***Terms of Reference***

***for developing an eProcurement Platform in Tajikistan***

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List of abbreviations

|  |  |
| --- | --- |
| AA | Association Agreement |
| CA | Contracting Authority |
| CPU | Central Processing Unit |
| CPV | Common Procurement Vocabulary |
| DPS | Dynamic Purchasing Systems |
| EBRD | European Bank for Reconstruction and Development |
| EO | Economic Operator |
| eProcurement | Electronic Procurement |
| e-PS | Electronic Procurement System |
| ESPD | European Single Procurement Document |
| GDP | Gross Domestic Product |
| GPA | Government Procurement Agreement |
| IaaS | Infrastructure as a Service |
| ICT | Information and Communication Technology |
| MDB | Multilateral Development Bank |
| NGO | Non-Governmental Organisation |
| PP | Public Procurement |
| PPA | Public Procurement Agency |
| PPL | Public Procurement Law |
| SaaS | Software as a Service |
| SME | Small to Medium Enterprises |
| SWOT | Strengths Weakness Opportunities Threats |
| TED | Tenders Electronic Daily |
| WTO | World Trade Organization |

# BACKGROUND INFORMATION

## Beneficiary country

Republic of Tajikistan.

## Contracting Authority

World Bank.

## Relevant background

The Government of Tajikistan is undertaking reforms in the public procurement sector since 2010.The long-term objective of the reforms is to modernise national public procurement regime and institutional framework to meet international best practice as reflected in the 2011 UNCITRAL Model Law on Public Procurement (2011 UNCITRAL Model Law) and mandatory standards of the 2012 text of the World Trade Organsiation’s Agreement on Government Procurement (2012 WTO GPA). Relevant modernisation initiatives include development of the Public Procurement Portal (http://zakupki.gov.tj)to increase transparency of bidding and the eQuotationapplication for improving efficiency of purchasing goods and services.

The APP portal and the e-Quotation system started developing in 2012 and were launched in 2013 by local web development supplier Best IT Solutions Co.LLC «BIT». Until 2016 there were only 85 registered suppliers because of scope of goods was limited by fuels and medical. With Government decree on e-procurement development dated 26 January 2016, number of procuring entities and registered suppliershas increased accordingly from 105 up to 427 and from 85 up to 474 and list of goods covered by e-quotation expanded to all standardized goods. The main figures of the transactions registered in the eQuotation system are the following:

* Currently an average number of publications of notification for e-Quotation per month is 200, and participation of suppliers in each of the quotation procedure is in average just two (2), in many cases just one (1).
* Average number of days allowed for the preparation of quotations by the supplier is five (5) days.
* On average 25-27 new accounts of suppliers were created each month.

This is a limited use of electronic procurement solution and in 2017PPA plans to expand the range of goods and services being procured. In parallel, the PPA has been developing new legislative framework to expand use of electronic processes for other procurement methods.

**Legal context**

Public Procurement in Tajikistan is regulated by the Law of the Republic of Tajikistan “On Public Procurement of Goods, Works and Services” dated from 2006. In 2012, the law was amended by the Law No. 815. A new law is being drafted in order to modernise the public procurement framework and comply with the WTO GPA accession requirements.

Currently, the PPL is being revised in order to adopt a new public procurement law, based on the 2011 UNCITRAL Model AL and aligned with the 2012 WTO GPA mandatory requirements and that planned legislation envisages phased transition to fully electronic public procurement.

## Public Procurement procedures and workflows

The Public Procurement regulation in Tajikistan needs to be aligned with the GPA requirements. In order to comply with the WTO scheme of procurement procedures, at least the three following procedures will be implemented in the eProcurement system:

* Open tender, referred in this ToR and the Tajik practice as Open tender,is the procedure whereby all interested suppliers may submit a tender;
* Open tender with prequalification, referred in this ToR as Restricted tender, means a procurement method whereby only qualified suppliers are invited by the procuring entity to submit a tender;
* Request for Quotation, referred in this ToR and the Tajik practice as Request for Quotation,and means a procurement method whereby the procuring entity invites suppliers to submit a price quotation for goods or services specified in tender documents.

Besides, the eProcurement system shall allow conducting electronic reverse auctions, registration of Single Source procurements and all public procurement contracts.

For all the above stated procurement methods procedures workflows are under development by the PPA and will be finalised during the definition and design phase of the project by the contractor in accordance with the beneficiary requirements.

## Current procurement and eProcurement practices in Tajikistan

The Public Procurement Agency (PPA) is responsible regulating and operation of public procurement in the country.

Currently, there are following electronic systems,whichare not interconnected to each other:

* Unified public procurement portal: zakupki.gov.tj
* E-procurement module by request for quotations method: cabinet.zakupki.gov.tj
* Module of automated data collection system: region.zakupki.gov.tj

All modules function in Russian language.

The public procurement unified portal is only partially associated with e-procurement module by request for quotations method and module of automated data accounting system, but the last two are not interconnected to each other. Data displayed on Unified public procurement portal come from the other two modules. Registry of orders and Registry of contracts are functioned on portal, which currently provides information in the amount specified in legislation.

E-procurement module by request for quotations method is an e-procurement system that automatically allows generating the opening and evaluation protocols, comparison and determination of tender winner. The main tasks of electronic platform’s operators are thecreation of announcement, verification of participant’s proposal correspondence to supplier’s requirements and issuing an appropriate status, processing complaints from members and approval and cancellation of procurement procedure. In addition to the main functionalities the other subsystems implemented are:

* Management-Suppliers-Procuring entities-Users;
* procurement plan;
* reports generation.

Despite the group of signed contracts in unified portal, there is no module of automated generation of statistics for different categories,which makes reporting uploads difficult.[[1]](#footnote-1)

The module of automated data accounting system is a platform where an electronic record and archiving of traditional (paper) procurements is held, which create the basis for publication of Registry of orders and Registry of contracts in Unified public procurement portal. Most of the work goes to the following module where a notification is created by entering and adjusting data, carried out the new members registration, entry of information about participants and the amount paid, entry of information on results of procurements with the simultaneous possibility of cancelling the procurement, transmission of procurement to the supplier’s consideration, giving the procurement status “failed procurement”. Announcements are based on Institutional Budget Classification, Functional Budget Classification, and Territorial Jurisdiction and generated in the list of announcements with variety of filters. Procurement data archived in the form of Registry of procurement, Registry of goods (prices), Registry of receipts are stored in servers and accessible on the main menu. The module is equipped with statistical functionality, and the entry is based on the registration, upon receipt of login and password.

It is envisaged that all the electronic systems of the Agency will be merged into a unified system that would require pre-modernization, according to the gained experience of using information technologies and new requirements.

The eProcurement system must envisage future developments in order to increase its coverage of the procurement cycle and the functionalities available. In order to facilitate the development, it is important that the system is scalable and built in a modular architecture.

# OBJECTIVES AND SCOPE OF THE WORK

## Overall project objective

1. The overall objective of theeProcurement reform project is to develop an operational electronic platform that supports public procurement procedures in Tajikistan.
2. The objective of these terms of reference is to expand existing use of APP by developing a single and uniform central electronic public procurement portal to cover entire procurement cycle and provide for several procurement methods, open tender, open tender with prequalification, two-stage tendering, and electronic reverse auction in particular and support public procurement planning and reporting.
3. The long-term objective is to achieve an end-to-end electronic procurement process in the public sector in Tajikistan, supporting all procurement methods as prescribed by national legislation, including planning and contract management of public procurement. It is envisaged that next development stage for electronic procurement portal, provisionally planned for 2018-2020, will be to include electronic framework agreements and online shopping for small value public contracts as well as comprehensive dedicated monitoring application, to be used by the PPA and other relevant enforcement authorities.
4. To facilitate future developments of the eProcurement platform in Tajikistan it is expected that a single and uniform central electronic public procurement portal will be built to permit interoperability with existing and future e-government services in Tajikistan, in Open Source, and in accordance to Open Data, and Open Contracting Data Standard principles. Specifically, Advanced Open Contracting Data Standards must be a pillar of the eProcurement system data management to allow traceability and accountability of the public procurement process.

## Specific contract objectives

1. The purpose of the project is to:
2. develop the institutional, operational and technological environment for the introduction, application and deployment of a system to support electronic public procurement in Tajikistan;
3. develop full system documentation, training materials for all business processes covered by the system and build capacity of PPA, contracting authorities and economic operators with conducting public procurement procedures via interactive system workflows, applications and databases;
4. Establish a set of public procurement performance indicators, from the procurement planning until the final payment to the contractor, so that the eProcurement system can capture the data associated with the indicators. The consultant will review the World Bank PIO ECA e-GP strategy paper and indicators for consideration.
5. In order to successfully achieve these goals, the eProcurement platform acquisition process must include the steps below:

Assignment of a project manager and establishment of a project plan for the acquisition of the eProcurement platform;

initiate a procurement procedure, defining selection criteria based on the economic operators’ capabilities and experience;

selection of the provider according to the Most economically advantageous tender (MEAT).

## Geographical area to be covered

The Republic of Tajikistan.

## Target groups

The target groups include the following: Staff of Public Procurement Agency, authorities involved in e-government where it is applicable, contracting authorities, economic operators, and eProcurement platform operators involved with public procurement procedures.

## Services covered by the project

In conjunction with the development of the system, the Contractor[[2]](#footnote-2)is expected to provide a number of services to the Beneficiary (Tajik government on behalf of the Republic of Tajikistan). The eProcurementsolution developed proposed should also include the necessary software for the system operation.

The main services that the Contractor must provide include the following:

* management, monitoring and control of the project, and submission of periodical reports;
* design, development, implementation and launch of the eProcurement platform;
* development of the necessary software to implement the system;
* training for administrators of the PPA and other relevant users. All the necessary training material must be delivered;
* operational support, helpdesk, evolutionary development, and maintenance and guarantee of the platform must all be secured. These services must be provided from acceptance of the system and for the following durations:
* Operational support and helpdesk: Twelve(12) months.
* Evolutionary development: Twelve (12) months.
* Maintenance and guarantee: Twelve (12) months.

In addition to these services, all requirements mentioned in these ToRmust also be fulfilled.

The functional and technical specifications of the system are presented in Chapter 3 of the Terms of Reference.

The compliance tables for software and services are presented in Annex 1 of the Terms of Reference.

## Results to be achieved

The Contractor must achieve the following results within the duration of the contract:

* all required deliverables must be completed during the implementation of the platform;
* the eProcurement platform must meet the functional and technical criteria specified in the ToR (see Annex 1), supporting the electronic implementation of public procurement procedures in Tajikistan;
* all system administratorsand other key users must be trained as specified in the present document, and all necessary training materials and helpdesk services must be delivered;
* operational support, helpdesk, evolutionary development, and maintenance and guarantee of the platform must be secured. These services must be providedfromthe time of acceptance of the system.

The contract objectives will be achieved and the contract will end upon the development, training operation, and final acceptance by the contracting authority of the electronic public procurement system described in Chapter 3 and the present section. A guarantee and maintenance period is also included in the contract with the conditions explained in Section 4.2.9.

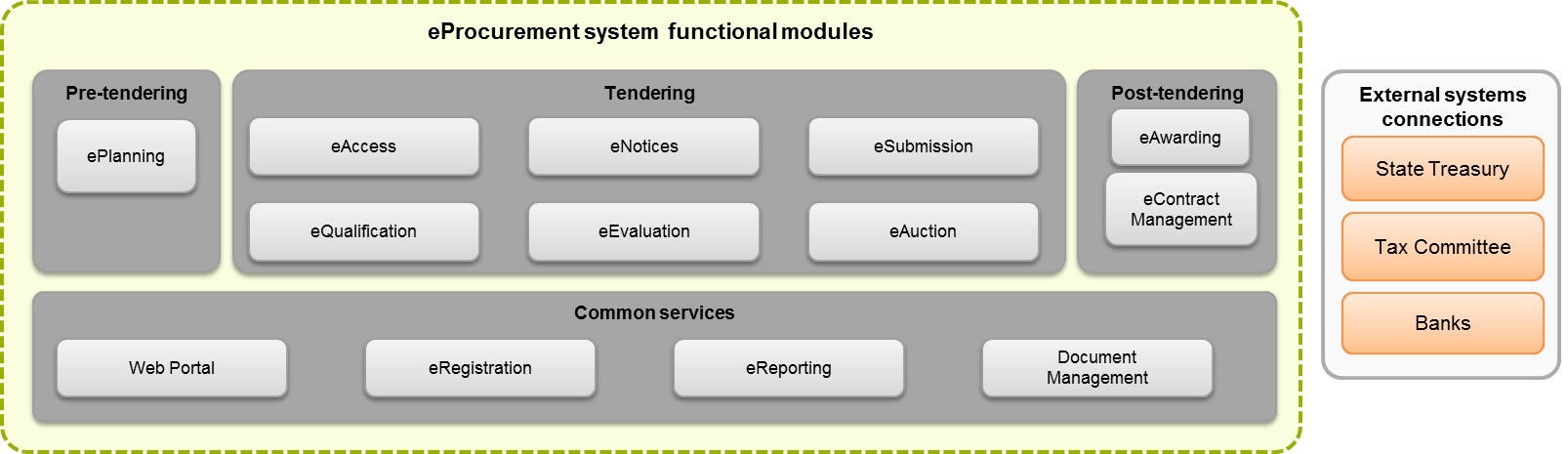
The communication language of the project as well as its deliverables will be English and Russian.

# SYSTEM DESCRIPTION

## Key features of the system

* The main goals of eProcurement are to increase transparency throughoutthe entire public procurement cycle, to increase efficiency and value for money in procurement processes, and to reduce transaction costs for all stakeholders, thus helping to ensure a competitive and sustainable eProcurement model. Corrupt practices will be reduced, since the entire public procurement cycle will be monitored, and all operations and transactions recorded in the eProcurement system.
* An eProcurement system must **help all stakeholders in public procurement procedures** (Public Procurement Agency, contracting authorities, economic operators and relevant authorities) **to effectively fulfil their roles** as prescribed by national legislation on public procurement.
* The eProcurementsystem shall provide **online workflows for the following procurement methods: open tender, request for quotations, restricted tenders and single source procurement**. The platform shall support procurement methods utilising lowest price selections as well as price and other criteria selections. Qualification of economic operatorsshall be awarded in a pass/fail manner according to the selection criteria established in the contract notice.
* T**he Tajikistan eProcurement system should be a single and uniform electronic procurement platform,** managed by the Public Procurement Agency and used both for centralised and decentralised contracting authorities.
* **The eProcurement system will be accessed from a portal that can take advantage of the existing PP portal[[3]](#footnote-3)**, which will also feature relevant data on public procurement generated by the system itself.
* **The present ToR aims to develop the eProcurement platform and its connections with other systems relevant to theTajikistaneProcurement scheme**. The systemshall cover the modules presented in the following diagram:

Figure . Functional scheme for the eProcurement system in Tajikistan



* The contractor shall build a system that also covers the current functionalities of eQuotation system.
* The eProcurement platformshall facilitate the **end-to-end execution of public procurement procedures,**fromePlanningtoeContractManagement.
* TheeProcurementplatform shall be built upon an**Open Source technology** and structure its data according to **ADVANCEDOpen Contracting Data Standards[[4]](#footnote-4)**. Open Contracting Data Standards will allow Tajikistan government to publish all data available that can be published according to the law, and comply with international practices requirements.
* The platformshall be **interoperable, in particular with the State Treasury system, the Tax Committee system and the local banks’ electronic systems.**
* Various users shall be involved in the eProcurement platform. Those already identified are the following:
* **Economic Operators**.Local and foreign businesses participating in public procurement procedures.
* **Contracting Authorities**. Public bodies that initiate, conduct and close public procurement procedures as well as sign, register and manage public procurement contracts.
* **Public Procurement Agency**. Public body in charge of the regulation of public procurement in Tajikistan and ensures the correct functioning of the eProcurement system, while maintaining, auditing and improving it. Also PPA should be treated as contracting authority in case of procurement on the behalf of non-certified contracting authorities through joint tender committee.
* **Authorities involved in e-government and banks**. Within public procurement, the public body responsible (State Treasury) for validating the existence of budget available to conduct procurement and (Tax Committee) for issuing Tax Clearance Certificate and banks for payments for bidding documents.

During the definition phase, the specific role of each user will be elaborated.

