

**Business requirements, functional and technical specifications for the development of a Networking Multi-Platform Electronic Public Procurement System**

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List of abbreviations

|  |  |
| --- | --- |
| AAP | Annual Acquisition Plan |
| APP | Annual Procurement Plan |
| API | Application Programming Interface |
| BPMN | Busines Process Model and Notation |
| CDU | Central Database Unit |
| CPV | Common Procurement Vocabulary |
| EBRD | European Bank for Reconstruction and Development |
| eProcurement | Electronic Procurement |
| GPA | Government Procurement Agreement |
| NEPP | Networking Electronic Procurement Platform |
| NGO | Non-Governmental Organisation |
| OCDS | Open Contracting Data Standard |
| OCDPS | Open Contracting Digital Procurement System |
| PP | Public Procurement |
| PPA | Public Procurement Agency |
| RFQ | Request for Quotation |
| SME | Small to Medium Enterprises |
| UNCITRAL | United Nations Commission on International Trade Law |
| WTO | World Trade Organization |

How to read this document

The purpose of this document is to provide the Beneficiary or any interested stakeholder a detailed description of the modules and functional characteristics of an eProcurement system.

Therefore, the document provides a summary of the eProcurement schema, as well as a description of the public procurement procedures covered by the eProcurement system and the system features, including the functional, non-functional and technical requirements.

The present document is structured as follows:

1. **Introduction**: Provides information about the context of an eProcurement system and purpose of the document.
2. **Overview of the eProcurement scheme**: Introduction of the proposed eProcurement model, as well as of the **public procurement procedures and techniques covered** by the system.
3. **System features:** Presents the different modules/functionalities. This section also contains the technical requirements of the system and a reference to separate documents with detailed information. The following information is provided for each functionality:
4. **Description:** Describes the functionality from a business requirement perspective.
5. **Workflow conditions:** Provides a set of pre-conditions or dependencies and post-conditions of the functionality.
6. **Functional requirement:** Provides the functional requirements for the development of the functionality.
7. **User actions:** Provides a compilation of actions that the different users can perform.
8. **Non-functional requirements**: Non-functional requirements that should be met for the correct implementation of the eProcurement system functionalities.
9. **Technical requirements**: Explanation of the main technical requirements from application design and infrastructure perspectives.
10. **System integration requirements:** Describes the potential integrations of an eProcurement system with government registers and eGovernment tools.
11. **Annexes:** Includes the non-functional and technical requirements, as well as an introduction to Open Contracting Data Standard (OCDS) and Business Process Model Notation (BPMN).

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# Introduction

The implementation of digital processes in the field of public procurement ensures improved transparency and efficiency of procurement of goods, works and services. It benefits all stakeholders involved in public procurement processes: the government, business community, and citizens who use public services. The development of a comprehensive electronic public procurement system:

* Provides digital and standardised procurement processes;
* Decreases time required for the selling-buying cycle;
* Encourages participation in public tenders by suppliers, service providers and contractors;
* Facilitates participation in public tenders by small and medium-sized enterprises;
* Creates a transparent relationship between the government and the local business community.

The experience of many governments globally demonstrates that the implementation of modern public procurement policies can be best achieved by incorporating electronic public procurement procedures in local procurement practices and developing the appropriate electronic procurement (eProcurement) tools. Adopting an ‘end-to-end’ digital public procurement process that includes web-based tools for procurement planning, tendering, contract management, reporting and market analysis, standardises local procurement practices and makes conducting procurement easier for public and private stakeholders. It also generates benefits for public finance management.

To enable a comprehensive implementation of the digital public procurement process, it is necessary to develop and implement a Networking Multi-Platform Electronic Public Procurement Systemto support the entire public procurement cycle and facilitate public procurement management as well as market analysis, monitoring and audit of public procurement functions in the public sector.

An eProcurement systemaims to support the entire procurement cycle, from procurement planning to final payment for the completion of public contracts. It also provides dedicated online purchasing tools, such as auctions, e-catalogues and framework agreements, allowing all public procurement to be conducted electronically.

The eProcurement system functional specifications are intended to support public and private purchasers (in particular procuring entities and Central Purchasing Bodies), but also entities required or wishing to comply with transparency and competition standards of the Government Procurement Agreement of the World Trade Organization (the WTO GPA).

The system supports monitoring, provides dedicated public procurement review and remedy mechanisms, and provides the general public and civil society with access to public procurement information, achieved by the integration of Open Contracting Data Standards (OCDS).

The technical specifications describe the goals, key objectives, and legal, business and technology principles, as well as a planned scope and the minimal functional and non-functional requirements of an eProcurement system.

This document is aimed at providing both high-level and detailed information on the process, modules of the system and main functionalities covered, to the Beneficiary or to any interested stakeholder.

# Overview of the eProcurement scheme

The **Open Contracting Digital Procurement System (OCDPS)** has been conceptualized and developed by the **EBRD UNCITRAL Public Procurement Initiative** and aims at providing an **innovative approach to digital procurement**.

The OCDPS **meets most of the recommendations and best practices** identified in **international standards** and has already been highlighted as a **major development on a global basis**. It also guarantees **compliance with international legal frameworks** such as the UNCITRAL Model Law and is aligned with the World Trade Organization Government Procurement Agreement, and it has been enriched with the knowledge acquired in previous successful implementations in different jurisdictions such as Ukraine or Moldova.

The system has been conceived in an agnostic way, meaning that it is not strongly linked to a specific regulation or predefined procedures. Instead, it is **easily scalable and adaptable** to the needs and internal regulation of any country, as well as to regulatory changes, new procurement procedures and techniques, new functionalities, etc.

The OCDPS allows for a **leapfrogging transition directly to the highest level of adoption of electronic procurement** from any lower level in which a jurisdiction currently finds itself. This means that it facilitates transitioning from purely paper-based public procurement processes to end-to-end digital procurement, but also that the solution is suitable for countries that are already implementing eProcurement solutions, which cover certain parts of the procedure but are not fully mature.

OCDPS is a **modern and innovative eProcurement system** both at a technological level and regarding the way it approaches the main challenges of electronic public procurement. In the context of the procurement process, which involves a large amount of information, the management of data using the **Open Contracting Data Standard** is one of the main strengths of the system, which allows **real-time monitoring and evidence-based data**, and at the same time facilitates the use of business intelligence and deep analytics while guaranteeing the **trustworthiness of data**. OCDPS is completely **standardized and interoperable** and aims at a real **single digital market**.

The Open Contracting Digital Procurement System concept was designed with six key pillars in mind:

Diagrama

Descripción generada automáticamente

Figure 1. Main pillars of OCDPS

* **Multi-platform networking model**: The eProcurement scheme combines eGovernment services operated by the government with the services of commercial electronic platform operators, in order to create a collaborative delivery scheme that optimises digital service accessibility and quality to end users among public sector buyers and private sector suppliers, service providers and contractors. The eProcurement scheme is open to new Networking Electronic Procurement Platforms (NEPPs) operators, which encourages innovation by new entrants and maintains a high quality of service for end users.
* **Open source, open data, open contracting data standard**: To allow the government to prevent a lock-in effect, only open-source applications are used in the system, strengthened for higher transparency and accountability by incorporating the Open Contracting Data Standard[[1]](#footnote-1). Although this should be the guideline and goal, exceptionally payable software could be acquired (for example, for security or for BI or reporting tools), which could be built using only open-source components.
* **High level interoperability**: eProcurement system applications are designed for interoperability with existing and future e-government and e-commerce services.
* **System reliability and performance**: The architecture scheme ensures scalability only by adding new hardware nodes, without any need of code refactoring scheme, and is designed to maintain system reliability from possible errors while providing the best performance.
* **End-to-end electronic public procurement:** The eProcurement scheme covers the entire public procurement process, from planning to invoicing and payments under public contracts, in order to increase the transparency and efficiency of procurement. It also includes BI and post-processing tools which facilitate data analytics, as well as monitoring tools for identification of red flags and evaluation of the execution of the contract with parameters of efficacy, efficiency and reliability.
* **Cost and time efficient implementation**: The eProcurement scheme seeks cost and time efficiency through a) high-level standardisation of the procurement process; b) the modular design of electronic workflows; and c) the re-use of existing OCDS-based tools and services to offer data analytics and market intelligence functionalities, drawing on data from fully digitalised public procurement processes.
* **Sustainable digital government service:** TheeProcurement scheme is fully funded through supplier fees for digital procurement services; no initial funding from state budgets and no later funding from state budgets is envisaged. No fees are charged to procuring entities using the system.

**The OCDPS** offers an end-to-end electronic procurement management system with the following main characteristics:

* The system design is based on a **modular approach to the BPMN representation of the procurement processes** and the underlying workflows, which enable:
  + self-executability of legal mandatory requirements;
  + flexibility in terms of the use of libraries of technical specifications and terms and conditions (and, potentially, of award criteria and evaluation methods);
  + modularity in terms of the potential automation in contexts of diverging levels of e-government development, which could achieve high-levels of sequential, cumulative checks throughout the procurement process;
  + high level of system and data resilience;
  + and modularity in terms of information management, publication, and permissions of the system.
* The system is built on a **networked interoperable digital procurement architecture** that relies on the interaction between the single point of access web portal, the data exchange Central Database Unit (CDU), and a variable number of NEPPs. The interconnection between the central database and commercial marketplaces is facilitated by an Application Programming Interface (API) that exchanges data electronically and automatically;
* As a result of the interoperability between the single point of access web portal, the central database and the NEPPs, a **collective authentication,** **synchronisation and validation of the data is achieved in almost real time for all transactions** conducted on the system (which could characterise the system as ‘blockchain-like’);
* The central database itself is designed in a modular way, so that it can either solely ensure data exchange, or also operate as a process manager (i.e. smart database). The automatic workflow engine is tightly integrated with the CDU, implementing the whole business logic in the form of e-services. Each e-service encapsulates a part of elementary eProcurement functionality, offering **flexibility and low-cost customization for local needs**, for example for specific legal requirements;
* The system is designed to facilitate the **automated generation and publication of open procurement data** **in OCDS format and in real-time**. This results in a data architecture that ensures that clean and rich open procurement data is available for immediate and broad re-use, without the need for data extraction or further processing. This avoids the negative effects of data manipulation by creating a common source of objective and clean data that is automatically generated and available to all stakeholders – that is, government, businesses and civil society. This also ensures a high level of data resilience for the eProcurement system. This data architecture also provides the foundation for the open data analytics solution. The system implementation is based on open access technologies, which **avoids future risks of lock-in with a specific solution or provider.**

The result of this design choice is a self-executable BPMN engine that offers the additional feature of ensuring a much higher level of accuracy in reflecting the regulation of the procurement process than non-electronic procurement management approaches.

**The main characteristics of the Open Contracting Digital Procurement System** are:

* Based on **global best practice**, aligned with **UNCITRAL Model Law on Public Procurement** and compliant with the **WTO GPA**;
* Designed to be **interoperable**, also with **existing eGovernment services**;
* Easy to customise to support procurement of **different procuring entities**;
* Configurable **central unit** for **flexible** **procurement process**;
* **Innovative technologies**;
* **Architecture** and **design** of **high scalability**;
* **Open-source, Open Data** technologies;
* **Advanced Open Contracting Data Standard**;
* **Security level** in compliance with **ISO 27001**.

OCDPS fosters **transparency** as a key principle and lever for public procurement reform through:

* The generation of **complete and re-usable data through an open data schema** describing how to release documents and data at each stage of a procurement process;
* Providing **open data in a transparent and free manner** so all interested stakeholders, including civil society, can access the complete set of public procurement data generated throughout the public procurement process;
* Working on a **collaborative and decentralized approach** for the provision of public procurement processes, so it is not possible for a single stakeholder to bear monopolistic and absolute power in public procurement.

The usage of OCDPS is aimed at obtaining the maximum benefits of a modern digital procurement service, for example:

* Open-source technologies allow for **improved accountability** of procurement officers;
* Open Data for Government Standards provide a **high level of transparency** due to **online real-time procurement information**;
* Open Contracting Data Standard enable **data-driven public procurement process management**;
* Real-time online communication and data exchange creates **favourable market conditions for competition and increased participation for SMEs**.

Detailed information on the eProcurement scheme is provided in the Technical Concept paper.

## Coverage of the public procurement flow by the eProcurement system

To implement the basic scenarios and system functions, the system shall automate the entire procurement lifecycle (from planning to payment recording and contract completion) for all procurement methods defined in international standards and legal frameworks, and specifically as defined in the national public procurement legislation.

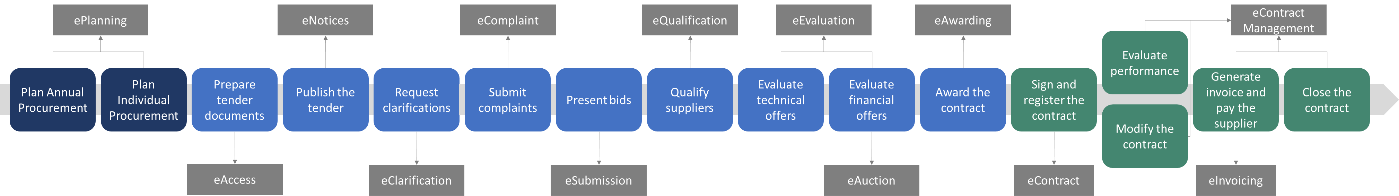


Figure 2. eProcurement system coverage of the public procurement lifecycle

Monitoring of the execution of the contract for effectiveness and efficiency of purchasing, as well as for identification of red flags, shall also be covered.

Basic activities conducted under public procurement are defined as follows:

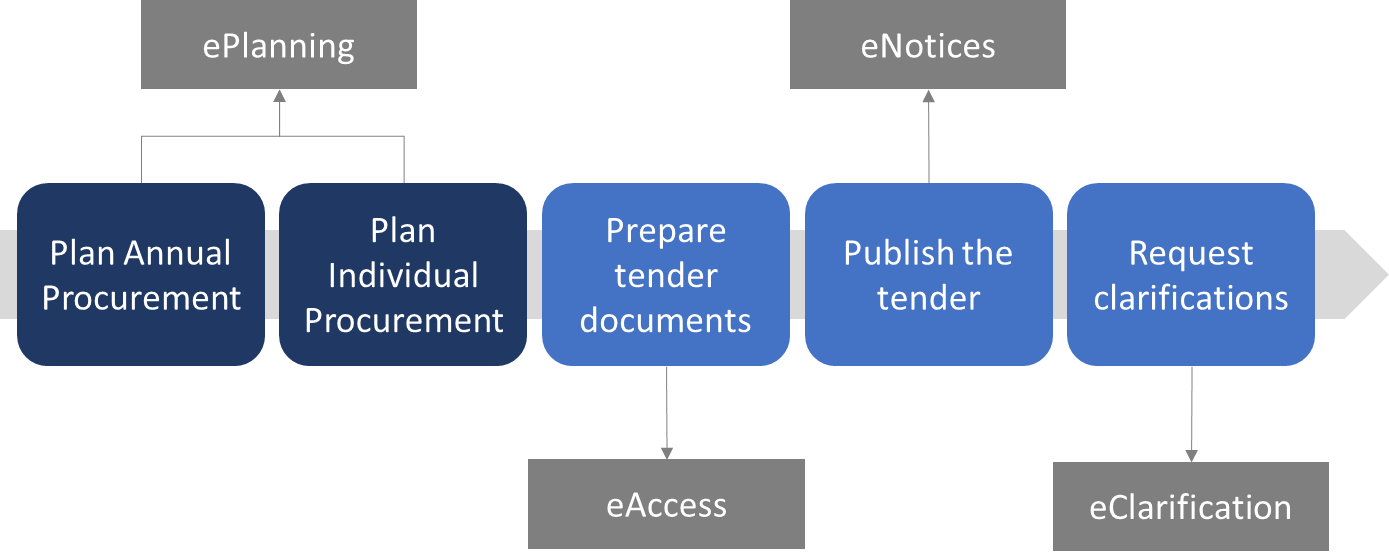
1. Initiation of the procurement. At the initial stage, various activities are performed through the ePlanning module, which ensures the annual procurement planning activities, but also the individual planning (initiation) of the procurement procedure. These activities are:
2. Initiation of the procurement. The procuring entity, using the functionalities of ePlanning module and online workflows, will draft a request for procurement based on their needs and indicating the available budget as well as the result of market consultations, when required. That request will be sent via the eProcurement system for validation with the Regional Treasury, if required by the law, to confirm budget availability for the specified procurement procedure.
3. Request for information/consultations. An auxiliary offline process (conducted out of the system) to request information from suppliers and other stakeholders might be carried out by the procuring entity in order to help in the drafting of the tender documents, if applicable.
4. Drafting tender documents. The procuring entity prepares tender documentation and requirements for planned procurement, which will later on be uploaded to the system and serve as the basis for preparing the contract notice.
5. Draft contract notice. An online process completed by the procuring entity for specifying detailed information on the procurement, using templates and forms in an online workflow within the eProcurement system. This step will be achieved through the eAccess module.
6. Publish contract notice and tender documents. Using the eNotice module, finalised electronic documents including the contract notice and tender documents will be sent via the eProcurement system for publication on the web portal.
7. Conduct of the procurement procedure, tender qualification, evaluation and conclusion of contract. This stage of the procurement procedure is carried out through the eSubmission module, which represents the flow of electronic processes for procurement procedures according to the public procurement method /purchasing technique selected.

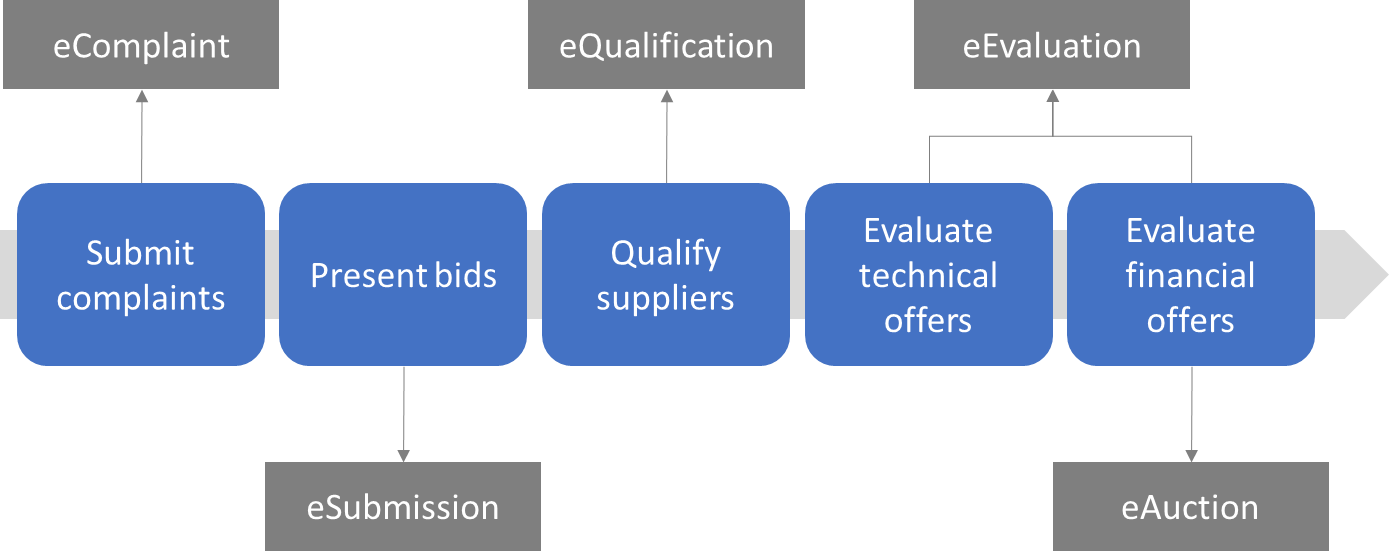
In case of an individual contract, the eSubmission will start by enabling supplier enquiries regarding the tender documents to which the procuring entity will provide the necessary clarifications. After the tenderers’ registration to participate in the procurement procedure and the online submission of tenders, the tenders will be qualified according to the selection and exclusion criteria through the eQualification module; and evaluated by the procuring entity through the eEvaluation module. eAuction might also be used. Then, the award preparation and the publication of the award notice will be completed through the eAwarding module, as well as the electronic signing of the contract and its registration at the Regional Treasury, if applicable, for which the eContract module will be used.

