in Section *6 Description of EUIPO SAP System*.

The Contractor must also provide overall coordination and assistance to EUIPO and third-party Contractors in performing their Problem Management functions related to the SAP System set forth in Section *6 Description of EUIPO SAP System*.

Transition to the Contractor of Services for Problem Management will start on the expiry of the contract with the incumbent Contractor.

2.4.6. Services for Application Operations

Application operations services are the activities associated with the provisioning and day-to-day management of the installed systems and software environment, providing a stable SAP infrastructure and effectively and efficiently performing procedures to ensure services meet SLA targets and requirements.

Transition to the Contractor of Services for Application Operations will start on the expiry of the contract with the incumbent Contractor.

The Contractor will utilise the best-practices procedures, content, services, training and tools for end-to-end solution operations, as defined in the Run SAP methodology. The Run SAP methodology focuses on application management, business process operations and administration of SAP solutions. The Contractor must have an operational SAP Competency Center (that complies with EU data protection directives), and be able to demonstrate that it is sufficiently established to enable a successful support operation.

2.4.6.1. SAP Management and Administration

SAP Management and Administration includes maintaining the overall efficient operation of the installed SAP environment, such as system start/stop, monitoring system jobs, notifying staff when jobs fail or encounter problems, responding to console messages, correcting production failures, and print jobs.

The following are the minimum, but not limited to, activities that the Contractor is required to perform.

Table 6. SAP Management and Administration Related Activities

SAP Management and Administration Related Activities
1. Propose Operations policies, procedures & standards that meet SAP best practices and EUIPO requirements
2. Adapt Operations policies, procedures and standards, and develop operational documentation requirements (e.g. Contact Lists, Operations scripts etc.)
3. Identify Enterprise System Management tools to monitor the SAP infrastructure that meet SAP best practices and EUIPO requirements
4. Coordinate with EUIPO to deploy Enterprise Management tools to monitor the SAP infrastructure
5. Install and configure Enterprise Management tools in such a fashion that problems, issues and events are proactively identified, reported and resolved according to prescribed SLAs
6. Manage hardware, software, peripherals, services and spare parts to meet SLAs, minimize down time and minimize EUIPO resource requirements
7. Interface with EUIPO Help Desk for Incident & Problem Management activities
8. Interface with SAP Center of Expertise
9. Provide Level 2 and Level 3 support as required (for system software and Basis)
10. Provide and support electronic interfaces between the SAP environment and external systems
11. Develop and provide operational reports (Daily, Weekly, Monthly) that provide status of operational activities, production issues, and key operational metrics. See section *3.9 Reporting.*
12. Ensure ongoing capability to recover archived data from media as specified (backwards compatibility of newer backup equipment)
13. Test backup media to ensure incremental and full recovery of data is possible and ensure service component integrity as required or requested by EUIPO
14. Recover files, file system or other data required from backup media as required or requested by EUIPO
15. Conduct disaster recovery testing per policies and procedures
16. Provide EUIPO with a copy of or access to any vendor-supplied documentation (including updates thereto)
17. Support applications simulation-to-production migration activities (e.g. monitoring to be validated in simulation before being implemented in production)
Monitoring Operations Related Activities
1. Propose Monitoring policies, procedures & standards that meet SAP Basis best practices and EUIPO requirements
2. Implement agreed monitoring policies, procedures & standards
3. Monitor SAP Basis components as agreed in Monitoring policies, procedures & standards
4. Provide and Monitor SAP Early Watch and Going Live Check as required
5. Monitor SAP Early Watch Alert on a weekly basis

6. Provide preventive measures for proactive monitoring and self-healing capabilities to limit outages that impact service delivery
7. Monitor systems as scheduled and take all necessary actions accordingly to system messages or above mentioned reports (e.g. SAP Early Watch Alert, …)
8. Monitor batch & job scheduling
9. Proactively monitor table spaces
10. Monitor defined interfaces
11. Resolve or assist in resolving application problems in accordance with Service Level Agreements (SLAs). Escalate as required.

This service also covers the implementation by the Contrator of EUIPO **Standard Changes** to the SAP platform. Standard Changes are defined as a modification to the SAP system that is recurrent, well known, has been proceduralized to follow a pre-defined, relatively risk-free path, and is the accepted response to a specific requirement, where EUIPO has granted approval in advance of implementation.

The Contractor must implement the Standard Changes as requested by EUIPO following the same release management procedures described in Section *5.2 EUIPO SAP Technical Environments*. EUIPO maintains a catalogue of such Standard Changes, which could be delivered rapidly through configuration (or administration depending on the system).

2.4.6.2. SAP Basis Support

SAP Basis Support includes the scheduling of production jobs, interface management, maintaining the SAP databases by performing systematic inspections, detections, and correction of failures. This would encompass entering support and enhancement packs, patches, and monitoring EarlyWatch alerts and Solution Manager.

The following are the minimum, but not limited to, activities that the Contractor is required to perform.

Table 7. SAP Basis Support Related Activities

SAP Basis Support Related Activities
1. Propose SAP Basis Support procedures that meet agreed Operations policies, procedures & standards
2. Provide agreed Basis Support services
3. Install SAP Add-Ons
4. Maintain and monitor SAP Add-Ons
5. Maintain the End-to-End (E2E) services, e.g. ST-API, Plug-In, SDCC
6. Create & maintain development classes
7. Register Developer Keys
8. Provide short analysis of dumps and report to EUIPO according to agreed procedure
9. Analyze if the request is in line with the current infrastructure and architecture
10. Execute the request
11. Coordinate and perform SAP Basis Services according to agreed procedure
12. Monitor Middleware (workflows, RFC, IDOCs, ALE, in- and out-bound queues, …) and report to EUIPO according to agreed procedure

13. Monitor certificate expiration, JCO connections and propose solution in case of alert
14. Manage and monitor SLD availability and propose solution in case of alert
15. Propose long term improvements for recurrent alerts
16. Implement improvements
17. Perform any other SAP system-oriented tasks as they may appear in regular operation and/or with new SAP releases
18. Install and maintain system parameters according to SAP Best Practices
19. Organize SAP system processes (Operation modes, Pool threads, …) according to SAP Best Practices
20. Monitor long running jobs or processes, shortage of available processes, … and report to EUIPO according to agreed procedure
21. Install, configure and maintain the transport route, domain, …
22. Administrate Transport system (TMS & CTS+)
23. Create, Release and Import Transports
24. Monitor when a wrong transport and report to EUIPO according to agreed procedure
25. Maintain OS directories
26. Archive and/or remove old files in the OS directories according to agreed procedures
27. Maintain & monitor print spool
28. Install and maintain job scheduling tool
29. Define job scheduling plan for non SAP technical jobs
30. Define job scheduling plan for SAP technical jobs
31. Schedule and monitor jobs
SAP Authorization Management Related Activities
1. Maintain SAP Authorizations
2. Maintain security profiles approved by the business used to govern access, including adding new users to the system, granting authorization to use a set of services and the deletion of employees leaving the enterprise or being assigned to new duties in the enterprise.
System Software Administration Related Activities
1. Develop procedures for performing systems administration that meet requirements and adhere to defined policies
2. Set up and manage user accounts, perform access control, manage files and disk space (for in scope OS and system software) in accordance with EUIPO requirements
3. Perform system or component configuration changes necessary to support computing services

2.4.6.3. Database Administration

The Contractor will provide the database administration support services and activities associated with the maintenance and support of existing and future SAP databases, including SAP certified add-ons and separate databases. This includes responsibility for managing data, namely data set placement, database performance, and data recovery and integrity at a physical level. The following table identifies the Database Administration related activities.

Database Administration includes designing, evaluating, creating and maintaining databases used by the enterprise. This function includes the physical database administration activities defined as monitoring, loading, installing, patching, and maintaining the file structure and user privileges for the database management software and the logical database activities such as designing, architecting,

creating tables and fields, performance tuning, enhancing, restructuring, or modifying data contained within the database.

The following are the minimum, but not limited to, activities that the Contractor is required to perform.

Table 8. Database Administration Related Activities

Database Administration Related Activities
1. Provide security administration including managing role and user database permissions in accordance with EUIPO policies as needed based on EUIPO procedures
2. Perform database restores from export dumps or backups
3. Create/refresh development/test/QA databases from production data
4. Execute authorization change requests
5. Execute database creation, configuration, upgrades, patches and refresh
6. Execute all database system level changes (initialization parameters)
7. Execute all schema changes for all instances
8. Execute database data definition requirements for applications (MAC for tables, triggers, attributes, etc.)
9. Maintain documentation for all database instance parameters and system settings
10. Define and execute database performance and tuning scripts and keep database running at optimal performance for EUIPO's workload
11. Implement and administer appropriate database management tools across all database instances. Performance metrics and historical data must be available for trending and reporting over a minimum of 6 months.
12. Identify locking conflicts, latch contention, rollback requirements, etc. for all database instances
13. Report locking conflicts, latch contention, rollback requirements, etc. for all database instances and resolve as required
14. Provide technical assistance and subject matter expertise to EUIPO applications developers and third-party vendor support as requested by EUIPO
15. Monitor database and generate automatic trouble tickets for problems
16. Open, track, and manage to resolution all database problems
17. Patch database software as needed according to established development to QA to production life cycle
18. Manage database communication software configuration, installation and maintenance
19. Provide database storage management
20. Execute EUIPO's database backup and recovery policies

2.4.6.4. Performance Management

Performance Management services are the activities associated with tuning the SAP environment and services for optimal performance. The following are the minimum, but not limited to, activities that the Contractor is required to perform.