* The eProcurement platform shall be **user-friendly and intuitive to use**, due to different levels of knowledge and IT expertise of its future users.
* The eProcurement platform is required to be **modular and scalable, and easy to adapt with customisation and development** in order to implement changes required by national legislation and/or enhancement of the functionalities.
* The eProcurement scheme will follow a **single sign-on principle**. Users will be authenticated through a secure user and password system. CAs that use eTokenwill be guaranteed to use this specific system to access to the eProcurement system.
* **All transactions made within the system will be registered**for control and auditing purposes.
* The system will be multilingual, supporting Tajik,English and Russian.
* The eProcurement platform shall be composed (as a minimum)of the modules described below:

Table . Modules of the eProcurement system

| **Module of the new platform** | **Description** |
| --- | --- |
| Web portal | **General website of the electronic public procurement model**, with information about how it works, main doubts, platforms available, etc. as well as a link to data on public procurement. It can be based on the existing website. |
| eRegistration | This module allows the **creation of users and their registration** in the system, creating a user’s record.  The eRegistration module must cover the initial registration of contracting authorities and economic operators as well as the maintenance of databases with their records for identification and their authorisation throughout the different phases of the process. |
| eAcces and eNotification | This module allows contracting authorities to **publish their Calls for Tenders and all necessary public procurement documents** on the eProcurement portal, and allows any user to read them.  On the economic operator side, this module gives access to Call for Tenders specifications documents and provides the option to ask questions and receive answers regarding the Call for Tenders.  Templates for the structure of Calls for Tenders and the notices to be sent can be created and retrieved from the document management module of the platform. |
| ePlanning | ePlanning allows the **preparation of annual procurement plan.**  ePlanning allows the online preparation of the Annual Procurement Plan in structured forms. Besides, the module will allow contracting authorities to amend their procurement plan.  The ePlanning functionality grants PPA the possibility of aggregating all Annual Procurement Plans by different criteria, and facilitates therefore the aggregation of procurements. |
| eNotices | The eNotices module will allow the creation of tender notices(prior information notices, contract notices, contract award notices, etc.) for all types of procedures based on the tender specifications introduced in the eProcurement system. Notices shall be created in a structured and standardised format and available to download or send to third parties. |
| eSubmission | This module must allow economic operators to respond to Calls for Tenders by **preparing their offers in a structured and secure way**, and submitting their offers electronically using templates created by the contracting authorities. On the contracting authorities’ side, this module **generates the necessary templates** for the procurement type selected, and allows them to securely open the received tenders.  The three envelopes submission scheme will be applied in Tajikistan, separating three types of documents: 1) qualification documentation, 2) technical offers and 3) financial offers. |
| eQualification | This module **must handle legal, economic and financial qualification of the tenderers**. It is responsible for accessing economic operators’ master data. It is also used for shortlist management of procedures that allow shortlisting prior to submission of tenders: once the Expression of Interest submission period is complete, procurement officers access to the documentation of all tenderers. Following the qualification, Procurement Officers are able to create a short-list of tenderers, and invite them to submit a tender. |
| eEvaluation | This module provides tools to support the **evaluation of tenders** by the contracting authorities and PPA.  The eEvaluation phase covers all actions regarding the opening and the evaluation of tenders (excluding eAuction), and the selection of an economic operator for the awarding of a contract. |
| eAuction | eAuctionmust**facilitate the configuration and management of reverseAuction** held electronically. |
| eAward | This module allows preparation of the **contract award notice and notification to awarded and non-awarded tenderers in standardised formats**. It ensures exchange of documents with the tenderer during the awarding phase.  The module will also prepare the contract award notice in a structured way, in order to be submitted in the eNotice module. |
| eContract Management | eContract Management is designed to register the signed contract, **monitor contract implementation and change requests once the contract has been signed**. |
| Registration of single source procurement | The module will allow the **manual registration of information regarding single source procedures carried** out of the eProcurement system and the execution of the process inside the system. |
| eMonitoring | This module must allow **data extraction** as well as **access to reports and analysis** of the data stored in the database. The module will contain tools to generate customised reports. This module will allow the generation of reports as requested by the GPA, and in accordance with World Bank indicators and OCDS in order to facilitate and automatize the process. |
| Document management | This module is responsible for **generating,registering, filing, archiving and logging activity** on the decrypted human readable version of the tender package. |

## Functional requirements –eProcurementplatform modules

The following chapter explains the main functions of each module. A detailed description of the functional requirements for each module can be found in Annex 1.

### Web portal

The eProcurement web portal will take the existing portal and enhance its functionalities, as well as connect it to the new eProcurement system object of this ToR. The contractor can propose to create a new portal if it is seen as a more efficient solution. In that case, all existing functionalities must be migrated to the new portal.

The portal shallbe the main entry point for all stakeholders willing to approach electronic public procurement, and it shallcontain general information about the eProcurement process. Moreover, itshallbe capable of displaying the information about tenders released along withhistorical data. It shall as well be the point of access to the system both for PPA, CA and EO.

From the portal it must be possible to search with different filters a notice of any kind that is already published. It is also desirable to have some kind of connection to social media in terms of publishing procurement opportunities in social media automatically.

### eRegistration

This module must allow to identify users (eAuthentication) and set authorisations to users (eAuthorisation). It must allow economic operators and contracting authorities to authenticate them throughout the eProcurement process, regardless their geographical location and be easily accessible for both local and foreign bidders.

The eRegistration module must cover the initial registration of contracting authorities and economic operators as well as the maintenance of databases with their records for identification and their authorisation through the different phases of the process.

The main utility of creating and keeping a Registry of contracting authorities is to accelerate searches concerning the contracting authorities connected to the system and to facilitate contacts with and between them.

Keeping an updated record of economic operators, on the other hand, may serve several purposes. It may, for example, simplify the authentication of an economic operator seeking to log-on into the System. It may be used as a database of possible economic operators where specific searches can be conducted in order to decide on the recipients of a Call for Tenders. It may serve as a quick unofficial guide to authorities drafting a new Call for Tenders as to the possibility of finding economic operators for a specific product or service, etc.

The eRegistration module must not only allow economic operators to access the system but also serve as a private space where they can upload additional information and documents that later can be used for qualification. Moreover, EOs must be able to modify this documentation at any given time. Any changes (updates) shall be automatically tracked in story mode of participants’ profile.

Registration of contracting authorities and economic operators should be a one-off procedure, and involves the contracting authority/economic operator wishing to be registered and the PPA, who will check the validity of the documentation submitted as well as its completeness, in order to do the requested registration (or modification thereof)

The registration module must allow two kinds of registration:

* Basic registration, which allows the subscription to tender procedures, set of alerts based on a search criteria, etc.
* Full registration, which allows the participation in tendering processes. In order to facilitate the economic operators registration in the system, there will not be a validation by the contracting authority in order to participate in tenders. Nevertheless, once an economic operator has participate in a tender procedure and provided its documentation, it is validated as a “valid” user by the CA.

Additionally, CAs will be able to register in the system using eToken, which will shorten the registration process.

This module is also responsible for the management of organisational structures, with groups of users fulfilling different roles and profiles. The system must be built following a role-based architecture so authenticated users have access to information and functionalities according to their respective role.

In the definition phase, the process to register users in the system will be defined according to the PPA indications. Besides, the protocol for defining users roles and assigning them to users must be defined and incorporated in the system.

Apart from the initial registration of a contracting authority/Economic Operator, registered users are able to update specific information about their profile (usually not sensitive data, such as telephone numbers, addresses, etc.). This functionality must be offered by the module as follows:

1. The registered user signs into the platform using the credentials and accesses the “Profile” option. Then, the user updates the needed details and submits the information.
2. The module checks the syntactic correctness of the information submitted and updates the user’s profile. In case of incomplete or incorrect information, the module prompts the user to correct and re-submit the information.

**Users**

The registration process is open to potentially all contracting authorities and economic operators. The parties involved in the registration process are:

* The contracting authorities and economic operators that wish to be registered to the system.
* The personnel authorised to check the new registration applications from PPA.

The update profile functionality will only be accessible to contracting authorities and economic operators which are already registered users of the system.

### ePlanning

Procurement planning involves adopting a coherent approach to the acquisition of work, goods, or services, to the definition of the procurement process, to the engagement of stakeholders and to the governance of the project.

The ePlanning tool will allow CA to create online their Annual Procurement Plans. Templates for this activity will be provided. CA will be able to enter information, modify it and publish it.

The ePlanning tool will also allow users toaggregate the demand by different variables such as CPV codes, procurement procedure types, dates and others to be defined in order to crosscheck the planning between contracting authorities. Public Procurement Agency must be able to extract a list of contracting authorities that did not publish the Annual Procurement Plans or have published it beyond the established deadline and notify it to them.

In order to facilitate the preparation of Annual Procurement Plans for those CAs that do not have a widespread knowledge of IT tools, it will be possible to download a structured template based on the online forms. This APP template will be completed offline and afterwards uploaded in the system, which will retrieve data from it and incorporate it in the online forms. If the data introduced in the template is not correct, the introduction of data in the system will be interrupted.

CAs will also be able to download their plans in a readable format such as a spread sheet.

It will be possible to make amendments to the planning so that contracting authorities are able to adjust their planning during the execution phase.

Public Procurement Agency shall be able to see how the Annual Procurement Plan is being executed, with a view where awarded contracts and pending procurement from the Annual Procurement Plan can be seen.

The main users of the system will be contracting authorities, economic operators and the Public Procurement Agency. The level of authorisation of each user will depend on their role in the eProcurement system.

### eAcces

eAccess must allow contracting authorities to publish their Calls for Tenders and all necessary documents pertaining to the online procurement process. It must also allow answering questions from economic operators.

The electronic preparation of a Call for Tenders (request for proposals, expression of interest applications, invitation to quotation, contract notices, etc.) must allow contracting authorities to initiate a public competition, choose its type, define the technical specifications of goods, services or works to procure, etc. Through this functionality, the module must support most of the preparatory work to be performed by a Procurement Officer of the contracting authority before a contract notice is published and the tender documents are made available to the economic operators.On the economic operator side, this module is responsible for giving access to Call for Tender documents and the possibility to ask for questions and receive answers regarding the Call for Tender. It must be integrated with the e-Submission and e-Qualification modules for economic operators willing to participate to a Call for Tender.

Apart from the initiation of a new Call for Tenders, the eAccess module also includes the following:

* Link to Annual Procurement Plans. All Call for Tenders prepared must be linked to the Annual Procurement Plans submitted in the ePlanning module. To do so, the system must allow to indicate an Annual Procurement Plan code within the Call for Tender. In case it is a not planned call, a special code must be available to continue with the process. If there is information already available on the Annual Procurement Plan, it shall be filled in in the notice automatically.
* Administration of an existing Call for Tenders: allows contracting authoritiesto view the details of an existing Call for Tenders and to modify its details. It relates only to Calls for Tenders that are still under preparation (i.e. the tender documents have not been published yet). It must not be possible modifying certain details of a Call, depending on the exact phase of the Call for Tenders and user authorisations.Controls and validations upon data and documents within the system will be required, depending on the status of the record. The final list of controls and validations to implement will be stated in the Definition phase.
* Preparation of the Awarding Criteria: allows contracting authorities to define the awarding criteria for the Call for Tenders. These criteria will be used in the tender Evaluation phase, when all received tenders are evaluated, and they must be sent to the eEvaluation module.

During the definition phase, the Contractor will define the workflow to be followed to prepare a Call for Tenders according to the PPA indications and current procedures and regulations. The workflow of Calls modifications will also be defined according to the established procedure.

The creation of a new Call for Tenders may not be a one-time activity. It may include several preparation sessions during which the users involved complete or modify the details of the Call for Tenders according to their role in the procurement process.

Once published, the status of the bidding must be visible, displaying status like “Live”, “Closed”, “Evaluation in progress”, “Contract negotiations”, “Contract award”, “Cancelled” or “Retendered”. The final status titles to display will be defined on the Design phase.

The eAccess functionality will have to guarantee the possibility of dividing a given Call for tenders in different lots. If it is divided in lots, the Call for tenders will have common specifications for all lots but it will have specific characteristics for each (i.e. title, value, CPV code, terms of reference, duration, qualification criteria, award criteria, etc.).

**Users**

eAccess is open to all contracting authorities and economic operators. The parties involved in the process are:

* Contracting authorities, which must be able to:
  + prepare a new Call for Tenders;
  + view or update/modify the details of existing Calls for Tenders.
  + answer to the economic operators’ questions on the Call for Tender; publish clarifications.
  + Amend/cancelpublished Call for Tenders.
* Economic Operators, which must be able to:
  + access Call for Tender specifications;
  + ask for questions and receive answers to the Call for Tender.

### eNotices

TheeNotices module is in charge of generating tender notices using the tender data available in the eAccess module.The Notices will be generated in a structured way that will be published in the Public Procurement Portal and may be sent for publishing in the media.

The module will not only publish ToR but also prior notices, contract award notices, contract notices modifications and any other transaction that the law requires to be published.

### eQualification

This module must handle legal, economic, financial, technical and professional qualification of the tenderers and take care of requests for clarifications. It is responsible for accessing economic operators’ master data. It is also used for shortlist management for procedures which allow shortlisting prior to submission of tenders.

The qualifications and guarantees are assessed for exclusion and selection criteria by theEvaluation Staff/Tender Committee to ensure that there is no conflict of interest. The bidder needs to propose a way to cover this process. The detail of the solution to implement is to be decided in the Definition phase.

The eQualification module must allow both the qualification of the economic operators before and after evaluating the technical and financial proposals.

Besides, the module must contemplated the possible use of self-declarations as a way to qualify economic operators (and therefore requesting qualification documentation only to awarded economic operators). Currently, the procurement process requires economic operators to provide all documentation when submitting an offer. Nevertheless, it is foreseen adopting a self-declaration in the future. Additionally, during the Definition phase it will be addressed the possibility of connecting the eProcurement system with a list of allowed/banned economic operators to ease the qualification process.

**Users**

The qualification process is open to the economic operators who participate in public procedures and to the contracting authorities. The parties involved in the process are:

* The contracting authorities, which must be able to:
  + view the administrative, financial and other information and documentation provided by the tenderers;
  + make requests for clarifications (when needed);
  + access economic operators data;
  + scoring of the legal, economic, financial, technical and professional information of the tenderers based on the scoring methodology set for that particular tender. The system will then produce a yes/no decision on the qualification output.
* The economic operators, which must be able to:
  + Securely manage their Company Data;
  + submit qualification documents, when needed;
  + provide clarifications and/or explanations (when needed).

### eSubmission

This module must allow economic operators responding to Call for Tenders to prepare their tenders in a structured and secured way, and submit their tenders, quotation (or application for expression of interest) by electronic means to a contracting authority, in response to a Call for Tenders.

This module is responsible for generating the necessary templates and encryption key, to keep and to securely open the received tenders. Each envelop of the offer must be encrypted separately, and the whole offer should be signed as a package. Nevertheless, the three envelopes system shall be reviewed during the definition phase.

The electronic submission of tenders by the economic operators includes:

* Request to Participate: allows users to express their interest to participate in restricted tender.
* Tender submission: allows users to create and submit a tender for a particular Call for Tenders. This functionality will be available from publication of the Call for Tender until the tender submission deadline (also referred to as tender closing time). For Calls running under the restricted procedure, tenders can only be submitted by economic operators which have been invited by the contracting authority to submit a tender (i.e. economic operators first need to submit an expression of interest, and only if they are qualified and invited by the contracting authority, they can submit a tender).

During the definition phase, the workflow of the proposals submission will be standardised in the system, defined according to the procedures established by the regulation applicable and the PPA guidance.

It should be noted that, in a Call for Tenders with lots, an economic operators may respond to all or only some of the proposed lots.

**Users**

The economic operators who participate in public procedures initiated by contracting authorities will be able to use the module in order to prepare and submit their offers by electronic means.

The parties involved are:

* The contracting authorities, which must be able to view requests and provide clarifications and/or explanations.
* The economic operators, which must be able to:
  + search and download tender documents or other information relevant to a Call;
  + submit questions for a specific Call for Tenders (applicable only to economic operators who are logged in the system);
  + receive notifications for addenda or clarifications on a Call for Tenders;
  + prepare and submit their tenders.

### eEvaluation

This module must provide tools support the evaluation of tenders by the contracting authority and it should also provide automatic evaluation of tenders when selected by the contracting authority.

The eEvaluation phase of electronic procurement covers all actions regarding the opening and the evaluation of the tenders, and the selection of an economic operator for awarding a contract.

Those tenders that are assessed in the opening session criteria as valid, according to the two basic conditions of confidentiality of the offer and dispatch before the deadline, are moved forward for evaluation.