1. In case of an aggregated procurement under a framework agreement, the eSubmission will start by enabling enquiries to the tender documents and registration of tenderers to submit a request to participate in the framework agreement. Next, a submission of indicative tenders, their evaluation through the eEvaluation module, and the conclusion of the framework agreement through the eAwarding module will be enabled. This will be finalised by the publication of the award notice, electronic signing of the framework agreement and its registration at the Regional Treasury, if applicable. After this stage, the eProcurement system will provide the creation of an additional electronic workflow for the competition of the second stage competition under the multi-supplier framework agreement. The subsequent contract resulting from the procedure will have a direct link to the framework agreement from which it originated, thus recording all the contracts awarded under the agreement and the payments made.
2. Submission of complaints. The complaint mechanism from the eComplaint module ensures an online workflow for the submission of a complaint by the supplier participating in the procurement, including registration, examination and settlement of complaints by the review body.

# System features

This section explains the main functionalities of each module of the eProcurement system. The following figure represents a high-level view of the coverage of the public procurement lifecycle:





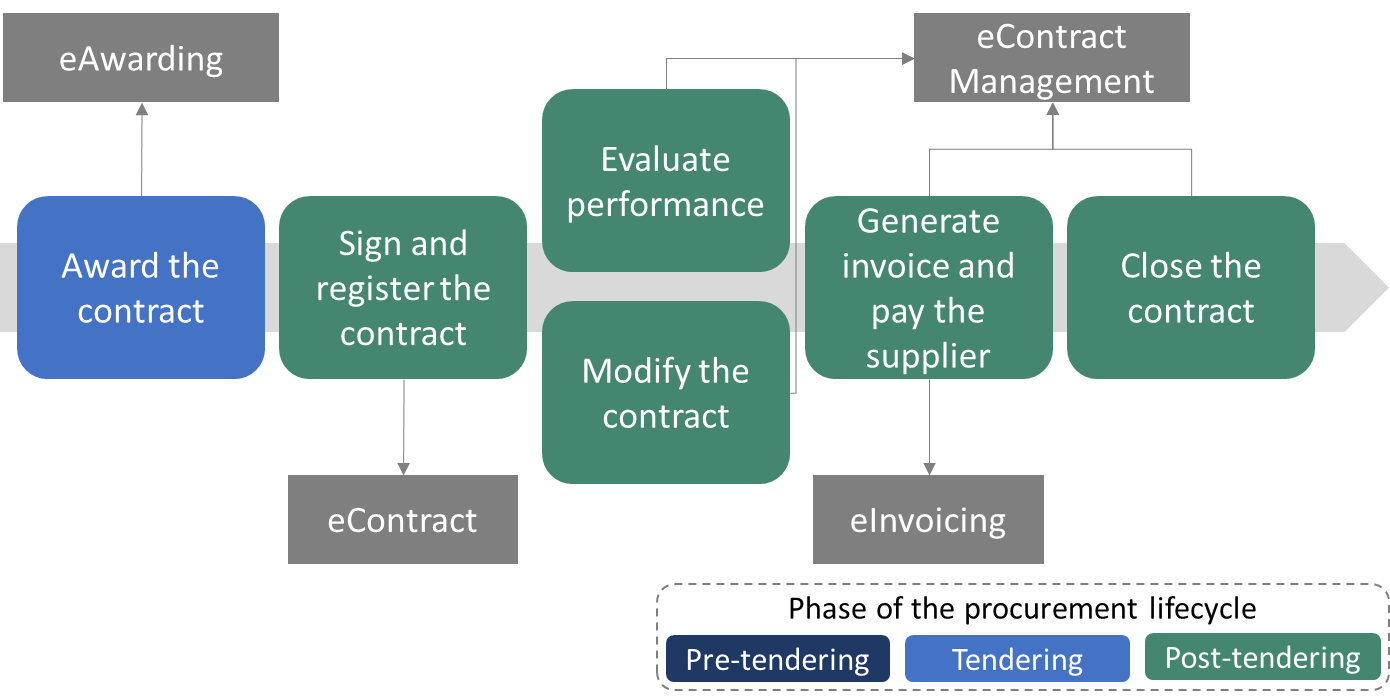


Figure 4. Coverage of the public procurement lifecycle

Additionally, there are several transversal modules and tools which are used in most of the phases and activities of the procurement lifecycle: Web Portal, eRegistration, eAuthentication, eNotification, eMonitoring, Document Management and Cabinets for single users.

## ePlanning

ePlanning allows the scheduling of public procurement procedures from both an aggregated yearly perspective and individual perspectives.

It supports and registers all tasks to be completed to determine the strategy, timing and cost of a public procurement procedure.

Description

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

Typical tasks include initial opportunity and spend analysis, identification of stakeholders and their engagement, identification of the organisation’s needs based on the category, analysis of the supply market, development and execution of a strategy for the category, and development and execution of the engagement strategy for the supplier.

The ePlanning tool must allow users to aggregate demand according to different variables, such as CPV codes, procurement procedure types, dates, and others to be defined in order to crosscheck the planning between procuring entities and build an annual aggregated procurement plan. The planning functionality will enable validation of budget availability, using the CPV code of planned procurement and the local budgetary classification code of the state budget line.

The ePlanning tool should also allow the identification of potential individual procurement planning to be aggregated in order to launch a centralised Framework Agreement.

The planning process is divided into different sub-processes, which are summarised below:

* **Yearly planning**: The ultimate goal of yearly procurement planning is to coordinate and integrate the actions of a public administration to fulfil a need for goods, services or works in a timely manner and at a reasonable cost. Early and accurate planning is essential to avoid last minute, emergency or ill-planned procurement, which is contrary to open, efficient and effective – and, consequently, transparent – procurement. In addition, most potential savings in the procurement process are achieved by improvements in the planning stages. The outcome of the yearly planning is the Annual Acquisition Plan (AAP). The technical specifications include the development of functionalities that allow for creation, modification and approval of AAPs. Moreover, they should allow making amendments to the planning, facilitating that procuring enities are able to adjust their planning during its execution.
* **Individual procurement planning**: The scope of individual procurement plans will depend on the complexity of the requirements of each procurement procedure. While it is a good practice to always make a plan, in the case of low-risk/low-spend requirements, the plan should be simple, but include an overview of the necessary project steps and the associated timeline. At the other end of the scale, managing the procurement of an extremely high risk/high spend requirement is in fact project management, and should entail a thorough and comprehensive planning process[[2]](#footnote-2).
* **Aggregated planning**: The goal of aggregated planninng is the consolidation of different individual procurement plans by the central purchasing bodies. In joint procurement, aggregated planning is essential in order to dimensionate the scope, and the individual procurement planning from all procuring entities that will be party of the framework agreement or the joint procurement must be taken into account.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * Needs assessment, market research and budgeting must be performed prior to the preparation of the procurement plan.   *Note: these activities are not covered by the eProcurement system* |
| Post-conditions | * Procurement procedure can be initiated after a procurement plan is prepared and approved; * Procurement plan information is published online to provide information on future procurement procedures. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eP-001 | Risk management | The module MUST allow management of risks associated with each specific procurement, allowing them to be monitored (i.e. not enough time to organise a new procedure before the current contract expires). The module will allow introduction of the risk, the mitigation action proposed, the person responsible for completing it, the due date for the mitigation action, and the status of the mitigation action. |
| FR-eP-002 | Monitoring tools | The module MUST provide tools to monitor the procurement planning developed, with visibility of different characteristics (the type of procedures used, the total number of products purchased through Framework Agreements, 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 MUST be granted access to this information dashboard. |
| FR-eP-003 | Framework agreements | The ePlanning tool MUST allow planning of Framework Agreements. |
| FR-eP-004 | APP Preparation | The module MUST allow for the creation of planning items, covering both individual plans and aggregated plans based on standardized individual plans. |
| FR-eP-005 | Amendments | The module MUST allow the amendment of the planning during its duration. |
| FR-eP-006 | Module interface | The module MUST be accessible from the Networking Electronic Procurement Platforms and the cabinets for single users and follow the same look and feel as the eProcurement web portal. |
| FR-eP-007 | Module interface | The front-end of the ePlanning module MUST be user-friendly. |
| FR-eP-008 | APP preparation | The content of an eProcurement plan MUST be validated by the system to ensure that all the information is provided in a proper and correct manner. |
| FR-eP-009 | APP preparation | The authorised entity MUST be able to configure the information shown in public procurement plans. |
| FR-eP-010 | Procurement preparation | The module MUST create ID-based references between the APP line and the procurement procedure, based on event-driven verification of the APP execution. |
| FR-eP-011 | Budget allocation | The module MUST allow the definition of the allocated budget for each APP line. |
| FR-eP-012 | Planning process | This module MUST allow the validation of budget availability, using the CPV code of planned procurements and the local budgetary classification code of the state budget line. |
| FR-eP-013 | Planning process | This module MUST allow the publication of a basic procurement plans with information regarding the object to be purchased, and the estimated timing for publication of tender notice and contract termination. |
| FR-eP-014 | Aggregation of demand | The module MAY allow generating an alert when the products purchased are covered through an active Framework Agreement. |
| FR-eP-015 | Aggregation of demand | The module MUST allow generation of an alert when the products purchased are included in the APP of other procuring entities, facilitating joint procurement. |
| FR-eP-016 | Aggregation of demand | The module MUST allow central purchasing bodies to analyse potential goods or services to be aggregated in centralised purchasing procedures. |
| FR-eP-017 | Aggregation of demand | The module MUST allow a final consolidation of procurement plans to be performed by the central purchasing bodies and/or Public Procurement Agency (PPA) and its publication. |
| FR-eP-018 | Aggregation of demand | The module MUST support re-consolidation of procurement plans at any level in case of submission of new versions of procurement plans. |
| FR-eP-019 | APP preparation | The module MUST allow procuring entities to load a pre-defined partial APP in electronic format, and complete and validate the pre-defined information. |
| FR-eP-020 | APP preparation | The module MAY be able to build new partial APPs based on previous ones. |
| FR-eP-021 | APP preparation | The module MUST permit publication of the partial APP in a structured format. |
| FR-eP-022 | APP preparation | The module MUST allow modifications and updates to the partial APPs already published. |
| FR-eP-023 | APP preparation | The module MUST keep a record of the modifications made to partial APPs, and maintain each of the documents according to the date of publication. |
| FR-eP-024 | APP preparation | Authorised users MUST be able to both import and export a partial APP in electronic format. |
| FR-eP-025 | APP preparation | Authorised users MUST be able to create multi-year procurement plans, linked to budget allocation and forecasted expectations. |
| FR-eP-026 | APP preparation | Any update of the APP automatically updates the Buyer’s profile and is published as a new PIN notice. |
| FR-eP-027 | Market research | The module MUST be able to generate pre-defined forms, according to procuring entity’s inputs, to request information from suppliers about a specific product, making it comparable to other suppliers’ information. |
| FR-eP-028 | Market research | The module MAY allow the treatment of suppliers’ feedback in a semi-automated way, allowing comparison between suppliers’ products. |
| FR-eP-029 | Tender requirements preparation | New individual procurement processes MUST be able to be created by replicating a previous individual procurement process. |
| FR-eP-030 | Tender requirements preparation | Authorised users MUST be able to customise qualifying requirements and criteria for evaluation of tenders (legal, technical, financial, etc.). |
| FR-eP-031 | Tender requirements preparation | The module MUST be able to associate more than one product to the need to be purchased, using the classifier of goods, works and services. |
| FR-eP-032 | APP association | The module MUST allow linking the individual procurement with its associated APP. |
| FR-eP-033 | APP association | The module MUST generate an alert/highlight procedure when the products purchased in the individual procurement are not associated to any APP. |
| FR-eP-034 | Framework agreements | The module MUST allow linking of individual planning to a Framework Agreement plan within the annual planning. |
| FR-eP-035 | Process cancellation | The module MUST allow cancelling an individual planning process, by introducing a typified justification. |
| FR-eP-036 | Planning process | The system MUST have access to state budget systems for planning purposes – validation. |

User actions

| **User** | **Possible actions** |
| --- | --- |
| Procuring entities | * Preparation and management of public procurement plans, including creation, modification and cancellation. * Preparation of annual procurement plans and individual procurement planning. |
| State Treasury | * Validation, if required by the law, to confirm budget availability for the specified procurement procedures. |

Architecture

ePlanning functionalities are available in the CDU for supporting and registering all tasks to be completed, to determine the strategy, timing and cost of a public procurement procedure.

Networking Electronic Procurement Platforms must enable the management of aggregated planning in Framework Agreements.

Additional information regarding budgeting and planning can be found in the document “Open OCDS Networking Digital Procurement System – Architecture of Central Unit”, in:

* Chapter “Procurement Process Stages”, sections “Budgeting” and “Planning”;
* Chapter “Components’ management”, sections “eBudget” and “ePlanning”;
* Chapter “Public API”, sections “Budgeting” and “Planning”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/dataStandard/>)

## eAccess

Description

On the suppliers’ side, this module **gives access to all notices and tender documents** and provides the option to ask questions and receive answers regarding a specific call for tenders.

The electronic preparation of a tender must allow procuring entity to initiate a procurement procedure, choose a public procurement method, build tender nomenclature (positions) and define the technical specifications of goods, services or works to procure. Through this functionality, the module must support most of the preparatory work to be performed by a procurement officer before a contract notice is published and the tender documents are made available online. The preparation of a tender will be associated to a procurement plan. Moreover, the module will enable completion of the following tasks:

* **Administration of draft tenders under preparation, to be published online**: This module allows procuring entities to view the details of an existing tender and to modify them. It relates only to Calls for Tenders that are still under preparation (i.e. tender documents have not been published yet). Certain details of the call for tenders must be made exempt from modification, depending on its exact phase and on user authorisations.
* **Preparation of the list of requirements:** Allows procuring entities to define the qualification requirements. These requirements will be used in the qualification phase. The list of requirements must be sent to the eQualification module.
* **Preparation of the awarding criteria:** Allows procuring entities 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. The criteria must be sent to the eEvaluation module.
* **Preparation of notices:** The module will automatically send information to the eNotice module for publication. All document templates, including template notices and standard bidding documents for preparation of tender documents can be created and retrieved from the document management module of the CDU of the eProcurement System.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * Procurement plans are created by procuring entities; * The preparation of the contract notice and tender document starts from an already existing procurement plan; * Where applicable, the individual procurement budget has been approved by the State Treasury. |
| Post-conditions | * The information for the contract notice, including the tender documents, is sent for publication to the eNotice module. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eAC-001 | Procurement preparation | The module MUST allow creating the procurement procedure based on the APP. |
| FR-eAC-002 | Procurement preparation | The system MUST allow to prepare procurement procedures with several lots. |
| FR-eAC-003 | Procurement preparation | The system MUST allow to define the selection and exclusion criteria, as well as awarding criteria, requirements and criteria for evaluation (legal, technical, financial, etc.). |
| FR-eAC-003 | Procurement preparation | The system MUST allow to define non-price criteria. |
| FR-eAC-004 | Procurement preparation | The system MUST allow to define the tender committee characteristics (participants to the tender committee, conditions for opening the bids). |
| FR-eAC-005 | Procurement preparation | The system MUST allow to define general and specific conditions of future contracts. |
| FR-eAC-006 | Procurement preparation | The system MUST have the ability to define a planned payment schedule under future contracts, and to link it to a planned delivery schedule when available. |
| FR-eAC-007 | Procurement preparation | The system MUST allow to attach/update tender documentation and any auxiliary documents that might be needed. |
| FR-eAC-008 | Procurement preparation | The system MUST allow to cancel procedures for separate lots. |
| FR-eAC-009 | Procurement preparation | The system MUST allow to cancel the procurement procedure. |
| FR-eAC-010 | Procurement preparation | The system MUST have the ability to create an amendment of the procurement procedure during its duration. |
| FR-eAC-011 | Procurement preparation | The system MUST allow to select an awarding method (price only, cost only, quality only, rated criteria). |
| FR-eAC-012 | Procurement preparation | The system MUST provide control and protection for all attributes of announced procedures from any changes during the period of exposition. |
| FR-eAC-013 | Procurement preparation | The module MUST be accessible from the Networking Electronic Procurement Platforms and the cabinets for single users and follow the same look and feel as the eProcurement web portal. |

User actions

| **User** | **Possible actions** |
| --- | --- |
| Procuring entity | * Administration of draft procurement procedures under preparation, to be published online; * Preparation of the list of requirements, including selection, exclusion and award criteria; * Preparation of information to be published in the notices; * View or update/modify the details of existing calls for tenders. |

Architecture

The eAccess module, although primarily accessed and allocated through the NEPPs, is developed within the CDU. The module in the CDU must control the process logic, knowledge, validation rules and master-data. eAccess allows users administrations on the CDU side to set the workflow, validation rules, data structure and other features of the tender information to be published by the NEPPs.

Therefore, NEPPs shall recover such data structure and workflows from the CDU and develop user interfaces for users to create the tender workspace based on CDU requirements. Before publishing the tender, NEPPs shall share with CDU information on the tender notice so CDU can conduct automatic validation of the data to be published and return the notice to NEPPs with a pass/fail test result.

All document templates, including template notices and standard bidding documents for preparation of Tender Documents can be created and retrieved from the document management module of the Central Database Unit of the eProcurement System.

Additional information can be found in the document “Open OCDS Networking Digital Procurement System – Architecture of Central Unit”, in chapter “Components’ management” and section “eAccess”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/dataStandard/> )

## eNotices

Description

eNotices must enable the publishing of **official notices**, such as prior information notices, contract notices and contract award notices. Notices will be generated in a structured way, and mandatory and optional fields will be identified depending on the value of the contract.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * The information for the notice is received from the procuring entity. |
| Post-conditions | * Information is sent for publishing in the NEPPs and in the eProcurement web portal, taking into account whether notices need to be validated by the State Treasury or any other bodies for specific types of tenders and/or under certain conditions (e.g. defence sector). |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eN-001 | Preparation of procurement notices | The system MUST allow the preparation of prior information notices. |
| FR-eN-002 | Procurement preparation | The system MUST allow the preparation of the contract notice for procedures with mandatory notice. |
| FR-eN-003 | Procurement preparation | The system MUST allow the preparation of award notices. |
| FR-eN-004 | Procurement preparation | The system MUST allow the preparation of contract registration notices. |
| FR-eN-005 | Procurement preparation | The system MUST allow the preparation of voluntary transparency notices for procedures without mandatory notice. |
| FR-eN-006 | Receipt of procurement notices | The module MUST be able to compile the procurement notices received from the Networking Electronic Procurement Platforms and store them in a systematic and harmonised database. |
| FR-eN-007 | Bid guarantee | Bid guarantee MUST be enabled. |
| FR-eN-008 | Publication of notices | The module MUST support the automatic submission of notices for online publication. |
| FR-eN-009 | Publication of notices | The module MUST allow the publication of the snapshots of all the stages and eventual amendments of each procurement process on a real-time basis (or, if real-time is not feasible, on a given periodicity such as by the end of each day). |
| FR-eN-010 | Publication of notices | The module MUST allow the publication of the procurement record, reflecting all changes, updates, additional information, parts and steps of the procurement process . |

User actions

| **User** | **Possible actions** |
| --- | --- |
| Suppliers | * Access published notices (all types) through a search both in the eProcurement web portal and NEPPs. * Access tender documents both in the eProcurement web portal and NEPPs . |
| State Treasury | * If necessary, validate notices before publishing. |

Architecture

eNotices functionalities for the publication of official notices are shared between the Central Database Unit and the Networking Electronic Procurement Platforms.

The Central Database Unit will take charge of compiling all notices from all Networking Electronic Procurement Platforms and their online publication on the Web Portal. In the CDU, the eNotices module will support the dispatch of procurement notices (Prior Information Notices, Contract Notices, Contract Award Notices, Periodic Notices, etc.) for online publication.

The Networking Electronic Procurement Platforms shall provide the following functionalities for the eNotices module:

* Procurement Officer to log into the module and prepare the notice using the standard templates it offers.
* Procurement Officer to link several documents to the notice, created in the eAccess module (i.e. tender documents, addenda, clarifications), and which are published.
* Any member of the public to search the published tenders and access the corresponding contract notices, tender documents or other relevant information.
* Suppliers who completed their initial registration on any NEPPS, may log into the module and register their interest in specific tenders. When clarifications, explanations or any communication is published by the procuring entity on the Call, the module will automatically notify the suppliers who registered their interest in this tender.
* In case when the notice is linked to a Framework Agreement, it will only be sent to qualified suppliers who are parties to the Framework Agreement.
* In the case that the notice is linked to a restricted procedure, the notice will only be sent to suppliers that were qualified in the eQualification phase.