Table 9. SAP Performance Management Related Activities

1. SAP Performance Management Related Activities
2. Develop and document SAP performance requirements
3. Develop and document SAP performance management procedures that meet requirements and adhere to defined policies
4. Perform tuning of the SAP environment and services to maintain optimum performance in accordance with Change Management procedures
5. Manage SAP system resources (e.g., devices and traffic) to meet defined availability and performance SLAs
6. Provide regular monitoring and reporting of SAP performance, utilization and efficiency (e.g. proactive system monitoring, SAP EarlyWatch)
7. Proactively evaluate, identify and recommend configurations or changes to configurations (e.g. hardware usage, index creation or reorganization, ABAP program analysis, …) which will enhance performance
8. Develop SAP improvement plans as required to meet SLAs
9. Implement improvement plans and coordinate with third parties as required
10. Provide technical advice and support to the in-scope SAP services as required

Monitoring describes all activities associated with the ongoing checking of operations of data quality and performance in any applications, jobs or workflows in scope.

In case that problem occurs, the Corrective Maintenance procedures will be initiated.

The following are the minimum, but not limited to, activities that the Contractor is required to perform.

Table 10. Monitoring Related Activities

Service Monitoring
1. Monitor Batch jobs, workflows, Application monitors regularly
2. If problem occurs, open the ticketing system a EUIPO and enter the details of the problem in the appropriate component
3. Support problem analysis as defined in ANNEX E: Manage incidents and problems:
4. Assign resources to problem message
5. Investigate problem and document suggested solution
6. Flag if problem cannot be solved within maximum processing time (MPT)
7. If change in development system is needed then get approval from SL
8. Solve problem, if necessary carry out work using development system
9. Document investigation and solution
10. Developer test on SAP development system
11. Transport to SAP test system
12. Inform EUIPO about problem solved and readiness for user acceptance test
13. Transport to SAP production system and inform Contractor
14. Ticket closed and selection of the correct problem category as defined in *ANNEX E: Manage incidents and problems*

3. FRAMEWORK CONTRACT IMPLEMENTATION

3.1. Service delivery model

The Contractor will be required to set up a service delivery model to ensure the following:

- the clear definition of interfaces, roles and responsibilities (see section *3.2 Interfaces, roles and responsibilities*), as well as follow-up relating to the service delivery management of the specific contracts within the Framework Contract implementation;
- an effective communication process between the EUIPO and the Contractor;
- the preparation of an offer, between the receipt of a request and submission of the Contractor's response to the EUIPO, which is in line with the Framework Contract conditions and deadlines;
- the application of a mechanism to ensure the efficient, effective and timely execution of the services requested;
- the maintenance and continuous improvement of the competence of the Contractor's resources;
- the installation of a mechanism to ensure that experts involved acquire the relevant knowledge for efficient execution;
- a mechanism to control the activities and services to be performed and provided to the EUIPO;
- the measurement and monitoring of Key Performance Indicators;
- the execution and presentation of a risk analysis, including a contingency plan, related to the compliance of the delivered services;
- compliance with the quality, budget, deadline and performance requirements included in the Specific Contracts.

3.2. Interfaces, roles and responsibilities

On the Contractor's side

- The Contractor must appoint a person or persons as **Framework Contract Manager(s)** to be in charge of the Framework Contract and responsible for all contractual relations with EUIPO. The Framework Contract Manager(s) must be reachable by EUIPO during working hours. In the event of absence, a backup person must be designated.
- The appointed **Framework Contract Manager(s) must be** authorised to sign contracts and any amendments thereto.
- The Contractor must appoint a person or persons as Servi**ce Manager(s),** to assume the highest responsibility for daily operational contract execution as well as the technical leadership for the implementation of the contract.
- The Contractor must designate a **contact person**, and at least one backup person in the event of absence, to take care of all requests for offers made by the EUIPO.
- The Contractor must provide a single contact for communications with the EUIPO, with a fax number, telephone number, postal address and email address.
- The Contractor must communicate the list of all persons in charge of customer relationship management with the services of the EUIPO.

On the EUIPO's side

- The EUIPO's Vendor Management and Economic Files Service is responsible for the legal and administrative **follow-up of the Framework Contract**. It will act as the contact point for all general legal aspects linked with the Framework Contract and the Specific Contracts.
- The EUIPO's authorising officer by delegation or authorised representative signs **the Framework** Contracts and all amendments thereto.
- The EUIPO's authorising officer by delegation or authorised representative signs **Specific Contracts** and all amendments thereto.
- EUIPO's authorising officer by delegation or authorised representative assumes the **highest responsibility for day-to-day operational execution of the contract**.
- EUIPO's **service manager** monitors contract implementation as regards technical matters.
- EUIPO will appoint officials to be in charge of the **technical follow-up** of the contract and the monitoring of task execution. They are the primary **contact persons** for all procedural and reporting aspects linked to the Framework and Specific Contracts, following the provisions set out in the relevant tender documents.

3.3. Ordering

Services will be provided on the basis of one of the following four contract modalities.

- Time & Means orders. These are means-oriented orders, in which a number of days for defined profiles required for the provision of the specific domain of the services are ordered. These orders are executed on the EUIPO's premises.
- Proximity Time & Means orders. These are means-oriented orders, in which a number of days for defined profiles required for the provision of the specific domain of the services are ordered. These orders are executed near-site to the EUIPO's premises.
- Fixed-price orders. These are result-oriented orders, in which service provisions, project needs, scope and expected deliverables are clearly defined and ordered for a fixed price.
- Quoted Time & Means orders. In these, a number of days for defined services are ordered.

The ordering process is initiated by the authorised staff member at the EUIPO, who sends a 'Request for Offer' (RfO) by email or other means to the Contractor, describing the required service.

On receipt of the 'Request for Offer', the Contractor must, within a given time period, present a detailed proposal/offer with precise details for each item of work to the EUIPO for the execution of the request or, alternatively, decline the request. The process culminates in the signature of a Specific Contract or in the withdrawal of the RfO. An example of an RfO is attached in Annex III - Draft Framework Contract of the tender dossier.

The Contractor must have the capacity to carry out several individual orders in parallel and provide the requested services ordered within the assigned time and quality parameters.

3.4. Contract modalities

3.4.1. Time & Means (TM) orders

TM orders are executed on the EUIPO's premises (i.e. on-site). In a TM order the EUIPO specifies the expected workload (e.g. number of person-days) and its specific needs for requested profiles.

The following conditions apply to TM orders.

- The Contractor must present offers that meet the requirements as specified in the RfO and associated documents. The Contractor's proposed staff must match the requested profile description and the specific needs indicated in the RfO.
- The Contractor must be able to propose per requested profile at least two (2) qualified candidates to choose from for the requested profile.
- CVs must be presented using the Europass Curriculum Vitae (CV) format. All information indicated in the CV must be verified and validated by the Contractor.
- Proposed candidates must be available for interviews with the EUIPO, if it so requests, in order to validate the technical competence of the candidates. Interviews will preferably take place on the EUIPO's premises, although other options would include videoconferences or telephone interviews.
- Successful candidates must be available for the start date of the Specific Contracts.
- At the EUIPO's request, the Contractor must present new candidates to replace any persons unable to carry out the specified tasks to the required standards. The successful replacement candidate will be given sufficient training during a handover period of at least 10 working days, so that he or she will be operational immediately when the original person is withdrawn. Any such replacement and training, if required, will be carried out at no additional cost to the EUIPO.
- The Contractor must give notice to the EUIPO of 1 calendar month in the event of a change to the personnel in the team. Approval for such a change will only be granted in the case of justified and imperative reasons by means of a written authorisation from the EUIPO. If the above requirement is not met, the EUIPO will reserve the right to put on hold any invoices related to efforts rendered during the last 20 days of service provision. The selected replacement will be given sufficient training during a handover period of at least 10 working days, so that he or she will be operational immediately when the original person is withdrawn. Any such replacement and training, if required, will be carried out at no additional cost to the EUIPO.
- If the EUIPO so requests, the Contractor may be required to present candidates to temporarily replace team members during holidays or other periods of planned absence. The successful replacement candidate will be given sufficient training during an adequate handover period of at least 10 working days, so that he or she will be operational immediately when the original person goes on leave. Any such replacement and training, if required, will be carried out at no additional cost to the EUIPO.
- The Contractor must ensure the continuity of service required for the good performance of the Specific Contracts. Under no circumstances may the Contractor invoke a change in team members to justify any failure to comply with contractual obligations, in particular compliance with deadlines and quality of service.

- Invoicing is based on the number of days delivered. The minimum unit is half a person-day and it will be charged as 50 % of one person-day.
- The Contractor's offer must be based on unit prices per profile. The unit prices must include all the general expenses incurred, as well as those directly linked to the performance of the services, such as management and coordination costs, social security contributions, EUIPO expenses, travel, accommodation and subsistence expenses, etc.
- Travel costs to the normal location(s) of delivery in the European Union, as mentioned in the Specific Contract (on-site, off-site, near-site or third-party premises), are not reimbursed, but must be included in the daily profile prices applicable for each of the four location types.
- In the event that the EUIPO requires the Contractor's resources to travel to third-party locations outside the European Union, the third-party daily profile prices will apply and, in addition, travel expenses will be reimbursed up to a maximum of EUR 450 per trip, per person. For the purposes of this reimbursement, the Contractor's offer must detail the travel costs of these specific trips where appropriate. These travel costs will be reimbursed based on the presentation of original supporting documents, such as aeroplane/train tickets, boarding cards.

3.4.2. Proximity Time & Means (PTM) orders

PTM orders are executed near-site to the EUIPO's premises so as to allow close operational contact between the EUIPO and the service providers.

In a PTM order, the EUIPO specifies the expected workload (e.g. number of person-days) and its specific needs for requested profiles.

The following conditions apply to PTM orders.