In general, eEvaluation includes:

* Opening of tenders: allows specifically authorized users from the contracting authority to access to the tenders for a particular Call for Tenders. These activities can only be performed once the pre-defined tender opening time has been reached. Once the deadline for submission is passed, no changes to the tenders submitted are permitted by the system except for minor deviations in accordance with national legislation for purpose to clarify bids if necessary.
* Prequalification/Short-listing: allows users to select and invite tenderers to submit an offer. Procurement Officers access the supporting documentation of all tenderers (i.e. proof documents), and evaluate their compliance with the Conditions for Participation. They also access the results of the eQualification if applicable. Following the evaluation, Procurement Officers create a short-list of tenderers, and invite them to submit a tender.
* Evaluation and ranking of tenders in dedicated workflows for lowest price selections and in the price and other criteria selections. It should allow specifically authorized usersto evaluate the tenders received for a particular Call for Tenders in accordance to award criteria in the contract notice and to create tender rankings. This functionality can only be performed once all Tenders are accessible by authorised officers.
* The eEvaluation process and its sequence for each procurement procedure will be defined during the Definition phase.

**Users**

* Evaluation Staff/Tender Committee/Procurement Officers: They must be able to open the technical and financial tenders.They are also responsible for the evaluation of tenders; therefore they must be able to access the tenders after they have been unlocked to enter scores for each criterion for all tenders and to complete/modify the evaluation report if it has been prepared by the system.

The users involved and their roles will be defined during the Definition phase.

### eAuction

The eAuction module must facilitate running of reverse electronic auctions. This allows for a ranking based on certain automated assessment methods.

All communication, including the invitation to submit new prices and/or values,must be made electronically in real-time.

Moreover, the eAuction module will be able to include additional quantifiable elements of quality, which can be expressed as a value suitable for incorporation within a formula. The CA can set the parameters of the formula for each auction.

The steps covered by an eAuction module are as follows:

* Registered or prequalified bidders areinvited simultaneously by electronic means to participate in the eAuction. The invitation states connection details, and the date and time of the eAuction, which cannot be sooner than two working days after transmission of the invitation. Where the eAuction is to be conducted in phases, the invitation to participate must state the number of phases and associated timetable.
* Auctions must be based on lowest price or price and other criteria selections as stated in the contract notice. In the case of the ‘price and other criteria selections’ any ‘quality’ features of the bid must be capable of being expressed as a value (figure or percentage), which can be incorporated within the formula that will be used to rank bids. Limits to quality values arising from specified requirements must be stated in the tender specifications.
* The specification must provide information about the auction process, connection details and conditions of bidding, particularly minimum differences required for a new bid. Information to be provided during the course of the auction and the date upon which this information will be made available electronically must also be detailed in the specification. The auction can be closed by fixing the date and time in the invitation to participate, when no new prices or values that meet the minimum difference criterion are submitted, or when the specified phases are complete.
* The eAuction will follow the logic of the reverse auction, with a three-round competition, where each bidder will place a bid three times in order to determine the winner. In each round, the bidder with the highest price will start the next round. Each round will have a fixed amount of time to place bids.

The eAuction module must be able to organise auctions for multi-position procedures, both grouped in lots positions and/or separate (not grouped in lots) positions.

**Users**

The parties involved in the eAuction module of electronic procurement are as follows:

* The CAs, which must be able to:
* maximise outputs from procurement negotiations by conducting activities online in a transparent manner;
* define the type of auction and the evaluation criteria either locally or by importing data from the eNotices or eSubmission module;
* carry out test runs of eAuctions prior to the live eAuction to ensure that all participating EOs are fully prepared and capable of carrying out online bidding;
* monitor EO connectivity issues during the auction and act accordingly;
* communicate messages to EOs prior to, during and after the auction;
* The EOs, which must be able to:
* submit bids in real-time and improve their bid offer during the auction;
* monitor the progress of their bid and other EOs’ bids;
* communicate transparently with the CA conducting the auction, as prescribed by the national legislation.
* The PPA, whichmust be able to:
* monitor the progress of theeAuction;
* receive the results of eAuction. In addition, an alert system will be implemented, that will automatically report to the PPA in case of abnormal auction outcomes for decision to be taken.

### eAward

eAward module is responsible for all actions since evaluation is completed until the contract is awarded so the execution of the contract can start. To that end, the following steps must be covered by this module:

1. Once the evaluation committee decided on the winner of the tender, the procurement officer must be able to approve the decision after obtaining no objection on evaluation results from PPA and electronically notify the winner as well as prepare the contract award notice.
2. Procurement officer can request additional documentation from the winner before signing the contract.
3. The module must generate a contract template based on the information on the tender that the procurement officer must be able to edit and send to the winner.
4. The winner can send requests for clarifications to the CA in case they do not agree with the contents of the contract.
5. The CA must be able to answer requests made.
6. Initially, the contract will be singed offline and recorded afterwards in the system, including a digital copy of signed contract. In the future, electronic signing of the contract will be used and the system should be developed to permit enabling electronic signing of contract when available.
7. The module must store the contract and switch the tender to execution mode, including it into the eContract Management module, where only the CA and the awarded provider can participate.

**Users**

The parties involved in the eAward module are as follows:

* Contracting Authority/procurement officer, that must be able to:
  + Approve evaluation result after obtaining no objection on evaluation results from PPA and notify it to tenderers
  + Prepare contract notice
  + Request additional information and draw the contract draft
  + Answer to clarifications
  + Sign the final contract
* Provider awarded
  + Receive evaluation result notification and contract draft
  + Ask for clarifications regarding the contract
  + Electronically sign the contract

### eContractManagement

According to the EBRD[[5]](#footnote-5), eContractManagement is the electronic enhancement of the management of receivables, payments, contract settlements, contract variations, performance securities, and audit and control activities.

The eContractManagement module will translate the stages of the current contract management process that can be completedelectronically, into electronic procedures. The implementation team shall define the contract management process in the definition phase, if not already available, before translating it into the system. The process will include the activities regarding the initiation of contract execution, modifications to the contract (additional agreements), and the closure of the contract.

Regarding modifications to the contract, two types of procedures shall be defined. The first one is modification without effect on the project budget (Amendments) and the second one is modification with effect on the project budget (Extensions).

### Registration of single source procedures

This module is designed to cover micro value procedures (not covered by the law – simplified procurement) and procurement that are awarded as single source procedures. The goal of this module is both to facilitate its management and to provide data and control over this type of procedure.

To that end, the module will allow CA to provide basic data on the service required, the dates to execute this service, and the maximum amount of budget available to provide it and send it to the selected provider. The provider will be able to accept, reject or send a new offer to the CA.

Once approved, the good, work or service purchased will be delivered and the CA will be able to upload to the system an invoice or other types of document that justifies the reception of the purchased good, work or service.

Additionally, the single source procurement procedure can be started in the system. The CA may invite electronically through the system a previous selected provider. If the EO is not registered in the system, CAs will be able to create their basic user with the EO’s contract details.

### eReporting

The eReporting module provides reporting on a number of indicators related to the public procurement lifecycle. This module must access/extract all necessary data on all public procurement procedures conducted electronically in the public sector in Tajikistan, in order to perform procurement data statistical analysis. This statistical analysis plays a significant role in the strategy definition for future procurement expenditures and serves as a strategic tool for the whole electronic procurement lifecycle, by helping to identify opportunities for improvement and cost reductions, irregular manipulations, etc.

Data will be structured following ADVANCED Open Contracting Data Standards[[6]](#footnote-6), so other experiences developing indicators based on this standards can be taken as a reference.

The necessary indicators to be calculated will be identified in the definition phase. The bidder should indicate a set of them in their offer. At least OECD key indicators[[7]](#footnote-7) on eProcurement must be considered. Indicators recommended by WB toolkit[[8]](#footnote-8)must also be added. They are indicators related to:

* Value of contracts awarded through e-Submission
* Value of goods, services, and works contracts awarded through e-Submission
* Value of contracts awarded by a CPB or through a centralized purchasing

arrangement

* Number of contracts awarded through e-Submission
* Number of goods, services, and works contracts awarded through e-Submission
* Number of contracts awarded through a centralized versus decentralized process
* Average price variation
* Average price reduction
* Average % of savings in open procedures
* Comparison with non e-GP-awarded prices
* Average % of savings in e-Auctions
* Average % of savings in FAs
* Average length of pre-award stage (from contract notice to contract award notice)
* Average length of central purchasing procedures
* Average length of bid preparations
* % of direct awards versus total number and value of

public contracts

* % of contracts awarded to consortia (grouping), number and value
* % of contracts subject to non-judicial review
* % of contracts subject to court appeals
* Average value of contracts giving rise to dispute
* Average length of appeal procedures
* CA/EO winning rate (% of total) review
* CA/EO winning rate (% of total) court appeals
* Value and number of compliance audits
* Average length of audits (months)
* Number and value of tenders published on the web (% of total procurement)
* Public access to information on all tender stages
* Top five perceived benefits of e-GP
* Top five perceived barriers to the adoption of e-GP
* Total Value of WB-funded contracts
* Total Number of WB-funded contracts
* Average value of WB-funded contracts by type of contract (goods, services, works)
* Average value of WB-funded contracts by type of procedure (International Competitive Bidding/Limited International Bidding/National Competitive Bidding/Shopping/FAs/Direct Contracting)

The tool must be able to aggregate data from all contracting authorities and from all steps of the procurement procedure. Additionally, it must be enhanced to include geocode so information by geographical distribution can be displayed.

These indicators must be able to be presented in the form of reports, customised for specific user needs. The reports to be extracted and the users that will access the module will be determined in the definition phase, but a tool to generate customised reports shall be foreseen. As a minimum, an Annual Procurement performance measurement and monitoring report and the GPA reportsmust be generated.

These indicators will also have to be published in the Public procurement portal, so integration between the portal and this module shall be included within the scope of this ToR.

Finally, authorized users must be able to download data in a widespread document formats. Each user will be able to download the data they have access to according to their level of permissions.

**Users**

The monitoring functionality will be made available to at leastthe PPA and the CAs. The information published in the Public Procurement portal will be accessible for everyone.

### Document management

This module is responsible for registering, filing, archiving and logging activity on the decrypted human readable version of the tender bundles.

Documents are the medium through which all Tajikistan public procurement information is stored and transmitted; they have administrative and legal value, and they constitute the basis for the institutions’ short-, medium- and long-term memory. Thus, the module must provide guarantees in terms of security and controlled access to data.

In particular, this module must organise and control the access to all public procurement documents in Tajikistan,enabling long-term preservation of them in digital format and ensuring that they can be easily retrieved without conversions. The module must also provide basic document management functionality for receipt, dispatch, storage and retrieval of documents.It must further guarantee that the three envelopes submission scheme remains unaltered after documents are uploaded and that the documents are treated with the adequate level of security and protection, taking into account the specific needs of the tendering procedures (i.e. unavailability to open tenderer’s offers before the specified date in the tender documents).

The security provided will be determined by a matrix to be built for each type of document stored. Per type of document, the matrix will define which users can have access to it and which type of authorisations they should be granted (i.e. read, edit, delete). Additionally, the module must be able to manage the legal retention period for documents in order to comply with the Tajikistan legislation.

Regarding template management, the module must allow authorised users to create, modify and delete templates. The user will be able to choose a template depending on the specificities of the procurement process.The templates may be used throughout the whole procurement process, in the different modules of the system.

Economic Operators and contracting authorities need access to the business documents[[9]](#footnote-9) exchanged via electronic means. The contracting authority responsible for the platform and other authorities need access to this module in order to consult, check or revise any document publicly available.

The users involved in the document management process are as follows:

* EOs, which must be able to consult all of their business documents;
* CAs, which must be able to consult all of their business documents, closedtenderinformation, and any other information regarding their tenders;
* authorised staff from the PPA,which must be able to consult any document or other information;

## Non-functional requirements

### Security

Electronic public procurement procedures include the exchange and storage of rather sensitive data, such as technical and financial offers. Therefore, the eProcurement system must support adequate security mechanisms in order to create a secure procurement environment and ensure the following security objectives:

* **Authentication**: Guarantees that the restricted areas of the service are only accessible to users with a verified identity through user and password or eToken for CAs.
* **Authorisation**: Guarantees that authenticated users are only able to access the services and data that match their roles and access rights. Each contracting authority will have the right to register new users from their organisation and assign them one of the existing roles, according to the given permissions for each user. The capacity to create new roles will remain within the PPA.
* **Confidentiality**: Guarantees that the data exchanged between the person requesting it and the provider cannot be intercepted or accessed by a non-authorised third party and that the data cannot be accessed at an inappropriate point in time (i.e. before the opening of the bids).
* **Integrity**: Guarantees that data exchanged between the person requesting it and the provider has not been modified or tampered with by a non-authorised third party.
* **Non-repudiation**: Guarantees that the sender of the message cannot deny, at a later point in time, that he/she sent it.

To achieve these objectives, the system shall provide several security mechanisms:

* **Audit trailing facility**: All activities performed by users, either successful or unsuccessful (such as attempted but failed logins) must be monitored and recorded in the system logs with restricted access to unauthorised users.
* **Firewalls**: Firewalls form part of the system’s technical architecture in order to provide a line of defence when external users try to connect to the system from the Internet or other network. Firewalls must be configured in such a way to allow only the absolutely necessary network services and protocols for the operation of the system. No additional services and/or protocols can be enabled (principle of leastprivilege). They must also support failover for high availability.
* **Antivirus / Antispam**: Hardware and/or software/hardware solutionsmust provide antivirus and antispam protection for all servers.No file can be stored in the system if it is infected. In case an infected file is detected, the uploading procedure will be stopped and the file will be rejected.Thismust be configured to automatically update virus-definitions daily during non-business hours.
* **Intrusion Detection System:**The intrusion detection system will include all necessary agents for all servers.
* **Secure communication** (data transfer) between the web servers and users: The exchange of sensitive information must be adequately secured. For this reason, a secure protocol such as HTTPS must be used, in order to avoid any unauthorised access to the information exchanged. This secure protocol must be used consistently over the whole website, without having any part of the website contents loaded over HTTP.Otherwise, users could be exposedto several types of attacks.Ideally, the web should support forward secrecy.
* **Systematic backup of stored data**:Allowing quick and reliable recovery of data in the case of an ‘incident’ resulting in data loss or deterioration.
* **Encryption of data**: All data stored in the various components of the system (i.e. servers, data storage, LDAP) must be encrypted.
* **Digital certificates**: The system must be capable of using tokens, and in the future alsodigital certificates, in addition to usernames and passwords for ensuring integrity and non-repudiation principles.

Other security controls for the system include:

* **Secure technical architecture**: The system should implement at least a 3-tier architecture (database, application and presentation tiers), and its architecture must be divided into different security zones and contain at least a DMZ[[10]](#footnote-10) and an internal zone.
* **Security controls embedded in the system**: For example, user roles with pre-defined access rights, the ‘four-eye’ principle for key business decisions, validation checks when entering data, etc.
* **Time-stamping mechanism:**Ensures that all transactions within the system are time-stamped. The time-stamping mechanism can either be part of the system or a service provided by an external time-stamping authority.

### Scalability – Upgradeability

The system will be designed to handlea significantly larger transactional load than what is currently received. Therefore the system’s logical architecture must be able to sustain at least a 30% increase of the transactional load on a yearly basis. From a physical point of view, this can be achieved by scaling up or scaling out the components of the system

* **Scaling up** (vertical scalability) means increasing the capacity of existing hardware or software components by adding CPU, memory, storage, etc.
* **Scaling out** (horizontal scalability) means adding more instances of the same components that work as a single logical unit.

Moreover, the system must easily adapt to new requirements imposed from changes in legislation (updates of national or European law).

### Availability

Procurement procedures imply significant requirements in regard to the availability and performance of the system. The eProcurement system as a whole must be designed in order to be **available 24/7** (24 hours a day, 7 days a week, with the exception of planned maintenance windows), especially the public procurement portal. Concerning specific characteristics, it should be noted that the eAuction module is expected to be used only during standard workinghours as the auctions will take place in this timeframe.

The system shall comply with Tier 2 requirements and it shall not have a single point of failure.Itmust be designed in a way to ensure availability of at least 99.75% (or less than 22 hours of unavailability per year).

### Performance

The performance of the system is measured by the time needed for an action to be completed. The following definitions apply:

* simple Query: A query accessing a single database table or a join of two tables;
* complex Query: A join of three or more database tables;
* report: A report ready to be printed;
* documentmanagement: Uploading, downloading and opening of a document to/from the system to the client workstation. A standard document size of 2Mb will be used for testing purpose;
* active user: A user of the application performing typical operations;
* response time: The period of time from the moment the user initiates an action (i.e. by clicking on a button or a link) until the moment a webpage with the requested information or update confirmation message is completely downloaded and displayed on the screen of the user. Response times can be affected by Internet latency, and therefore is commonly tested in a Local Area Network (LAN) environment.

The system must be able to effectively serve in parallel:

* up to 5 system administrators;
* up to 1.000 active users;
* up to 5 members for each single user cabinet;
* up to 25,000 read-only users of the general public.