Additional information can be found in the document “Open OCDS Networking Digital Procurement System – Architecture of Central Unit”, in:

* Regarding Periodic Notice and Prior Information Notice, in chapter “Procurement Process Stages”, section “Planning”;
* Regarding Contract Award Notice, in chapter “Procurement Process Stages” and section “Awarding”;
* Chapter “Components’ management” and section “eNotice”;
* Chapter “Public API” and section “Announcement”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/dataStandard/>)

Additional information can also be found in the document “Technical documentation for Networking Multi-Platform Electronic Public Procurement System”, in:

* Chapter “Contract Notice (CN)”;
* Chapter “Contract Award Notices (CAN)”;
* Chapter “User Actions” and section “Working with Contract Award Notices”;
* Chapter “Let’s go!” and section “Scheduled or announced Tenders: PN, CN”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/letsGo/>)

## eClarification

The eClarification module allows suppliers to communicate with procuring entities and request clarifications, both during the tendering process and at the end of the tendering period.

Description

The eClarification module involves adopting a coherent approach to the acquisition of work, goods, or services processes, to elaborate on the communications between suppliers and the public administration and thereby address possible misunderstandings occurring in the procurement processes. In this sense, such module aims to engage stakeholders to take measures regarding the identification of and mitigation measures for issues or inconsistencies that suppliers and the public administration may encounter in the procurement processes.

The eClarification module shall allow for:

* **During the tendering process**, it must allow a set of different actions in respect to the specific procurement procedures and according to selected procurement methods. Such activities give details regarding the provision of an initial validation of the requested duration of the clarification period, support scheduling, support the publication of questions and requests for clarification from suppliers, support the publication of answers and clarifications from procuring entities, etc.
* **By the end of the period**, it must support a flow of clarification period closure under a specific procurement procedure, as well as a flow of automated extension of the initially scheduled duration of the clarification period in a particular procurement procedure. In addition, the module may support a flow of suspension of a procurement procedure at the end of the clarification period, as well as a flow of resuming a suspended procurement procedure.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * The contract notice has been published and the clarification period is open. |
| Post-conditions | * The stage for submission and registration of bids is on-going; * the procedure can suffer modifications (changes in tender documents, changes in contract notices, etc.); * the procedure can be suspended or cancelled. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eC-001 | Tendering | The module MUST provide an initial validation of the requested duration of clarification period in respect to the specific procurement procedure and according to selected procurement method. |
| FR-eC-002 | Tendering | The module MUST support scheduling, saving and serving of requested duration for clarification period in respect to the specific procurement procedure and according to selected procurement method. |
| FR-eC-003 | Tendering | The module MUST support the publication of questions and requests for clarification from suppliers during clarification period. |
| FR-eC-004 | Tendering | The module MUST support the publication of answers and clarifications from procuring entties. |
| FR-eC-005 | Tendering | The module MUST support publication of received requests and related clarifications in real-time mode. |
| FR-eC-006 | Tendering | The module MUST support a flow of pre-closing of the clarification period under the specific procurement procedure (disclosure of quality and status of received requests). |
| FR-eC-007 | End of period | The module MUST support a flow of closing of the clarification period under the specific procurement procedure (disclosure of authors of received requests). |
| FR-eC-008 | End of period | The module MAY support a flow of a suspension of the procurement procedure at the end of the clarification period (i.e. if there is no requested clarification received from the procuring entity or there is a restriction received due to the decision of the Review Body). |
| FR-eC-009 | End of period | The module MAY support a flow of resuming a suspended procurement procedure (i.e. when requested clarification received or complaint is resolved). |
| FR-eC-010 | End of period | The module MUST support a flow of automated extension of initially scheduled duration for the clarification period in a particular procurement procedure. |

User actions

| **User** | **Possible actions** |
| --- | --- |
| Suppliers | * Request clarifications regarding a specific procurement procedure to the procuring entity. |
| Procuring entities | * Answer suppliers’ questions on a specific procurement procedure; * publish clarifications; * modify the contract notice and tender documents, if necessary; * suspend or cancel the procurement procedure, if necessary. |

Architecture

eClarification functionalities are available in the CDU.

Additional information can be found in the document “Open OCDS Networking Digital Procurement System – Architecture of Central Unit”, in:

* Chapter “Components’ management” and section “eClarification”;
* Chapter “Public API” and section “Clarification”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/dataStandard/>)

Additional information can also be found in the document “Technical documentation for Networking Multi-Platform Electronic Public Procurement System”, in:

* Chapter “User Actions” and section “Clarification”;
* Chapter “Let’s go!” and section “Clarification”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/letsGo/>)

## eComplaint

This module enables the registration, examination and settlement of complaints using electronic processes within the eProcurement system.

It also allows the integration of the eProcurement system with an external tool (in the case where the review body does not want to use the eProcurement system for the management of complaints), in order to retrieve information about complaints accepted for review and decisions taken regarding complaints.

Description

The registration, examination and settlement of complaints using electronic processes within the eProcurement system are carried out by the review body. The eComplaint module allows suppliers to prepare and submit complaints within the procedure to the review body. Upon submission, the complaint system notifies the review body users that a complaint has been submitted for a specific procurement procedure. The module also allows users to submit an amendment to the complaint if requested by the review body. Through this module, when the complaint is received, the procuring entity can send answers to complaints to the review body.

The module allows the review body to reject / accept appeal, to send a call for expression on a complaint to a selected supplier or a competitor (involved third party), and to send requests for amendment. The review body can prepare and publish the decision and suspend the procedure.

In case the review body uses an external tool or system for the management of complaints, integration with it is facilitated. An API can be used for the extraction of available information about complaints accepted for review and decisions taken regarding complaints. This information will be read by the central database unit and published in the web portal, and the procurement procedure will be suspended when necessary.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * A public procurement procedure is on-going or has been concluded. * A supplier initiates a complaint procedure. |
| Post-conditions | * The complaint is resolved. * The procurement procedure may or may not be affected (suspended / cancelled) by the result of the complaint process. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eCP-001 | Complaint submission | The system MUST ensure an online workflow for submission of a complaint covering the different stages of the procurement process where complaints can be placed, such as the publication of the contract notice, the publication of the award notice, etc. |
| FR-eCP-002 | Complaint submission | The system MUST allow to set the duration of standstill periods regarding complaints (standstill period for the submission of complaints by suppliers, standstill period for the revision of received complaints by the review body, etc.) |
| FR-eCP-003 | Complaint submission | The system MUST allow the supplier to prepare, sign and submit complaints within the procedure to the review body. |
| FR-eCP-004 | Notification process | The system MUST notify a supplier about events in the complaint process using the eNotification module of the eProcurement system. |
| FR-eCP-005 | Notification process | Upon submission, the system MUST notify relevant review body users that a complaint has been submitted for a procedure, using the eNotification module of the eProcurement system. |
| FR-eCP-006 | Notification process | Upon submission, the system MUST notify relevant procuring entity users that a complaint has been submitted for a procurement procedure, using the eNotification module of the eProcurement system, so the procuring entity can prepare an answer to the review body. |
| FR-eCP-007 | Complaint amendment and clarification | The system MUST allow users to submit an amendment to a complaint if requested by the review body. |
| FR-eCP-008 | Complaint amendment and clarification | The system MUST allow the procuring entity to send answers to a complaint to the review body. |
| FR-eCP-009 | Complaint resolution | The system MUST allow the review body to reject/accept an appeal and to provide a justification to the decision taken. |
| FR-eCP-010 | Complaint resolution | The system MUST allow preparation and publishing of the decision and suspension of the procedure (if necessary). |
| FR-eCP-011 | Integration | If the review body uses an external tool for the management of complaints, the system MUST facilitate integration with it through an API. |
| FR-eCP-012 | Integration | Information from the external tool, such as complaints accepted for review and decisions taken regarding complaints, MUST be retrieved by the central database unit and published on the web portal. |

User actions

| **User** | **Possible actions** |
| --- | --- |
| Supplier | * Prepare and submit complaints within the procedure to the Public review body. * Provide clarifications. * Provide amendments to the complaint if requested. |
| Procuring entity | * Provide answers and comments to the review body regarding a specific complaint. |
| Review Body | * Reject / accept an appeal. * Send a call for expression on a complaint to a selected supplier or a competitor (involve third party). * Send a request for amendment. * Prepare and publish the decision and suspend the procedure only when necessary. |

Architecture

CDU provides a dedicated API to the NEPPs (exposed by eComplaint module) needed to implement on the NEPPs the workflows for submission of a complaint, starting with the stage of publication of the contract notice to the public procurement procedure and the signing of the public procurement contract.

## eSubmission

This module must allow suppliers to **prepare their bids in a structured and secured way in response to a contract notice and to submit** their bids electronically, using the interactive submission workflows of the eProcurement system.

Description

On the procuring entity’s side, this module **generates a standardised interactive template** for bids or proposals (a tender submission form) in the relevant procurement method, with or without an e-catalogue.

It **allows secure opening of the received tenders** upon expiry of the tender deadlines. Once the deadline for submission has passed, no changes to the submitted tenders will be permitted by the system.

To facilitate bid encryption and control access to submitted bids in different phases of the public procurement procedure, the supplier’s bid can be split into three basic types of bidding documents:

1. Self-declaration and/or qualification documents, covering eligibility to participate in public procurement and qualification requirements;
2. Technical proposal; and
3. Financial offer.

The electronic submission shall be enabled for:

* Request to participate: Allows suppliers to express their interest to participate in a restricted tender or any other procedure where pre-qualification or qualification of interested suppliers takes place.
* Bid submission: Allows suppliers to create and submit a bid in a particular tender. The tender specifications will include the bid submission deadlines and the requested document structure.
* Visualisation/submission of requests and publication of clarifications or addenda: Allows users to view all published information for a tender (i.e. questions and answers), and to submit new requests for clarifications or explanations. In addition, this functionality allows procuring entities to request clarifications or explanations, within the prescribed deadlines.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * The contract notice and tender documents are published. * The period for clarifications is finished. |
| Post-conditions | * After the specified period, the reception of bids is no longer permitted. * The process of qualification of bidders is started. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eS-001 | Scheduling of period | The module MUST provide an initial validation of the requested submission period in respect to the specific procurement procedure and according to the selected procurement method. |
| FR-eS-002 | Scheduling of period | The module MUST support scheduling, saving and serving of the requested duration for the submission period in respect to the specific procurement procedure and according to the selected procurement method. |
| FR-eS-003 | Submission of bids | Submission of bids in accordance with prescribed terms and set of lots |
| FR-eS-004 | Submission of bids | The module MUST allow suppliers to submit a bid lower than estimated value. |
| FR-eS-005 | Submission of bids | The component MUST allow suppliers to attach typified documents. |
| FR-eS-006 | Submission of bids | The module MUST allow suppliers to submit a set of values for all requested rated criteria of requirements and non-price criteria described by the procuring entity in the contract notice. |
| FR-eS-007 | Submission of bids | The module MUST support the ability to amend a submitted bid by the supplier during the tendering period. |
| FR-eS-008 | Submission of bids | The module MUST support the ability to withdraw a submitted bid by the supplier during the tendering period. |
| FR-eS-009 | Submission of bids | The module MUST support the ability to update a submitted bid by the selected supplier during the contract preparation stage. |
| FR-eS-010 | Submission of bids | The module MUST support automated invalidation for bids received before significant changes to the initial procedures' conditions were applied by the procuring entity. |
| FR-eS-011 | Scheduling of period | The module MUST support a flow of the pre-closing of the submission period under the specific procurement procedure (partial disclosure of values of the received bids without tenderers’ profiles). |
| FR-eS-012 | Scheduling of period | The module MUST support a flow of the closing of the submission period under the specific procurement procedure (disclosure of the received bids together with tenderers’ profiles). |
| FR-eS-013 | Scheduling of period | The module MUST guarantee privacy of all received bids during the entire submission period. |
| FR-eS-014 | Scheduling of period | The module MUST support a flow of automated extension of the initially scheduled duration for the submission period in a particular procurement procedure. |
| FR-eS-015 | Scheduling of period | The module MUST guarantee that tenderers’ documents cannot be accessed until the due period stipulated in the tender specifications. |

User actions

| **User** | **Possible actions** |
| --- | --- |
| Suppliers | * Search and download tender documents or other information relevant to a call for tenders. * Receive notifications for addenda or clarifications on a call for tenders. * Prepare and submit bids. |

Architecture

eSubmission functionalities are shared between the Central Database Unit and the Networking Electronic Procurement Platforms and which must allow suppliers to prepare their bids in a structured and secure way in response to a contract notice and to submit their bids electronically, using the interactive submission workflows of the eProcurement System.

Therefore, eSubmission module is partially developed in the CDU to accommodate some functionalities, such as providing data structure for eSubmissions, generating standardised interactive templates for bid or proposal (based on data structure stores in CDU) and storing the bids and facilitating its encryption.

The NEPPs must allow suppliers to submit their expressions of interest and bids, and also the visualisation/submission of requests and publication of clarifications or addenda.

Additional information can be found in the document “Open OCDS Networking Digital Procurement System – Architecture of Central Unit”, in:

* Chapter “Components’ management” and section “eSubmission”;
* Chapter “Public API” and section “Submission”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/dataStandard/>)

Additional information can also be found in the document “Technical documentation for Networking Multi-Platform Electronic Public Procurement System”, in:

* Chapter “User Actions” and section “Submission”;
* Chapter “Tutorial” and section “Documents of ‘bid’: what “envelopes” mean”;
* Chapter “Let’s go!” and section “Submission”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/letsGo/>)

## eQualification

This module **handles the legal, economic and financial qualification of the Tenderer selected for award of public contract**.

Description

The eQualification module is responsible for defining the qualification rules that suppliers must accomplish and for cross-checking information within different registers in order to decide whether an supplier is qualified or not.

The module must be aligned with international best practice that allow suppliers to self-declare their legal, economic and financial capacity, rather than providing full documentary evidence as previously required.

The module shall provide two different modes of qualification:

* Basic qualification (pass/fail qualification): the module must allow an automated pass/fail mechanism of qualification;
* Qualitative qualification (scoring): the pre-selection or shortlisting of suppliers shall be made in two-staged procedures such as restricted procedure. The system allows conducting a scoring and ranking of the bidders according to their capabilities in fulfilling the technical and professional capacities needed for performance of the contract.

When used for procurement methods that allow pre-qualification or shortlisting prior to the submission of bids or proposals (restricted tender, competitive dialogue, negotiated procedure with publication), this module, upon expiry of pre-qualification deadlines, shall enable the Procurement Officer/Evaluation Staff to access a ranking of the tenderers who submitted a request to participate. The tenderers will be ranked based on received self-declarations or requested documentary evidence, if required by the procuring entity when the qualification based on eGovernment services is not available. The Procurement Officer / Evaluation Staff will invite top ranking tenderers to submit a bid/proposal.

**Self-declaration**

A request of a self-declaration by suppliers providing preliminary evidence and replacing the certificates issued by public authorities or third parties is recommended, with a formal statement by the supplier that it is not in one of the situations under which suppliers shall or may be excluded; that it meets the relevant selection criteria; and that, where applicable, it fulfils the objective rules and criteria that have been set out for the purpose of limiting the number of otherwise qualified candidates to be invited to participate.

The module will enable the automated validation of data from suppliers from the self-declaration against government registries. The system will gather the evidence produced by the responsible entities through the connection to State Registers and perform its cross-check against information submitted in the self-declaration by suppliers.

The integration with State Registers and automated evaluation of qualification evidence would dramatically reduce the risk of administrative mistakes and the time required to manage all the evidence.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * Suppliers have submitted their bids. * The period for submission of bids is closed. |
| Post-conditions | * The proposals of qualified bidders are evaluated. * Non-qualified bidders are excluded. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eQ-001 | Criteria preparation | The module MUST support initiation and preparation of the eligibility criteria in regard to the specific procurement procedure and according to selected procurement method. |
| FR-eQ-002 | Criteria preparation | The module MUST support the functionality of automated (if applicable) and manual eligibility checks of received bids against the eligibility criteria initially described by the procuring entity in the contract notice. |
| FR-eQ-003 | Criteria preparation | The module MUST support a functionality of both automated pass/fail and ranking of disclosed bids in accordance with selection and exclusion, selected by the procuring entity in the contract notice. |
| FR-eQ-004 | Criteria preparation | The module MUST support the functionality of a three envelopes disclosure scheme (envelope 1 – certificates, evidences and any documentation related to exclusion and selection criteria, which will be used for qualification of suppliers; envelope 2 – technical offer, which will be used for evaluation of offers; envelope 3 – financial offer, which will be used for evaluation of offers), depending on the awarding methodology used. |
| FR-eQ-005 | Bids evaluation | The module MUST allow the procuring entity to evaluate bidders according to the provided ranking on selection and exclusion. |
| FR-eQ-006 | Bids evaluation | The module MUST allow the procuring entity to reject a received bid, and MUST allow the procuring entity to provide an explanation on why the bid was rejected. |
| FR-eQ-007 | Bids evaluation | The module MUST allow the procuring entity to accept a received bid as a winning bid under a specific lot. |
| FR-eQ-008 | Bids evaluation | The module MUST allow the procuring entity to change its decision before the evaluation protocol is submitted. |
| FR-eQ-009 | Bids evaluation | The module MUST allow the procuring entity to cancel a previously submitted evaluation protocol and step back to the evaluation of bids, in case of a satisfied complaint or other legal prescription. |
| FR-eQ-010 | Bids evaluation | The module MUST support the publication of steps and outcomes of qualification and evaluation by the procuring entity in real-time. |
| FR-eQ-011 | Qualification process | The module MAY support the automated evaluation of the self-declaration document provided by suppliers. |
| FR-eQ-012 | Qualification process | The module MUST support self-declaration in the tender form for all participants and full documentary evidence from the winning bidder. |

User actions

| **User** | **Possible actions** |
| --- | --- |
| Procuring entity | * View the administrative, financial and other information and documentation provided by suppliers. * Submit requests for clarifications to suppliers (when applicable). * Access suppliers’ data. |
| Suppliers | * Securely manage their company data. * Prepare and submit self-declaration and qualification documents. * Provide clarifications and/or explanations. |

Architecture

eQualification functionalities are shared between the Central Database Unit and the Networking Electronic Procurement Platforms.

The CDU includes eQualification functionalities that allow the definition of data structure in which NEPPS shall build their qualification forms and validation of self-declaration (by using eGovernment services, if available). For example, connection to the registry of banned suppliers might only possible through the CDU. The module shall provide a pass/fail test result to NEPPs for each supplier.

NEPPs must also allow the management of company data.

Additional information can be found in the document “Open OCDS Networking Digital Procurement System – Architecture of Central Unit”, in:

* Chapter “Components’ management” and section “eQualification”;
* Chapter “Public API” and section “Awarding”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/dataStandard/>)

Additional information can also be found in the document “Technical documentation for Networking Multi-Platform Electronic Public Procurement System”, in chapter “Let’s go!” and section “Qualification and evaluation”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/letsGo/>)

## eEvaluation

This module provides tools to support the **evaluation of tenders** by procuring entities.