- The Contractor must present offers that meet the requirements specified in the RfO and associated documents. The Contractor's proposed staff must match the requested profile description and the specific needs indicated in the RfO.
- The Contractor must be able to propose per requested profile at least two (2) qualified candidates to choose from for the requested profile.
- CVs must be presented using the Europass Curriculum Vitae (CV) format. All information included in the CV must be verified and validated by the Contractor.
- Proposed candidates must be available for interviews with the EUIPO, if it so requests, in order to validate the technical competence of the candidates. Interviews will preferably take place on the EUIPO's premises, although other options would include videoconferences or telephone interviews.
- Successful candidates must be available for the start date of the Specific Contracts.
- At the EUIPO's request, the Contractor must present new candidates to replace any persons unable to carry out the specified tasks to the required standards. The successful replacement candidate will be given sufficient training during a handover period of at least 10 working days, so that he or she will be operational immediately when the original person is withdrawn. Any such replacement and training, if required, will be carried out at no additional cost to the EUIPO.
- The Contractor must give notice to the EUIPO of 1 calendar month in the event of a change to the personnel in the team. Approval for such a change will only be granted in the case of

justified and imperative reasons by means of a written authorisation from the EUIPO. If the above requirement is not met, the EUIPO will reserve the right to put on hold any invoices related to efforts rendered during the last 20 days of service provision. The selected replacement will be given sufficient training during a handover period of at least 10 working days, so that he or she will be operational immediately when the original person is withdrawn. Any such replacement and training, if required, will be carried out at no additional cost to the EUIPO.

- If the EUIPO so requests, the Contractor may be required to present candidates to temporarily replace team members during holidays or other periods of planned absence. The successful replacement candidate will be given sufficient training during a handover period of at least 10 working days, so that he or she will be operational immediately when the original person goes on leave. Any such replacement and training, if required, will be carried out at no additional cost to the EUIPO.
- The Contractor must ensure the continuity of service necessary for the good performance of the Specific Contracts. Under no circumstances may the Contractor invoke a change in team members to justify any failure to comply with contractual obligations, in particular compliance with deadlines and quality of service.
- Invoicing is based on the number of days delivered. The minimum unit is half a person-day and it will be charged as 50 % of one person-day.
- The Contractor's offer must be based on unit prices per profile. The unit prices must include all the general expenses incurred, as well as those directly linked to the performance of the services, such as management and coordination costs, social security contributions, EUIPO expenses, travel, accommodation and subsistence expenses, etc.

3.4.3. Fixed Price (FP) orders

In an FP order, the EUIPO specifies the deliverables corresponding to the work to be delivered within defined time frames and at a fixed price.

The following conditions apply to FP orders.

- The Contractor must present proposals that meet the requirements as specified in the RfO form and associated annexes (specifications, work packages, deliverables, activities, deadlines, etc.).
- The offer must be in line with the requirements.
- Work is usually carried out on the Contractor's premises (i.e. off-site or near-site) but may be undertaken on-site or at a third-party location if so requested by the EUIPO. The Contractor must provide all the necessary infrastructure on its premises for the successful completion of the work.
- The deliverables must be delivered in a timely manner and must conform to the specifications as described in the Specific Contract drafted for this purpose.
- The Contractor's offer must be inclusive of all costs.
- The offer must include a project and work organisation plan and give details of the proposed activities, the team structure, the complete list of profiles and their names, responsibilities and workload (person-days), the place of work of the team members and the professional relationship of the team members with the Contractor (permanent/non-permanent), etc.

- The EUIPO may request the Contractor to provide CVs of the proposed team if the Office considers this appropriate, in order to carry out an ex ante assessment of the services to be provided by the Contractor prior to acceptance.
- Defined/pre-agreed methodologies have to be used for workload estimation. As a result, the financial offer is based on an estimate of the number of days per profile and service element (e.g. documents to be delivered, workshops) and the work is to be delivered within the defined time frames.
- Meetings with the Contractor's team may be required by the EUIPO without additional costs and at short notice (i.e. 3 working days for off-site projects, 1 working day for near-site/on-site projects):
    - for clarifications or Specific Contract implementation purposes;
    - at the place of performance or by means of videoconference.
- Invoicing is strictly based on acceptance of deliverables by the EUIPO, independent of real workload.
- A warranty applies to the deliverables accepted by the EUIPO (see section 1.12 of the Draft Contract, Special Conditions).

3.4.4. Quoted Time & Means (QTM) orders

In a QTM order, the EUIPO specifies the activities to be undertaken and the time to be devoted to undertaking each of them.

The following conditions apply to QTM orders.

- The Contractor must present proposals that meet the requirements as specified in the Request Forms and associated documents (e.g. technical annex with description of activities).
- The Contractor's offer must include a technical proposal based on the EUIPO's requirements.
- If the EUIPO so requests, the offer must also include a project plan.
- The Contractor's offer must contain detailed information on profiles, roles, activities, responsibilities and workload (activity-days or person-days).
- The Contractor's staff must match the requested profile description.
- The EUIPO may ask the Contractor to provide CVs of the proposed team members to monitor and verify that the Contractor's team for a given activity includes the right profile.
- The work is usually carried out off-site or near-site, generally on the Contractor's premises but may also be executed on-site or on third-party premises at the request of the EUIPO. The Contractor must provide all the necessary infrastructure on its premises for the successful completion of the work.
- EUIPO may require the Contractor to arrange meetings at the location of delivery with members of the Contractor's team without any additional cost to the EUIPO.
- Invoicing is strictly based on acceptance of deliverables by the EUIPO, independent of real workload.
- The Contractor's offer must be based on unit prices per profile proposed by the Contractor. The unit prices must include all the general expenses incurred, as well as those directly linked to the performance of the services, such as management and coordination costs, social security contributions, EUIPO expenses, travel, accommodation and subsistence expenses, etc.

- Travel costs to the normal location(s) of delivery in the European Union, as mentioned in the Specific Contract (on-site, off-site or third-party premises) are not reimbursed, must be included in the daily profile prices applicable for each of the three location types.
- In the event that the EUIPO requires the Contractor's resources to travel to third-party locations outside the European Union, the third-party daily profile prices will apply and, in addition, travel expenses will be reimbursed up to a maximum of EUR 450 per trip, per person. For the purposes of this reimbursement, the Contractor's offer must provide details of the travel costs of these specific trips where appropriate. These travel costs will be reimbursed based on the presentation of original supporting documents, such as aeroplane/train tickets, boarding cards, etc.

3.5. Delivery for all types of orders

3.5.1. Languages

The required services must be provided in English of at least level C1, according to the Common European Framework of Reference for Languages for those profiles and services requiring direct interaction with the EUIPO.

Any additional requirements regarding other languages will be defined in the Request Forms and/or associated documents.

3.5.2. Place of performance

Depending on the specifications in the RfO and subsequently on the terms of the resulting Specific Contract, the Contractor will perform the contracted services at one or more of the following locations.

- On-site (on the EUIPO's premises).
- Off-site (on the Contractor's premises).
- Near-site. In this case, the services will be performed on premises of the Contractor located within an operational distance of the EUIPO's premises so as to be able to be on-site within a **maximum of 2 hours**. Two hours is to be understood as the maximum time allowed from the time of the request for on-site presence by the EUIPO to the arrival time on the EUIPO premises.
- On third-party locations within the European Union, for instance, in one or more of the national IP offices.

The choice of the place of performance, based on the assessment of needs and the specificities of each Specific Contract, lies with the EUIPO at the moment of issuing each RfO.

In the event that the service has to be carried out on the EUIPO's premises in Alicante (Spain), the EUIPO will charge the Contractor a fixed cost of EUR 9 (nine euros) per day to provide the necessary EUIPO infrastructure. This may include EUIPO space, furniture, PC, printer, landline telephone, specific software and security requirements (compatible with the EUIPO internal tools).

Stationery and mobile equipment will not be covered. The personnel providing the service will use only the standard software packages that are in use at the EUIPO. No other software may be installed or used without prior written authorisation from the EUIPO. The cost for this infrastructure, fixed at EUR 9 (nine euros) per person per working day, will be borne by the Contractor. At the time of the ordering

process, when the Contractor presents its detailed proposal/offer, it will deduct this cost directly from its daily on-site unit prices.

Tenderers' attention is drawn to the fact that the EUIPO provides its statutory staff with complimentary facilities, such as the use of the gym, snacks and drinks, parking, transportation by the EUIPO bus, etc. In some cases the use of these complimentary facilities could also be extended to external personnel, such as the Contractor's staff, subject to the payment of specific fees. Tenderers must be aware that in the event of their being awarded an EUIPO contract, the award and execution of a contract does not entail any right to free use of those facilities. Therefore, any tenderer that might be selected as a Contractor is kindly invited to inform its staff that fees might be payable for such facilities. The EUIPO waives all responsibility for any damages incurred by Contractors in respect of their staff in relation to use of those facilities. Furthermore, tenderers that may be selected as Contractor(s) are hereby informed that they may be held jointly and severally liable for the payment of the fees concerned as well as for any other damage sustained by the said facilities as a result of use by their staff.

For off-site and near-site services, the Contractor must provide all the necessary infrastructure on its premises for the work to be carried out successfully. This infrastructure must be as similar as possible to that of the EUIPO, running the same versions of software and similar hardware equipment, so that risks linked to the transfer of applications from the Contractor's premises to the EUIPO Data Centre are minimised. The Contractor will also maintain updated copies of EUIPO data so that the tests are carried out with information as similar as possible to that in production. All security measures to protect this information and developments will be the Contractor's responsibility.

For off-site and near-site services, the Contractor must include the status of off-site and near-site infrastructure in the weekly operational reports, comparing it with the EUIPO's in order to ensure full alignment between both environments. This report must also include the date of the last refresh of data in the Contractor's premises, so that the EUIPO can request an update of this data if it becomes obsolete. Any security breach in the Contractor's infrastructure that could have an impact on the EUIPO's development or data must be reported immediately, on the next working day following the event.

3.5.3. Service hours

Every year the EUIPO calendar is approved by the EUIPO's Executive Director. This calendar defines all Saturdays and Sundays as non-working days, plus a number of bank holidays (17 in previous years, although this is subject to change). The remaining days of the year are all considered normal working days.