The system must be able to store information from:

* up to 7,000 contracting authorities;
* up to 40,000 registered tenderers.

Taking into account the information above, response times **will not exceed**:

* 1 second for the execution of 90% of simple queries;
* 3 seconds for the execution of 99% of simple queries;
* 3 seconds for the execution of 90% of complex queries;
* 10 seconds for the execution of 99% of complex queries;
* 3 seconds for the generation of 90% of reports;
* 10 seconds for the generation of 99% of reports;
* 3 seconds for the execution of 90% of document management activities;
* 10 seconds for the execution of 99% of document management activities.

The system must provide the above response times for at least 100 concurrent active users. The primary peak times expected in the system’s use are the following:

* during the normal working hours of contracting authorities (08:00 to 18:00) and near the submission deadline of each Call for Tender;
* during an electronic auction.

The system’s performancemust be monitored by the software that the Contractor will provide. The performance measurements must be included in the monthly reports submitted to the contracting authority. However, system administrators must be able to monitor the system’s performance themselves, thus they must have access to the monitoring software.

## Interoperability – Interconnectivity requirements

The eProcurement system must be based on a tightly coupled modular solution and on a secure and service-oriented architecture, facilitating the exchange of structured information with external information systems using different types of data sources.

The implementation of the system must follow open standards and use well-known and widely accepted technologies in order to ensure interoperability. Therefore, the following requirements must be fulfilled:

* The entire system implementation must be based on Internet (web-based) technologies, standards and protocols such as Service Oriented Architecture (SOA), XML-based communication protocols (SOAP and XML-RPC), TLSSSL etc.
* The system must implement the **Open Contracting Data Standard** to enable disclosure of data and documents at all stages of the contracting process.

It should be noted that tenderers must propose in the tender the integration model between the new eProcurement platform and other systems involved in the public procurement process. They must describe in detail the proposed integration model and present the reasons for their choice.

## Technical requirements

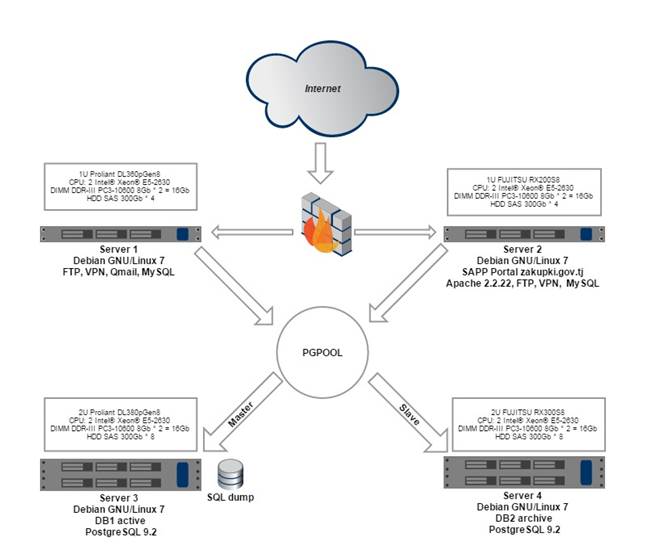
The following chapter explains the main technical requirements from application design and infrastructure perspectives. A detailed description of these requirements can be found in Annex 1.

### General requirements

Regarding its technical design and underlying infrastructure, the implementation of the eProcurement system must comply with several general requirements, highlighted below:

* The system interfaces must be based on the most recent version of the **Open Contract Data Standard**from the start of the project (<http://standard.open-contracting.org/latest/en/>).
* The system must be built using **open source solutions, custom made** (i.e J2EE) **or based on community solutions** (i.e. Liferay Community), configuring and customising this source code to the specific needs of the Tajikistan context. Additional development might be needed in order to integrate with the existing web portal.
* The system must be **hosted in the provided infrastructure, see detail:**
  + 1U HP Proliant DL360pGen8
    - CPU: 2 Intel® Xeon® E5-2630
    - DIMM DDR-III PC3-10600 8Gb \* 2 = 16Gb
    - HDD SAS 300Gb \* 4
  + 2U HP Proliant DL380pGen8
    - CPU: 2 Intel® Xeon® E5-2630
    - DIMM DDR-III PC3-10600 8Gb \* 2 = 16Gb
    - HDD SAS 300Gb \* 8
  + 1U FUJITSU RX200S8
    - CPU: 2 Intel® Xeon® E5-2630
    - DIMM DDR-III PC3-10600 8Gb \* 2 = 16Gb
    - HDD SAS 300Gb \* 4
  + 2U FUJITSU RX300S8
    - CPU: 2 Intel® Xeon® E5-2630
    - DIMM DDR-III PC3-10600 8Gb \* 2 = 16Gb
    - HDD SAS 300Gb \* 8
* Technical Environment of **the existing APP Portal**

|  |  |
| --- | --- |
| Item | Detail |
| Operating Systems | Debian GNU / Linux 7 |
| Web Server | Apache 2.2.22 |
| Programming Language | PHP 5.4, JavaScript, HTML 4.01 |
| Database | MySQL 5.5.38 |
| Third party APIs | None |
| Browser Support | InternetExplorer 7.0 or higher, MozillaFirefox 3 and above, GoogleChrome, Opera, Safari |

Figure . Current Infrastructure to host the final solution

* The Contractor must analyse and **ensure that each one of the proposed SW components are compatible and supported combinations** for the Servers infrastructure provided by the Government of Tajikistan.
* The system must **be structured in several modules, aligned with the conceptual/functional list of modules provided in this ToR. All this modules must be tightly coupled and use an standard protocol to communicate to each other if necessary.**
* The system should preferably use **SOAP/REST** protocol to exchange information with state registers.
* The implementation of the system must follow open standards and use well-known and widely accepted technologies in order to ensure interoperability, ease of use and scalability.
* It is understood that the contractor will deliver and transfer the source code and all the technical documentation to the government at the end of pilot operation phase:
  + **Source code**:
    - Branches according to each partial delivery and the final Trunk, using an open-source revision control system to maintain the code during the project and deliver its final version when the product is finished.
    - Comments: all the source code must be properly commented (methods, classes, etc.).
  + **Database documentation**:
    - Conceptual Database Schema - UML
    - Logical Database Schema – UML
    - Physical Database Schema - UML
    - Data Dictionary
  + **Architecture documentation**:
    - Class Diagrams - UML
    - Packages Diagrams - UML
    - Sequence Diagrams – UML
  + **Manuals**
    - User guide (including screenshots) describing each one of the features, for each one of the different roles (1 manual per role).
    - Administrator's Guide describing the maintenance tasks and the roll-out process step by step in each one of the environments.
    - Developer's Guide to maintain the source code, including best practices.
    - Developer's Guideto maintain or define new reports.
  + **Products documentation**: If the contractor decides to include COTS [[11]](#footnote-11)products in the final solution, all the technical documentation used for the customization and the perpetual license – if it’s licensed – must be delivered to the Government of Tajikistan.

### Technical architecture

Tenderers must describe in detail the proposed architecture and present the reasons for their choice.

It should be noted that the provisioning of IT equipment by the contractor is not envisaged in this project. Regarding the hosting of the eProcurement system in the infrastructure provided by the Tajikistan government, the system will be deployed on the existing infrastructure and managed by the operational team. The Contractor shall specify the necessary configuration to operate the system according to the requirements.

From a connectivity perspective, the servers will be interconnected in a Virtual Local Area Network (VLAN). The Contractormay suggest other network and utilities services necessary to operate the system, considering also external connections.

The Government of Tajikistan is looking for an open source solution that once delivered and in operation, does not involve any type of licensing costs. In case the Contractor choses to include some licensed solution in the final product, the cost of the perpetual license must be included in the offer.

The proposed technical architecture shall include and consider, at least, the components presented in the sections below. At the beginning of the execution of the project, the Contractor should check whether any existing components of the infrastructure can be reused,rather than adding new elements.

#### Web servers

These servers will host the front-end components of the different modules of the Central Unit, as well as the front-end part of some common services.

The setup of these servers shall provide robust failover and scalability capabilities to ensure high availability of the system and to support an increasing load.

#### Application servers

These servers will host the back-end components of the different modules of the solution, as well as the back-end part of some common services. They will alsohost the workflow and transaction engines of the system.

The setup of these servers shall provide robust failover and scalability capabilities. Therefore, it will be desirable to have a configuration with several application servers in web farm or cluster architecture with load balancing to offer the necessary redundancy.

#### Database servers

Database servers will host the database engines. The setup of these servers shall provide robust failover and scalability capabilities. It is recommended to foresee at least two database instances.

#### File servers or Document Management System

File servers will manage access to the file storage, such as Calls for Tender and bids documentation.

It will be desirable to have a Document Management System (DMS) instead of a raw File Server, to take advantage of the features regarding storing, versioning, searching and retrieving that this type of products offer.

This SW resource will support the functional requirements expected for the Document Management module, described in section 3.2.11.

An Open Source Enterprise Content Management solution (i.e. Alfresco Community) is allowed and desirable.

#### Storage solution

The storage solution will be used to store database, files and other data of the system. An initial capacity of 1Tb is required and will be upgradeable to 10Tb.

#### Authentication services

Authentication will be done based on User and Password and also Token. Integration between existing LDAP and the eProcurement system are within the scope of this project.

#### Antivirus / Anti-spam solution

This refers to hardware and/or software solutions to provide antivirus and anti-spam protection for all servers. Files must be scanned before confirming its acceptance. In case an infected file is detected, the uploading procedure will be stopped and the file will be rejected and the owner of the file notified.

These must be configured to automatically update virus-definitions on a daily basis during non-business hours.

#### Intrusion Detection System

This refers to the software solution – including all necessary agents for all servers – to scan both the DMZ and protected network, and will identify any unwanted attempt to access the servers.In addition, the contractor should organise penetration testing prior to the go-live.

#### Email services

The email service must allow to send communications to the users (emails accounts), allowing to process HTML code to customize the notifications and attach files.

#### Monitoring services

The monitoring service must guarantee that each transaction -either successful or unsuccessful - done in the system is properly stored in the Log with anuseful and understandable description and timestamp, so it can be reviewed by the Administrators of the system.

#### Backup solution

The Government of Tajikistan will acquire a Backup server. The Contractor must configure and define the backup protocol that better fits the needs of the system and the life-cycle of the information stored.

If this Backup server is still not acquired when this contract is awarded, the awarded contractor could be involved in the definition of the backup server’s characteristics for a better alignment with the proposed architecture.

#### Network equipment

It can be assumed that network equipment for the hosting of the system in Tajikistan data centre will be provided by its currentinfrastructure.

#### Firewalls

It can be assumed that firewalling capabilitiesthat meet the needs of the system will be provided by the current infrastructure.

# METHODOLOGICAL APPROACH

## Methodological approach

Given the requirements and the scope of the work previously described, tenderers must specify in theirtenders, the methodology that will be put in place in order to fulfil all the requirements and services specified in these Terms of Reference.

Tenderers should include a concise and clear description of the methodologies that they intend to use during the implementation of the system, covering all aspects of the project (execution of the contract, management of the project, development of the system, etc.). As a minimum, they should cover the following fields:

* project management;
* system development;
* training management;
* helpdesk, operational support, evolutionary development and maintenance and guarantee.

Generalities should be avoided. It is highly desirable that the proposed methodologies are shown to be relevant to specific project features, and to be smoothly applicable as a coherent set. The training plan for Public Procurement Agency, system administrators, as well as Procurement Officers, must also be covered by this methodological approach described in the tender.

The project phases and planning described in the following chapters are indicative and may help the tenderer to develop its methodological approach. Tenderers are welcome to develop their own methodological approach and project planning, provided that the main guidelines are respected, and that the objectives are met in a clear and coherent manner.

## Project phases, activities and deliverables

In order to develop and implement the electronic procurement system, the project must be divided into phases to lead it in the best possible direction. Through this organisation into phases, activities and deliverables, the total work of the project is divided into smaller components, thus making it easier to monitor. The phases presented below are indicative, and tenderers can propose a different phase breakdown of the project. Nevertheless, the specific activities, deliverables and deadlines described in the following paragraphs are mandatory. If tenderers propose a different organisation of the project, it must be justified and in accordance with their methodological approach.

### Phase 0: Inception phase

The aim of the inception phase is to clarify the scope, objectives and feasibility of the project. In the inception phase, the Contractor must carry out the following activities:

* establish the project’s head office in Tajikistan if necessary;
* indicate the implementation team per phase;
* organise the kick-off meeting in Tajikistan;
* organise and conduct meetings with key persons and representatives from relevant institutions;
* become familiar with the relevant legal and strategic documents, specifications and standards;
* establish the Project Steering Committee;
* refine the scope of each module and phase. In so doing, all processes, sub-processes, activities and tasks must be listed;
* establish the final methodology;
* provide a detailed work plan;
* prepare the inception report.

The kick-off meeting between the Contractor and the Beneficiary will be held approximately five working days after the contract signature and will mark the end of the inception phase.

Deliverable 1:Inception report

Submission: At the end of the inception phase.

Minimum content: This report must contain all relevant information to be provided, as agreed during the inception phase.

### Phase 1: Definition phase

The aim of this phase is to specify, as clearly as possible, the requirements that are associated with the project result. Consequently, all the components of the project will be subject to thorough reviewed and approved by all parties. This phase aimsto conduct a full system analysis in order to verify all issues related to the system development. This analysis must achieve the following aims:

* identify any changes in legislation, procedures or national organisational structures that may have occurred after these Terms of Reference were defined;
* attempt to optimise the requirements of these Terms of Reference;
* review the software and hardware components of the system;
* review the services included, such as training, support, help desk, etc.;
* redefine the agreed phases of the project and its activities. Define the parties involved, and their roles and responsibilities;
* confirm the planning of the project;
* define the administrative mechanisms for the management of the project (i.e. project and quality management, communication etc.);
* define the training requirements per target group in terms of content, programming etc.;
* define the requirements of the physical location (site preparation study), where the system will be installed (computer room requirements, networking, etc.);
* define appropriate indicators of achievements and milestones.

Deliverable 2:Definition report

Submission: At the end of the definition phase.

Minimum content: This report must include the analysis of all the information described above in an organised manner, describing each point clearly and drawing the corresponding conclusions. Therefore, this deliverable must include the following information:

* relevant changes that have occurred in the PPLand their impact on the system (if applicable);
* system security policy proposal;
* awareness raising and promotion strategy report;
* project management plan;
* quality management plan;
* risk management plan;
* trainingplan.

### Phase 2: Design phase

The aim of this phase is to develop the functional and technical design of the system, with which it is assumed that the project result can be achieved, in accordance with the Terms of Reference and the definition report performed in the previous phase. This phase can include diagrams, sketches, flow charts, site trees, etc., in order to define the design of the future platform and choose the definitive design. It cannot be changedat a later stage of the project.

Deliverable 3:Functional design for each module

Submission: During this phase, the functional design of each module must be individually developed, validated and delivered.

Minimum content: This deliverable must include the functional design of the platform, with a breakdown per module and with the objective of deciding the final design of the platform.

Deliverable 4:Technical design for each module

Submission: When the functional design of each module is approved, the corresponding technical design must be completed, validated and delivered.

Minimum content: This deliverable must include the technical design of the platform, with a breakdown per module and with the objective of deciding the final design of the platform.

### Phase 3: Development and implementation phase

The aim of this phase is to develop and implement the eProcurement system designed in Phase 2. This phase is complete when the implementation hasconcluded. The system must be completely installed and ready to be used by the end of this phase. The development must adhere to the deadlines stipulated inChapter 5. In order to fulfilthese objectives,delivery of partial working versions of the system will be expectedwhile it is still under development.

The languages of the system must be Tajik, English and Russian.

Deliverable 5:The system.

Submission: At the end of the phase (with partial working versions to carry out small value procedures).

Minimum content: The working system constitutes the deliverable of this phase.

### Phase 4: Testing phase

After successfully passing the system tests performed by the Contractor’s project team, the system must be delivered to the users, in order to be tested. The aim of this phase is to test the system and acquire the validation needed for its launch. Test protocols will be defined by the Contractor for approval the PPA, whom will conduct the testing with the assistance of the Contractor, to demonstrate that every aspect of the functional and technical specifications has been met.

The following tests must be conducted as a minimum:

* The **entire workflowfor all public procurement procedures** implemented in the system will be tested.
* The **systemintegration and interoperability** shall be tested.
* **All the modules** integrated in the eProcurement system must be tested alongside the procurement workflow.

The aimof these tests is to check if the system as a whole fulfils both functional and technical requirements. Once the system passes the tests successfully, the PPA will validate the system, and it will be ready to be launched.

This phase is composed of two different sub-phases. The first one should cover the definition and preparation of the testing sessions (testing plans, testing cases, etc.). The second sub-phase consists of testing sessions with users, in order to validate the system.