Description

The eEvaluation phase covers all actions regarding the evaluation of bids (excluding eAuction), and the selection of a supplier for the awarding of a public contract. The following types of evaluation shall be made available to procuring entities:

* Price ranking (with electronic auction) – automated ranking by lowest price in electronic auction.
* Price ranking (without electronic auction) – automated ranking by lowest price from the tender form when electronic auction is not used for evaluation.
* Price and other criteria with technical scoring – offline evaluation by the tender committee is reported by the procurement officer to the system by filling in evaluation forms and uploading scans of hard copy documents signed by the tender committee.
* Lowest cost ranking with value inputs by the supplier in the tender form; when no auction is used – automated ranking by sum of cost components from the tender form.
* Price and other criteria with value inputs by the supplier in the tender form; when no auction is used - automated ranking by sum of values from the tender form.
* Price and other criteria with value inputs by supplier during the electronic auction – automated evaluation of price and other criteria.
* Price and other criteria with individual scoring against price and other criteria by each member of the tender committee individually; no reporting by the procurement officer.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * The qualification process has been concluded. * If the procurement process had envisaged an auction, the auction has been concluded and the outputs are transferred to the eEvaluation module. |
| Post-conditions | * An awardee is proposed and this information is transmitted to the eAwarding module for generation of the award notice and notification. * The procurement process can be cancelled, with no awardee selected. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eV-001 | Evaluation types | The module MUST support the evaluation type:  1) Price ranking – automated ranking by lowest price in electronic reverse auction. |
| FR-eV-002 | Evaluation types | The module MUST support the evaluation type:  2) Price ranking – automated ranking by lowest price from tender form when electronic auction is not used for evaluation. |
| FR-eV-003 | Evaluation types | The module MUST support the evaluation type:  3) Price and other criteria with technical scoring – offline evaluation by tender committee is reported by Procurement Officer to the system by filling in evaluation forms and uploading scans of hard copy documents signed by tender committee. |
| FR-eV-004 | Evaluation types | The module MUST support the evaluation type:  4) Lowest cost ranking with value inputs by supplier in tender form, when no auction is used – automated ranking by sum of cost components from tender form. |
| FR-eV-005 | Evaluation types | The module MUST support the evaluation type:  5) Price and other criteria with value inputs by supplier in tender form, when no auction is used - automated ranking by sum of values from tender form. |
| FR-eV-006 | Evaluation types | The module MUST support the evaluation type:  6) Price and other criteria with value inputs by supplier during electronic auction – automated evaluation of price and other criteria. |
| FR-eV-007 | Evaluation process | For aforementioned evaluation methods 1, 2, 4, 5, 6, the system MUST allow the Procurement Officer to report in the system the compliance of the technical proposal with technical specifications in the tender documents.  Compliance with the technical specifications is verified by the tender committee on a pass/fail basis and reported to the system by the Procurement Officer, who fills in evaluation forms based on hard copy documents signed by the tender committee. |
| FR-eV-008 | Evaluation process | For aforementioned evaluation methods 1, 2, 4, 5, 6, the system MUST allow uploading scans of hard copy documents when evaluation forms are filled in. |
| FR-eV-009 | Evaluation process | For evaluation method 2, the system MUST allow the Procurement Officer to report in the system the compliance of the technical proposal with technical specifications in the tender documents.  The tender committee undertakes full technical and financial evaluation offline by scoring, and the result of this offline evaluation is reported to the system by the Procurement Officer, who fills in evaluation forms based on hard copy documents signed by the tender committee. |
| FR-eV-010 | Evaluation types | The module MUST support the evaluation type:  7) Price and other criteria with individual scoring against price and other criteria by each member of tender committee individually; no reporting by the Procurement Officer. |
| FR-eV-011 | Evaluation process | The module MUST allow performance of a ranking of suppliers based on the scores obtained. |

User actions

| **User** | **Possible actions** |
| --- | --- |
| Procuring entity | * Review automatically calculated scores. * Approve evaluation report. * Review the technical and financial bids. * 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. |

Architecture

eEvaluation functionalities must be enabled in the Networking Electronic Procurement Platforms eEvaluation, including:

* Once all bids/proposals are accessible it allows specifically authorised users (Procurement Officer or Evaluation Panel) to evaluate technical proposals or technical proposal and financial offers received and to create tender rankings.
* Procurement Officer/Evaluation Panel are required to provide scores for the technical and financial evaluation criteria, before ranking the tenders according to the pre-defined evaluation function.
* Alternatively, if automated evaluation is selected by the procuring entity, the system will automatically evaluate and rank bids submitted depending on the evaluation parameters defined for the procurement procedure in the Contract Notice.
* If eAuction is conducted, the outcomes of the eAuction will be registered in the eEvaluation module, as an input to evaluation.
* If eAuction is not envisaged in Contract Notice, the eEvaluation module will contain a tool for performing automated or semi-automated evaluation of Technical Proposals and Financial Offers.

Additional information can be found in the document “Open OCDS Networking Digital Procurement System – Architecture of Central Unit”, in chapter “Components’ management” and section “eQualification”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/dataStandard/>).

Additional information can also be found in the document “Technical documentation for Networking Multi-Platform Electronic Public Procurement System”, in:

* Chapter “User Actions” and section “Evaluation and awarding”;
* Chapter “Let’s go!” and section “Qualification and evaluation”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/letsGo/>).

Additional information can also be found in the document “Open OCDS Networking Digital Procurement System – Architecture of Central Unit”, in:

* Chapter “Procurement Process Stages” and section “Evaluation”;
* Chapter “Public API” and section “Awarding”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/dataStandard/>).

## eAuction

eAuction must **facilitate the configuration and management of auctions** held electronically.

Description

The eAuction module must facilitate the running of electronic auctions, allowing the ranking of bids based on ‘lowest price’ or ‘price and other criteria’, with an automated assessment method and according to the options prescribed by the procuring entity in the contract notice. Other criteria can be included in the eAuction module as quantifiable elements of quality, which can be expressed as a value suitable for incorporation within a formula. Procuring entities should be able to set the parameters of the formulas used in the eAuction.

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

The steps covered by an eAuction module are as follows:

* Once the qualification process has been completed, and after the revision of technical offers if applicable, the auction is scheduled. Successful bidders are coded with unique auction participant numbers and invited simultaneously by electronic means.
* The electronic invitation states the connection details, and the date and time of the eAuction, which cannot be sooner than two working days after transmission of the invitation.
* The electronic invitation must provide information about the auction process and minimum differences required for a new bid, as well as the outcome of the initial evaluation if quality criteria are applied. If the eAuction is to be conducted in phases, the invitation to participate must state the number of phases and associated timetable, as well as the methodology used for the closure of the auction.
* The module should provide the bidder with auction status information throughout the course of the auction.
* The auction can be closed by fixing the date and time in the invitation to participate. It can also be closed when no new prices or values that meet the minimum difference criterion are submitted, or when the specified phases are completed, as stated by the procuring entity in the contract notice.
* At the end of the auction, the initial evaluation of the technical offer is combined with the automated ranking of the auction taking into account the last changes to values provided by suppliers, in order to identify the winning bid.

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

The eAuction module can support ‘lowest price’ or ‘price and other criteria’ methods, depending on the decision published in the contract notice or tender documents. In the case of the price and other criteria method, any ‘quality’ features of the bid (i.e. terms of delivery or warranty) carried forward to the eAuction stage must be able to be 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 and sent together with the invitation to participate.

The technical specification covers procedures with non-mandatory auction and further development of the module to provide price and other criteria selections. Customisation may entail changes in the moment of the procedure when the eAuction is held, as well as specific changes in the procedure for bidding (i.e. changes in the number of rounds, etc.).

In addition, an alert system will be implemented, which will automatically report to the PPA in case of abnormal auction outcomes.

Finally, the system administrator must be provided with an alert system that will automatically report technical problems with the eAuction or any irregular outcome of the bidding in the reverse electronic auction for any procuring entity.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * The eAuction evaluation mechanism is envisaged in the contract notice. * The qualification process is completed and some bidders are invited to participate in the auction. |
| Post-conditions | * An auction winner is selected. * The auction results are transferred to the evaluation module so an awardee can be selected. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eAU-001 | Creation of eAuction | The module MUST allow the creation of a virtual workspace, where all eAuction related information can be stored. |
| FR-eAU-002 | Creation of eAuction | The virtual workspace MUST be accessible to authorised users only. |
| FR-eAU-003 | 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-eAU-004 | Creation of eAuction | The module MUST allow the configuration and management of different types of auctions, at least reverse auction. |
| FR-eAU-005 | Creation of eAuction | The eAuction module MUST be able to organise auctions for multi-position procedures, grouped into lots positions and/or separate (not grouped into lots) positions. |
| FR-eAU-006 | Dispatch of eAuction invitations 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-eAU-007 | Dispatch of eAuction invitations to tenderers | The module MUST allow procuring entities 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, the conditions for the closure of the auction, and any other important information. |
| FR-eAU-008 | Dispatch of eAuction invitations to tenderers | The notification MUST be sent to tenderers using the eNotification module of the eProcurement system. |
| FR-eAU-009 | 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 when the defined conditions are met). |
| FR-eAU-010 | eAuction opening | The module MUST be able to check if the participating suppliers have established their connection to the system. |
| FR-eAU-011 | 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-eAU-012 | Entering the eAuction room | Users MUST authenticate themselves in the system. |
| FR-eAU-013 | Entering the eAuction room | The module MUST prevent a supplier from entering the eAuction room if they have not been invited by the procuring entity, or if they attempt access before the date and time set for the beginning of the auction. |
| FR-eAU-014 | eAuction running | The eAuction room MUST display relevant information about the eAuction event to the user (i.e. number of participants, position of the bidder in the ranking, etc.). |
| FR-eAU-015 | eAuction running | The tenderer identities MUST remain closed until the eAuction event is completed. |
| FR-eAU-016 | eAuction running | The whole operation of the eAuction MUST be fully automated; manual intervention by the procuring entity MUST not occur. |
| FR-eAU-017 | 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-eAU-018 | eAuction running | The module MUST allow for monitoring and visualisation of the auction in real-time. |
| FR-eAU-019 | Bid submission | The module MUST allow users to create and submit a bid during an eAuction event. |
| FR-eAU-020 | 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 and conditions required by the auction). |
| FR-eAU-021 | Bid submission | If a bid is rejected for any reason, the module MUST inform the tenderer. |
| FR-eAU-022 | Monitoring of eAuction | The module MUST constantly check the status of the connections of the participating suppliers. |
| FR-eAU-023 | Monitoring of eAuction | The module MUST notify the system administrators and the procuring entity officials about connection disruptions using the eNotification module of the eProcurement system. |
| FR-eAU-024 | Score calculation | The module MUST automatically evaluate and rank bids according to the pre-defined evaluation formula. |
| FR-eAU-025 | 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-eAU-026 | 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-eAU-027 | Score calculation | The module MUST disclose to the tenderers their relative position in the auction during the event. |
| FR-eAU-028 | Score calculation | The details of the received bids will only be disclosed to tenderers and procurement officers according to the specifications of the auction. |
| FR-eAU-029 | 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, number of rounds). |
| FR-eAU-030 | eAuction closing | For an eAuction with fixed number of 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-eAU-031 | eAuction closing | For an eAuction with fixed ending time, the module MUST constantly monitor whether the pre-specified date/time is reached. |
| FR-eAU-032 | eAuction closing | For an eAuction with floating end time, the module MUST constantly monitor the last time of submission of a valid bid. When a pre-specified period of time is over with no new valid bids, the module MUST close the eAuction event. |
| FR-eAU-033 | 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 an eAuction abnormal result. |
| FR-eAU-034 | eAuction closing | The module MUST provide a report with the auction result, the names of the suppliers, and the last offer of each supplier, which will be integrated into the NEPPs eEvaluation module. |
| FR-eAU-035 | Auction types | The module MUST allow the performance of lowest price auction automated auction. |
| FR-eAU-036 | Auction types | The module MUST allow the performance of lowest cost auction automated auction. |
| FR-eAU-037 | Auction types | The module MUST allow the performance of multi-criteria auction in automated rounds. |
| FR-eAU-038 | Auction types | The module MUST allow the performance of auction with non-price criteria in the auction evaluation. |

User actions

| **User** | **Possible actions** |
| --- | --- |
| Procuring entity | * Define the type of auction, the evaluation criteria and the parameters for both the execution and the closure of the auction, either locally or by importing data from the eNotices or eSubmission modules. * Carry out test runs of auctions prior to the live auction to ensure that online price bidding is working properly. * Monitor suppliers’ connectivity issues during the auction and act accordingly. * Receive the results of the eAuction. |
| Suppliers | * Submit bids in real-time and improve their bids during the auction. * Monitor the progress of their bid and their relative position in the ranking. * Receive the results of the eAuction. |
| Public Procurement Agency | * Monitor the progress of the eAuction. * Receive the results of the eAuction. |

Architecture

eAuction functionalities are available in the CDU for the configuration, coding of bidders and management of any type of auction held electronically.

Additional information can be found in the document “Open OCDS Networking Digital Procurement System – Architecture of Central Unit”, in chapter “Components’ management” and section “eAuction”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/dataStandard/>)

Additional information can also be found in the document “Technical documentation for Networking Multi-Platform Electronic Public Procurement System”, in:

* Chapter “User Actions” and section “Electronic reverse auction”;
* Chapter “Let’s go!” and section “Electronic Auction”;

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/letsGo/>)

## eAwarding

The module allows for awarding the contract and preparation of the contract, as well as notifying the stakeholders (mainly suppliers) involved.

Description

This module allows preparation of the **contract award notice** (prepare data for the eNotice module in a structured way) **and notification to awarded and non-awarded tenderers in standardised formats**. It ensures exchange of documents with the tenderer during the awarding phase.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * An awardee is selected. |
| Post-conditions | * The suppliers participating in the tender are notified on the results and the contract award notice is generated. * The awardee is notified and the contract is generated. * The workspace for contract management is created. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eAW-001 | Support of Contract Award Notices | The module MUST support a functionality of automated preparation and generation of negative Contract Award Notices for cancelled lots (cancelled by the procuring entity before or during awarding period). |
| FR-eAW-002 | Support of Contract Award Notices | The module MUST support a functionality of automated preparation and generation of negative Contract Award Notices for unsuccessful lots where a winner is not selected. |
| FR-eAW-003 | Support of Contract Award Notices | The module MUST support a functionality of automated preparation and generation of negative Contract Award Notices for unsuccessful lots when no bids were received during submission period. |
| FR-eAW-004 | Support of Contract Award Notices | The module MUST support a functionality of automated preparation and generation of negative Contract Award Notices for unsuccessful lots when the period of validity for all received bids is expired. |
| FR-eAW-005 | Support of Contract Award Notices | The module MUST support a functionality of automated preparation and generation of positive Contract Award Notices for successful lots. |
| FR-eAW-006 | Contract Award Notices evaluation | The module MUST allow the procuring entity to cancel a previously published positive Contract Award Notice (with relevant justification) if the selected winner cannot confirm any required information or rejects the contract. |
| FR-eAW-007 | Contract Award Notices evaluation | The module MUST allow the procuring entity to step back to evaluation under specific lots in case the related positive Contract Award Notice was cancelled. |
| FR-eAW-008 | Contract Award Notices evaluation | The module MUST allow the procuring entity to upload information related to a decision under a specific lot - report on the decision as a document attached. |
| FR-eAW-009 | Support of Contract Award Notices | The module MUST allow the procuring entity to upload information related to a decision under a specific lot - report on the decision as a set of machine-readable data). |
| FR-eAW-010 | Contract award notification | The module MUST notify the participating tenderers about the outcome of the evaluation and prepare the contract award notice using the eNotification module of the eProcurement system. |
| FR-eAW-011 | Contract preparation | The module MUST support publication of all kinds of generated Contract Award Notices. |
| FR-eAW-012 | Contract preparation | The module MUST allow the procuring entity to initiate a contract preparation stage for the supplier, selected under a specific lot. |
| FR-eAW-013 | Contract preparation | The module MUST allow the procuring entity to initiate a contract preparation stage for the supplier, selected under several lots. |

User Actions

| **User** | **Possible actions** |
| --- | --- |
| Procuring entity | * Introduce relevant information for the generation of Contract Award Notices. * Send Contract Award Notices for publication. * Modify and resend Contract Award Notices for publication. |
| Suppliers | * Receive notifications for the award of the contract. * Submit required documentation (only the awarded tenderer). |

Architecture

eAwarding functionalities must be enabled by the Networking Electronic Procurement Platforms to allow the preparation of the contract award notice and notification to awarded and non-awarded tenderers in standardised formats.

Additional information can be found in the document “Open OCDS Networking Digital Procurement System – Architecture of Central Unit”, in:

* Chapter “Components’ management” and section “eAwarding”;
* Chapter “Public API” and section “Awarding”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/dataStandard/>)

Additional information can also be found in the document “Technical documentation for Networking Multi-Platform Electronic Public Procurement System”, in:

* Chapter “User Actions” and section “Evaluation and awarding”;
* Chapter “Let’s go!” and sections “Qualification and evaluation” and “Contracting”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/letsGo/>)

## eContract

This module allows for signing the contract by both the procuring entity and the supplier selected as the winner, as well as sending the information on the contract to the State Treasury.

Description

This module allows preparation and signature of the **contract** **using eSignature**. Once the contract is signed by both the awardee and the procuring entity, information on the contract is sent to the State Treasury or any other contract register in place.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * The awardee is notified and the contract is generated. |
| Post-conditions | * The execution of the contract is initiated. * The contract administration workspace is set. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eCN-001 | Contract preparation | The module MUST allow the procuring entity to create an initial draft contract for a supplier selected under a specific lot, aggregating information from Contract Award Notice received in order to generate a contract related to awarded lot. |
| FR-eCN-002 | Contract preparation | The module MUST allow the procuring entity to create an initial draft contract for a supplier selected under several lots, aggregating information from Contract Award Notices received in order to generate a contract related to awarded lots. |
| FR-eCN-003 | Contract preparation | A unique identification code MUST be assigned to each contract based on OCDS. Tracking with the tender procedure MUST be possible. |
| FR-eCN-004 | Contract preparation | The module MUST allow the procuring entity to update the initial draft of the contract related to awarded lot(s) with additional required data. |
| FR-eCN-005 | Contract preparation | The content of an eContract MUST be validated by the system to ensure that all the information is provided in a proper and correct manner and is consistent with the information already available in the system for this procurement procedure. |
| FR-eCN-006 | Contract preparation | The module MUST allow the procuring entity to issue the final version of the contract to be signed once all necessary information has been provided and validated. |
| FR-eCN-007 | Contract preparation | The module MUST allow the generation and online signing of aggregated contracts for multi-lot procedures (merged contracts). |
| FR-eCN-008 | Contract signature | The module MUST allow the signature of a contract by all Parties. |
| FR-eCN-009 | Contract signature | The module MUST allow digital signature. |
| FR-eCN-010 | Contract signature | The module MUST allow rejection of a contract by the awardee. |
| FR-eCN-011 | Interface | The module MUST transfer signed contract to the external Body (i.e. State Treasury) for verification and registration. |
| FR-eCN-012 | Interface | The module MUST allow rejection of a contract by the external Body (i.e. State Treasury). |
| FR-eCN-013 | Contract activation | The module MUST allow the procuring entity to activate a contract and initiate its execution once it is signed by the Parties and verified by external Body (i.e. State Treasury). |
| FR-eCN-014 | Contract cancellation | The module MUST allow the procuring entity to cancel a specific contract preparation stage by introducing a typified justification, at any time before the contract is sent to the State Treasury for verification and registration. |
| FR-eCN-015 | Contract cancellation | The module MUST allow termination of an active contract due to end of performance or preliminary termination. |
| FR-eCN-016 | Module interface | The front-end of the eContract module MUST be user-friendly. |
| FR-eCN-017 | Module interface | The module MUST be accessible from the Networking Electronic Procurement Platforms and the cabinets for single users and follow the same look and feel as the eProcurement web portal |

User Actions

| **User** | **Possible actions** |
| --- | --- |
| Procuring entity | * Introduce relevant information for the contract. * Issue the final version of the contract to be signed. * Sign the contract. * Activate the contract. * Cancel the contract. * Terminate the contract. |
| Suppliers | * Sign the contract (only the awarded tenderer). |

Architecture

eContract functionalities are available in the CDU.

Additional information can be found in the document “Open OCDS Networking Digital Procurement System – Architecture of Central Unit”, in:

* Chapter “Procurement Process Stages” and section “Contracting”;
* Chapter “Components’ management” and section “eContracting”;
* Chapter “Public API” and section “Contracting”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/dataStandard/>)

## eContract Management

eContract Management is designed to **monitor a contract and its requests and changes once it has been signed**. This includes amendments and extensions, deliverables and performance reports.

Description

eContract Management is the electronic functionality for the management of receivables, payments, contract settlements, contract variations, performance securities, and audit and control activities, including reception and approval of deliverables, generation and approval of payments, and monitoring and evaluation of goods, works and services purchased.

The module will display information on the status of the payment schedule. Other information, such as the total amount to be paid, the amount already paid, payment due dates, and other indicators will be displayed along with the status of the payment schedule, according to the data available from the State Treasury. The module allows management of electronic invoicing.

In order to allow auditing of the public procurement process and the execution of contracts, the State Treasury will access the eContract Management system and review all necessary information. Additionally, the State Treasury will be able to approve payments to suppliers and block the contract budget and payments.

The module will allow at least four different types of users with an active role in the contract management: Public procurement monitoring and oversight unit, central purchasing bodies, procuring entities and suppliers.

Four sub-processes for eContract Management have been defined, as summarised below:

* **Modification without effect on the project budget – amendments.** Process for requesting and approving modifications to the contract not affecting the budget.
* **Modification with effect on the project budget – extensions.** Process for requesting and approving modifications to the contract that affect the budget.
* **Evaluation of delivery progress – for goods and services**. Process for reviewing the contract performance and the implementation status of a goods or service procurement.
* **Evaluation of project progress – for works**. Process for reviewing the contract performance and the implementation status of work procurement.