The service must be performed during the working hours of the EUIPO, that is to say, between 7.30 and 19.30 (or equivalent working hours, in the event that the work is not performed on the EUIPO's premises). From 9.30 to 12:30 and from 15.00 to 16.00 are core hours, during which all service providers must be present at their workplace. Absences during core hours must be occasional only and must be authorised by the EUIPO.

Under exceptional circumstances (installations of new systems, critical corrective maintenance, business continuity operations, etc.), key profiles may be requested to be on call after 19.30 or during weekends and EUIPO holidays. On-call status will not give rise to any compensation and must be included in the daily rate. Should an intervention be needed outside working hours, either remotely or on-site, then it may be invoiced as extra work according to the rate laid down in Annex 18.

Due to the particular nature of the operations services described in Section *2.4.6 Services for Application Operations*, service hours must cover the <hours*days*weeks> slots : 15x6x52, from

08:00 to 23:00 (20:00 on Saturdays). The tenderers in their financial offer must take into account the above service hours when proposing the daily rates.

3.6. Acceptance of work

For Specific Contracts, the EUIPO's official acceptance of the work carried out will take place at milestones during and at the end of each Specific Contract execution, applying the procedure specified in the Specific Contract. Invoices will only be issued for fully executed Specific Contracts and tasks that have been completed and duly accepted by the EUIPO.

3.7. Training

The Contractor must maintain its knowledge at an appropriate level in order to guarantee proper performance of the services concerned.

As a general rule, since the Contractor's staff is supposed to be fully operational and trained from the very beginning of the service, the EUIPO will not be involved in the training of the Contractor's staff. However, if the EUIPO considers, on the basis of the services provided, that one or more members of the Contractor's staff have insufficient professional knowledge, it may require the contractor to train them to be able to deliver the service. Any such training will be carried out at the Contractor's expense. This option is without prejudice to the EUIPO's rights to request a replacement of the member of staff concerned and/or, as an extreme consequence, to terminate or suspend the contract.

3.8. Cascading mechanism

The cascading mechanism is applied to multiple Framework Contracts. In general, where more than one Contractor is awarded a Framework Contract and where the cascading mechanism applies, the following rules will be applicable to requests for provision of services:

(1) For each case, the EUIPO shall determine the specifications of the services required, and the relevant response time.

(2) When requesting an offer to provide services, the EUIPO shall initially address its request to the **Contractor** who has been **nominated in first** place on the basis of the results of the evaluation of the CfT cited in the FWC, and award the Specific Contract, provided that this first Contractor:

- meets the criteria for response time, and
- fulfils the specifications to the EUIPO's satisfaction, and
- proposes an offer for which the allocation of resources is agreed by the EUIPO.

(3) **If the first** Contractor is unable to meet all three above criteria, it shall be regarded as being unable to supply the requested services. In this case, the EUIPO shall address the same request to the Contractor who has been nominated in **second place** on the basis of the results of the evaluation of the CfT cited in the FWC. If this second Contractor is in a position to meet the three above criteria (response time, specifications and allocation of resources) then it shall **be awarded** the concerned Specific Contract.

(4) **If the second** Contractor **is unable** to meet all three above criteria, it shall be regarded as being unable to supply the requested services.

(5) This process will terminate either with the award of the concerned Specific Contract to one of the listed Contractors or with the failure to award the contract to any Contractor. In the event of failure the EUIPO may redefine the RfO or start the procedure again for the same RfO at a later time.

(6) The inability of the Contractor to provide the services for a Specific Contract, requested under the conditions (1) to (5), shall not be considered as such to offer grounds for terminating the FWC, nor shall it affect any Specific Contract in which the Contractor may be addressed for subsequent projects.

Except in the case of a conflict of interests **the first Contractor must be consulted first**. The first Contractor has won the market described in the CfT and the other Contractors only serve to compensate the lack in the first Contractor's service offering. If it arises that the main Contractor is unable to satisfy a request, the *cascade mechanism* may be applied. In this case careful documentation of all communication between the Contractors and the EUIPO is imperative in order to ensure a decision transparent to all parties.

When using the cascading mechanism, all through the process, **the RfO specifications** shall not be subject to modification in terms of profiles and/or technical annexes.

The submission of RfOs shall be made in accordance to Article 1.4.4 of the Special Conditions of the FWC.

In the event, there have been three refusals or failures to comply with the conditions defined in the requests for offers, by the same Contractor during a period of twelve months, that Contractor may be re-ranked in last position in the cascade system and may be penalised by the application of the penalties provided by the FWC provisions, including termination of the contract.

In principle, the ranking of the Contractors will remain unchanged throughout the FWC duration, unless the terminations or re-rankings provided for in the preceding paragraph take place.

For more implementing details on the cascading mechanism, the service level indicators and the measures in case of underperformance, tenderers are invited to consult Annex VIII - Service Level Agreement.

3.9. Reporting

3.9.1. Operational Reports

The Contractor offering software development services must provide weekly follow-up reports in English to the project manager responsible or application manager responsible at the EUIPO. The report, containing complete and accurate information, must be delivered within the first 2 working days of the following reporting period, in a format indicated by the EUIPO. The report must contain at least the following elements:

- overall status
- plan and progress
- deviations
- deliverables matrix
- changes
- risks log
- issues log

- actions log
- status of SLAs/KPIs

The Contractor must report proactively, at least once a day, on the progress and/or delays to the fixing of an **urgent incident**.

The Contractor offering services must also provide monthly operational reports in English. The report, containing complete and accurate information, must be delivered within the first 2 working days of the following month, in a format indicated by the EUIPO. Shortly after the delivery of the monthly operational report, an operational committee will convene with representatives from the Contractor at team-leader level, and from the EUIPO at project or system management level. The purpose of this committee will be to:

- follow-up on the activities of the previous month;
- update on the risk level for the different ongoing activities and establish a risk dashboard;
- plan activities for the next period;
- handle any incidents detected during the previous month, possibly escalating them to tactical level.

Meetings may take place in person or via videoconference. In an emergency, an extraordinary meeting may be convened outside the normal monthly cycle.

3.9.2. Quarterly Reports on Progress of FWC (Tactical)

Without prejudice to any other supplementary reporting requested in the Specific Contracts, and in compliance with the minimum requirements set in Annex VIII - Service Level Agreement, the contractor must provide **a quarterly tactical report** in English.

The report must address contract and financial management at Framework Contract level for a given quarter and has to be delivered before the 5th working day of the month following the relevant quarter.

The content of the 'tactical' report will be agreed with the EUIPO but will include:

- history of requests (last quarter and cumulative aggregates for the Framework Contract);
- history of Specific Contracts and order forms (last quarter and cumulative aggregates for the Framework Contract);
- list of in-progress Specific Contracts and order forms;
- performance management;
- the outcome of risk and issue management.

If required, a 'tactical meeting' will be held at the EUIPO's premises with senior management from both the Contractor and the EUIPO. In an emergency, an extraordinary meeting may be convened outside the normal quarterly cycle.

3.9.3. Annual Reports on Progress of FWC (Strategic)

The Contractor offering services must provide an **annual strategic report** in English that reflects the execution of the Framework Contract. The report, the content of which must be agreed with the EUIPO, must contain complete and accurate information and be delivered within the first 2 working weeks of the following year, in a format indicated by the EUIPO.

At the invitation of the EUIPO, a strategic committee may be convened with representatives from the Contractor at executive level, and from the EUIPO at senior Management level (Directors). The purpose of this committee will be to:

- follow up the quality of the services;
- define the strategic evolution of the contracted services;

- review the annual objectives;
- deal with capacity and demand management;
- settle disagreements.

Meetings will take place at the EUIPO's premises. In an emergency, an extraordinary meeting may be convened outside the normal yearly cycle.

3.10. Penalties

On top of the contractual damages that the EUIPO is entitled to, by virtue of section 2.24 of the Framework Contract General Conditions, performance penalties may be applied if the Contractor fails to meet agreed levels of performance.

Apart from the indicators framed by Annex 6 to the Framework Contract, appropriate levels of performance as well as the underlying penalty regimes for each Specific Contract will be the subject of mutual agreement between the EUIPO and the Contractor and will be ruled by pre-agreed Service Level Agreements and associated Key Performance Indicators.

4. PROFILES

This chapter lists the profiles that may be required for the development, maintenance and administration. For each profile the following information regarding requirements is provided:

Nature of the tasks	These are examples of the tasks that will be expected of a person proposed with the required profile. This list is not exhaustive and is to be regarded as an indication.
Education	A description of the minimum educational qualifications required for the profile.
Knowledge and skills	A list of the minimum knowledge and skills that a person with this profile is expected to possess.
Experience	The required experience for the profile. Professional experience must be recent and proven to be in the lot's domain.

The required profiles are:

1. Team Leader (TL)
2. SAP Functional Consultant / Business Analyst (FC)
3. SAP Solution Analyst (SA)
4. SAP Programmer / Developer (DV)
5. Basis Technical Consultant (TC)
6. Basis Administrator (ADM)
7. SAP Systems Support (SS)

4.1. Team Leader (TL)

Nature of the tasks	• Estimate costs, timescales and resource requirements for the successful completion of each work order in line with the agreed terms of reference. • Manage capacity, risk and progress. Guide the team in charge of development activities and review their deliverables, follow up development implementation. • Lead studies on specific technical matters regarding information systems and IT processes. • Lead software development teams ensuring that team members are motivated and constantly develop their skills and experience. • Carry out audits and quality assessments. • Participate in meetings with stakeholders: users, project board members, project managers, etc. • Produce regular or ad hoc reports on efficiency, KPIs and any other aspect of the service provided. Produce regular activity reports and updated planning for future activities.