Tenderers may propose delivering the modules progressively, in order to facilitate the testing phase. Tenderers must specifythe planning for the testing phase and the methodology for the validationof the system (necessary for its go-live).

Deliverable 6:Testing plan

Submission: Two weeks before the start of the tests.

Minimum content: This deliverable must include a completed list of activities and all the business cases needed to ensure that the system fullymeets the requirements.

Deliverable 7:Test report

Submission: At the end of each testing session.

Minimum content: This deliverable must include the results of the testing sessions, with conclusions.

### Phase 5: Pilot operation phase

Before the complete deployment of the system, it is important to create an electronic procurement environment, in order to verify the actual conditions of its operation. Therefore, a pilot operation phase is foreseen, during which the system will be first used by a small number of contracting authorities, and then deployed to the rest of them. The contracting authorities involved in the pilot will be of a diverse nature.

The pilot operation will serve as an extensive testing phase of the system. The pilot operation of the system will provide important data in regard to the following points (amongst others):

* functionality or performance problems;
* the ability of contracting authorities’ staff to accept the system and use it efficiently, as well as the disturbance it produces in the normal way of conducting business;
* the efficiency and effectiveness of supporting mechanisms (helpdesk, operational support, etc.).

During the pilot operation phase, the Contractorwill be expected to resolve any functionality or performance problems that may be identified, and to provide operational support and helpdesk services, which are detailed in Phase 7: Go-live and support.

The pilot phase can also be used for training and dissemination activities,and the registration of users in the system.

Following the incorporation of corrections and improvements made as a result of the pilot operation phase, the system will be deployed to the rest of the contracting authorities. This means that the system will be fully operational and open to all of its potential users (Contracting Authorities and economic operators). However, the system operation will continue to be closely monitored by the PPA and the Contractor, in order to identify minor-scale problems and opportunities for improvement or fine-tuning.

Upon successful completion of the pilot operation phase, the system will be accepted by the PPA, and will move on to the guarantee and maintenance phase (Phase 8).

Deliverable 8: Pilot operation report

Submission: At the end of the pilot operation phase (divided by the first and second pilots).

Minimum content: This deliverable must include the results of the pilot operation phase.

The Contractor shall transfer all functional and technical documents and knowledge to the PPA at the end of pilot operation phase. A knowledge transfer plan must be defined.

The deliverables of this phase must include at minimum:

Deliverable 9: Source code, as stated in section 3.5.

Submission: As stated in section 3.5.

Minimum content: This deliverable must include the fully documented source code of the whole system and its interconnections, the consistent indentation, the code grouping and the consistent naming scheme.

Deliverable 10: All updated system documentation, as stated in section 3.5.

Submission: At the end of this phase.

Minimum content: This deliverable must include all the documentation related to the functioning of the system.

Deliverable 11: Transfer plan

Submission: At the end of this phase.

Minimum content: This deliverable must include a plan to transfer all knowledge acquired by the Contractor to the PPA and/or the new Contractor if applicable.

### Phase 6: Training phase

The Contractor must organise and deliver several services regardingthe training of the system users (PPA, contracting authorities and economic operators) and administrators(PPA).

Upon completion of the project, the eProcurement system will cover all regions of Tajikistan, and the Procurement Officers thatunderwent training will be able to effectively fulfil their roles via a web-based electronic system.

As an outcome of Phase 6, after completing the course, trainees will:

* understand the essence of the Tajik public procurement legislation;
* understand the principles of the eProcurement system and its operation;
* understand the importance of proper planning and monitoring of public procurement procedures;
* receive explanations on the practical use of eProcurement system and its modules;
* know how to avoid the most common mistakes in everyday practice;

According to the training plan that will be finalised during the definition phase, the Contractor will provide, at minimum,the following services:

* **Training of at least 10 people from the PPA, and the qualified CAs** on the use of the system. The courses should aim at enabling the staff to perform their roles within the eProcurement system, as well as potentially giving them the competence to train other people on the use of the system.
* **Training of approximately 5 people (administrators) from the PPA on the administration of the system**. This specialised training aims at giving the administrators an in depth understanding of the whole system, in order to enable them, at a later stage, to monitor and control it.
* **Preparation of an e-Learning environment** for self-training and online training (guidelines, exercises, video tutorials, etc.) for procurement officers and EOs.
* Preparation of **user and operation manuals** for PPA, CAs and EOs.
* **Presentation sessions of the system for EOs** (at least 5).

Most of the training will take place in Dushanbe. Nevertheless, training for contracting authoritiesand economic operators may take place in other locations within Tajikistan.

For both users and administrators, classroom education is foreseen, including hands-on system training. Trainees (users and administrators) will be divided into several groups.

Courses will be held in theTajik language[[12]](#footnote-12) in accordance with the training plan specified in the definition report. The Contractor must provide the infrastructure required for the provision of the training services (classrooms, workstations, networking facilities, catering facilities, etc.). The above facilities must be described in the technical offers of the tenderers while the related cost must be separately includedin their financial offers. The PPAmay provide the training infrastructure described above. The training will include a test phase and passed attendants shall receive an accreditation on their competence in the system.

The training programme will cover both theoretical and practical issues, and feature exercises and real cases. It will incorporate the following topics, at minimum:

* general overview of public procurement;
* eProcurement system and its architecture;
* planning of public procurement;
* electronic tenders;
* bidding and evaluation procedures;
* contract management of public procurement;
* reporting.

The Contractor must prepare and deliver adequate training materialsto the participants,in paper and electronic form before each course. Preparation of training materials and training sessions may require inputs from additional staff.

A logistics team that will help prepare and organise training sessions in the regions of Tajikistan, as well as engage trainers suitable for conducting face-to-face and distance learning training shall support the Contractor.

Therefore, the deliverables of this phase include at minimum:

Deliverable 12:Training materials

Submission: Two weeks before the training sessions.

Minimum content: This deliverable must include the training materials for all the participants in the training courses, in paper and electronic form.

Deliverable 13:Training evaluation report

Submission: At the end of this phase.

Minimum content: This deliverable must include:A summary, in chronological order, of all the training sessions carried out by the Consultants; a description of any lessons learned in the process of training.

Deliverable 14:User and operation manuals

Submission: Two weeks before the training sessions.

Minimum content: This deliverable must include the manuals and guidelines of the system.

### Phase 7: Go-live and support phase

This phase must include the go-live of the system and user support. The Contractoris expected to resolve any functionality or performance problems that may be identified, and to provide operational support and helpdesk services for a 23-monthperiod.

**Operational support**

The scale of operational support needed will be variable during the development of Phase 7. While less support should be needed for the initial pilot, as users accessing the system increase, greater support will be necessary. The Contractor shall specify the staff dedicated to support in each phase of the project.

The operational support will be offered on a full-time basis during normal working hours and shall include at least the following:

User support services

* on-the-job training of PPA staff;
* training of new users of the system (i.e. in case of new hires, transfers, substitutions, etc.);
* second-level technical support;
* onsite user support, when necessary.

System administration support services

* monitoring of the system’s operation;
* technical support services for the administration and fine-tuning of:
* the application, system and RDBMS[[13]](#footnote-13) software;
* the networking components;
* problem identification and solving;
* security management (backups, access rights, log files, system security updates and patches, etc.).

Updating services

* small-scale implementation services (i.e. creation of new reports, updates of system’s screens, etc.).

**Helpdesk**

During the go-live and support phase, the Contractoris also expected to provide helpdesk services. The helpdesk servicewill be available to users within the system (PPA), for whom it will provide telephone support regarding the use of the system.

The helpdesk servicemust satisfy the following requirements:

* the helpdesk must be available during normal government working hours, five days a week, excluding official government holidays in Tajikistan;
* the helpdesk must be available viatelephone (local call rate) and email, and must be located at the Beneficiary’s premises;
* all calls must be answered within three minutes (maximum waiting time);
* high volumes of traffic are expected near the submission deadlines of public tenders;
* at least 75% of issues must be resolved by helpdesk agents;
* missed calls must account for less than 5% of total calls;
* thehelpdesk language shall be Tajik, English and Russian;
* helpdesk availability must be over 95%.

For the monitoring of the above metrics, the helpdesk must be supported by suitable IT infrastructure. The Contractor must provide direct access to this infrastructure, if requested by the PPA.

Regarding the minimum service level required, incidents will be prioritisedaccording to their urgency and impact:

Table . Classification by urgency of system incidents

|  |  |
| --- | --- |
| **URGENCY** | |
| **Level of urgency** | **Description** |
| High | * It affects access and / or use by all users * It affects citizens |
| Medium | * The number of users affected is ≥ 50 |
| Low | * The number of users affected is < 50 |

Table . Classification by impact of system incidents

|  |  |
| --- | --- |
| **IMPACT** | |
| **Level of impact** | **Description** |
| High | * Unavailability of the service * Security infringement * Incident may cause legal infringements |
| Medium | * Errors that cause a malfunction of the service |
| Low | * Functional errors |

The priority of incidents will be calculated using the following matrix:

Table . Matrix of classification of system incidents

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | **URGENCY** | | |
| **High** | **Medium** | **Low** |
| **IMPACT** | **High** | P1 | P2 | P3 |
| **Medium** | P2 | P3 | P4 |
| **Low** | P3 | P4 | P5 |

The tenderer shall indicate in his or her offer, the mechanisms used to ensurethe proper execution of work, according to the minimum required service levels, as follows:

Table . Minimum SLAs for system incident resolution

|  |  |  |  |
| --- | --- | --- | --- |
| **Priority** | **Description** | **Maximum time for reply** | **Maximum time for resolution** |
| P1 | Critical | 1 working hour | 8 working hours |
| P2 | Important | 1 working hour | 16 working hours |
| P3 | Moderate | 1 working hour | 36 working hours |
| P4 | Low | 1 working hour | 48 working hours |
| P5 | To be planned | 20 working hours | to be planned |

The helpdesk service shall be transferred to the PPA upon completion of the pilot phase. The tenderer must define a strategy to transfer the helpdesk to the PPA.

### Phase 8: Guarantee and maintenance phase

The aim of this phase is to guarantee that use of the system begins after the final acceptance of it. During this phase, the Contractor must ensure the evolution of the system and must fix all problems as specified in this section that may occur, at no additional cost to the contracting authority.

The guarantee and maintenance phase must include:

* evolutionary development during 12 months after the final acceptance of the system;
* maintenance and guarantee of services during 12 months after the final acceptance of the system.

In the offer, the tenderer must specify the project team (staff category), and the person/days and rates per category included for the evolutionary maintenance during the one-year duration of this activity. The offer must include at least 2850 hours without extra costs for the contracting authority.

Other additional services, including new functionalities and developments not foreseen in the current ToR and outside of evolutionary maintenance that may be required during the guarantee and maintenance phasewill be providedat an extra cost to be agreed between the Beneficiary and the Contractor. However, tenderers shall include a unit cost for these additional services in their financial offers (rates per staff category).

The services required for the maintenance and guarantee phase include:

* two-hour guaranteed response time[[14]](#footnote-14);
* a one to 48-hours (depending on the severity of the damage) breakdown repair service available on all days, including weekends and official government holidays, during working hours;
* a record of the preventive maintenance and breakdown visits, kept by the servicing organisation. This record shall contain a brief description of the maintenance and repairs carried out, and shall be submitted to the contracting authority at the end of eachsix-month maintenance period;
* preventive maintenance on a yearly basis, during which the Contractor shall check and test the operational state of the software;
* diagnosis and correction of errors found in the application software;
* supply, installation and testing of application patches, and/or amendments (upgrades are not mandatory) and bug fixing;
* supply, installation and testing of new versions, releases or editions of the system software, including relevant manuals and documentation;
* reinstallation of corrupted software;
* tuning of the system at least once a year to maintain the required levels of performance, reliability and security;
* telephone and technical support available during normal Tajikgovernment working hours, five days a week, excluding official Tajikgovernment holidays.
* the support must be available in both theTajik and English languages.

Once the guarantee and maintenance phase has been finished, the PPA will have the opportunity to extend the guarantee and maintenance contract for another two years under the same conditions as the current project maintenance without the need to launch a new procurement procedure. This period may be extended for an additional two years, should the supplier and the system owner agree to it. However, tenderers shall present a unit cost for extension the guarantee and maintenance contract for another two years on the request of PPA.

The Contractor shall transfer all functional and technical documents and knowledge to the PPA at the end of pilot operation phase. A knowledge transfer plan must be defined.

The deliverables of the guarantee and maintenance phase must include at minimum:

Deliverable 15:Final report

Submission: At the end of this phase.

Minimum content: This deliverable must include the project evolution, the problems encountered, the solutions provided and the lessons learnt.

## Submission and approval of deliverables

For the submission and approval of deliverables, a specific method must be detailed. This method must include the following documents:

* deliverables mentioned in Chapter 5.2;
* minutes of the meetings;
* monitoring reports;
* management reports;
* system validations;
* other relevant documents.

The deliverables must be written in either Tajik, Russian or English.

Candidates may propose which method to follow for the submission and approval of deliverables, as well as the frequency, and the person responsible for elaborating, reviewing, delivering and correcting the documents.

The deadlines and correction procedures for deliverables, as well as the remedies and fines payable by the Contractor if a satisfactory result is not reached within acceptable time limits, will be defined in the contract.

# PLANNING

## Introduction

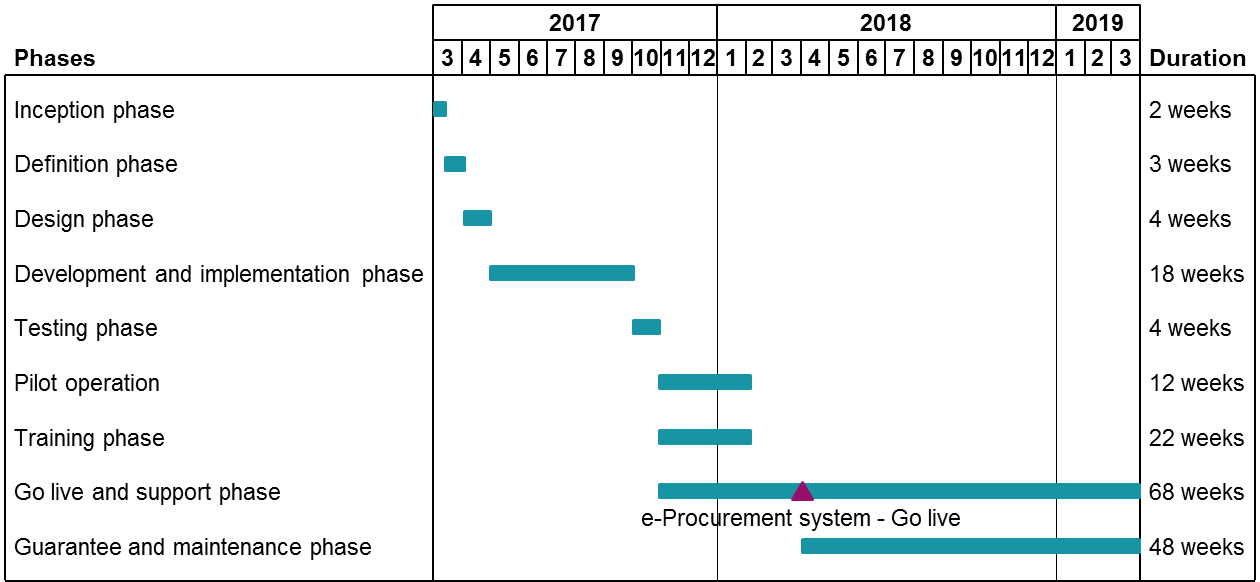
The planning establishes the timings for each of the phases outlined in the previous section. The development of the system is planned for completion within nine months. Additionally, a 12-month maintenance phase is foreseen after the system goes live.

The project will have to be performed following the project phases proposed in Chapter 4.2, with the corresponding activities and deliverables. At the end of the first stage, the eProcurement platform with the associated modules and requirements must be functioning for use by all stakeholders and in all procedures.

## Planning and milestones

An indicative time schedule for the project is shown below. Definition, design, development, testing and pilot phases are conducted in parallel, as different releases of the system are expected to be delivered during the project execution.

Figure . Time schedule for the implementation of the new eProcurement system in Tajikistan



The expected milestones are listed below:

Table . Main milestones of the project

| **Phase** | **Deliverable** | **Deadline**  (from the start of the project) |
| --- | --- | --- |
| Inception phase | Inception report | 0.5 months |
| Definition phase | Definition report | 1 month |
| Design phase | Functional design for each module | 2 months |
| Technical design for each module | 2 months |
| Development and implementation phase | The system | 7 months |
| Testing phase | Test plan | 7 months |
| Test result report | 8 months |
| Source code | 10 months |
| System documentation | 10 months |
| Training phase | Training materials | 8 months |
| Training evaluation report | 13 months |
| User and operation manuals | 13 months |
| Go-live and support phase | Go-live of the system | 13 months |
| Guarantee and maintenance phase | Final report and deliverables | 21 months |

# PROJECT ORGANISATION

## Responsible body

The PPA will be the responsible body for implementing the eProcurement system.