Additionally, the following procedures shall be available:

* **Creation and modification of the payment schedule:** It shall be possible to create a payment schedule for each contract and relate it to milestones/deliverables of the goods, services or works purchased. The module shall also allow modification of the payment schedule during the contract, for example as a result of the actual delivery schedule.
* **Issuing and acceptance of invoices:** The system can collaborate with the State Treasury to create and accept invoices, or use the electronic invoicing tool of the government if available. The process must be linked to the evaluation of project progress and the payment schedule.
* **Processing of payments**: The State Treasury is responsible for executing payments. The eProcurement system must receive and register the data regarding payments made by the State Treasury in the contract file. To that end, connection to State Treasury data shall be developed.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * A contract has been signed and initiated. * The contract administration workspace is set. |
| Post-conditions | * The contract is concluded and available for consultation. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eCM-001 | Notifications | Automatically generated notifications MUST be made when certain actions in the contract management occur using the eNotification module of the eProcurement system. |
| FR-eCM-002 | Notifications | The module MUST allow the manual generation of notifications by all actors involved in the contract management process when necessary, using the eNotification module of the eProcurement system. |
| FR-eCM-003 | Notifications | The module MUST allow the configuration of different alerts and reminders (i.e. notifications from suppliers or procuring entities, proximity of a contract milestone, etc.). |
| FR-eCM-004 | Contract modifications | The module MUST allow to conduct contract modifications (extensions and amendments, at least). |
| FR-eCM-005 | Down payment | The module MUST allow the creation of the down payments management plan. |
| FR-eCM-006 | Down payment | The module MUST allow the approval of down payments. |
| FR-eCM-007 | Payments | The module MUST display the payment schedule with information regarding the total amount to be paid, the amount already paid, payment due dates, and other indicators to be defined along with the status of the payment schedule. |
| FR-eCM-008 | Payments | The module MUST allow the generation of a unique authorisation payment code associated to the payment value approved. |
| FR-eCM-009 | Payments | The supplier MUST be able to submit electronic invoices or to attach scanned copies of invoices and associate them to the corresponding authorisation payment code. |
| FR-eCM-010 | Payments | Authorised users MUST be able to create and modify the payment schedule. |
| FR-eCM-011 | Payments | The payment schedule MUST be able to link payments to the acceptance of deliverables or evaluations of performance of the services, goods or works purchased. |
| FR-eCM-012 | Invoices | Users MUST have the possibility to search and access submitted invoices. |
| FR-eCM-013 | Monitoring and controlling | The module MUST allow assignment of a supervisor for a contract and the identification of a contract controller. |
| FR-eCM-014 | Monitoring and controlling | The module MUST allow for an evaluation of contract performance (project progress of works and services contracts, at least) to be conducted. |
| FR-eCM-015 | Monitoring and controlling | The module MUST allow for the setting up and monitoring of the execution schedule and contract payment plan. |
| FR-eCM-016 | Monitoring and controlling | The module MAY allow for the setting up of task checklists for the contract supervisor or the contract controller. |
| FR-eCM-017 | 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-eCM-018 | Monitoring and controlling | The contract supervisor or the contract controller MUST be able to register in the eContract Management module the receipt of products purchased (goods, services or others). |
| FR-eCM-019 | Monitoring and controlling | The module MAY allow the evaluation of the products (goods, services or others) received through a pre-defined evaluation form. |
| FR-eCM-020 | Monitoring and controlling | The module MUST allow registration in the system of whether the supplier has failed or succeeded in complying with the requested requirements of a service, work or good purchased. |
| FR-eCM-021 | Monitoring and controlling | The module MUST allow searches and management of contracts according to the user permissions level (i.e. procuring entities 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-eCM-022 | Monitoring and controlling | The module MUST allow the configuration of a checklist of contract deliverables, displaying information about their delivery status, and allow its modification. |
| FR-eCM-023 | Monitoring and controlling | Procuring entities MUST be able to export information about contracts they are involved with. |
| FR-eCM-024 | Monitoring and controlling | Procuring entities MUST be able to upload scanned copies of bank securities for the project (i.e. performance security, advanced payment security, etc.). |
| FR-eCM-025 | Monitoring and controlling | In order to allow the auditing of the public procurement process and the execution of contracts, the State Treasury MUST be able to access the eContract Management system and review all necessary information. |
| FR-eCM-026 | Monitoring and controlling | The State Treasury MUST be able to approve payments to suppliers and block the contract budget and payments if necessary. |
| FR-eCM-027 | Contract closing | The module MUST allow the closure of the contractual relationship according to the law. |
| FR-eCM-028 | Contract closing | The module MUST allow the set-up and monitoring of the contract closure schedule and subsequent activities. |
| FR-eCM-029 | Contract closing | The module MUST have an alert system that notifies users of an upcoming deadline of the guarantee period, in order to start the process of returning it to suppliers. |
| FR-eCM-030 | Users and user permission generation | The module MUST allow the interaction of different users with different roles within the system. |
| FR-eCM-031 | Users and user permission generation | The module MUST allow the assignment of different roles to users involved in the contract management process according to their function. |
| FR-eCM-032 | Module interface | The front-end of the eContract Management module MUST be user-friendly. |
| FR-eCM-033 | Module interface | The module MUST be accessible from the Networking Electronic Procurement Platforms and the cabinets for single users and follow the same look and feel as the eProcurement web portal |

User Actions

| **User** | **Possible actions** |
| --- | --- |
| Procuring entity | * Issue manual notifications when necessary. * Conduct contract modifications. * Manage payment plans and payments. * Conduct monitoring and controlling tasks, as well as evaluation of contract performance. * Closure of contracts. |
| Central Purchasing Bodies | * Issue manual notifications when necessary. * Conduct contract modifications. * Manage payment plans and payments. * Conduct monitoring and controlling tasks, as well as evaluation of contract performance. * Closure of contracts. |
| Suppliers | * Issue manual notifications when necessary. * Submit invoices. |
| Public procurement monitoring and oversight unit | * Conduct monitoring and controlling tasks, as well as evaluation of contract performance. |

Architecture

eContract Management functionalities are available in the CDU for monitoring a contract and its requests and changes once it has been signed, including amendments and extensions, deliverables, and performance reports.

Additional eContract Management functionalities

The eContract Management module will integrate several functionalities in order to manage processes associated with second stage competition processes, centralised purchasing, and other contract management related activities.

Framework agreements management

A framework agreement is an agreement between one or more procuring entities and one or more suppliers, the purpose of which is to establish the terms governing contracts to be awarded during a given time limit, in particular with regard to price

##### Description

The eContract Management module will allow the creation of a new tender procedure originated from a Framework Agreement (FA). This procedure will allow the procuring entity to undertake a new procedure starting with the preparation of the tender (eAccess phase).

The new tender procedure originated from the FA will maintain the characteristics of the FA. Specifically, the FA contract value will be assigned to the new procedure and the object of the contract shall remain immovable. The contract resulting from the procedure will have a link to the FA from which it originated.

On the file of the FA contract, the value allocated to the new procedure, once awarded, will be displayed, and the payments made will be registered.

The system will allow to conduct four different types of framework agreement procedures, in accordance to UNCITRAL Model Law[[3]](#footnote-3). The four types of framework agreements arise from the two different dimensions of two axis:

* Open or Closed, based on whether it allows the incorporation of new suppliers during the period of execution of the framework:
* **Closed framework agreement:** it means a framework agreement to which no supplier or contractor that is not initially a party to the framework agreement may subsequently become a party;
* **Open framework agreement:** it means a framework agreement to which a supplier (or suppliers) or a contractor (or contractors) in addition to the initial parties may subsequently become a party or parties;
* With or without second stage competition for selecting the supplier involved in the provision of the service:
* **Framework agreement procedure with second-stage competition**, (second-stage competitions are also called call-offs or mini-competition):it means a procedure under an open framework agreement or a closed framework agreement with more than one supplier or contractor in which certain terms and conditions of the procurement that cannot be established with sufficient precision when the framework agreement is concluded are to be established or refined through a second-stage competition;
* **Framework agreement procedure without second-stage competition**:it means a procedure under a closed framework agreement in which all terms and conditions of the procurement are established when the framework agreement is concluded;

During the MTender pilot, the modality implemented was the closed framework agreement with second-stage competition, being second competitions conducted through price quotation only. The complete capacities for framework agreements, including all types of procedures as prescribed by UNCITRAL, will be developed by the contractor during the full deployment of the system.

The FA shall have a FA administrator (CPB) and can have one or several CEs that can make use of the FA to purchase goods, services or works. The Framework Agreements module shall only be available to those CEs that are participants of a Framework Agreement.

Only suppliers that are participants to a FA will have access to the FA module and be invited to forthcoming tendering procedures.

##### Functional requirements

| **#** | **Activity** | **Requirement** | **Pilot** |
| --- | --- | --- | --- |
| FR-eFA-001 | FA creation | The module MUST allow to initiate a new tendering process for a Framework Agreement over the basis of a previous FA. | NO |
| FR-eFA-002 | Framework agreements | The module MUST facilitate the management of framework agreements, allowing the procuring entity manager of the framework agreement to start a new procedure within the framework agreement (second competition). | NO |
| FR-eFA-003 | Framework agreements | The new tendering procedure originating from the FA shall maintain the characteristics of the FA. | NO |
| FR-eFA-004 | Framework agreements | The contract resulting from the procedure will have a link to the FA from which it originated. | NO |
| FR-eFA-005 | Framework agreements | The FA related procedure MUST start in the preparation phase (eAccess, preparation of tender documentation and its upload). | NO |
| FR-eFA-006 | Second competition | The module MUST allow different kinds of second competition as defined in procurement procedures:   * Direct award (under a certain threshold) * Purchasing contract under Multi Fixed Terms Close Framework agreement * Purchasing contract under Multi Open Framework Agreement * Purchasing under Single Fixed Terms Closed Framework Agreement | NO |
| FR-eFA-007 | FA modification | The module MUST allow for the modification of the Framework Agreement (contract modification, contract extension, contract closing). | NO |
| FR-eFA-008 | FA browsing | The module MUST facilitate the browsing of the Framework Agreements. This MUST be performed in a human readable format. | NO |
| FR-eFA-009 | FA browsing | The module MUST allow authorized users (initially, those who are responsible for a given Framework Agreement, but can be redefined during definition phase) to access the Framework Agreement record. | NO |
| FR-eFA-010 | Second competition | The module MUST guarantee that only CAs that are participants to a FA will have access to this FA workspace and can initiate second stage tendering procedures. | NO |
| FR-eFA-011 | Second competition | The module MUST guarantee that only suppliers that are participants to a FA will have access to this FA workspace and be invited to forthcoming tendering procedures. | NO |
| FR-eFA-012 | Second competition | The module MUST guarantee that the suppliers awarded with contracts within the FA are participants to the FA. | NO |
| FR-eFA-013 | FA browsing | The module MUST allow authorized users to initiate second competition procedures, upon their permissions. | NO |
| FR-eFA-014 | FA execution control | The module MUST facilitate the control of the FA budget execution, consolidating the contract value of awarded contracts within a FA. | NO |
| FR-eFA-015 | FA execution control | The system MUST notify the FA manager when the FA duration is about to end. The duration remaining that trigger the alert will be decided in the definition phase. | NO |
| FR-eFA-016 | FA closing | The module MUST allow to close a Framework Agreement upon completion of contract period or other justified causes. | NO |

##### User Actions

| **User** | **Possible actions** |
| --- | --- |
| Procuring Entity | * To Create/Edit/Update and publish a call for competition (mini-competition) within a framework agreement, taking into account the type of framework agreement and its conditions; * invite all admitted participants to submit a bid for a second-stage competition under the Framework Agreement; * monitor the execution of the framework agreement budget. |
| Supplier | * Access to tendering processes opened and to which the supplier has been invited; * submit or update a tender for a second-stage competition; * browse through the tendering processes closed and access the bids submitted (for those for which bids have been submitted). |

Dynamic Purchasing System

The Dynamic Purchasing System (DPS) is a completely electronic procedure for purchasing works, services and goods generally available on the market.

##### Description

The rules to be followed by the procuring entity to set a DPS are those of the restricted procedure. All the candidates satisfying the selection criteria shall be admitted to the system, and the number of candidates to be admitted to the system shall not be limited. Where procuring entities have divided the system into categories of products, works or services, they shall specify the applicable selection criteria for each category.

Procuring entities shall give any supplier, throughout the entire period of validity of the DPS, the possibility of requesting to participate in the system.

The DPS might be divided into categories of products, works or services that are objectively defined on the basis of characteristics of the procurement to be undertaken under the category concerned. Such characteristics may include reference to the maximum allowable size of the subsequent specific contracts or to a specific geographic area in which subsequent specific contracts will be performed.

The DPS involves a two-stage procurement process. First, in the initial setup stage, all suppliers who meet the selection criteria and are not excluded must be admitted to the DPS. The steps followed in the first stage are:

1. Establishment of DPS: The module must automatically establish a DPS workspace when a procuring entity publishes a notice for restricted procedure to establish a DPS. This initial DPS set-up phase only covers the exclusion and selection criteria.
2. Supplier request: Any supplier must be able to request to participate to a DPS, subject to registration in the system. Suppliers should “self-certify” their compliance with the selection requirements and confirm that none of the grounds for exclusion apply.
3. Evaluation of requests: The procuring entity must ensure that the suppliers fulfil with the selection criteria within 10 working days of receipt; this may be extended to 15 working days if justified. All suppliers who meet and pass the exclusion and selection criteria must be admitted to the DPS and/or the relevant categories within it. The system must be prepared for configuring forms that allow the automatic evaluation of requests, though also other non-automatic ways of evaluation may be used.

Individual contracts are awarded during the second stage. In this stage, the authority invites all suppliers on the DPS to bid for the specific contract. The steps included in this stage are:

1. Invitation to submit tender: The Procuring Entities must invite all suppliers admitted to the DPS who meet and pass the exclusion and selection criteria to submit a tender and set the time-limit for tender submission.
2. Submit a tender: The suppliers must submit the tenders and the module must record the exact time and date of the receipt of the tender and store tender in a protected area.
3. Open and evaluate tenders: The Procuring Entities must open the tenders and evaluate and rank tenders based on the evaluation method defined at the establishment of the DPS. The system must allow for each DPS to define the necessary committees, each one with a number of people, profiles and roles assigned. The module must report tender integrity and authenticity and report data/locking infringements and violation of any confidentiality rules.
4. Contract Award: The Procuring entity must create/edit/update Contract Award Notice and dispatch Contract Award Notice for publication. They have to notify tenderers on the award of the contract and the awarded tenderer is invited to conclude / sign the contract. Only the awarded suppliers should be expected to provide documentary evidence of their status.

##### Functional requirements

| **#** | **Activity** | **Requirement** | **Pilot** |
| --- | --- | --- | --- |
| FR-eDPS-001 | DPS configuration | The module MUST ensure that all the steps of a DPS are performed in an electronic way. | NO |
| FR-eDPS-002 | DPS configuration | The module MUST allow dividing the DPS into categories of works, services or goods, which are objectively defined on the basis of characteristics of the procurement to be undertaken under the category. The characteristics used to define a category MAY include indicative value of the contract or geographical area of contract delivery. | NO |
| FR-eDPS-003 | DPS configuration | The module MUST ensure that all DPS have a limited duration and are open to all suppliers that fulfil the exclusion criteria. | NO |
| FR-eDPS-004 | DPS configuration | The module MUST admit all suppliers which comply with the selection criteria (the number of Candidates cannot be limited). | NO |
| FR-eDPS-005 | DPS configuration | The procurement documents MUST be made freely available electronically from the date of the advert. These procurement documents MUST remain available electronically throughout the duration of the DPS. | NO |
| FR-eDPS-006 | DPS participation | Suppliers SHOULD “self-certify” their compliance with the selection requirements, and confirm that none of the grounds for exclusion apply, in order to gain admittance to the DPS. | NO |
| FR-eDPS-007 | DPS participation | The module SHOULD ask the suppliers to confirm that the documents submitted under previous contract are still applicable, and only provide new documents as preceding ones expire, or circumstances change. | NO |
| FR-eDPS-008 | DPS participation | The module MUST allow the suppliers to join the DPS at any point during its validity if they satisfy the selection requirements, and none of the grounds for exclusion apply. | NO |
| FR-eDPS-009 | DPS participation | The authority is required to evaluate these suppliers’ requests within 10 working days of receipt; this may be extended to 15 working days if justified. | NO |
| FR-eDPS-010 | DPS participation | The system MUST notify Procuring Entities of new requests by suppliers for participation in the DPS. | NO |
| FR-eDPS-011 | Award system | Once the DPS is set up, the system MUST allow Procuring Entities to award specific contracts using a DPS that they are entitled to use by inviting all suppliers admitted to the relevant category to bid. | NO |
| FR-eDPS-012 | Award system | The award criteria to be used for the award of individual contracts are to be set out in the original contract notice. | NO |
| FR-eDPS-013 | Award system | The award process and permissible award criteria are consistent with those of the restricted procedure; the minimum timescale for return of tenders is 10 days. | NO |
| FR-eDPS-014 | Award system | The authority may choose to require that tenders for a specific contract comprise or include electronic catalogues, adapted to the specific requirement, in which case the authority should have asked the suppliers request to participate to be accompanied by a catalogue. | NO |
| FR-eDPS-015 | Award system | Contract award notices MUST be published for specific contracts awarded under the DPS. | NO |

##### User Actions

| **User** | **Possible actions** |
| --- | --- |
| Procuring Entities | * To Create/Edit/Update and publish a call for competition making it clear that a Dynamic Purchasing System is involved. * Offer unrestricted and full direct access, as long as the system is valid, to the procurement documents in conformity. * Inform the supplier concerned at the earliest possible opportunity of whether or not it has been admitted to the Dynamic Purchasing System. * Invite all admitted participants to submit a tender for each specific procurement under the Dynamic Purchasing System. * To Create/Edit/Update and publish the Contract Award Notice. |
| Suppliers | * Submit their request to participate in a DPS. * Submit or update a tender for a second-stage competition. |

## eOrdering / ePurchasing

The eContract Management module will manage the ePurchasing/eOrdering functionalities, through which procuring entites will be able to issue orders for a signed contract.

Description

ePurchasing/eOrdering begins with the issuance of an order by a CE and ends with the receipt of the order response by the supplier, via electronic means. The process may include an order change or cancellation from the buyer and shipping/dispatch and advice from the supplier.

Additionally, the ePurchasing/eOrdering module will allow procuring entites to request prices from the different providers or provider awarded with a contract, and to compare in a user-friendly way the prices offered.

Functional requirements

| **#** | **Activity** | **Requirement** | **Pilot** |
| --- | --- | --- | --- |
| FR-ePC-001 | ePurchasing/  eOrdering | The module MUST allow issuance of orders to suppliers within a contract and producing an order report. | NO |
| FR-ePC-002 | ePurchasing/  eOrdering | The module MUST allow users to reject or modify purchase orders and to add comments for revision, if necessary, to purchase orders. | NO |
| FR-ePC-003 | ePurchasing/  eOrdering | The module MUST allow users to request prices from suppliers within the contract that the suppliers are awarded. | NO |
| FR-ePC-004 | ePurchasing/  eOrdering | The module MUST allow listing and comparing the prices offered by suppliers. | NO |
| FR-ePC-005 | ePurchasing/  eOrdering | The module MUST allow management of the delivery notes and the production of invoices (using the government eInvoicing module: eFactura). | NO |
| FR-ePC-006 | ePurchasing/  eOrdering | The module MUST allow production and issuance of certificates of delivery upon the goods, works and services received. | NO |

User Actions

| **User** | **Possible actions** |
| --- | --- |
| Procuring Entities | * Issuance of purchase order against an existing contract; * change, modification or cancellation of the purchase order; * request prices from different suppliers awarded with a contract and compare them. |
| Suppliers | * Review, accept, reject or propose modifications to a purchase order; * provide prices upon request of a Procuring Entity. |

Architecture

eOrdering / ePurchasing functionalities are available in the CDU.

## eCatalogue

The eContract Management module will include the functionalities that allow the creation of eCatalogues and submission of orders for products or services included in the electronic catalogue.

Description

eCatalogues are used by suppliers to describe goods or services offered for sale and may be used by procuring entities to purchase goods or services, or to obtain product or pricing details. They can be a component of both the tendering (pre-award) and the purchasing (post-award) processes.

eCatalogues must be electronic documents created by the suppliers that can serve to automate the submission of offers and orders in a public procurement process. In particular, eCatalogues are expected to be useful in repetitive purchasing procedures, where the same data (administrative or item-related) may be exchanged and reused several times.