Education	• University degree (minimum 4 years' post-secondary education or duly recognised as equivalent as per the Bologna Process) in an **ICT-related field**.
Knowledge and skills	• Excellent technical knowledge in SAP. • Work under general direction of senior level management. • Typically manage and mentor supervisors, project leads and/or technical staff. • Work on complex business issues, which have a significant impact to the enterprise and across enterprise processes and functions due to the integration of ERP. • Excellent ability for guaranteeing the timely delivery of the service requested from his team(s). • Excellent coordination and managerial skills (technical and administrative) for the activities of his team(s). • Coaching on software development. • Ability to participate in multi-lingual meetings, good communicator. • Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in team working are mandatory. • Very good capacity to monitor and guarantee the quality of the service as well as adherence to standards, procedures, deadlines and other recommendations of the organization (ISO standards, guidelines and references of EUIPO, etc.). • Very good ability in ensuring the continuity of his team(s) and organising adequate replacements in case of absences that might affect the service provided • Expertise in IT strategy, service level agreements, quality practices and certifications in the area of information system management and project management, e.g. Prince2. • Very good sense of responsibility in preparing and taking part in periodic status meetings with the representatives of the institution and proposing corrective actions when necessary • Experience in carrying out high-level management studies. • High level of English (independent user – C level according to the Europass Language Passport)
Experience	• Minimum 10 years in Software development related to SAP. • Minimum of 5 years' experience of leading teams. • Experience in a similar position (team leader, project manager, project leader, etc.). • Proven experience in team management in an environment similar in size and activity to the service and team to be managed.

4.2. SAP Functional Consultant / Business Analyst (FC)

Nature of the tasks	• Provide in-depth functional knowledge of SAP applications defined in Section 6: Description of EUIPO SAP System across

	multiple releases. • Provide the analytical skill set for business process analysis for SAP systems. • Provide expertise in functionality of SAP Cloud. • Keep up-to-date with emerging SAP technology. • Work closely with the Business Process Owners and other key stakeholders and cross-project team members. • Receive and analyse business requests. • Clarify and prioritize business needs. • Manage and produce clear and qualified requirements from unstructured information. • Analyse requirements and produce Requirements Package. • Manage requirements package review. • Update the SRS. • Organise, prioritise, specify and model the requirements. • Validate requirements with stakeholders. • Collaborate and align with software development resources. • Review of implementation package. • Adhere to standards and best practices; promote requirements reuse. • Develop business test scenarios. • Support other teams (e.g. development, Quality Assurance and Control provider, etc.). • Prepare and support User Acceptance Test. • Manage requirements review and approval cycle. • Provide training to support rollout (if required). • Provide input and collaborate to the maintenance and improvement of the methodology. • Maintain up to date system documentation. • Communicate change impacts to stakeholders.
Education	• University degree (minimum 4 years' post-secondary education or duly recognised as equivalent as per the Bologna process) in an **ICT-related field.** • Bachelor's Degree in function represented in the business. Or equivalent work experience.
Knowledge and skills	• Knowledge of SAP Cloud technologies and experience in their design and implementation. • Must possess an in-depth understanding of the business function/process supported, and also be viewed as a credible representative of that business function/process. Successful implementation is dependent on the ability to influence business leadership and management decisions and drive ownership and acceptance of changes to the business. • Good knowledge in requirement gathering, prioritisation, AS-IS and TO-BE. • Working knowledge of ABAP, able to explain ABAP statements and debug bespoke code. • Knowledge of development methodologies including ASAP

	• Ability to quickly understand the business needs/requirements and to translate this to actionable IT solutions. • Ability to participate in multi-lingual meetings, good communicator. • Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in team working are mandatory. • Capability of applying formal quality standards in the IT environment. • Good level of English (independent user – B level according to the Europass Language Passport.
Experience	• Minimum 6 years of BA work experience, including a minimum of 4 years of experience with SAP systems. • Extensive experience of using SAP modules and operating as an SAP super user/subject matter expert.

4.3. SAP Solution Analyst (SA)

Nature of the tasks	• Perform functional analysis and SAP module configuration and testing for SAP system as described in *Section 6: Description of EUIPO SAP System*. • Accountable for providing overall direction and integration for SAP modules, functional and business areas. • Responsible for conducting prototypes, developing functional specifications, data mapping, function mapping, setting of configuration tables and setting of transaction/control tables. • Implementation, prototyping, and configuration of integration scenarios within a SAP context, including the interactions between SAP, non-SAP systems and SOA components. • A thorough understanding of the business processes and flows to enable the analysis of business requirements and the development of solutions for the business functions. • Drives the design and implementation of new business processes with organizational structure and required ERP configuration. • Communicate and coordinate with Team Leads, business leadership, and SAP Functional Consultants to ensure appropriate integration of processes and modules across the enterprise. • Responsible for the identification of and resolution of gaps in the business processes. • Oversee, define and monitor critical path activities and resolve issues or escalate issues to the Project Manager as needed. • Overall administration of SAP systems, covering setup, installation, migration, transporting, monitoring and tuning at the technical level. • Involved in security/authorization set-up, user documentation,

	data interface design, data migration and reconciliation. • Involved in the installation and tuning of modifications, as well as archiving data. • Light programming skills in ABAP or JAVA are advantageous, to develop necessary “work arounds.” • Troubleshooting incidents in SAP and systems linked to SAP. • Investigate and diagnose Level 2 and Level 3 incidents transferred from the Service Desk, resolve incidents and implement solutions, prepare requests for change, implement recovery actions, and coordinate the break/fix services. • Providing added-value and advice on architecture matters, related to interoperability issues, in particular by means of concrete end-to-end solutions. • Writing technical and interoperability documents. • Assists in establishment and implementation of risk mitigation plans and compliance. • Establishes SAP application security standards and controls (e.g. segregation of duties). • Oversees the creation of security profiles and assignment of individuals to profiles. • Develops security procedures. • Implements and trains on security procedures. • Coordinates security tests as needed. • Monitors security performance. • Keep up-to-date with emerging SAP technologies.
Education	• University degree (minimum 4 years’ post-secondary education or duly recognised as equivalent as per the Bologna process) in an ICT-related field.
Knowledge and skills	• Intermediate professional level role. • Provide support for the user community and development team in the design, development, configuration and testing of ERP modules. • Work on complex business issues, which have a significant impact to the enterprise and across enterprise processes and functions due to the integration of ERP. • Work on multiple functional tasks that tend to be of medium technological complexity. • Working knowledge of SAP HANA Cloud technologies • Identify and recommend functional and technological solutions. • Work on one or more projects as a team member. • Expertise in SAP ERP functional areas, and non-ERP modules (e.g. CRM, BW, BPC). • SAP Certified - Business Planning and Consolidation is preferred • Understanding of SAP security requirements and practices • Ability to administer security program policies and procedures • Ability to participate in multi-lingual meetings, good communicator. • Capability of integration in an international/multi-cultural

	environment, rapid self-starting capability and experience in team working are mandatory. • Capability of applying formal quality standards in the IT environment. • Excellent technical knowledge in SAP. • Experience on connecting systems or applications that have different technical communication capabilities using SAP NetWeaver PI and adapters. • Expertise in at least 2 tools listed in Section *5.1.2 SAP technologies in use*, plus a working knowledge of the SAP software mentioned in Section *6 Description of EUIPO SAP System.* • Very good knowledge of the HTTP protocol, remote function call (RFC) communication interfacing, JDBC, Java Message Service (JMS), iDoc, XML technologies (schemas, XSLT, Xquery) and Web Services (including SOA Manager, WSDL, SOAP, REST). • Very good knowledge in routing flow of messages between different systems at runtime, and specifically with the following features: reliability, security, and correlation. • Working knowledge of Java and ABAP. • Ability to participate in multi-lingual meetings, good communicator. • Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in team working are mandatory. • Capability of applying formal quality standards in the IT environment. • Good level of English (independent user – B level according to the Europass Language Passport)
Experience	• Minimum 10 years of IT work experience in SAP systems/applications development or support functions.

4.4. SAP Programmer / Developer (DV)

• **Nature of the tasks**	• Apply system solutions to business problems through the design and programming of automated systems. • Configure, analyze, design, develop, and maintain SAP program codes and applications to support business processes and functions. • Translating functional requirements into technical specifications. Technical Analysis. Technical design. Effort estimations. • Work on elements of SAP installation as defined in Section *6: Description of EUIPO SAP System.* • Perform all aspects of programming assignments and assist with systems design. • Prototyping of IT systems, modules and components. • Create detailed design specifications from high-level design documents.

	• Use SAP development tools including ABAP Workbench, and state-of-the-art tools including Eclipse IDE. • Use SAP interfacing technologies including SAPUI5 and SAP Screen Personas. • Support development of SAP technologies in use in EUIPO, including BPC, SuccessFactors and Concur. • Apply knowledge and experience with technology and application development methodologies to perform basic systems analysis techniques, testing, debugging, file design and storage. • Perform Application Testing Activities. • Conduct unit test of ABAP programs. • Development of program specifications. • Create and release transports and follow the Promote to Production process. • Write and configure User-Exits. • Help estimate level of effort for enhancements and customization. • Debug ABAP and Java code. • Work with programming standards and naming conventions. • Write code with performance coding built-in. • Develop and maintain all WRICEF object types. • Data analysis and modelling. • Cost / benefit analysis in the area of information systems. • Participate in meetings with stakeholders: users, project managers, etc. • Define practices and guidelines for development environment management. • Keep up-to-date with emerging SAP technologies, including SAP HANA Cloud technologies.
Education	• University degree (minimum 4 years' post-secondary education or duly recognised as equivalent as per the Bologna process) in an **ICT-related field**.
Knowledge and skills	• Object-Oriented Design/Build Experience • Familiar with assigned SAP modules. • Fully knowledgeable in SAP programming languages, including ABAP and Java code. • Use of Application Development Methodologies and Tools – e.g. SAP ASAP, Agile. • Expertise in traditional SAP ERP development, integration and test tools like ABAP, ABAP Objects, ABAP WorkBench, ABAP performance tuning. • Expertise in non-traditional SAP development, integration and test tools like SAP NetWeaver, SAP Web AS, SAP Process Integration (PI), SAP J2EE. • Knowledge of Business-IT Requirements. • Ability to participate in multi-lingual meetings, good communicator. • Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in team

	working are mandatory. • Capability of applying formal quality standards in the IT environment. Quality of IT projects. • Capability to coach more junior technical staff. • Good level of English (independent user – B level according to the Europass Language Passport)
Experience	• Minimum 10 years' in Software Development. • Minimum 5 years' experience in the SAP technologies and techniques relevant to the specific project or activity. • Experience on advanced programming techniques and software design. • Experience on SAP applications or object oriented analysis and design. • Experience on multiple projects as a project team member, occasionally as a technical leader.