## Beneficiary: management structure

For the follow-up of the correct implementation of the project during its different phases, the following roles will be appointed:

* **Project Director:**Timely dedication. The Project Director supervises and coordinates the overall progress and implementation of the project components, defines priorities, provides guidance, and evaluates and approves the results. He/she will be the representative of the contracting authority in the Project Steering Committee.
* **Project Manager:**Partial dedication. The Project Manager will be responsible for the whole coordination of the project, and is the authorised official to submit all the official documents of the project to the Project Director and the Project Steering Committee for approval. The Project Manager will participate in the validation of the system deliverables and the acceptance of the system.
* **Public Procurement Experts**: Partial dedication. Public Procurement Experts, including legal and public procurement process experts from the PPA, will actively participate in the definition phase, in order to determinethe system requirements,together with the Contractor.
* **Representatives of key areas**: Partial dedication. Different officers may be appointed as representatives of key areas, in order to advisethe implementation team in their areas of expertise. The representatives of key areas will participate in the validation of the system deliverables and the acceptance of the system.

## Contractor: management structure

The team structure from the Contractor’s side is indicative, and tenderers are invited to propose their own team structurein their tenders, justifying the advantages of the model proposed, and clearly stating the responsibilities and duties of each role appointed. The CVs of the proposed team must be included in the tenders.

However, the following profiles must be defined in the management structure of the Contractor (at minimum):

* **System Delivery Manager (SDM):**Timely dedication. The SDM will be the counterpart to the Project Director on the Contractor’s side, and is the Contractor’smain responsible for the delivery and implementation of the system. He/she will be the representative of the Contractor in the Project Steering Committee. His or her qualifications shall be as follows:
* bachelor’s degree, in information technologies or any other relevant field;
* good command of written and spoken Russian and English;
* preferably 15 but at least 10 years of professional experience;
* experience as System Delivery Manager for at least 5 years;
* experience in the establishment or management of technology development;
* experience in designing and/or developing and/or implementing and/or managing at least one major software development project related to public procurement or eProcurement solutions.
* **Project Manager (PM):**Full dedication. He/she will be the formal contact person and will be responsible for the overall delivery of the project’s results. The PM must be responsible for establishing the work plan according to the milestones agreed, drafting and submitting the execution reports, and proposing adequate solutions for the correct implementation of the system. His or her qualifications shall be as follows:
* bachelor’s degree, in information technologies or any other relevant field;
* good command of written and spoken Russian and English;
* at least 10 years of professional experience;
* at least 3 years of experience as a Project Manager;
* experience in implementation of an eProcurement system would be an asset.
* **Project teammembers (non-exhaustive list):**Several roles may be defined by the Contractor in order to ensure efficient delivery of the services required: Team Coordinator, Technical Manager, Training Coordinator, e-Government/Procurement Expert, Operational Support, Programmers, etc. The project team will cover the following requirements:
* two certified technical staff with experience in development or installation of at least one similar information system;
* one certified technical staff with experience in development or installation of at least one eProcurement solution;
* two certified technical staff with experience in development or installation of public sector solutions;
* two certified technical staff with extensive and proven experience in software integrations and highly complex system architectures.

## Project coordination and follow-up

In the context of the project, a number of formal meetings are foreseen in order to manage, monitor and control the project development and implementation.

The Contractor shall propose the project coordination and follow-up mechanisms, implementing at least the following instruments:

* **Project Steering Committee** (monthly): In these committees, the objective will be to discuss major issues related tothe project results, overall schedule, and identified risks. Major decisions about the project’s next steps or contractual terms will also be agreedupon by the Steering Committee. It will be composed of at least the following stakeholders: WB, Ministry of Finance andPPA.
* **Follow-up meetings** (fortnightly): A meeting will be held fortnightly with at least the PMs from both sides and the leading members of the technical and functional teams. These meetings will allow discussion of the on-going project execution and definition of future project activities.
* **Review meetings** (ad-hoc): Every time a major piece of the project scope is delivered, a meeting will be held to validate its results. Changes or amendments to the presented deliverables can be agreed during these meetings. The participants of these meetings will be the PMs from both sides, and the team members who have participated in the deliverable execution.
* **Specific workshops** (on demand): These workshops will be scheduled during follow-up meetings and will have specific objectives, mainly related to the further development of the project deliverables, and gathering the requirements and feedback of the main project members.

The following table illustrates which members are foreseen as minimum participants from the PPAand the Contractor’s sides. However, any additional person who may be considered as necessary will be invited additionally:

Table . Follow-up mechanisms

| **Meeting** | **Mandatory** | | **Optional** | |
| --- | --- | --- | --- | --- |
| **Contractor** | **PPA** | **Contractor** | **PPA** |
| **Project Steering Committee** | System Delivery Manager  Project Manager | Project Director  Project Manager | Other team members | Representatives of key areas  Other technical team members |
| **Follow-up meetings** | Project Manager  Members of the team responsible for the technical and the functional areas | Project Director  Project Manager | Other team members | Other technical team members |
| **Review meetings** | Project Manager  Members of the team responsible for the technical and the functional areas | Project Director  Project Manager | Other team members | Other technical team members |
| **Specific workshops** | Members of the team responsible for the technical and the functional areas | Project Director  Project Manager | Project Manager  Other team members | Project Manager  Technical Project Manager |

The Contractor shall be aware that during the inception phase, the project coordination mechanisms will be reassessed and may vary.

## Reporting requirements

The Contractor’s Project Manager must submit, on behalf of the Contractor, at least the following reports (in addition to the deliverables mentioned before).

Table Reporting mechanisms

| **Report** | **Submitted** | **Minimum content** |
| --- | --- | --- |
| **Inception report** | At the end of the inception phase, no later than one month after the start of the project | * Review of the project objectives and environment |
| **Project Steering Committee report** | After each Project Steering Committee | * Minutes of the Committee * Progress on all activities within the project * Problems encountered * Possible solutions * Activity scheduling |
| **Follow-up meeting report** | After each follow-up meeting | * Minutes of the meeting * Progress on the activities * Problems encountered * Possible solutions * Activity scheduling |

The Contractor shall be aware that during the inception phase of the project, reporting mechanisms will be reassessed and may be amended to actual needs of the beneficiary.

# LOGISTICS AND TIMING

## Location

The technological development activities will be performed off-site (at the Contractor premises). The Contractor shall specify in the tender,which office accommodation needs must be provided by the government of Tajikistan (i.e. workplaces) for specific actions that may require close collaboration with government officers. Nevertheless, it must be kept in mind that the possibilities of accommodation by the government are limited and must be reduced to the minimum necessary.

## Facilities to be provided by the Contractor

The Contractor must be able to provide physical support to the users of the system in Tajikistan,and have a local representative that will bear the responsibility for the system and act as contact point with the contracting authority via a local office or establishment in Tajikistan. The Contractor must also transfer funds as necessary to support its activities under the contract, and to ensure that its employees are paid regularly and in a timely fashion.The Contractor will support the expenses related to the implementation of the project. The following is also to be provided by the Contractor and be covered by the general budget:

* all required equipment for the project: computers, software, printer, photocopier;
* backstopping services at headquarters.

The Contractor shall ensure adequate resources fortranslation/interpretation, printing, etc. as required by the project’s activities.

## Commencement date

The contract is expected to be signed in March 2017 and the project should start on the effective signing date of the contract.

# MONITORING AND EVALUATION

## Definition of milestones – Indicators of achievement

A list of indicators of achievementhas been defined to monitor the project implementation. Any other indicators suggested by the tenderer may be taken into account to monitor the implementation performance. The indicators already defined are as follows:

* full compliance with the requirements of the Community acquis in the area of public procurement (Design phase);
* electronic public procurement system in place at the end of the project activity and operating within the context of the legislation (Go-live and support phase);
* all training activities carried out in accordance with the content and timetable specified in the successful tender (Training phase);
* system Administrators, contracting authorities, and economic operators are able to use the system effectively and efficiently by the end of the contract as specified in the system description (Guarantee and maintenance phase);
* promotion strategy and materials are available at the time specified in the successful tender (Go-live and support phase).

Tenderers must study and consider the above indicators of achievement and milestones during the preparation of their tender and time plan, and should explainthe waysin which they will take them into account. Tenderers shall also include the waysin which they will assess achievement of the above indicators and milestones stipulated in Section 5.2:Planning and milestones.

Tenderers can propose a set of new indicators of achievement and milestones in their offers. These will be taken into consideration by the Beneficiary and they will be agreed during the definition phase.

## Special requirements

The software developed and installed within the project, and all associated documentation developed within the project are destined to be under the ownership of the Beneficiary. The system will be developed as an open source solution without IPR applicable.

The monitoring of activities is the task of the Contractor, who is responsible for optimum time scheduling and the provision of conditions for effectively achieving the work assigned. The contractor shall report the status of these activities as specified in Chapter 6.5: Reporting requirements.

# ANNEX 1. COMPLIANCE TABLES

## Functional requirements

The following section details, the minimum functional requirements for each of the modules of the eProcurement system.

### Web portal

| **Web portal** | | |
| --- | --- | --- |
| **#** | **Activity** | **Requirement** |
| FR-001 | Public procurement information | The eProcurement web portal MUST contain general information about the public procurement process (i.e. instructions to participate in tenders, fees applicable, etc.). |
| FR-002 | Public procurement information | The portal MUST provide information about all active tenders and historical data. |
| FR-003 | Interface | The portal MUST have a user-friendly interface. Visual design and navigation characteristics MUST be coherent in all sections. |
| FR-004 | Interface | The portal MUST be multilingual, supporting at least Tajik, English and Russian. |
| FR-005 | Interface | The portal MUST have a back-office for content administration. |

### eRegistration

| **eRegistration** | | |
| --- | --- | --- |
| **#** | **Activity** | **Requirement** |
| FR-006 | Users registration | The different users of the contracting authority MUST be able to register to the platform. |
| FR-007 | Users registration | The different users of the contracting authority MUST be able to get access to the platform. Platform access SHALL be free of charge with no requirement for user licenses. |
| FR-008 | Users registration | Different users of the economic operator MUST be able to register to the platform and different access levels may be set. |
| FR-009 | Users registration | Economic Operator users’ MUST be able to register and log in the system with their username and password |
| FR-010 | Users registration | Administrators MUST be able to register economic operators and contracting authorities in the system. |
| FR-011 | Users registration | The system MUST validate the minimum organisation/user profile details are filled prior registering them. |
| FR-012 | Users registration | The platform SHOULD allow registration of informal and formal joint ventures (JV, consortia, etc.) which may be formed for particular tenders and required details including country of registration of all JV members to be captured. This SHALL require individual company registrations in the platform, with a lead partner identified as the point of contact. |
| FR-013 | Users roles | The different users of the economic operator MUST be able to get access to the platform, according to pre-defined roles. |
| FR-014 | Users roles | Users MUST be authorised to perform more than one role in the system |
| FR-015 | Users roles | The module MUST allow setting up a flow to activate the users in the platform. |
| FR-016 | Users management | The administrator MUST be able to modify the user role of a user and modify specific information in a user profile. |
| FR-017 | Users management | The facility MUST allow economic operators to maintain their address, phone, email, fax and contact details. It SHALL also enable economic operators to indicate their company size. |
| FR-018 | Users management | The module MUST allow disabling users/Economic Operator profiles. |
| FR-019 | Users management | The module MUST allow to view the details and managing the EO and CA profiles. |
| FR-020 | Users management | The module MUST include a dashboard to centralise the management of the economic operators' information. |
| FR-021 | Users management | The module MUST allow the economic operator to download and upload documents. |
| FR-022 | Users management | EO users MUST be able to view/modify the profiles of their organization and respective users. |
| FR-023 | Users management | The administrator MUST be able to search in the whole list of CA, EO and other users and export the results in commonly-used file formats. |
| FR-024 | Users management | EO users MUST be able to search for CAs and their users. |
| FR-025 | Users management | CA users MUST be able to search for EOs and their users. |
| FR-026 | Security | The system MUST automatically logout authenticated users if they remain inactive for a pre-specified period of time. |
| FR-027 | Security | A "forgot password" mechanism MUST be made available to the users. |
| FR-028 | Security | Users MUST be locked out of the system after a specific number of failed log-in attempts. |
| FR-029 | Security | Re-activating a "locked" account MUST be possible to Administrator users. |
| FR-030 | Security | All communication between the module and the user MUST be carried out in encrypted mode and recorded in the system’s logs. |
| FR-031 | Security | The user information kept in the module MUST also be stored in encrypted mode. |
| FR-032 | Security | Users could be obliged to accept a User Agreement / Terms and Conditions text before obtaining access to the full system functionality. |

### ePlanning

| **ePlanning** | | |
| --- | --- | --- |
| **#** | **Activity** | **Requirement** |
| FR-033 | Monitoring tools | The module MUST provide tools to monitor the procurement planning developed, withvisibility on different characteristics (the type of procedures used, the total expenditure on individual procurements in relation to the APP forecast, and other indicators that MUST be defined during the definition phase). Only authorised users MUSTbe granted access to this information dashboard. |
| FR-034 | Amendments | The module MUST allow for the amendment of the planning during the year. |
| FR-035 | Module interface | Front-end of theePlanning module MUST be user-friendly. |
| FR-036 | APP preparation | The module MUST allow CAs to load a pre-defined APP in electronic format, and complete and validate the pre-defined information. |
| FR-037 | APP preparation | The module MAY be able to build new APPs based on previous ones. |
| FR-038 | APP preparation | The module MUST permit publication of the APP in a structured format. |
| FR-039 | APP preparation | The module MUST allow modifications and updates to the APPs already published. |
| FR-040 | APP preparation | The module MUST keep a record of the modifications made to the APP, and maintain each of the documents according to the date of publication. |
| FR-041 | APP preparation | Authorised users MUST be able to export the APP in electronic format. |
| FR-042 | APP preparation | The system MUST provide the option to define a deadline for the submission of the CA plans. |
| FR-043 | APP preparation - offline | It MUST be possible to download an APP template based on the online forms. This APP template will be completed offline and afterwards uploaded in the system, which will retrieve data from it and incorporate it in the online forms. |
| FR-044 | APP preparation - offline | If the data introduced in the APP offline template is not correct, the introduction of data in the system MUST be interrupted and corrections requested. |
| FR-045 | APP preparation - offline | The procurement plan template MUST indicate the minimum information required in order to be accepted. |
| FR-046 | APP preparation - offline | The system MUST allow to update newer versions of a procurement plan before the deadline, replacing the previous version and keeping historical data |
| FR-047 | APP Management | The system MUST provide a facility to monitor CAs that have not submitted procurement plans. |
| FR-048 | Aggregation of demand | The system MUST allow final consolidation of procurement plans to be performed by the Public Procurement Agency |
| FR-049 | APP Publication | The system MUST support the publication of the consolidated procurement plans. |

### eAccess

| **eAccess** | | |
| --- | --- | --- |
| **#** | **Activity** | **Requirement** |
| FR-050 | Tender workspace creation | When creating a Call for Tenders, the module MUST make available to the Procurement Officers a virtual workspace for storing all Call-related information. |
| FR-051 | Tender workspace creation | CAs MUST be able to define the users involved in the tender and assign their roles. |
| FR-052 | Tender workspace creation | This virtual workspace MUST allow authorised users to provide core information about the procurement, such asthe tender name, description, estimated value, etc., and provides the functionality for uploading documents, such as Notices, Contract Documents, clarifications, etc. |
| FR-053 | Tender workspace creation | The virtual workspace MUST execute validation checks on the data submitted to the platform and prompt the user (Procurement Officer) to complete mandatory fields and provide valid data. No contradicting information can be submitted (i.e. open procedure with a bid submission time of 1 day). The validation checks are to be defined during definition phase. |
| FR-054 | Tender workspace creation | The tender workspace MUST be used as the area for storing tenders submitted by all users involved and tenderers and all logically related data of a Call. |
| FR-055 | Tender workspace creation | Information stored in a tender workspace MUST be accessed and/or manipulated by authorised users only. |
| FR-056 | Tender workspace creation | Some activities MUST only be possible when certain events have already taken place (i.e. accessing the details of a tender MUST only be possible for authorised personnel after tenders are securely opened, following the four-eye principle). |
| FR-057 | Tender workspace creation | Workspace MUST allow the creation of tenders with lots. |
| FR-058 | Tender workspace creation | CAs MUST be able to modify the details of a Tender workspace and the documents uploaded. |
| FR-059 | Tender workspace creation | CAs MUST be able to copy the details of a tender for the creation of a new Tender workspace. |
| FR-060 | Tender workspace creation | CAs MUST be able to cancel a Tender. |
| FR-061 | Preparation of the awarding criteria | The module MUST assist Procurement Officers to define all parameters for the evaluation of tenders. |
| FR-062 | Workflow preparation | The module MUST provide adequate workflow functionality. |
| FR-063 | Workflow preparation | For each type of procurement procedure supported (Open Tender, Restricted Tender, Request for Quotations, single source, etc.) by the platform, alternative workflows MUST be built in the module from the start. All workflows will be defined in the definition phase. |
| FR-064 | Publication of Contract Documents | Once a Contract Document is made publicly available, it MUST NOT be possible for anyone to remove it. |
| FR-065 | Clarifications | CAs MUST be able to publish clarifications to EOs publicly. |
| FR-066 | EO space | Economic Operators MUST have a private folder in the eProcurement system where all communications from CAs or PPA are received. |