The eCatalogues module shall cover the entire cycle of the eCatalogues lifecycle from the creation of the catalogue in the system by suppliers to the issuing of purchasing orders associated to the catalogue by procuring entities.

The creation of eCatalogues and the issuing of offers are represented as follows:

1. Procuring entity: initiation of the catalogue submission process and accreditation of suppliers.
2. Supplier: preparation of the electronic catalogue, uploading products/services, prices and stocks.
3. Procuring entity: acceptance/rejection of the supplier’s catalogue.
4. Procuring entity: preparation of the request for goods or services by searching products in supplier-managed catalogues, quickly and easily.
5. Procuring entity: sending of the request, together with the required documents.
6. Supplier: receipt of the request for goods or services, and acknowledgement of receipt sent to the Procuring entity.
7. Supplier: confirmation of willingness to make an offer.
8. Supplier: preparation and sending of the proposal to the Procuring entity.
9. Procuring entity: analysis of the proposal made by the supplier and proposal acceptance (or refusal).
10. Supplier: submission of the formal offer.
11. Procuring entity: produce and send purchasing orders to suppliers automatically.
12. Supplier: approval of the purchasing orders.

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eCAT-001 | eCatalogues creation | The module MUST be able to automatically create a Catalogue Workspace for conducting a procurement procedure based on eCatalogues and/or as a result of the preceding procurement process. |
| FR-eCAT-002 | eCatalogues creation | The module MUST validate that all information is provided, in order to properly create the Catalogue Workspace. The module MUST detect any technical error and non-compliance with business rules (e.g. value out of a range, etc.) which might occur during the electronic catalogue submission. |
| FR-eCAT-003 | eCatalogues creation | The module MUST allow the assignation of different roles to users involved in the eCatalogues process. |
| FR-eCAT-004 | eCatalogues creation | EOs MUST be able to upload a catalogue within the eCatalogues Workspace and update eCatalogues if necessary. |
| FR-eCAT-005 | eCatalogues creation | CAs MUST be able to review a submitted catalogue before its Items are made available for purchasing. |
| FR-eCAT-006 | eCatalogues creation | Catalogues with a start date in the future MUST be made active for purchasing once the defined start date is reached. |
| FR-eCAT-007 | eCatalogues creation | The module MUST provide a workflow service so that once received the electronic catalogue is automatically routed to a predefined approval workflow. These workflows can be fully automated (i.e. no Human intervention) or semi-automated (i.e. requiring some step(s) of human intervention). |
| FR-eCAT-008 | eCatalogues creation | The module MUST provide a multi-step approval workflow which enables the approval of the catalogue by several roles of the leading organisation. |
| FR-eCAT-009 | eCatalogues creation | In the context of the approval workflow, the module MUST notify the approver that a catalogue created request or updated request requires his/ her approval. |
| FR-eCAT-010 | eCatalogues browsing | The module MUST facilitate the browsing of the electronic catalogues. This MUST be performed in a human readable format. |
| FR-eCAT-011 | eCatalogues browsing | CAs MUST be able to compare catalogue items from different suppliers by different variables such as price, product specifications, etc. |
| FR-eCAT-012 | eCatalogues browsing | CAs MUST be able to add catalogue items in a shopping cart after accessing the details of an item. |
| FR-eCAT-013 | eCatalogues browsing | CAs must be able to modify the shopping cart, allowing them to remove items, clear all items, see total value of items in the cart and initiate the purchase order. |
| FR-eCAT-014 | eCatalogues browsing | The module MUST allow customers to search through the electronic catalogue. This search should allow the usage of, at least, the following parameters:   * Latest contract amendment version * Catalogue classification identifier * Product or service description   Product or service characteristics |
| FR-eCAT-015 | eCatalogues orders | The module MUST facilitate the use of the electronic catalogue for the creation of orders. |
| FR-eCAT-016 | eCatalogues orders | The module MUST acknowledge the receipt of the electronic catalogue once the suppliers submits it. |
| FR-eCAT-017 | eCatalogues modification | The module MUST support the modification of the electronic catalogue and linking to the contract amendment functionality of the system. |
| FR-eCAT-018 | eCatalogues modification | The module MUST support the versioning of the Catalogue. For this purpose, the electronic catalogue MUST at least include the following data:   * Catalogue ID * Issue Date * Catalogue Version * Contract reference |
| FR-eCAT-019 | eCatalogues modification | The module MUST support the archiving of each version of the electronic catalogue. This is especially relevant as part of the updating process. |
| FR-eCAT-020 | eCatalogues modification | The module MUST enable the automatic comparison of two versions of the same Catalogue. |
| FR-eCAT-021 | eCatalogues modification | The module MUST enable retrieving of each version of the electronic catalogue. |
| FR-eCAT-022 | eCatalogues creation | The electronic catalogue MUST enable the complete, accurate and uniform description of the offered products and/or services, prices, etc. facilitating their automated processing. The data scheme enclosing these data definitions should be understandable both at the level of the logical concept and also at the level of its applicability. It should be equally based on simple and widespread formats, which can be accommodated through the use of electronic catalogue standards. |
| FR-eCAT-023 | eCatalogues creation | The module MUST facilitate the import of well-defined catalogues in commonly used formats. In this case the approval process should consider the catalogue as approved. |
| FR-eCAT-024 | eCatalogues browsing | The module MUST facilitate the export of well-defined catalogues in commonly used formats. |
| FR-eCAT-025 | eCatalogues closing | The system should control the validity of the electronic catalogue content (including the associated services).  Once the validity period of the product of the electronic catalogue is expired then these products should be marked as no longer valid (i.e. not available for purchasing).  Once the validity period of the associated services of the products of the electronic catalogue is expired, these associated services should be marked as no longer valid (i.e. not available for purchasing). |
| FR-eCAT-026 | eCatalogues closing | Catalogues MUST be deactivated once their end date is reached. |

User Actions

| **User** | **Possible actions** |
| --- | --- |
| Procuring entity | * Consult products/services, prices, stock, etc. * Compare products services and prices. * Order products/services. * Set deadlines for submission of offers and additional documents. * Request additional information or clarifications from suppliers. |
| Supplier | * Create the electronic catalogue and update it. * Accept, reject, accept with changes, or modify (if justified) the purchasing orders. * Offer/request additional information or clarifications from CAs. |

Architecture

eCatalogue functionalities are available in the CDU.

## eInvoicing

This module encompasses the process of **issuing, transmitting, and receiving invoices in a structured electronic format**, which allows for their **automatic and electronic processing**.

Description

This module allows suppliers to create invoices and cost claims, send them to procuring entities and follow up on the status of the documents sent.

The module will allow procuring entities to receive invoices/cost claims; consult invoice status; receive notifications and view all invoices, cost claims and credit notes that have been received.

The eInvoicing functionality will be developed based on existing eGovernment services.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * A contract has been established between a supplier and a procuring entity. * The supplier is allowed to claim an invoice payment from that specific contract. |
| Post-conditions | * The approved invoices are submitted for payment. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eIN-001 | Invoice creation and submission | The module MUST provide a service for the creation and submission of invoices via electronic means. |
| FR-eIN-002 | Invoice creation and submission | The module SHOULD provide a service for submission of attachments to invoices via electronic means. The submitted attachments MUST have a reference to a valid business document. |
| FR-eIN-003 | Invoice creation and submission | An invoice MUST contain at least the following elements to be compliant:   * Date of issue of the invoice * Sequential number, based on one or more series, which uniquely identifies the invoice * VAT identification number of the supplier * VAT identification number of the procuring entity * Full name and address of the supplier * Full name and address of the procuring entity * Quantity and nature of the goods supplied or the extent and nature of the services or works rendered * Date of supply of goods or rendering of services/works or date on which payment of account was made if different from invoice date * Price per unit * Discounts or rebates not included in the unit price * Taxable amount per rate or exemption * VAT rate applied * VAT amount payable in the national currency * Where the person liable to pay the tax is a tax representative, the identification number for VAT purposes, together with full name and address |
| FR-eIN-004 | Invoice creation and submission | The module SHOULD enable users to submit invoices in multiple languages. The responses generated by the module SHOULD comply with the language of the request or with the user's predefined language. |
| FR-eIN-005 | Invoice creation and submission | The module SHOULD be able to handle allowances and additional costs, such as freight bills, via electronic means. |
| FR-eIN-006 | Notifications | The module SHOULD support a notification service. The module SHOULD provide mandatory and optional notifications. The optional notifications SHOULD be subject to subscription. Un-subscription SHOULD also be possible. The notification will be send by the eNotification module of the eProcurement system. |
| FR-eIN-007 | Invoice creation and submission | The module SHOULD enable suppliers to consult the status of their invoices online. |
| FR-eIN-008 | Invoice creation and submission | Any data of a successfully submitted invoice or credit note cannot be modified. The module MUST NOT provide a service for the updating of successfully submitted data. |
| FR-eIN-009 | Invoice creation and submission | Any data of a successfully submitted invoice or credit note cannot be deleted. The module MUST NOT provide a service for the deletion of a previously submitted invoice. Therefore, un-deletion is not required. |
| FR-eIN-010 | Invoice creation and submission | The module MUST allow cancellation of an invoice (e.g. an invoice can be cancelled if it contains errors, and can be resubmitted). |
| FR-eIN-011 | Payment schedule | The module SHOULD be capable of conveying data in the invoice payment details. |
| FR-eIN-012 | Payment schedule | The module SHOULD automatically handle the payment reminders from the supplier to the procuring entity, when the procuring entity does not pay the invoice within the agreed payment term. |
| FR-eIN-013 | Credit and debit notes | The module SHOULD provide a service for submission of credit notes by suppliers, via electronic means. |
| FR-eIN-014 | Credit and debit notes | A credit note MUST always refer to a single invoice. |
| FR-eIN-015 | Credit and debit notes | The module SHOULD provide a service for submission of Debit Notes by suppliers for goods and services, via electronic means. |
| FR-eIN-016 | Credit and debit notes | A debit note MUST always refer to a single invoice. |
| FR-eIN-017 | Invoices validation and approval | The module SHOULD enable procuring entities to dispute invoices via electronic means. This service SHOULD convey a dispute notice of a single invoice to the supplier. This notice MUST allow the procuring entity to specify the reason for the non-acceptance of the invoice and the proposed corrections to be made. This dispute SHOULD be traceable and the supplier SHOULD be able to reissue the notice in case of failure. |
| FR-eIN-018 | Invoices validation and approval | The module SHOULD facilitate the access to support documentation directed to its users/end users. |
| FR-eIN-019 | Invoices validation and approval | The module MAY provide a service so that the invoice is automatically routed to a predefined approval workflow. The selected workflow will depend on the content of the invoice (e.g. routing based on the order number, routing based on the project number, etc.). These workflows can be fully automated (i.e. no human intervention) or semi-automated (requiring some step(s) of human intervention). |
| FR-eIN-020 | Invoices validation and approval | The module SHOULD support the automatic validation of the tax values in the invoices, credit notes or debit notes. |

User actions

| **User** | **Possible actions** |
| --- | --- |
| Procuring entities | * Receive invoices/cost claims and their related attachment files. * View all invoices, cost claims and credit notes that have been received. * Accept or reject invoices/cost claims and their related attachment files. * Consult the statuses of an invoice. * Receive the corresponding notifications. |
| Suppliers | * View all invoices, cost claims and credit notes that have been exchanged with procuring entities. * Create invoices/cost claims and their related attachment files. * Submit invoices/cost claims and their related attachment files. * Consult the statuses of an invoice. * Receive the corresponding notifications. |

Architecture

eInvoicing functionalities must be enabled by the Networking Electronic Procurement Platforms to encompass the process of issuing, transmitting, and receiving invoices in a structured electronic format, which allows for their automatic and electronic processing.

## Web portal

**The web portal is a government-owned single portal providing open access to all relevant eProcurement information**, which is published in real-time and is made available to all public procurement process stakeholders, including civil society.

Description

The web portal will be a single-window point of access to all public procurement information. It shall contain general information about public procurement, relevant public procurement legislation and guidelines for participation in public tenders and public access information on public procurement decisions.

It will also contain frequently asked questions (FAQs), with an active chat option for ‘ask a question’, and a help desk linked to the Public Procurement Agency responsible for advice on procurement legislation and regulations. The eProcurement system cabinets for key stakeholders, located within the Central Database Unit, will also be accessible via the web portal, following prior authentication.

The eProcurement system web portal will provide links to dedicated modules: business intelligence, monitoring tools, and auditing tools. These will be accessible via the web portal following prior registration and authentication.

The web portal will be accessible from the most common web browsers and from portable devices (mobile phones, tablets, etc.).

The web portal will be used for information purposes and will not be used for registration and authentication of procuring entities or suppliers.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * n/a |
| Post-conditions | * Users can access procurement plans, including budget plan, procurement plan and prior information notices; * Users can access tender information and all procurement information; * Users can consult historical data on public procurement; * Users can access general information on public procurement (legislation, regulation, standard bidding documents, frequently asked questions, etc.). |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-WP-001 | Public procurement information | The eProcurement portal MUST contain general information about the public procurement process (i.e. instructions to participate in tenders, fees applicable, etc.). |
| FR-WP-002 | Public procurement information | The portal MUST provide information about all active tenders and historical data. Since participation in the tendering process is conducted through the Networking Electronic Procurement Platforms, the information displayed on the eProcurement web portal MUST link to the Networking Electronic Procurement Platform where the tender was initiated. |
| FR-WP-003 | Public procurement information | The portal MUST link to all Networking Electronic Procurement Platforms involved in eProcurement and other relevant institutional websites. |
| FR-WP-004 | Public procurement information | The portal MUST allow all kind of notices (such as priori information notices, contract notice, award notice and contract register notice) for all procurement procedures, as well as Annual Acquisition Plans. |
| FR-WP-005 | Interface | The portal MUST have a user-friendly interface. Visual design and navigation characteristics MUST be coherent in all sections. The web portal must be accessible from the most common web browsers as well as accessible from portable devices (mobile phones, tablets, etc.). |
| FR-WP-006 | Interface | The portal MUST be multilingual. |
| FR-WP-007 | Interface | An access to the cabinets for single users MUST be habilitated within the web portal. |
| FR-WP-008 | Interface | The portal MUST have a back-office for content administration. |
| FR-WP-009 | Interface | The portal MUST provide information about all actual Annual Procurement Plans published by procuring entities. |
| FR-WP-010 | Interface | The portal MUST support functionality of the Contract Register: all published tenders (both positive and negative), and concluded electronic contracts including implementation. |
| FR-WP-011 | Interface | The portal MUST provide end users with search engine functionalities based on general attributes of information. |
| FR-WP-012 | Interface | The portal MUST support functionality of publication of periodic information (i.e. news, FAQ). |
| FR-WP-013 | Interface | The portal MUST provide portal’s administrators with a content management tool. |

User actions

The following users are able to access the feature and perform the following activities:

| **User** | **Possible actions** |
| --- | --- |
| Public Procurement Authority | * Uses the portal to display general information on public procurement, including legal and regulatory information, standard bidding documents, etc. |
| Suppliers | * Access the portal to consult general information on public procurement or consulting information on public procurement processes. |
| Procuring entities | * Access the portal to consult general information on public procurement. |
| Single users | * Single users undertake specific roles in the public procurement process and should have at their disposal a dedicated workspace – a cabinet that supports delivering their roles. |

Architecture

Web portal functionalities are available in the CDU. Since the Central Database Unit will replicate in real-time all information received from NEPPs, the web portal shall publish all procurement notices as well as public procurement data.

## eRegistration

This module allows the **creation of users and their registration** in the system, creating a unique ID for each user and user record.

Description

The eRegistration module must cover the initial registration of procuring entities and suppliers, as well as the maintenance of databases with their records for identification and their authorisation throughout the different phases of the public procurement cycle.

Registered users should be able to update specific profile information (typically non-sensitive data, such as telephone numbers, addresses, etc.).

Registration of procuring entities and suppliers should be a one-off procedure, and involves the procuring entities / suppliers wishing to be registered and submitting the necessary information or documentation.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * Users that want to perform modifications to their profiles need to be previously registered in the system. |
| Post-conditions | * User registration request (for certain roles) is approved or rejected. * Users can maintain their profile information (company data, contact information, etc.). |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eRe-001 | Registration | The system MUST allow users to self-register in the system, depending on the role they wish to perform. |
| FR-eRe-002 | Registration | The system MUST validate that the information introduced for registration is in the correct format and that all mandatory fields are filled. |
| FR-eRe-003 | Registration | The system MUST display error messages on those fields of information that have been introduced incorrectly. |
| FR-eRe-004 | Registration | When submitting the registration information, the system MUST display a message to confirm that the registration request has been successful. |
| FR-eRe-005 | Registration | The system ALLOWS users to confirm their identity using a digital certificate. |
| FR-eRe-006 | Registration | The State Public Procurement Authority MUST be allowed to approve or reject the user registration request for some specific roles. Once done, a confirmation e-mail MUST be sent to the user whose request was reviewed with the outcome of it. |
| FR-eRe-007 | Registration | The different procuring entities’ users MUST be able to be authorised to perform different roles in the system. |
| FR-eRe-008 | Registration | Different suppliers’ users MUST be able to register to the platform. |
| FR-eRe-009 | Registration | The platform SHALL allow registration of informal and formal joint ventures which may be formed for particular tenders and the required details, including country of registration of all joint ventures members, to be captured. This SHALL require individual company registrations in the platform, with a lead partner identified as the point of contact. |
| FR-eRe-010 | Profile management | The system MUST allow users to review, update or delete their profiles. |
| FR-eRe-011 | Profile management | The module MUST allow disabling a supplier user. |

User actions

| **User** | **Possible actions** |
| --- | --- |
| Public Procurement Authority | * Validate the registration of users for certain roles. |
| Procuring entities and suppliers | * Register in the system. * Update their information profile. |

Architecture

eRegistration functionalities must be enabled by the Networking Electronic Procurement Platforms to allow the creation of users and their registration in the system, creating a unique ID for each user and user’s record.

Additional information can be found in the document “Technical documentation for Networking Multi-Platform Electronic Public Procurement System”, in chapter “Tutorial” and section “Registration” (<https://ebrd-digital-transformation-mtender.github.io/Documentation/letsGo/>).

## eAuthentication

This module, which is on NEPPs’ side, is responsible for **identifying users and obtaining and setting their authorisation to perform specific actions within the system**.

Description

The authentication (validation) process will be based on the available digital data of the suppliers, verified as a minimum through two independent digitally accessible sources, such as bank accounts, eGovernment services or state registers. The authentication process will be as follows:

* The registered user signs into the system using credentials (username and password) and accesses the ‘Profile’ option.
* The module checks the existence of the user in the system’s user database and authorises the connection to the system.

Users will be authenticated in the system according to their level of permissions and will only be able to access functionalities or information that are available to their level of permissions (i.e. a user that authenticates in the system as a supplier will not be able to access certain information on procuring entities or on other suppliers).

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * Users access the login functionality. * Users are registered in the system. * Several user roles with different permissions are available in the system. |
| Post-conditions | * Users are authenticated and can access information and functionalities according to their level of permissions. * Non-registered users are not allowed to access the system. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| e-eAU-001 | Login | The system MUST allow users to authenticate themselves in the system (i.e. login). |
| e-eAU-002 | Login | The system COULD allow the authentication of users having their profiles in an external user registry system (e.g. e-ID infrastructure). |
| e-eAU-003 | Login | The system COULD support user authentication through Single Sign-On (SSO) services. |
| e-eAU-004 | Login | Users COULD be obliged to accept a User Agreement / Terms and Conditions text before obtaining access to the full system functionality. |
| e-eAU-005 | Login | Non-authenticated users MUST have access only to information that is publicly available. |
| e-eAU-006 | Logout | The system SHOULD automatically logout authenticated users if they remain inactive for a pre-specified period of time (i.e. session timeout). |
| e-eAU-007 | Password failure | A "forgot password" mechanism MUST be made available to users. |
| e-eAU-008 | Password failure | Users SHOULD be locked out of the system after a specific number of failed login attempts. |
| e-eAU-009 | Password failure | Re-activating a "locked" account MUST be possible to Administrator users. |

User actions

| **User** | **Possible actions** |
| --- | --- |
| All registered users | * Users access the system and introduce their login username and password. The system validates their permissions to login the system. * Users can restore the password. |

Architecture

eAuthentication functionalities must be enabled by the Networking Electronic Procurement Platforms to identify the users, and to obtain and set their authorisation to perform specific actions within the system.