4.5. Basis Technical Consultant (TC)

Nature of the tasks	• Provide the highest level of technical expertise and consulting on SAP Basis or its successor, SAP Web Application Server systems to process teams and IT staff. • Administer the definition & configuration of SAP system defined in Section *5 Technical architecture and standards*, including (but not limited to) Concur, SuccessFactors, SAP CRM7, Crystal Reports, Business Objects. Ensure that the system is configured correctly and complies with all relevant EUIPO policies, procedures & standards. • Establish the infrastructure standards and requirements for the architecture described in Section *5.1.2 SAP technologies in use.* • Evaluate, direct and support SAP Basis and/or Web Application Server system enhancements and perform quality assurance functions. • Research and implement solutions for Basis and/or Web Application Server functionality in the areas of performance monitoring and tuning and systems configuration, design and implementation. • Provide highest degree of technical engineering and support to the SAP team. • Must have extensive experience in operating systems and programming languages, such as ABAP, Java and J2EE. • Experience and understanding of SaaS solutions such as Concur and SuccessFactors is critical. • Keep up-to-date with emerging SAP technologies, including SAP HANA Cloud technologies.
Education	• Bachelor's or Master's Degree in Computer Science, Information Systems, or other related field. Or equivalent work experience.
Knowledge and skills	• Installation & Upgrade experience of SuccessFactors, Ariba on Demand, and other Net Weaver components.

	• Ability to participate in multi-lingual meetings, good communicator. • Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in team working are mandatory. • Capability of applying formal quality standards in the IT environment. • Good level of English (independent user – B level according to the Europass Language Passport)
Experience	• Minimum 10 years of IT work experience building enterprise applications, including a minimum of 5 years of experience with SAP systems. • Experience integrating SaaS solutions including Concur, SuccessFactors to backend ECC system. • Experience with SAP HANA Cloud Platform, SAP HANA Cloud Integration, SAP HANA Cloud Connector. • Experience on multiple projects as a project leader or frequently as the subject matter expert. • Experience on projects/issues of medium to high complexity that require demonstrated knowledge across multiple technical areas and business segments. • Experience in coaching and mentoring more junior technical staff.

4.6. Basis Administrator (ADM)

Nature of the tasks	• Responsible for ensuring the performance and reliability of SAP systems defined in Section *5 Technical architecture and standards.* • Monitor SAP logs, performance, file usage daily. • Perform troubleshooting for hardware, software and system problems that involve SAP modules. • Participate in projects to implement or enhance SAP systems and applications. • Install and configure new SAP servers. • Tune and configure existing SAP servers. • Work with database administrator and SAP development team in defining user requirements, coordinating system-wide updates and installing upgrades and patches for SAP systems. • Monitor and provide issue resolution for regular SAP backup/ archive/ dump. • Monitor and provide for data recovery mechanisms (backup/recovery). • Provide recommendations for enhancements/changes that may involve custom design, optional and third party products to improve the efficiency and effectiveness of SAP systems. • Maintain SAP systems security through user profile management, create and update access permissions and

	maintain user accounts. • Monitor and maintain performance metrics for system features, recommend and take corrective/preventive actions. • Participate in the design, development and implementation of test and production objects. • Perform configuration, change management and testing activities as required. • Consult users on technology changes that will impact work processes. • Provide problem resolution to Help Desk. • Monitor database table and indexes via SAP's CCMS. • Transport changes between DEV, QA, PRD servers. • Perform client copies for refreshes of development & training systems. • Focus on one or more areas of SAP or bolt-ons. • Develop, maintain, and monitor batch jobs. • Cross train with each other to allow for complete coverage. • Keep up-to-date with emerging SAP technologies, including SAP HANA Cloud technologies.
Education	• Successful training in IT, by a relevant institute. Minimum of 2 years' post-secondary education in a computer-related field.
Knowledge and skills	• Technical expertise in SAP Basis and all other outlined job tasks • Ability to participate in multi-lingual meetings, good communicator. • Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in team working are mandatory. • Capability of applying formal quality standards in the IT environment. • Good level of English (independent user – B level according to the Europass Language Passport)
Experience	• SAP Certified Technology Associate – System Administration. • Minimum 5 years of ERP implementation experience. Experience with SAP systems and database administration. • Experience on multiple projects as a project team member, occasionally as a technical leader. • Experience on maintaining ERP systems and applications, supporting and training users for ERP system(s) and applications usage. • Experience on small to large, complex projects that require increased skill in multiple technical environments and knowledge of a specific business area. • Experience in coaching and mentoring more junior technical staff.

4.7. SAP Systems Support (SS)

Nature of the tasks	• Perform problem identification and on-the-spot training to prevent problem reoccurrence and knowledge transfer. • Escalate Tier 2 problems to appropriate support (e.g., technical experts or process experts). • Maintain history reports, identify and address re-occurring problems, and assist in the development and execution of ERP and business process best practices across the organization. • Perform basic fixes and data maintenance. • Develop on-line help and update systems support help scripts. • Monitor third party providing Help Desk services and technical support to employees for SAP processes. • Keep up-to-date with emerging SAP technologies, including SAP HANA Cloud technologies
Education	• University degree (minimum 4 years' post-secondary education or duly recognised as equivalent as per the Bologna process) in an ICT-related field, Business Administration or other related field
Knowledge and skills	• Intermediate professional level role. • Able to participate in multilingual meetings, a good communicator. • Capable of integrating into an international/multicultural environment, rapid self-starting capability in team working are mandatory. • Capability of applying formal quality standards in the IT environment. • Good level of English (independent user – B level according to the Europass Language Passport)
Experience	• Minimum 3 years of business and / or SAP experience. • Experience on multiple projects as a project team member, occasionally as a technical leader. • Experience on small to large, complex projects that require increased skill in multiple technical environments and knowledge of a specific business area. • Experience in coaching and mentoring more junior technical staff.

5. TECHNICAL ARCHITECTURE AND STANDARDS

The EUIPO technical architecture and standards are based on standards promulgated by international, European or national bodies, such as ISO, IEEE, UN/CEFACT, CEN, W3C, OASIS, OMG, WIPO, etc. or de facto industrial standards, such as J2EE, JVM, Unix and Windows Operating System.

In order to promote interoperability, portability and flexibility, international standard bodies must have precedence over the technical products of other organisations. However, for matters relating to the internet, World Wide Web Consortium (W3C) final recommendations take precedence.

J2EE and web services must be developed following a loosely coupled, service-oriented and component-based architecture. Any exception must obtain prior authorisation from the EUIPO.

Any changes to standard objects in off-the-shelf products, commercial or open-source, are not permitted. Any exception must obtain prior authorisation from the EUIPO.

5.1. EUIPO Applications Architecture

5.1.1. Standards

The Architecture team is in charge of establishing the EUIPO IT set of standards, composed of the following documents.

1. IT standards
2. Reference Architecture (RA)
3. Booklets
4. High Level Architecture (HLA)

The **IT standards** are high-level recommendations, for example, new applications will run on a Linux virtual server.

Reference Architecture details the version numbers of the IT configuration items for new projects and legacy systems. It also defines the strategy for the next 2-4 years.

Detailed **Booklets** are written for common components that are reused by different applications.

For each new software development, the Architecture team is in charge of defining technical components and overall solutions, with responsibility for the definition of the design in the scope of a project or a system. The Architecture team produces a **High-Level Architecture (HLA)**, which is aligned with the Reference Architecture and Standards. When a component can be reused, a reference to the booklet will be included in the HLA.

These technical designs integrate the following requirements:

- architecture that ensures maximum availability, robustness and scalability;
- software stack: OS, DB, Application Server and its configuration (DB, Application Server parameters);
- monitoring systems to collect and report system performance (i.e. user experience);
- maintenance and security strategy.

The EUIPO collaborates on international cooperation programmes with the trade marks and designs national offices or European agencies. In this case, the use of open-source technologies will be a requirement.

5.1.2. SAP technologies in use

SAP is understood as an ecosystem at EUIPO. Although from the logical point of view some solutions are part of more generic frameworks such as BI or the presentation layer, SAP products are presented as a whole. The key programming languages in use are ABAP and Java.

The table below summarises the reference architecture currently in place at the EUIPO:

Area	New Development[2]	Legacy[3]	Strategy[4]
Business Application Area - On premise	SAP CRM 7 SAP ERP 6	N/A	SAP CRM 7 and higher SAP ERP 6 and higher
Business Application Area – Cloud	Concur SuccessFactors	N/A	N/A
DWH - Business Intelligence – On Premise	SAP BW 7.5 and higher SAP BO UDT[5]	SAP BW 7.4	SAP BO UDT SAP BW 7.5 and higher
Security and Identity Management	CUA	N/A	NA[6]
User productivity: solutions	SAP Interactive Forms by Adobe SAP BCM 7.7 SAP Fiori 2.0	SAP BCM 7 SAP EP 7.0	SAP Interactive Forms by Adobe SAP BCM 7 and higher versions SAP Fiori 2.0 and higher versions
User productivity: reporting	SAP Lumira 2.0 SAP Business Objects BI platform 4.1 SAP Business Objects Crystal Reports 4.1 SAP Business Objects Web Intelligence 4.1 SAP Business Objects Dashboard 4.1 SAP BPC 10.1 "classic"	N/A	SAP Lumira 2.0 and higher versions SAP Business Objects BI platform 4.2 and higher versions SAP BusinessObjects Crystal Reports 4.2 and higher versions SAP BusinessObjects Web Intelligence 4.2 and higher versions SAP BusinessObjects Dashboard 4.2 and higher versions
User productivity: heavy clients	SAP NWBC 6.0	SAP GUI 7.40	NA[7]
Application Life-Cycle Management	SAP SolMan 7.1	N/A	SAP Solution Manager 7.2 (Release on 2016)
Custom development	CTS+ ABAP 7.5 Java 7 JavaScript HTML5	CTS ABAP 6.6 Webdynpro ABAP BSP	Java 7 and higher versions ABAP 7.5 and higher versions

[2] The "New Development" column describes the technology currently used for the new developments.