### eNotices

| **eNotices** | | |
| --- | --- | --- |
| **#** | **Activity** | **Requirement** |
| FR-067 | Notices creation | The module MUST allow the creation of Prior Information Notices, Tender Notices, Contract Award Notices, or other kind of notices. |
| FR-068 | Notices creation | Notices MUST be created according to the information available in the tender workspace. |
| FR-069 | Notices creation | CAs MUST be able to modify the notices, while keeping an historical changes record. |
| FR-070 | Notices creation | eNotices module MUST prepare the publication of notices in the web portal. |
| FR-071 | Notices creation | eNotices module MUST allow exporting notices in a structured way. |

### eQualification

| **eQualification** | | |
| --- | --- | --- |
| **#** | **Activity** | **Requirement** |
| FR-072 | Definition of qualification criteria | The eQualification Module MUST reuse all possible information regarding qualification from the eAccess module. |
| FR-073 | Definition of qualification criteria | CAs MUST be able to define the qualification criteria. |
| FR-074 | Definition of qualification criteria | CAs MUST be able to configure the qualification process of each procurement process. |
| FR-075 | Management of qualification process | CAs MUST be able to choose whether the qualification is performed before, after or during the evaluation process. |
| FR-076 | Management of qualification process | The module MUST allow the definition of online forms or questionnaires for qualifying economic operators. |
| FR-077 | Management of qualification process | The module MUST allow the definition of spaces to upload documents for qualifying economic operators |
| FR-078 | Qualification submission | Economic Operators MUST be able to fill in the forms or upload documents as requested from the CAs. |
| FR-079 | Qualification submission | Economic Operators MUST be alerted when missing information in the forms is detected or a document is missing. |
| FR-080 | Qualification submission | CAs MUST be able to request and answer for clarifications from EOs. |
| FR-081 | Qualification submission | EOs MUST be able to request and answer for clarifications from CAs. |

### eSubmission

| **eSubmission** | | |
| --- | --- | --- |
| **#** | **Activity** | **Requirement** |
| FR-082 | Clarifications | EOs MUST be able to submit clarifications before the date specified by CAs. |
| FR-083 | Clarifications | CAs MUST be able to respond individually each clarification by email or other electronic means. |
| FR-084 | Clarifications | CAs MUST be allowed to publish clarifications and its answers in the tender workspace. |
| FR-085 | Tenders submission | The tenderer MAY attach non-structured documents (e.g. images, plans, etc.) to the tender. |
| FR-086 | Tenders submission | Economic Operators MUST be able to submit bids to selected lots. |
| FR-087 | Tenders submission | In the cases of consortia submitting tenders, only one user partner can be designated as the authorised user on behalf of each consortium. |
| FR-088 | Tenders submission | Economic Operators MAY resend tenders for specific tendering processes before the presentation deadline, but only the last version will be used as the valid tender when opening the tenders. |
| FR-089 | Tenders submission | The user MUST be informed of the success or non-success of the submission of the tender. |
| FR-090 | Tenders submission | The Contracting entity MUST provide evidence of reception for the tender submission. |
| FR-091 | Preparation and submission of Expression of Interest Applications | Economic Operators Must be able to submit interest to procedures that require Expression of Interest. |
| FR-092 | Security | Security arrangements for all data transmitted to/from the eProcurement system and stored in the eProcurement system MUST ensure the integrity of the tenders, as well as the authenticity of the economic operators that have submitted them. |
| FR-093 | Security | Tender data MUST NOT be modified during transmission and storage. |
| FR-094 | Security | Standard mechanisms SHOULD facilitate secure and reliable tender presentation. |
| FR-095 | Security | Authorised representatives of the economic operator MUST NOT be able to repudiate submitted and verified tender documents. |
| FR-096 | Security | The tender MUST contain the date and time when it was issued. Issue date and time are important data for tender validity. |
| FR-097 | Security | Tenders MUST be kept closed until the defined opening period. |
| FR-098 | Security | The eSubmission module MUST ensure that tenders can only be submitted until the specified date in the tender documents. |
| FR-099 | Security | The eSubmission module MUST reject tenders not submitted in the correct format or in the correct date. |

### eEvaluation

| **eEvaluation** | | |
| --- | --- | --- |
| **#** | **Activity** | **Requirement** |
| FR-100 | eEvaluation configuration | CAs MUST be able to configure the evaluation criteria and the evaluation steps. |
| FR-101 | eEvaluation configuration | The submitted tender MUST allow evaluation in steps (technical evaluation, financial evaluation). |
| FR-102 | eEvaluation configuration | The module MUST allow to configure the financial evaluation or other formula criteria in an automated way. |
| FR-103 | Short-listing | When the procedure requires to do so, the module MUST allow Short-listing tenderers according to the evaluation criteria. |
| FR-104 | Scoring | The absolute confidentiality of the tender MUST be guaranteed from submission by the EO until the opening session by the CA. |
| FR-105 | Scoring | CAs MUST be able to register tenders scores in each criteria according to the evaluation process defined. |
| FR-106 | Evaluation result | The module MUST automatically perform the calculations of the final score according to the scores introduced for each criteria and the results of the evaluations through formulas. |
| FR-107 | Evaluation result | The module MUST produce a report comparing the scores in each step of each economic operator and proposing the awardee. |

### eAuction

| **eAuction** | | |
| --- | --- | --- |
| **#** | **Activity** | **Requirement** |
| FR-108 | Creation of eAuction | The module MUST allow the creation of a virtual workspace, where all eAuction related information can be stored. |
| FR-109 | Creation of eAuction | The virtual workspace MUST be accessible to authorised users only. |
| FR-110 | Creation of eAuction | eAuction activities, such as tenderers’ placing of bids and displaying ranking of tenders, MUST be performed within this virtual eAuction workspace. |
| FR-111 | Creation of eAuction | The module MUST allow the configuration and management of different types of auctions. |
| FR-112 | Creation of eAuction | The eAuction module MUST be able to organise auctions for multi-position procedures, both grouped in lots positions and/or separate (not grouped in lots) positions. |
| FR-113 | Dispatch of eAuction invitation to tenderers | The module MUST allow users to specify the exact date/time for the auction to start, to select the tenderers for invitation to the event, and to create an appropriate notification for the invitation to auction. |
| FR-114 | Dispatch of eAuction invitation to tenderers | The module MUST allow users to upload/attach documents, which MUST be sent to the tenderers, to explain how the auction will be conducted, all related terms/conditions, all technical requirements for connection/participation in the auction, and any other important information. |
| FR-115 | Dispatch of eAuction invitation to tenderers | The notification MUST be sent to tenderers using the eNotification module of the eProcurement system. |
| FR-116 | eAuction opening | The module MUST automatically be ready to start the auction when the pre-defined date/time is reached (and likewise, close the auction). |
| FR-117 | eAuction opening | The module MUST be able to check if the participating EOs have established their connection to the system. |
| FR-118 | Entering the eAuction room | The module MUST allow authorised users to access the virtual eAuction room in order to visualise and participate in the eAuction event. |
| FR-119 | Entering the eAuction room | The users MUST authenticate themselves in the system. |
| FR-120 | Entering the eAuction room | The module MUST prevent an EO from entering the eAuction room if they are not invited by the CA, or access before the date and time set for the beginning of the auction. |
| FR-121 | eAuction running | The eAuction room MUST display relevant information about the eAuction event to the user. |
| FR-122 | eAuction running | The tenderer identities MUST remain closed until the eAuction event is completed. |
| FR-123 | eAuction running | The whole operation of the eAuctionMUST be fully automated; manual intervention by procurement officers[[15]](#footnote-15) MUST not occur. |
| FR-124 | eAuction running | The module MUST allow for the running of test auctions or dummy auctions to identify any potential problems prior to the real auction event. |
| FR-125 | eAuction running | The module MUST allow for monitoring and visualisation of the auction in real-time. |
| FR-126 | Bid submission | The module MUST allow users to create and submit a bid during an eAuction event. |
| FR-127 | Bid submission | The module MUST ensure that the specifications of the auction are met (i.e. each bid is validated against the specifications to see if it is within the price range required by the auction). |
| FR-130 | Bid submission | If a bid is rejected for any reason, the module MUST inform the tenderer. |
| FR-131 | Monitoring of eAuction | The module MUST constantly check the status of the connections of the participating EOs. |
| FR-132 | Monitoring of eAuction | The module MUST notify the system administrators and the CA officials about connection disruptions. |
| FR-133 | Score calculation | The module MUST automatically evaluate and rank bids according to the pre-defined evaluation formula. |
| FR-134 | Score calculation | When a new valid bid is placed, the module MUST apply the pre-defined evaluation formula to the various bids and calculate the bid score. |
| FR-135 | Score calculation | The tenderers MUST be ranked according to the new bid score received (in the case of lowest price, the ranking is in ascending order, while in the case of the most economically advantageous tender, it is in descending order). |
| FR-136 | Score calculation | The module MUST disclose to the tendererstheir relative position in the auction during the event. |
| FR-137 | Score calculation | The details of the received bids will be only disclosed to tenderers and procurement officers according to the specifications of the auction. |
| FR-138 | eAuction closing | The module MUST automatically stop the eAuction event when the pre-defined conditions are met (i.e. time deadline, specific time without activity, etc.). |
| FR-139 | eAuction closing | For aneAuction event running in rounds, the module MUST constantly monitor the closure of each round. The closing of the final round constitutes the closure of the eAuction event itself. |
| FR-140 | eAuction closing | For an eAuction event running on time, the module MUST constantly monitor whether the pre-specified date/time is reached. |
| FR-141 | eAuction closing | The module MUST allow for the eAuctiontime period to be automatically extended in case a bid is received during the closing minutes of the eAuction event. |
| FR-142 | eAuction closing | The module MUST allow recording of all the activities performed in the eAuction module. These activities MUST be available for audit. The PPA will receive a report in case of eAuction abnormal result. |
| FR-143 | eAuction closing | The module MUST provide a report with the auction result, with the name of the EOs, and with the last offer of each EO, which will be integrated into the eEvaluation module. |

### eAward

| **eAward** | | |
| --- | --- | --- |
| **#** | **Activity** | **Requirement** |
| FR-144 | Award report generation | The module MUST collect information from the eEvaluation module about the awardee and generate a notification for the awarded and non-awarded tenderers. |
| FR-145 | Contract generation | The module MUST generate a contract according to a draft contract template with the tender and contractor details |
| FR-146 | Contract formalisation | The module MUST allow the set-up of a checklist for contract annexes verification. |

### eContract Management

| **eContract Management module** | | |
| --- | --- | --- |
| **#** | **Activity** | **Requirement** |
| FR-147 | Module interface | Front-end eContract management module MUST be user-friendly. |
| FR-148 | Generation of contract documentation | The contract MUST be generated taking the tender documentation as a basis. |
| FR-149 | Generation of contract documentation | A unique identification code MUST be assigned to each contract based on OCDS. Tracking with the tender procedure MUST be possible. |
| FR-150 | Notifications | Automatically generated notifications MUST be made when certain actions in the contract management occur. |
| FR-151 | Notifications | The module MUST allow the manual generation of notifications by all actors involved in the contract management process when necessary. |
| FR-152 | Notifications | The module MUST allow the configuration of different alerts and reminders (i.e. notifications from EOs or CAs, proximity of a contract milestone, etc.). |
| FR-153 | Contract formalisation | Basic information of the contract guarantees and their status MUST be registered. |
| FR-154 | Contract modifications | Contract modifications MUST be conducted (extensions and amendments). |
| FR-155 | Monitoring and controlling | The module MUST allow assignment of a Supervisor to the contract and the identification of the Contract Controller. |
| FR-156 | Monitoring and controlling | The module MUST allow the registration and control of contract changes through a visualisation tool (deadlines, contract value, contract guarantee, etc.) that keeps an historical tracking. |
| FR-157 | Monitoring and controlling | The module MUST allow registration in the platform whether the economic operator has failed or succeeded to comply with the requested requirements of a service, work or good purchased. |
| FR-158 | Monitoring and controlling | The module MUST allow searches on the contracts according to the user permissions level (i.e. contracting authorities will only be allowed to see their own contracts, while the System Administrator will be able to see all the contracts in the system). |
| FR-159 | Contract closing | The module MUST allow the closure of the contractual relationship according to the law. |
| FR-160 | Contract closing | The module MUST allow the setting-up and monitoring of the contract closure schedule and subsequent activities. |
| FR-161 | Contract closing | The module MUST be connected to ePlanning in order to submit information about closed contracts. |
| FR-162 | Users and user permission generation | The module MUST allow the interaction of different users with different roles within the system. |

### Registration of single source procedures

| **Registration of single source procedures** | | |
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| **#** | **Activity** | **Requirement** |
| FR-163 | Registration of the procedure | CAs MUST be able to create a single source procurement. |
| FR-164 | Registration of the procedure | CAs MUST register all required details of the contract. The completion of some fields MUST be mandatory. The information about a contract to be completed will be defined during the Definition phase |
| FR-165 | Registration of the procedure | CAs MUST be able to upload documents related to the contract. |
| FR-166 | Online procedure | CAs MUST be able to initiate the single source procedure in the system and notify the provider through it. |
| FR-167 | Online procedure | CAs MUST be able to send a request to EOs. |
| FR-168 | Online procedure | CAs MUST be able to register EOs that do not have a user in the system, with the basic EO information. |
| FR-169 | Online procedure | CAs MUST be able to receive EOs comments, clarifications and accept/reject the proposed good/service. EOs MUST be able to propose a new offer or the good/services purchased. |
| FR-170 | Online procedure | CAs MUST be able to reject EOs proposals. |

### eReporting

| **eReporting** | | |
| --- | --- | --- |
| **#** | **Activity** | **Requirement** |
| FR-171 | Reporting and analytics | The module MUST allow searching of data by different criteria such as CA, EO, type of procedure, etc. |
| FR-172 | Reporting and analytics | The module MUST allow visualisation of online data in an understandable manner, such as dashboards, tables or the most suitable format for each type of data. |
| FR-173 | Reporting and analytics | The module MUST have a user-friendly report generator to allow authorised users to create reports as well as screen queries and dashboards, using all the data stored in the system database(s). |
| FR-174 | Reporting and analytics | The module MUST enable procurement officers to create customised reports, for statistical analysis and other internal activities of the CA. |
| FR-175 | Reporting and analytics | The module MUST allow generation of pre-defined reports of the economic operator’s performance in the platform. Pre-defined reports MUST be aligned with the GPA requirements. The structure and content will be defined in the Definition phase. |
| FR-176 | Reporting and analytics | The module MUST support the discovery and communication of meaningful patterns in data to facilitate better decision-making. Once a report has been produced, the module MUST provide:   * The facility to preview the report on the screen; * The facility to allow reports to be emailed/downloaded as PDF documents; * The ability to export the data selected to spread sheet format (xls, xlsx) and/or other standard desktop applications. |
| FR-177 | Users request | The PPA MUST be the institution responsible for granting access to the eMonitoring tool. |