## eNotification

This module, which is on NEPPs’ side, enables **communication among system users and notifications of new events** regarding the public procurement process.

Description

The eProcurement system can generate and send messages to notify a user or a category of users about events occurring within the system. The notification can be initiated by both the eProcurement system and a specific user (e.g. the procuring entity).

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * The service is triggered by another system functionality or process on the need to send a notification to one or several system users. |
| Post-conditions | * The notification is sent to all required users. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eNT-001 | Notification process | The eProcurement system MUST send notification to relevant users related to the business processes (events), where the user must be involved or informed. |
| FR-eNT-002 | Notification process | The eProcurement system MUST provide an efficient mechanism to send notifications. |
| FR-eNT-003 | Notification process | Alternatively, notifications COULD be sent by using a government dedicated service, if available and feasible. |
| FR-eNT-004 | Notification process | The eProcurement system SHOULD offer different strategies for notification (to be selected by the users):   * Notification via e-mail; * Notification via user’s Dashboard/Cabinet; * Notification via both categories mentioned above. |
| FR-eNT-005 | Notification process | eProcurement MUST cover, at least, the following notification events:   * Notice publication; * Addition/modification of tender documentation; * Tender opening; * Award of the tender; * Submitting request; * ID submission – confirmation; * Complaints submission; * Invoice submission. |
| FR-eNT-006 | Notification process | Authenticated users (regardless of their roles) COULD have the possibility of configuring their preferred notification means. |
| FR-eNT-007 | Notification process | Authorised users SHOULD receive notifications on business events related to their job duties or necessity to be informed. |
| FR-eNT-008 | Notification process | The notification SHOULD include the link for document download where appropriate. |
| FR-eNT-009 | Notification process | Suppliers SHOULD receive confirmations on receiving bid, complaint or another document sent via eProcurement system. |
| FR-eNT-010 | Notification process | Notifications stored in the user’s dashboard SHOULD have reference of direct access to the file/ form/document related to notifications. |
| FR-eNT-011 | System performance notifications | The eProcurement system MUST notify the System Administrator on all issues affecting the performance and availability of the IT System. |

User actions

| **User** | **Possible actions** |
| --- | --- |
| All registered users | * Configure the preferred notification means. * Receive notifications in the user dashboard and receive notifications by email. |

Architecture

Both NEPP and CDU will have their own notification mechanism for users. Therefore, eNotification functionalities are available in the CDU but must also be enabled by the Networking Electronic Procurement Platforms to allow communications among system users and notifications on new events on the NEPPs; it also allows suppliers to request and receive clarifications during the tender process.

The eNotification module will be integrated with the rest of the modules, enabling communication exchange between all stakeholders involved in the public procurement process (i.e. communications regarding eNotices will start on the eNotices module, but will be managed through the eNotification module. When a user enters the system, a notification panel will show all communications from all modules).

This functionality might be completed through the eGovernment service, if available.

## eMonitoring

This module must allow **data extraction** as well as **access to reports and analyses** of data stored in the database. The module will be aligned with the model developed by Transparency International to monitor and analyse public procurement data.

Description

The eMonitoring module will build on the Open Government principle and advanced Open Contracting Data Standards (OCDS) while following the model developed by Transparency International.

The Transparency International module recommends three tools to facilitate open data access, monitoring and reporting of public procurement:

* Open access to public procurement information (Open Data Observer);
* Public procurement analysis and investigation (Open Data Explorer);
* Civil society monitoring portal (Feedback Tool).

The **Open Data Observer**[[4]](#footnote-4) is a web-based tool open to the general public and civil society, and its goal is to provide easy access to basic procurement statistics. On the Open Data Observer, various default reports on public procurement are available and kept up to date to allow quick access to key public procurement information (i.e. procurement value per supplier, per type of procedure, a number of complaints analysis, etc.).

The **Open Data Explorer** will be integrated into a dashboard presenting historical data on public procurement and is designated for specialist users, serving as watchdogs or with other enforcement authorities that need a deeper understanding of public procurement market data. Access is restricted to authorised users only. It is expected to be used by:

* Enforcement bodies (i.e. Competition Council, Court of Accounts, State Treasury, etc.);
* Watchdogs;
* International donors/partners.

The Open Data Explorer will access the same OCDS structured public procurement data as the Open Data Observer, along with additional analytical functionalities designed for professional users. The key analytical features are the following:

* Instant user-defined reporting: each user can personalise their reports and flag indicators;
* Risk management and visualisation (red flags): the tool has developed a red flag system that alerts the user about any possible irregularity in a particular procedure;
* Tools for teamwork and collaboration.

The Open Data Explorer also allows obtaining the details of each tender, as well as all public procurement aggregated information. In order to obtain data from the eProcurement system, both the Open Data Observer and the Open Data Explorer execute a periodical copy of the data to another server, and an analysis of this copy is performed. This process prevents the Central Database Unit database from being overloaded with information requests, and also ensures that eProcurement transactions run smoothly without interference from the eMonitoring module.

Finally, the **Feedback Tool** is a platform where process stakeholders can provide feedback to a state procurement entity or supplier, discuss and assess the conditions of a specific procurement, analyse procurements of a specific government authority or institution, or prepare and submit a formal appeal to oversight bodies. The Feedback Tool enables civil society and media representatives to discuss a specific tender with potential and existing suppliers, hear their expert opinion on the correctness of the wording in the tender documents, etc.

Procuring entities have a chance to go beyond appraising a certain vendor and analyse feedback from businesses to amend the procurement process, and even create their own risk management system.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * A considerable number of public procurement procedures have been conducted in the eProcurement system. |
| Post-conditions | * Policy measures and strategic decisions can be taken based on the evidence analysis. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-eM-001 | Reporting and analytics | The module MUST allow searching functionalities by different criteria, such as procuring entity, supplier, type of procedure, etc. |
| FR-eM-002 | Reporting and analytics | The module MUST allow visualisation of data in an understandable manner, such as dashboards, tables or the most suitable format for each type of data. |
| FR-eM-003 | 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-eM-004 | Reporting and analytics | Procuring entities MUST be able to prepare regulatory reports, which will provide information on all aspects of public procurement procedures. |
| FR-eM-005 | Reporting and analytics | The module MUST facilitate the discovery and dissemination 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 spreadsheet format (xls, csv) and/or other standard desktop applications. |
| FR-eM-006 | Data access | All eMonitoring tools (Observer Tool, Explorer Tool and Feedback Tool) must be accessible from the web portal. The Explorer Tool will only be open to authorised users while the Observer Tool and the Feedback Tool will be open to everyone. |
| FR-eM-007 | Data structure | The data shown MUST follow OCDS standards for data storing and management. |
| FR-eM-008 | Data export | The module MUST allow OCDS export from the transitional database for planning, tendering and contract register. |
| FR-eM-009 | Monitoring tools | The module MUST have an OCDS-based BI tool. |
| FR-eM-010 | Monitoring tools | The module MUST have a red flags monitoring tool. |
| FR-eM-011 | Monitoring tools | The module MUST have risk based ex-ante control monitoring tools. |
| FR-eM-012 | Monitoring tools | The module MUST support a data feed for compliance and performance audits. |

User actions

| **User** | **Possible actions** |
| --- | --- |
| Civil society | * Review of on-going and concluded public procurement procedures; * Review aggregated information and statistics on public procurement. |
| Specialist users, watchdogs, Public Procurement Authority | * Review the full details to each tender conducted in the eProcurement system. * Generate pre-defined reports for investigation purposes. * Review red flags and alerts generated by the system. |

Architecture

eMonitoring functionalities are available in the CDU, allowing data extraction as well as access to reports and analysis of the data stored in the database

## Document Management

This module is responsible for **generating,** **registering and archiving** the decrypted human readable version of tender documents.

Description

The module must provide basic document management functionalities for reception, dispatch, storage and retrieval of all electronic documents and non-electronic documents created and recorded during the electronic tendering procedure and logging activity of the electronic and non-electronic documents included in the tender bundles/packages.

The module must provide an integration with the electronic filing system, enabling long-term preservation of electronic documents and records in digital format and ensuring that human-readable versions can be easily retrieved without conversions for audit purposes.

Furthermore, it must provide the tender package/envelopes scheme for electronic documents and ensure that the documents are treated with the adequate level of security and protection, taking into account the specifics of public procurement methods (i.e. confidentiality of bids before the tender opening session).

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 access it and which type of authorisations they are 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 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.

Suppliers and procuring entities need access to the business documents[[5]](#footnote-5) exchanged via electronic means. The procuring entity responsible for the system and other authorities need access to this module in order to consult, check or revise any document that is publicly available.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * n/a |
| Post-conditions | * Templates are available in the system to be reused. * Business documents contained in the system can be used. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-DM-001 | Creation of documents and templates | The module MUST support the creation and administration of specific identifiers for each document. |
| FR-DM-002 | 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-DM-003 | Creation of documents and templates | The module MUST allow the generation of documents from other templates previously created in the system. |
| FR-DM-004 | Documents repository | The module MUST allow for indexing, categorising, storing, and searching for information and documents in any file format. |
| FR-DM-005 | Documents repository | The module MUST support the three envelopes submission scheme. |
| FR-DM-006 | Documents repository | The module MUST support the electronic archiving of business documents such as invoices, notes, etc. |
| FR-DM-007 | Documents repository | The module MUST archive the business documents for a pre-defined retention period. |
| FR-DM-008 | Documents repository | The module MUST support the archiving of the documents attached to the archived business documents. |
| FR-DM-009 | Documents repository | The module MUST provide an instrument for Networking Electronic Procurement Platforms and the special cabinets for single users to upload, read and retrieve documents. |
| FR-DM-010 | Documents repository | The module MUST archive the business documents received via electronic means in their original format. |
| FR-DM-011 | 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-DM-012 | Documents repository | Submitted tenders MUST be archived for the time required by the applicable laws and regulations. |
| FR-DM-013 | 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-DM-014 | Documents repository | The module MUST comply with the existing legal data protection requirements and, where available, make use of technologies that are privacy compliant and privacy enhancing. |
| FR-DM-015 | 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-DM-016 | Documents authenticity and security | If electronic signatures are used, each electronic signature and the associated meta-data to validate it MUST be equally archived. |
| FR-DM-017 | Documents access | Once archived, the module MUST guarantee full online access to authorised personnel. |
| FR-DM-018 | Documents access | The module MUST enable users to search for the archived business documents. This service MUST, at minimum, allow searching with simple 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 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-DM-019 | 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-DM-020 | 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. |

User actions

| **User** | **Possible actions** |
| --- | --- |
| Suppliers | * Consult any of its business documents. * Upload documentation. |
| Procuring entity | * Consult all of their business documents, closed tender information, and any other information regarding their tenders. * Generate and upload document templates. * Upload documentation. |
| Public Procurement Agency authorised staff | * Consult any document or information. * Upload documentation. |
| Enforcement agencies, such as the Competition Council | * Carry out different legal checks and verifications upon request. * Upload documentation. |

Architecture

Document Management functionalities are available in the CDU for generating, registering, filing, archiving and logging activity on the decrypted human readable version of the tender package.

Additional information can be found in the document “Open OCDS Networking Digital Procurement System – Architecture of Central Unit”, in chapter “Environment” and section “Document Service”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/dataStandard/>)

Additional information can also be found in the document “Technical documentation for Networking Multi-Platform Electronic Public Procurement System”, in chapter “Environment” and section “Document Service”.

(<https://ebrd-digital-transformation-mtender.github.io/Documentation/letsGo/>)

## Cabinets for single users

**Cabinets are dedicated work areas for single users located on the public portal** within the system, where they can execute their specific functions and access the information they need within the system.

Description

The eProcurement system will provide access to dedicated workspaces for key public procurement stakeholders. These stakeholders, named hereafter “single users”, undertake specific roles in the public procurement process and should have at their disposal a dedicated workspace – a cabinet that supports delivering their roles. The single users identified for each main phase of the public procurement cycle and their roles in the procurement process are listed in the “User actions” table of this section.

The functions of the State Treasury will be performed through integration with their systems and not through a specific cabinet.

Workflow conditions

| **Conditions** | **Description** |
| --- | --- |
| Pre-conditions | * Cabinets for single users have been created and single users are aware of their role in the system. * The eProcurement system is integrated with the single user systems, as needed to perform single user actions. |
| Post-conditions | * Post-conditions will depend on the activities carried out by each type of user. |

Functional requirements

| **#** | **Activity** | **Requirement** |
| --- | --- | --- |
| FR-CSU-001 | Public procurement workflow participation | Single users MUST have access to the eProcurement Central Database Unit through a single specific cabinet. |
| FR-CSU-002 | Public procurement workflow participation | Single users MUST be able to conduct all necessary activities without having to interfere in other modules. Any interaction with Networking Electronic Procurement Platforms or other modules within the Central Database Unit must be seamless for single users. |
| FR-CSU-003 | Public procurement review process | Single users MUST have access to all information required to conduct their activities. |
| FR-CSU-004 | Public procurement review process | Single users MUST be able access to the required documents stored in the document repository to conduct their activities, and have permissions to consult and retrieve them if necessary. |
| FR-CSU-005 | Public procurement review process | The full cycle of complaints reception, management and resolution MUST be enabled electronically within the cabinet. |
| FR-CSU-007 | Cabinet interface | The single user cabinets front-end MUST be user-friendly. |
| FR-CSU-008 | Cabinet interface | Single user cabinets MUST allow for more than one user from the same public body (for example PPA) to connect with it, using different access authorisations. |
| FR-CSU-009 | Cabinet interface | Cabinets MUST be accessible from the eProcurement web portal and follow the same look and feel. |

User actions

In the table below there are some examples of single users and their potential actions.

| **User** | **Possible actions** | | |
| --- | --- | --- | --- |
| **Pre-tendering** | **Tendering** | **Post-tendering** |
| State Treasury | * Approve financing for procurement plan of a procuring entity | * No specific role | * Register public contracts for payment * Monitor payment schedule * Process payment approvals |
| Public Procurement Agency | * Monitor procurement planning * Manage qualified/banned operators list | * Monitor procurement procedures of procuring entities | * Manage contract performance * Prepare annual, sector specific, GPA reports |
| Review Body | * No specific role | * Full electronic cycle of complaints review * Receive and manage tender notices, tender documents and the overall tendering process * The review body bears the powers to suspend public procurement procedures on a facultative basis | * The review body bears the powers to suspend the award of the public procurement procedure |
| Central Purchasing Bodies | * Prepare aggregated procurement procedures | * Launch centralised purchasing procedures | * Manage and monitor centralised purchasing contracts |

Architecture

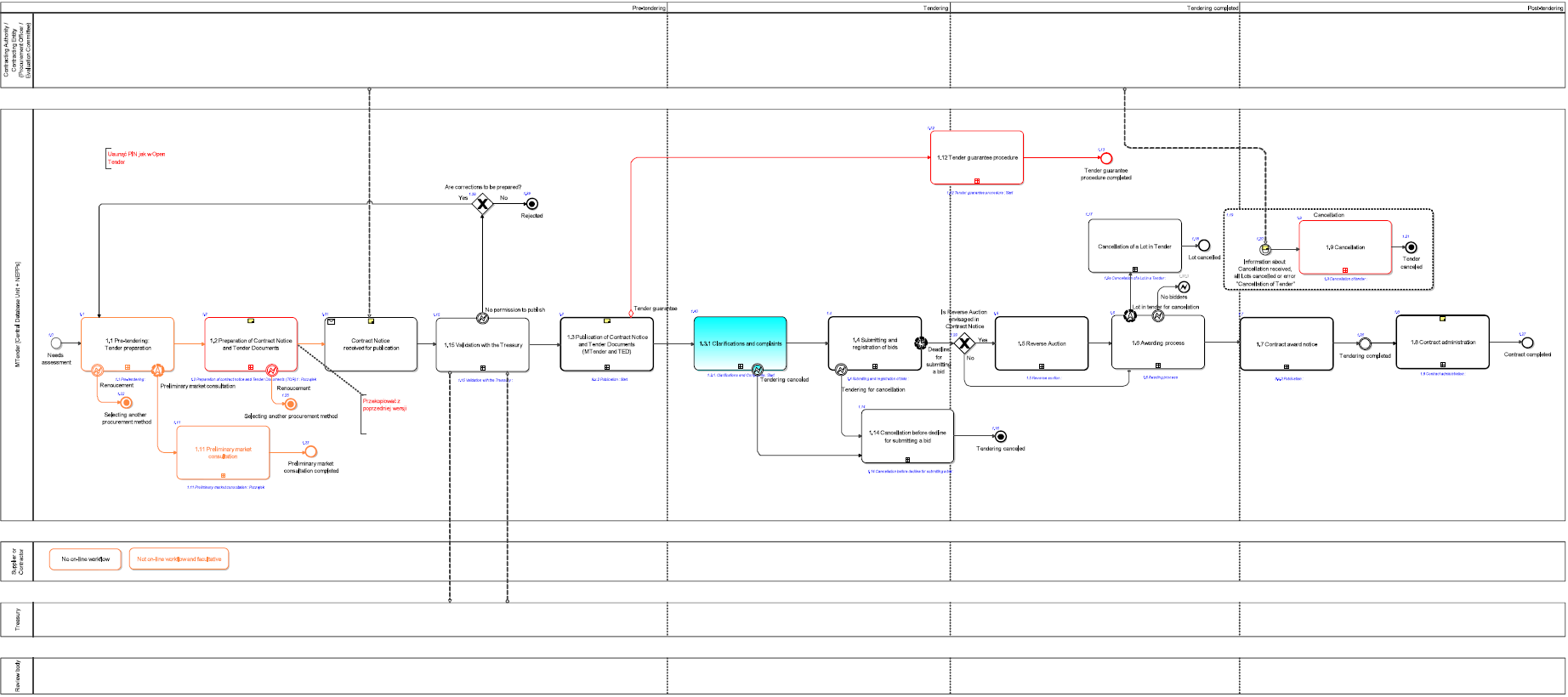
Functionalities related to cabinets for single users are available in the CDU.

The Digital Procurement System is designed to be adaptable to allow the inclusion of new single users in the future with minimal impact on the Central Database Unit of the System.

## Diagram comprehension example

This section provides an example of a workflow for an open tender process, as described in the BPMN and its interaction with the different modules in the eProcurement system.

Diagram flow



Open Tender BPMN.

Diagram information

| **Step** | **Involved modules** |
| --- | --- |
| 1.0 Needs assessment | * Does not apply |
| 1.1 Pre-tendering | * eBudget * ePlanning |
| 1.2 Preparation of contract notice and tender documents | * eAccess |
| 1.3 Publication of contract notice and tender documents | * eNotice |
| 1.3.1 (1.40) Clarifications and complaints | * eClarification * eComplaint |
| 1.4 Submitting and registrations of bids | * eSubmission |
| 1.5 Reverse auction | * eAuction |
| 1.6 Awarding process | * eQualification * eAuction * eEvaluation * eAwarding |
| 1.7 Contract award notice | * eNotification |
| 1.8 Contract administration | * eContract * eContract Management * eOrdering / ePurchasing * eCatalogue * eInvoicing |
| 1.9 Cancellation | * eAccess |
| 1.11 Preliminary market consultation | * eNotice |
| 1.12 Tender guarantee procedure | * eAccess * State Treasury (Government Registers) |
| 1.13 Tender guarantee procedure completed | * eAccess * State Treasury (Government Registers) |
| 1.14 Cancelation before deadline for submitting a bid | * eAccess |
| 1.15 Validation with the Treasury | * State Treasury (Government Registers) |
| 1.16 Tendering cancelled | * eAccess |
| 1.17 Cancelation of a lot in tender | * eAccess |
| 1.18 Lot cancelled | * eAccess |
| 1.19 Tender cancellation | * Does not apply |
| 1.20 Information about cancellation received | * Does not apply |
| 1.21 Tender cancelled | * eAccess |
| 1.22 Selecting another procurement method | * eAccess |
| 1.23 Preliminary market consultation completed | * eNotice |
| 1.25 Renouncement | * eAccess |
| 1.26 Tendering completed | * eNotification |
| 1.27 Contract completed | * eContract Management * eInvoicing |
| 1.29 Is reverse auction envisaged in contract notice | * Does not apply |
| 1.31 Contract notice received for publication | * eAccess |
| 1.38 Are corrections to be prepared | * Does not apply |
| 1.39 Rejected | * Does not apply |

The web portal and modules “eRegistration”, “eAuthentication”, “eNotification”, “eMonitoring”, “Document Management” are transversal modules, which are used in most of the previous steps.