[3] "Legacy" column lists technologies that are still in production but that are not used anymore for new developments. However, the systems based on these technologies still are in need of corrective or adaptive maintenance.

4 "Strategy" gives an indication of the technologies that EUIPO is considering for future developments within 2 to 4 years. No guarantee that these will be the final choice as better options might appear on the market. EUIPO also looks to Microservices and containerization platforms.

5 SAP BO Universe designer tool is the BO functionality for data analysis and processing

6 SAP ecosystem can be included in a global or SAP specific SSO architecture. This will be defined in next framework deliverables.

7 EUIPO will keep using heavy clients for technical users and define the strategy for business users

SOA Middleware	SAP Gateway 2.0 SAP HANA Cloud Integration SAP HCC	N/A	SAP Gateway 2.0 (higher versions)
Information Management	SAP TREX 7.10	N/A	SAP TREX
Mobile	SAP Fiori 2.0 SAP Gateway 2.0	N/A	SAP Fiori 2.0 and higher SAP Gateway 2.0 and higher

5.2. EUIPO SAP Technical Environments

The Contractor must host all the environments required to develop and maintain properly the SAP applications in the scope of this Contract.

The reception of the application deliveries will be installed by the EUIPO's DevOps team. This is the team responsible for installations in the EUIPO's environments. The DevOps team is supported by another service provider. The Contractor is expected to support the DevOps team in the installation of any releases delivered.

Currently EUIPO has 4 environments for the SAP modules, all with aligned architecture, including DEVELOPMENT, TEST, PRE-PRODUCTION and PRODUCTION environments. These four environments are used progressively to perform Quality Control on the delivered SAP modules and allow EUIPO enough flexibility to manage corrective and adaptive maintenance in parallel with deliveries related to new software developments.

EUIPO currently has 2 instances for SAP ERP and cloud services. One instance is used for PRODUCTION (ERP), and one instance is used for DEVELOPMENT (ERP) including Configuration and Customisation).

Each environment has the same OS/Application versions but with resources adjusted depending on the current performance and load.

5.3. Information Security Architecture

EUIPO is certified to ISO 27001, and Information Security is an integral part of its information systems during their entire life cycle. This begins with the appropriate definition of security requirements, undertaken through the IT Security Standards.

Part of the IT Development Standards, the IT Security Standards, are based on the Open Web Application Security Project (OWASP), and their main objective is to manage the business processes of the EUIPO in a secure way. This is carried out not only by establishing the mechanisms for the protection of confidential information, but also by implementing the means to ensure data integrity, that is to say, making sure that the information is properly protected against tampering, regardless of the confidentiality level — and application availability.

The main areas covered by the IT security standards are:

- user management
- session management
- data validation
- data management
- data communications
- business continuity
- monitoring

All IT security standards are testable and have an associated test scenario, in order to verify whether the standards have been properly implemented.

5.4. EUIPO Technical Infrastructure

5.4.1. Data Centers

The EUIPO exploits two data centres (DCs) that are closely interconnected. Business Continuity and High Availability is guaranteed by redundant power and cooling equipment. Two different telecom companies provide up to 2 x four 10 Gb Ethernet interconnections and 2 x two 8 Gbps Fibre Channel interconnections.

At the time of implementation of any application or system, although two physical locations are available, only one logical DC will be considered, as the EUIPO has an Extended Data Centre. Therefore, designs must produce active-active solutions that enable provision of 100 % of the service from both sites without disruption. For services that do not require active-active solutions, the EUIPO accepts solutions where the switch or failover and back are processed with as much automation as possible.

The EUIPO is currently analysing the possibilities offered by cloud providers of setting up Disaster Recovery as a service.

5.4.2. Networking and Telecommunications

The computer networking model is based on the TCP/IP family of protocols implementing the Cisco enterprise architecture model. The IP version is IPv4. The data links layer is Ethernet with 1 Gbps for users' endpoints and 1 Gbps/10 Gbps for servers, depending on the bandwidth demand of each server. Backbone links bandwidth is 20 Gbps but is scalable to 80 Gbps. OSPFv4 is the default routing protocol for the EUIPO's intranet.

The network is segmented in several areas:

- a DMZ security zone: contains any authentication or authorisation mechanism (CAS, AD, etc.) used by Front EUIPO's applications.
- zone 1: comprises the dynamic content and the business logic of the applications. Integrations are performed by means of an ESB with a load balancer also acting as a WAF for protecting services' invocations.
- zone 2: includes any data and file repository required to guarantee consistency and integrity. Search engines are also hosted in Zone 2. A load balancer is available where functionality by data or application server is not provided.
- zone 3: contains all infrastructure needed for support services such as, but not limited to, backup, monitoring, etc.

For security reasons, non-production and production environments are segregated: physically for servers and storage; logically for network and security.

Each data centre is connected to internet at a speed of 1 Gb (two different ISPs). VPN is in place for the connection with the EUIPO's external providers.

Servers

All new software developments are deployed on virtual servers (VMWare ESXi or Oracle VM on an Intel platform).

A great effort is going into consolidating EUIPO platforms in order to simplify management, maintenance, budgeting and deployment. There are only a few systems still running on Solaris servers; the large majority run on Oracle Linux, RedHat Enterprise Linux, CentOS (when a project requires the use of open-source technologies) or Windows Server (when required for support reasons).

5.4.3. Servers

All new Software Developments are deployed on virtual servers (VMWare ESXi or Oracle VM on Intel platform).

A big effort in consolidation of EUIPO platforms is ongoing in order to simplify management, maintenance, budgeting and deployment. Only few systems are still running on Solaris servers, the large majority is running on Oracle Linux, RedHat Enterprise Linux, CentOS (when a project requires the use of Open Source technologies) or Windows Server (also when required for support reasons).

5.4.4. Internal End User Platforms

EUIPO's internal staff use homogenous platforms delivered by EUIPO, therefore the environment is tightly controlled with the following configuration: PCs with Windows 7 OS, Microsoft Office 2010, IE 11.x, FF ESR 24.x, Chrome 33.xBrowsers: New Software Developments must support Chrome and Firefox last stable version and be backward compatible with supported versions of Internet Explorer.

As EUIPO is extending the use of mobile devices, web applications must be responsive as defined in the non-functional requirements and must provide an appropriate user experience adapted for mobility. Currently EUIPO mobile devices are mainly based on IOS platform but this might change in the future.

5.4.5. External Users

The EUIPO's external customers use more heterogeneous platforms than the ones managed by the EUIPO, therefore the number of technologies and products to be provided/supported is larger, including MS Edge, Internet Explorer, Firefox, Chrome, Safari, Opera, and Android browser.

The support for external customers' technologies involves a very broad scope, as some of the EUIPO's customers use the latest devices and technologies, whereas others do not update technology very often.

6. DESCRIPTION OF EUIPO SAP SYSTEMS

Please note that this is a simplification of the real-life situation, intended to give Tenderers a fair view into the situation at the EUIPO. Not only is it a simplification, but the situation may also have evolved due to on-going work between the publication of this CfT and the beginning of the execution of the contract.

6.1. Overview

SAP is used for EUIPO's accounting, public sector budget accounting, logistics and customers relations management (SAP CRM and SAP BCM). Work is underway to increase interoperability between the Human Resources, Finance and other departments (IBD, ACADEMY, ICLAD) information systems, in order to increase efficiencies in resource usage, timeliness and quality and increase availability of data. The project aims to 'Improve operational effectiveness' in line with Goal 1 of the Strategic Plan 2020, by providing a solution to improve automation, interoperability among departments, and supporting a common process for budget and workforce planning. This project is called Enterprise Resource Planning, ERP. When referring to ERP, it is important to distinguish between SAP ERP application and ERP project. The latter is a project mainly built on SAP BPC, SAP SuccessFactors, SAP Concur and SAP HCI solutions although SAP ERP application plays an important role in integration.

6.2. SAP Enterprise Resource Planning (SAP ERP)

EUIPO's accounting system is accruals based, and public sector budget management system is cash and activity based. Both are tightly integrated with purchasing administration supplying us an adequate financial and budgetary view of expenditures.

EUIPO's purchasing administration makes use of several SAP modules. Commitments are implemented using the FM module of the Public Service Enterprise Extension (EA-PSM). Framework contracts, contracts, purchase orders, goods and service receptions and (logistical) invoices are implemented in the MM modules. Invoices and payments are implemented using the Finance modules. All aforementioned objects use external document management features built on the SAP archivelink technology. Commitments, contracts, purchase orders and logistical Invoices are subject to multi-step electronic workflow approval built on SAP workflow technology.

Equipment and fixed assets are administrated using the plant maintenance (PM) and the Asset accounting (AA) modules. Equipment and fixed assets are semi-automatically generated from the reception in purchasing administration. PM is further used for preventative maintenance of EUIPO's technical installations. The removals and stock taking of equipment uses a pocket PC 3rd party custom offline solution that via a Java gateway and a specific package from this 3rd party inside SAP, ensures the synchronization between the pocket PCs and SAP.