### Document management

| **Document management** | | |
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| **#** | **Activity** | **Requirement** |
| FR-178 | Creation of documents and templates | The module MUST support the creation and administration of specific identifiers for each document. |
| FR-179 | Creation of documents and templates | The module MUST only allow the uploading of certain files in readable format, which will be defined in the definition phase. |
| FR-180 | Creation of documents and templates | The module MUST allow the generation of documents from other templates previously created in the platform. |
| FR-181 | Documents repository | The module MUST allow for indexing, categorising, storing, and searching for information and documents in any file format. |
| FR-182 | Documents repository | The module MUST support the three envelopes submission scheme. |
| FR-183 | Documents repository | The module MUST guarantee that tenderer’s documents cannot be accessed until the due period stipulated in the tender specifications. |
| FR-184 | Documents repository | The module MUST support the electronic archiving of business documents such as invoices, notes, etc. |
| FR-185 | Documents repository | The module MUST archive the business documents for a pre-defined retention period. |
| FR-186 | Documents repository | The module MUST support the archiving of the documents attached to the archived business documents. |
| FR-187 | Documents repository | The module MUST archive the business documents received via electronic means in their original format. |
| FR-188 | Documents repository | The module MUST archive every message received via electronic means, even if technically malformed or invalid when recognised, via its name as an invoice, a note, etc. |
| FR-189 | Documents repository | Archived tenders MUST remain unmodified and readable throughout their storage period. If necessary, documents will be updated by uploading a new version, whilst preserving all historical versions. |
| FR-190 | Documents authenticity and security | To guarantee that the business document's intent is not altered throughout the storage period, the module MUST ensure the authenticity of origin and integrity of content of the archived data during the full archiving period. |
| FR-191 | Documents access | Once archived, the module MUST guarantee full online access to authorised personnel. |
| FR-192 | Documents access | The module MUST enable users to search for the archived business documents. This service MUST, at minimum, allow searching with simple search criteria such as a range of dates (i.e. the date of submission of the business document) and the type of business document (i.e. Invoice). A request MUST contain one or more types of business documents. As a result, the module MUST return a single or a list of specific identifiers of the requested business document(s) and corresponding status. This list MUST be restricted to a pre-defined number of items and within a pre-defined time window. |
| FR-193 | Documents access | The module MUST enable users to retrieve archived business document(s), using the specific identifier of a pre-defined number of items, within a pre-defined time window. As a result, the module MUST return a list with a single item or multiple items of structured alphanumeric data (i.e. the business document, such as an invoice). This list MUST be restricted. |
| FR-194 | Documents access | The module MUST enable the users to retrieve the documents attached to a single business document using the specific identifier of that business document. As a result, the module MUST return all the attachments to the requested business document. |

## Non-functional requirements

| **Non-functional requirements** | | |
| --- | --- | --- |
| **#** | **Category** | **Requirement** |
| NFR-001 | Security | The full eProcurement platform MUST be secure in such a way that the level of security is trusted by the economic operators and the contracting authorities. |
| NFR-002 | Security | The authentication module MUST identify the different users accessing the system in a secure and traceable way. |
| NFR-003 | Security | The system MUST guarantee that the services are only accessible to users with a verified identity. |
| NFR-004 | Security | The system MUST guarantee that authenticated users can only access services or data matching their role and access rights. |
| NFR-005 | Security | The system MUST guarantee that the data exchanged between the requester and the provider cannot be intercepted or accessed by a non-authorised third party,and that the data cannot be accessed at an inappropriate point in time (i.e. before the opening of the bids). |
| NFR-006 | Security | The system MUST guarantee that data exchanged between the person requesting it and the provider has not been modified or tampered with by a non-authorised third party. |
| NFR-007 | Security | The system MUST monitor and record in the system logs all activities performed by users, either successful or unsuccessful (such as attempted but failed logins). |
| NFR-008 | Security | The system MUST be tested at least according to OWASP Top 10 vulnerabilities. |
| NFR-009 | Security | The system MUST implement the required firewalls in order to provide a line of defence when external users try to connect to the system from the Internet or other networks. |
| NFR-010 | Security | The system MUST implement an Intrusion Detection System, including all necessary agents for all servers. |
| NFR-011 | Security | The system MUST foresee systematic backup of stored data and servers configuration, allowing quick and reliable recovery of data in case of an incident resulting in data loss or deterioration. |
| NFR-012 | Security | The system MUST encrypt all data stored in the various components of the system. |
| NFR-013 | Security | The system MUST be capable of using digital certificates / Token on top of usernames and passwords for ensuring integrity and non-repudiation principles. |
| NFR-014 | Security | The system MUST provide Single Sign-On for end-users and system administrators so that they can access services on the front-end and back-end without any additional authentication. |
| NFR-015 | Security | The system MUST implement at least a 3-tier architecture (database, application and presentation tiers). |
| NFR-016 | Security | The system architecture MUST be divided into different security zones and contain at least a DMZ and an internal zone. |
| NFR-017 | Security | The system MUST foresee embedded security controls. |
| NFR-018 | Security | The system MUST be hosted in a physical location with adequate HVAC, access controls, and fire detection and suppression mechanisms. |
| NFR-019 | Security | The system MUST provide a time-stamping mechanism on all transactions. |
| NFR-020 | Scalability | A combination of efficient software architecture along with sufficient hardware components MUST guarantee the scalability of the system. |
| NFR-021 | Scalability | The system’s logical architecture MUST be able to sustain at least a 30% increase of transactional load on a yearly basis. |
| NFR-022 | Scalability | The system MUST easily adapt to new requirements imposed by changes in the legislation. |
| NFR-023 | Availability | The eProcurement platform availability MUST be high. |
| NFR-024 | Availability | The system MUST comply with Tier 2 requirements:   * no single point of failure (redundant hardware component, load balancing, support for failover); * availability (software, hardware, network) of at least 99.75% (or less than 22 hours of unavailability per year). |
| NFR-025 | Availability | The System MUST incorporate a Heart-beat service which will periodically communicate on the normal work status of the system. |
| NFR-026 | Availability | The system MUST comply with some Tier 3 requirements:   * multiple independent distribution paths serving the IT equipment; * all IT equipment MUST be dual-powered and fully compatible with the topology of a site's architecture.As an alternative, it MUST be connected to a UPS device capable of providing the electricity to power the system. |
| NFR-027 | Performance | The system MUST be able to effectively serve in parallel:   * up to 5 system administrators; * up to 1.000 active users; * up to 25,000 read-only users of the general public. |
| NFR-028 | Performance | The system MUST be able to store information from:   * up to 7,000 contracting authorities; * up to 40,000 tenderers; * up to 50,000 tenders per year. |
| NFR-029 | Performance | Response time of the system MUST not exceed 1 second for the execution of 90% of simple queries for at least 100 concurrent active users during normal working hours. |
| NFR-030 | Performance | Response time of the system MUST not exceed 3 seconds for the execution of 99% of simple queries for at least 100 concurrent active users during normal working hours. |
| NFR-031 | Performance | Response time of the system MUST not exceed 3 seconds for the execution of 90% of complex queries for at least 100 concurrent active users during normal working hours. |
| NFR-032 | Performance | Response time of the system MUST not exceed 10 seconds for the execution of 99% of complex queries for at least 100 concurrent active users during normal working hours. |
| NFR-033 | Performance | Response time of the system MUST not exceed 3 seconds for the generation of 90% of reports for at least 100 concurrent active users during normal working hours. |
| NFR-034 | Performance | Response time of the system MUST not exceed 10 seconds for the generation of 99% of reports for at least 100 concurrent active users during normal working hours. |
| NFR-035 | Performance | Response time of the system MUST not exceed 3 seconds for the execution of 90% of document management activities for at least 1.000 concurrent active users during normal working hours. |
| NFR-036 | Performance | Response time of the system MUST not exceed 10 seconds for the execution of 99% of document management activities for at least 1.000 concurrent active users during normal working hours. |
| NFR-037 | Interoperability | In order to facilitate the adoption by public administration, the platform MUST have a high degree of independence from other applications. |
| NFR-038 | Interoperability | Any references to nomenclatures in the context of public procurement MUST be made using the ‘Common Procurement Vocabulary’ (CPV). |
| NFR-039 | Interoperability | The system MUST implement the Open Contracting Data Standard to enable disclosure of data and documents at all stages of the contracting process. |
| NFR-040 | Usability | The provided solution MUST be user friendly and easy to use. |
| NFR-041 | Usability | The front-end of the eProcurement system MUST comply with Web Content Accessibility Guidelines (WCAG) 2.0[[16]](#footnote-16). |
| NFR-042 | Usability | The eProcurement platform MUST be multilingual.It MUST support Tajik, Russian and English. |
| NFR-043 | Access & non-discrimination | The economic operators MUST be able to respond to the most common procurement procedures. |
| NFR-044 | Access & non-discrimination | The tool for the preparation of the tender bid MUST be made available by the contracting authority to the interested economic operators, "free of charge". |
| NFR-045 | Logging | The system MUST register all system events, an error, status of exchanged messages, etc. |
| NFR-046 | Logging | The system log MUST contain the following data: date, time, system process, type/nature of actions, system error message. |
| NFR-047 | Logging | The system MUST provide a way to track system events by different criteria: date and time, system process, error number, availability of the system. |
| NFR-048 | Logging | The system MUST generate a message upon any successful or unsuccessful update of a nomenclature, lists, etc. |
| NFR-049 | Logging | System events MUST be classified in categories: successful, unsuccessful and errors by criticality. |
| NFR-050 | Logging | Error messages MUST be informative and easy to understand. Error messages MUST be written to error logs to enable these issues to be properly audited and investigated. The system MUST incorporate all usability heuristics to support ease of navigation and general use of the system, including data entry. |
| NFR-051 | Logging | All errors MUST have an error code and all error codes MUST be clearly and correctly described in the administrator’s user guide. |
| NFR-052 | Logging | The system MUST ensure sending, if necessary, of electronic messages to a system administrator or a person authorised by the contracting authority. The setup of parameters necessary for the configuration of certain electronic addresses, such as the message-generating criticality level or type of errors,MUST be made using the system resources. |
| NFR-053 | Control &audit | User groups MUST be created and maintained. These are not bound to a particular role and access rights but serve only for convenience of the management process of user permissions. |
| NFR-054 | Control &audit | The system MAY NOT allow deletion of users. Only temporary or permanent withdrawal of the access of a user MUST be allowed. |
| NFR-055 | Control &audit | The system MUST allow filtering and sorting of users by different criteria (i.e. by institution, by roles, etc.). |
| NFR-056 | Control &audit | The system MUST register in the log all user actions: login to the system, view, search, creation, edit, and deletion of data. In each instance of data update, a history of changes MUST be kept (i.e. which user, when and what has changed). |
| NFR-057 | Control &audit | The system MUST ensure a reliable mechanism for recording all events related to the system’s user management and user permissions. |
| NFR-058 | Control &audit | The system MUST support the generation of reports based on the records and according to a pre-defined set of criteria. |
| NFR-059 | Control &audit | The system MUST produce a report on user actions containing the following information: date and time of login and log-out, work session duration, user data, IP address of the machine, nature/type of actions, and references to completed actions. |
| NFR-060 | Incident management | The system MUST ensure a mechanism for recording all security-related events (access and authorisation control, control of system and configuration changes, shutdown and start of the system). These records MUST provide information for users, PC or workstation identification, time and action. |
| NFR-061 | Incident management | The system MUST not allow deletion of data records.Only logical deletionis allowed.Deleted data MUST be marked accordingly in the system and not removed from the system, so that itcan be consulted during future investigations. |
| NFR-062 | Incident management | The system MUST register terminated actions and other errors (such as unauthorised use of the system, security breach, etc.). |
| NFR-063 | Incident management | The system MUST not allow deletion of event records in system logs. |
| NFR-064 | Backup & recovery | The system MUST support a functionality allowing administrators to set it up for archiving, data restore, creation of backup copies, and scheduled maintenance. |
| NFR-065 | Backup & recovery | The system MUST support a functionality allowing the review of archived data and recovery after crashes. When an administrator is using the manual archiving functionality, an appropriate reminder mechanism at determinable time intervals MUST be in place. |
| NFR-066 | Backup & recovery | The system MUST maintain the creation of a regular backup copy, as well as a backup copy prior to migration of data, new version or other critical action, for the purpose of restoring to the last working configuration of the system (including the database, configuration files, etc.). |
| NFR-067 | Operations | A mechanism MUST be created for elimination of temporary files generated by different processes, whereas the parameters for their elimination are managed by an administrator with system resources. |
| NFR-068 | Operations | The system MUST ensure the data consistency check procedure and the procedure for recovery of partially broken data. |
| NFR-069 | Operations | The system MUST provide a monitoring console or dashboard for system administrators to quickly and easily check the status of the system. |
| NFR-070 | Operations | The system MUST provide to system administrators a possibility of cancelling the last N user’s operations related to a specific tender. |
| NFR-071 | Office integration | The system MUST ensure high level of integration with spreadsheets and word processors, including copy, cut and paste (as a minimum).  The Contractor is requested to advise whether drag and drop capability is also enabled for the system. |
| NFR-072 | Office integration | The system MUST allow export of Business Intelligence data and report in TXT, CSV and PDF format. |
| NFR-073 | End users support | The system MUST provide on-line context sensitive help facilities and user manual help facilities. The system help feature MUST assist users in the recognition, diagnosis and recovery of errors. |
| NFR-074 | End users support | The system MUST include tools such as manuals, tutorials and guidelines. |
| NFR-075 | End users support | The system MUST allow auto-complete in the form fields. |
| NFR-076 | End users support | The system MUST allow the description of the field on the forms. |

## Technical requirements

| **Technical requirements** | | |
| --- | --- | --- |
| **#** | **Category** | **Requirement** |
| TR-001 | Architecture | The system interfaces MUST be based on the most recent version of Open Contracting Data Standards available at the start of the project. |
| TR-002 | Architecture | The system MUST be builtuponopen source code. |
| TR-003 | Architecture | The different modules defined by the contractor MUST be tightly coupled based on interoperability standards. |
| TR-004 | Architecture | The system MUST be hosted in the current infrastructure. |
| TR-005 | Architecture | The system MUST integrate with LDAP for authentication of the internal end-users. |
| TR-006 | Architecture | The system MUST allow in the future to develop a digital signature feature, to add digital signature to the documents uploaded on the platform; Digital signature development is not included or required in this ToR. |
| TR-007 | Architecture | The system MUST integrate with Mail server to send notifications by email (mobile notification may be supported in the future); |
| TR-008 | Architecture | The system MUST integrate with Logging server for logging events in order to monitor the system, allow tracking of issues and incidents, and provide administrators with KPIs; |
| TR-009 | Architecture | The system MUST be fully aligned with the technical documentation and source code delivered at the end of pilot operation phase. |
| TR-010 | Architecture | The system SHOULD preferably use standard protocols (SOAP/REST) to exchange information with state registers |
| TR-011 | Architecture | The implementation of the system MUST follow open standards and use well-known and widely accepted technologies in order to ensure interoperability, ease of use and scalability. |

1. For further understanding of the electronic request for quotation, you can click on the link: help.zakupki.gov.tj. [↑](#footnote-ref-1)
2. The Contractor is referred to as the company awarded with the contract described in these Terms of Reference. [↑](#footnote-ref-2)
3. http://zakupki.gov.tj/ [↑](#footnote-ref-3)
4. http://standard.open-contracting.org/latest/en/schema/reference/ [↑](#footnote-ref-4)
5. EBRD (2015), “Are you ready for eProcurement? Guide to electronic procurement reform”. [↑](#footnote-ref-5)
6. http://standard.open-contracting.org/latest/en/ [↑](#footnote-ref-6)
7. http://www.oecd.org/governance/procurement/toolbox/principlestools/e-procurement/ [↑](#footnote-ref-7)
8. <http://www.eprocurementtoolkit.org/sites/default/files/2016-10/Public%20Procurement%20Indicators-Rapid_e-Procurement_Toolkit.pdf> [↑](#footnote-ref-8)
9. Business documents are documents (on paper or electronic documents) that represent you in relation to external parties, such as letters, invoices, order sheets, credit notes and bills. Envelopes, advertising material and business cards are not deemed to be business documents.  [↑](#footnote-ref-9)
10. A DMZ or demilitarized zone (sometimes referred to as a perimeter network) is a physical or logical sub-network that contains and exposes an organization's external-facing services to a usually larger and untrusted network, usually the Internet. [↑](#footnote-ref-10)
11. COTS: Commercial off-the-shelf or commercially available off-the-shelf (COTS) is a term used to describe the purchase of packaged solutions which are then adapted to satisfy the needs of the purchasing organization, rather than the commissioning of custom made, or bespoke, solutions. [↑](#footnote-ref-11)
12. Specific courses in Russian may be requested as well. [↑](#footnote-ref-12)
13. Relational database management system. [↑](#footnote-ref-13)
14. Response time is the amount of time the detection of an incident and the first action taken to repair the incident, which shall not correspond to an automated communication (i.e. a response shall not be considered the automated generated alert or email that is sent after the incident notification.) [↑](#footnote-ref-14)
15. Procurement Officers are the professional staff responsible for administering the procurement tasks within a contracting authority. [↑](#footnote-ref-15)
16. https://www.w3.org/TR/WCAG20/ [↑](#footnote-ref-16)