T&M contracts are managed in SAP based on a process of entering timesheets, approving the timesheets, generating the service entry sheets for the corresponding purchase orders and approving via workflow those service entry sheets. This is supported using different FIORI applications (my Timesheets, approve my Timesheets and Approve Service entry sheets) and Adobe Forms technology. In this scenario, SAP ERP integrates with a SAP Netweaver Gateway that, it serves as Hub for the different Netweaver systems and also a SAP Netweaver Java stack for the Adobe Forms functionality.

From a broader integration point of view of SAP ERP, via a certified integration solution and SAP archivelink configuration, SAP ERP is using Alfresco as document management content repository. SAP connects to Alfresco via plugin from Connexas which is a certified SAP and Alfresco product.

Webservice technology is used to integrate with other EUIPO landscape applications like the service management system Remedy and Commission Electronic procurement platform E-prior (E-invoicing and a project for integrating with E-ordering is under analysis).

SAP further integrates with EUIPO's banks information, Business Objects, SAP Business Warehouse and internally developed systems like CPS (Common Payment System) trademarks.

From user interface, SAP Netweaver Business Client is EUIPO SAP ERP client point of access.

6.3. Customer Relationship Management (SAP CRM)

SAP CRM is the central tool for EUIPOs customer communications. Communications are done via e-mail (email and faxes) and telephone between customers and first line.

This application manages and coordinates all the customer contacts with the different departments by mail, fax, e-mail and telephone. The CRM system provides functionalities related to three main areas: first line interaction records and follow-up, complaints and marketing.

CRM Business Partners are used to represent any person involved in any process of the EUIPO CRM scenarios.

One hierarchy of products is defined within CRM. This hierarchy aggregates trademarks, designs, international applications, international registers and related entities. Within this hierarchy, there are different subcategories: Community Trade Marks, International Registrations, International Applications, Oppositions, Appeals, Cancellations, Invalidities, Recordals.

Legacy (LSMW interfaces) and SAP BO are the main tools to integrate with SAP CRM, the information required from the different applications. The most important legacy is related to customer identification from PER (Customers Database), contact person from EUIPO from Allegro (HRIS), and identification of products from EUROMARC++.

SAP CRM relies on a SAP BW and SAP BO integration to fulfil the different reporting needs in this context.

SAP Trex, SAP Contact Center, Remedy and Email/FAX Gateway are other key elements of SAP CRM integration landscape.

6.4. SAP Contact Center (SAP CC)

This module was previously known as SAP Business Communication Management (SAP BCM).

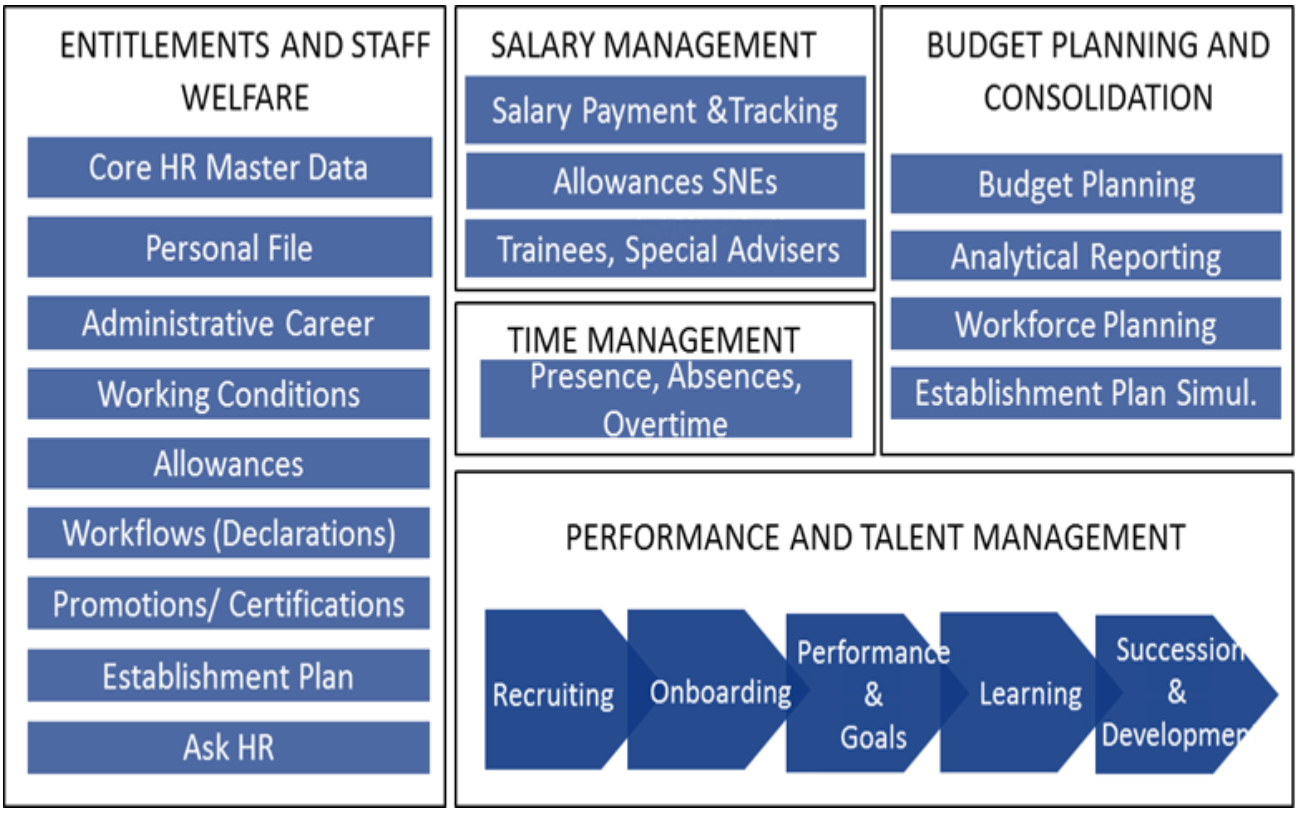
SAP Contact Centre is used in EUIPO to optimize its contact centre operations at two dimensions. First one, as internal end user contact centre scenario in which the software is used in a standalone model. Secondly, via standard integration with SAP CRM to primarily queue, prioritize, and route customer phone contacts.

6.5. Enterprise Resource Planning (SP2020- ERP Project)

A project is currently underway to address the implementation of a system landscape with SAP as the backbone and SuccessFactors as the main system for HR user interaction. Additionally, SAP Business Planning and Consolidation (BPC) will be implemented to cover the needs of budget planning, workforce planning and establishment plan simulations and SAP Concur for Travel Management (travels are referred as missions in EUIPO´s terminology and processes).

SAP BPC is used for planning and consolidation activities to meet organizational budgeting, planning, consolidation and reporting requirements. It supports both top-down and bottom- up financial planning needs, as well as consolidation processes to support financial close, using a single application. Implementing and using SAP BPC supports organizations in meeting regulations, planning strategies and tactics, and obtaining the information necessary to gain important insights.

ERP solution will provide a more integrated core for HR processes completely interoperable with Finance information systems and other external systems like Exchange, Moodle and Alfresco. At the same time it will support the implementation of the HR strategy for the next years focusing on talent management and HR´s transformation as business enabler, through modernisation and automation of HR administrative services, and user empowerment (e.g. employee self-service for staff to access to personal data and generate certificates). This solution will substitute Allegro (current Human Resources management system at OHIM) and other access databases and excel sheets used to cover the current needs.



The project will be accomplished through a phased approach with intermediate milestones and go-lives within each phase.

6.6. Potential SAP Technologies for Future Use

The table below summarises the technologies that EUIPO is interested in, but that are not currently part of an approved implementation plan.

Area	Potential
Business Application Area - On premise	SAP S/4HANA (SAP Business suite on HANA) SAP S/4 Hana Cloud edition
Business Application Area – Cloud	SAP C4C SAP HCP Jam S/4 HANA Cloud Edition Ariba
DWH - Business Intelligence – On Premise	SAP BW on HANA SAP S/4 Hana Cloud edition [8]
DWH - Business Intelligence – Cloud	SAP Cloud for Planning
Security and Identity Management	SAP Identity Management SAP Single Sign-On SAP Cloud Identity Service
User productivity: solutions	SAP HANA Cloud Portal SAP HANA Cloud Portal Screen Personas
User productivity: reporting	SAP BPC 10.1 "embedded"
Application Life-Cycle Management	SAP SolMan on HANA SAP Landscape Transformation
Custom development	SAP Web Integrated Development Environment
SOA Middleware	SAP PI SAP PO (SAP PI+SAP BPM)
Information Management	SAP Data Services SAP Master Data Governance SAP Information Steward SAP ECM
Mobile	SAP Afaria SAP Mobile Platform 3.0 SAP BusinessObjects BI Suite Mobile solutions

[8] As an alternative to current BW usage

7. ANNEX A: GLOSSARY AND ABBREVIATIONS

Annex A - Glossary.docx

8. ANNEX B: SUMMARISED DESCRIPTION OF EUIPO IT SYSTEMS

IMPORTANT — Please note that this information is meant to give you a global picture of EUIPO IT Systems, and not a detailed description of any specific system, to help you develop your tender.

EUIPO Application Inventory.xlsx

9. ANNEX C: SOFTWARE DEVELOPMENT LIFECYCLE (SDLC)

All references to BITD (Business Information Technology Department) in the annexed document should be read as DTD (Digital Transformation Department).

QSD-0208 Manage Software Developmer

10. ANNEX D: PLAN IT INVESTMENTS

All references to BITD (Business Information Technology Department) in the annexed document should be read as DTD (Digital Transformation Department).

QSD-0207 Plan IT investments.pdf

11. ANNEX E: MANAGE INCIDENTS AND PROBLEMS

All references to BITD (Business Information Technology Department) in the annexed document should be read as DTD (Digital Transformation Department).

QSD-0209 Manage Incidents and Problen