# Public procurement procedures and techniques coverage

This section describes the public procurement procedures and techniques covered by the eProcurement system.

## Request for quotation

Request for quotation[[6]](#footnote-6) (RFQ) is used for small value purchases. This process consists of the procuring entity defining a need for procurement and setting the technical specifications of the product/service/work needed and the potential suppliers submitting a price quotation for the provision of the contract.

Through this procedure, each supplier from which a quotation is requested shall be informed whether any elements other than the charges for the subject matter of the procurement itself, such as any applicable transportation and insurance charges, customs duties and taxes, are to be included in the price.

Each supplier is permitted to give only one price quotation and is not permitted to change this quotation. No negotiations shall take place between the procuring entity and a supplier with respect to a quotation presented by the supplier.

In this procedure, price is the only award criteria (cheapest goes first). The successful quotation shall be the lowest-priced quotation meeting the needs of the procuring entity as set out in the request for quotations.

This process has to be implemented with two variants in an eProcurement system:

* RFQ with mandatory electronic reverse auction, used for low value purchases of goods and services;
* RFQ with optional electronic reverse auction, used for low value purchases of works.

Request for quotation can be used as a stand-alone procedure or within the execution of a Framework Agreement[[7]](#footnote-7), and both Request for Quotation with and without eCatalogue shall be implemented.

For more information, please see the Blueprint for RfQ:

[https://my.huddle.net/workspace/36712039/files/#/94173443](https://my.huddle.net/workspace/36712039/files/%23/94173443)

**eCatalogue**

eCatalogues are used by suppliers to describe goods or services offered for sale and may be used by procuring entities to purchase goods or services, or to obtain product or pricing details. They can be a component of both the tendering (pre-award) and the purchasing (post-award) processes.

eCatalogues are electronic documents created by suppliers that can serve to automate the submission of offers and orders in a public procurement process. In particular, eCatalogues are expected to be useful in repetitive purchasing procedures, where the same data (administrative or item-related) may be exchanged and reused several times.

The lifecycle of eCatalogues is as follows:

1. Procuring entity: initiation of the catalogue submission process and accreditation of suppliers.
2. Supplier: preparation of the electronic catalogue, uploading products/services, prices and stocks.
3. Procuring entity: acceptance/rejection of the supplier’s catalogue.
4. Procuring entity: preparation of the request for goods or services by searching products in supplier-managed catalogues, quickly and easily.
5. Procuring entity: sending of the request, together with the required documents.
6. Supplier: receipt of the request for goods or services, and acknowledgement of receipt sent to the procuring entity.
7. Supplier: confirmation of willingness to make an offer.
8. Supplier: preparation and sending of the proposal to the procuring entity.
9. Procuring entity: analysis of the proposal made by the supplier and proposal acceptance (or refusal).
10. Supplier: submission of the formal offer.
11. Procuring entity: produce and send purchasing orders to suppliers automatically.
12. Supplier: approval of the purchasing orders.

Diagrama

Descripción generada automáticamente con confianza media

Figure 3. Lifecycle of eCatalogue

## Open tender without auction

The open tender[[8]](#footnote-8) process consists of the public advertisement of the public procurement process and the possibility for any supplier to submit a bid. The evaluation process shall be transparent and must guarantee the fair treatment of all bidders.

Depending on the award criteria set in an open tender procedure, there can be different evaluation approaches:

* Price only: the only award criteria taken into account is the price, only the value of the bid is compared in order to identify the most suitable tender (cheapest goes first);
* Cost only: the assumption is that all the tenderers have the same price, which is equal to the amount of the lot. Therefore, a normalised price shall be calculated for each bid received based on the amount of the lot as a basis (cheapest goes first);
* Quality only: the assumption is that the price is not relevant for the evaluation of bids and award criteria are only related to quality (most qualified goes first);
* Rated criteria: both price and value are taken into account for the evaluation of bids, award criteria reflect qualitative, technical and sustainable aspects of the tender.

An additional feature of the open tender is the possibility of aggregating the demand, thereby consolidating the acquisition of several products or services within the same tendering process.

For more information, please see the Blueprint for Open Tendering:

[https://my.huddle.net/workspace/36712039/files/#/92744084](https://my.huddle.net/workspace/36712039/files/%23/92744084)

## UNCITRAL Open tender with auction

Electronic reverse auctions can be considered as one of the tools that can be used to achieve the highest possible level of reasonable prices with a predetermined quality of the goods, services or works supplied.

Electronic auctions are online auctions where preselected tenderers submit electronic offers in response to a buyer’s specifications and where all communication is carried out in real time. The eAuction enables the shortlisted bids to be ranked using automatic evaluation methods. Therefore, only quantifiable elements that can be expressed in numbers entered into a specific formula (e.g. price and quantifiable quality parameters) can be provided in the eAuction. Other aspects should be assessed before the eAuction stage: the selection and exclusion criteria and non-quantifiable parameters such as the quality of the technical proposal should be evaluated prior to the performance of the auction.

In an eAuction, each bidder is required to bid price (and also non-price attributes, upon decision of the procuring entity and as stated in the tender documents) during the eAuction. A publicly announced scoring methodology is used for scoring the received bids.

Procuring entities shall close an electronic auction in one or more of the following manners:

* Electronic auction with fixed ending time. Closure of the auction is at a previously indicated date and time, which has to be detailed in the announcement of the auction;
* Electronic auction with fixed quantity of rounds. Closure of the auction is when the number of stages of the auction, as detailed in the announcement of the auction, has been completed;
* Electronic auction with floating ending time. Closure of the auction is when no new prices or new values which meet the requirements are received in a given period, as detailed in the announcement of the auction.

Once the auction is closed, the procuring entity awards the contract to the bidder that achieved the highest overall score, which is defined as a weighted average of both technical criteria (evaluated before the auction) and financial criteria, with weights defined and known by all parties before bidding.

## Electronic reverse auction with a single criterion

Electronic reverse auctions provides the mean to achieve the most optimal prices while ensuring a predetermined quality of the goods or services supplied. Therefore, one of the main benefits of electronic reverse auctions is aimed at obtaining value for money as a result of the increased competitive pressure, which fosters that tenderers offer their best terms.

Electronic reverse auctions with a single criterion take into account only the price and can be:

* Simple minimum-price auctions, which are aimed at procuring the the goods or services at the lowest cost.
* Adjusted minimum-price actions, which are used when a correction factor is necessary in order to compare different bids on the same basis.

## Electronic reverse auction with multi-criteria

Electronic reverse auctions with multi-criteria allow multidimensional bidding, where each tenderer is requested to bid both price and non-price attibutes throughout the auction. The scoring method, including the weight for each criteria within the auction, is publicly announced, and the contract is awarded to the tenderer who obtains the highest combined score.

Therefore, electronic reverse auctions with multi-criteria introduce criteria additional to the price for the comparison of bids. These set of criteria are the negotiable areas, in addition to the price, that are defined in the auction process (such as delivery date, amount of items, duration of the warranty, etc.) and are used as weighted evaluation criteria.

## Restricted tender

Restricted tenders[[9]](#footnote-9) are based on a two-stage process where any supplier can submit a request to participate in response to a call for competition published by a procuring entity (first stage of the procedure), but only those suppliers who have been qualified and/or shortlisted based on the information provided are invited by the procuring entity to submit a tender (second stage of the procedure). The qualification and shortlisting of suppliers will be facilitated through the eQualification module.

As a first step, the qualification requirements are set out in a contract notice and expressions of interest are received from potential bidders. Based on expressions of interest received, interested suppliers are qualified or preselected, to form a ranking of those most qualified to be invited to bid for the contract.

The qualification requirements cover eligibility and general qualification requirements (minimum qualification requirements), and the selection criteria are specified according to the nature of the procurement contract. For example, the selection criteria may address the capacity of the supplier to fulfil tender specifications, including technical and management competence, financial viability, relevant skills, experience, and availability or key personnel. A short-list is created following a request for expression of interest or a pre-qualification process.

The second step involves an invitation to bid or request for proposal which is sent only to pre-qualified or short-listed bidders.

In a restricted tender procedure, the evaluation of tenders can be based on the same aforementioned approaches for open tender (price only, cost only, quality only, rated criteria).

Similar to the restricted tender, a dedicated simplified electronic procedure for entities covered by annex 3 to the 2012 WTO GPA, compliant with the GPA standards, is available[[10]](#footnote-10).

For more information, please see the Blueprint for Restricted procedure:

[https://my.huddle.net/workspace/36712039/files/#/90924529](https://my.huddle.net/workspace/36712039/files/%23/90924529)

## GPA electronic procurement procedure

The WTO Agreement on Government Procurement (GPA) is the pre-eminent international instrument regulating the conduct of international trade in government procurement markets. It aims to ensure fair, transparent and non-discriminatory conditions of competition for purchases of goods, services and construction services by the public entities covered by the Agreement. It also serves broader purposes of promoting good governance, the efficient and effective management of public resources, and the attainment of best value for money in national procurement systems [[11]](#footnote-11).

The system provides a dedicated, simplified electronic procedure for entities covered by Annex 3 to the 2012 WTO GPA, compliant with the GPA standards and similar to the restricted tender procedure.

The development and use of a dedicated simplified electronic procedure for Annex 3 entities will contribute to the increase of transparency, competition and efficiency of procurement. It will also potentially generate savings, deriving both from reduction of transaction costs and lower prices as a result of increased competition. This will facilitate the implementation of WTO GPA standards by all covered entities without changes to the primary law on public procurement or any extra cost for entities under the Annex 3 under the GPA.

## Negotiated procedures

In negotiated procedures, suppliers submit an initial tender which will be the basis for the subsequent negotiations, until the procuring entity concludes the negotiations and requires a final tender from the suppliers participating in the procedure.

**Negotiated procedure with prior publication**

In negotiated procedures with prior publication

* + The procuring entity publishes a notice and makes the tender documents available to all:
    - No communication from the supplier is required if the supplier decides not to participate in the negotiation;
    - If the supplier decides to participate, it is necessary to send an initial offer to the procuring entity;
  + The procuring entity conducts negotiations with the supplier(s) and, if an agreement is achieved by all parties, the procuring entity starts the preparation of the contract by publishing the award decision in a CAN(s). If agreement is not reached, the procuring entity terminates the procedure due to the unsuccessful (negative) outcome.

**Negotiated procedure without publication**

The procuring entity has decided to establish a limited procedure and invites one or a number of suppliers to participate in negotiations, sending them invitation(s):

* + The procuring entity makes the tender documentation available to the invited supplier(s);
  + Each supplier decides whether to participate or not in the negotiation:
    - No communication from the supplier is required if the decision is not to participate;
    - If the decision is to participate, the supplier sends an initial offer to the procuring entity.
  + The procuring entity conducts negotiations with the invited supplier(s) who have sent an initial offer and, if an agreement is reached by all parties, the procuring entity starts the preparation of the contract by publishing the contract award decision in a Contract Award Notice (CAN). If agreement is not reached, the procuring entity terminates the procedure due to the unsuccessful (negative) outcome.

For more information, please see the Blueprint for Negotiated Procedure:

[https://my.huddle.net/workspace/36712039/files/#/95024266](https://my.huddle.net/workspace/36712039/files/%23/95024266)

## Direct award

Direct award[[12]](#footnote-12) can be conducted only in exceptional cases as stablished in the regulation. This procedure consists of the procuring entity defining a need for procurement and setting the technical specifications of the product/service/work needed and soliciting a proposal or price quotation from a single supplier for the provision of the contract.

Both Direct Award with and without eCatalogue shall be implemented.

Direct Award can be conducted with or without negotiation, and can be used as a stand-alone procedure or within the execution of a Framework Agreement.

For more information, please see the Blueprint for Direct Award Procedure:

[https://my.huddle.net/workspace/36712039/files/#/95305086](https://my.huddle.net/workspace/36712039/files/%23/95305086)

## Framework agreements

A framework agreement is an agreement between one or more procuring entities and one or more suppliers, the purpose of which is to establish the terms governing contracts to be awarded during a given time limit, in particular with regard to price and, where appropriate, the quantity envisaged[[13]](#footnote-13).

Framework agreements have two stages: (1) the conclusion of the framework agreement; and (2) the execution of the framework agreement, where the subsequent purchases under the framework agreement take place using the different types of contracts based on a framework agreement (direct purchase, second-stage competition or request for price quotation).

The conclusion of framework agreements is conducted using one of the standard procurement procedures (open, restricted, negotiated, etc.). Consequently, the normal rules, in particular concerning publicity, time limits, and criteria for exclusion, selection and award, apply.

The framework agreement determines the method in which specific contracts based on the framework agreement will be awarded to selected suppliers, as well as the terms applying to that award for a certain period of time.

Framework agreements are frequently set by Central Purchasing Bodies, which can either act on their own behalf or on behalf of a number of procuring entities.

The system should allow four different types of framework agreement procedures to be conducted, in accordance with UNCITRAL Model Law[[14]](#footnote-14). The four types of framework agreements arise from the two different dimensions of two axes:

* Open or Closed, based on whether it allows the incorporation of new suppliers during the period of framework execution:
* **Closed framework agreement:** A framework agreement to which no supplier or contractor that is not initially a party to the framework agreement may subsequently become a party.
* **Open framework agreement:** A framework agreement to which a supplier (or suppliers) or a contractor (or contractors) in addition to the initial parties may subsequently become a party or parties.
* With or without a second-stage competition for selecting the supplier involved in the provision of the goods, services or works:
* **Framework agreement procedure with second stage competition** (second stage competitions are also called call-offs or mini-competitions):A procedure under an open framework agreement or a closed framework agreement with more than one supplier or contractor in which certain terms and conditions of the procurement that cannot be established with sufficient precision when the framework agreement is concluded are to be established or refined through a second stage competition.
* **Framework agreement procedure without second stage competition**:A procedure under a closed framework agreement in which all terms and conditions of the procurement are established when the framework agreement is concluded.

The main reasons for using framework agreements are:

* Enhance value for money and achieving cost savings by aggregating demand and getting better value for money through economies of scale;
* Reduce administrative burden by lowering the number of procedures a procuring entity has to run and, therefore, decreasing the time and costs linked to carrying out procurement. The diminished administrative burden also applies to suppliers that are either awarded a contract directly or face a simplified “mini competition” within the framework agreement;
* Enable procuring entities to effectively manage procurement when they cannot objectively foresee the exact type and/or amount of supplies, services and works for a forthcoming period;
* For open framework agreements, there are benefits arising from being able to access new sources of supply of goods, services and works that have entered the market within the life-cycle of the framework agreement.

For more information, please see the Blueprint for closed FA:

[https://my.huddle.net/workspace/36712039/files/#/93869591](https://my.huddle.net/workspace/36712039/files/%23/93869591)

# Non-functional requirements

This section presents the non-functional requirements that should be met for the correct implementation of the eProcurement system functionalities described in this document.

## 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, and another independent digital eGovernment service for resident users and a similar mechanism.
* **Authorisation**: Guarantees that authenticated users are only able to access the services and data that match their roles and access rights. Each procuring entity will have the right to register new users from its organisation and assign them to one of the existing roles, according to the permissions given for each user.
* **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 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 s/he sent it.

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

* **Firewalls**: Firewalls shall be 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 another 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 least privilege). They must also support failover for high availability.
* **Antivirus / antispam**: Hardware and/or software/hardware solutions must provide antivirus and antispam protection for all servers. Files will be scanned while uploading to the system. In case an infected file is detected, the uploading procedure will be stopped and the file will be rejected. The system must be configured to automatically update definitions on a daily basis 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 across all eProcurement system websites, without having any part of the website contents loaded over HTTP. Otherwise, users could be exposed to several types of attacks. Ideally, the website should support forward secrecy.
* **Systematic backup of stored data**: Allows quick and reliable recovery of data in the case of an ‘incident’ resulting in data loss or deterioration.
* **Encryption of data**: Some of the data stored in the various components of the system (including CDU and NEPPs) (i.e. servers, data storage) shall be encrypted.
* **Digital certificates**: The system must be capable of using digital certificates in addition to usernames and passwords for ensuring integrity and non-repudiation principles.
* **Audit trailing facility**: All activities performed by users, whether successful or unsuccessful (such as attempted but failed logins), must be monitored and recorded in the system logs with restricted access to unauthorised users.

In addition, the system should include other security controls, in particular:

* **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[[15]](#footnote-15) 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 be a service provided by an external time-stamping authority.

## Scalability – Upgradeability

The system will be designed to handle a 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 to 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 be easily adaptable to new requirements imposed by changes in legislation (i.e. updates of national 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 web portal. Concerning specific characteristics, it should be noted that the eAuction module is expected to be used only during standard working hours, as the auctions will take place within this timeframe.

The system shall comply with Tier 2 requirements, and it shall not have a single point of failure. It must be designed in a way to ensure availability of at least 99.75% (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 (reference data not considered);
* Report: a report ready to be printed;
* Document management: 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 purposes);
* 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 the requested information or update confirmation message is completely downloaded and displayed on the screen of the user. Response time can be affected by Internet latency, and therefore is commonly tested in a Local Area Network (LAN) environment.

The system 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 primary peak times expected in the system’s use are the following:

* During the normal working hours of procuring entities (08:00 to 18:00) and near the submission deadline of each call for tenders;
* During an electronic auction.

The performance measurements must be included in the monthly reports. However, system administrators must be able to monitor the system 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 **Advanced Open Contracting Data Standard** to enable disclosure of data and documents at all stages of the contracting process.

The systems that must be interoperable with the new system are listed below:

* Central Database Unit;
* Networking Electronic Procurement Platforms;
* eGovernment modules;
* Hosting platform;
* Governmental Registers available, such as State Register of Population, State Register of Juridical Units, State Register of Non-commercial Organisations, tax service, State Treasury, and State Register of Licenses.

# Technical requirements

The following chapter explains the main technical requirements from application design and infrastructure perspectives.

## General requirements

Regarding its technical design and underlying infrastructure, the implementation of the eProcurement system must comply with several general requirements, which are 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.
* The system must be **built using the available open-source code**, configuring and customising this source code to the specific needs of each context. Additional development may be needed in order to integrate with existing eGovernment modules and services.
* The CDU must be hosted in the internal Cloud of the government (if available);
* The system can be integrated with other eGovernment tools (if existing):
* The service for a centralised authentication of end users;
* Notification service for sending notifications by email (mobile notification may be supported in the future);
* Service where logging events in order to monitor the system, allow tracking of issues and incidents, and provide administrators with KPIs;
* Service for the creation of electronic invoices;
* Service for allowing electronic payment for e-services.
* The system should preferably **use an ad-hoc connector** to exchange information with state registers. In order to ensure a high degree of automation of processes within the eProcurement system, increased eProcurement system efficiency, and improved data quality, the eProcurement system will communicate with existing state information systems and registers and will integrate existing government electronic services.
* 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.**

## Technical architecture

From a connectivity perspective, the servers (virtual machines) will be interconnected in a Virtual Local Area Network (VLAN). External connections will be established through dedicated virtual channels based on the cloud network infrastructure. The Contractor may suggest other network and utilities services necessary to operate the system.

The use of the following reusable components on the cloud platform is recommended to develop the system:

* Operating systems: Linux Red Hat, Linux SUSE, Windows Server 2008 R2 +;
* Database management system: MS SQL or an open-source alternative;
* ECMP (Equal Cost Multiple Path) with the following elements:
* Orbeon (form designer);
* Liferay (portal);
* EMC Documentum (back-end);
* MS Reporting Services (report designer).

The technical architecture shall include, at minimum, the components presented in the following sections. The proposed high-level architecture for the system is depicted below:



Figure 5. Proposed architecture

## Web servers

These servers will host the front-end components of the different modules of the CDU, as well as the front-end components 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. Therefore, it is anticipated to have several web servers[[16]](#footnote-16) in web farm or cluster architecture with load balancing to meet these requirements.

## Application servers

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

The setup of these servers shall provide robust failover and scalability capabilities. Therefore, it is expected to have 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.

The use of open-source database management systems is encouraged. However, it is strongly recommended to use a database management system supported by the common technological stack of the rest of the IT systems implemented. This will ensure technological alignment and sufficient IT capacities within the personnel of the body managing the system in the technologies used.

## File servers

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

## Storage solution

The storage solution provided by the cloud will be used to store databases, files and other data of the system. An initial capacity of 1Tb is estimated to be needed, which would have to be upgradeable to 10Tb. Nevertheless, the capacity will be allocated as needed.

## Authentication services

Whenever appropriate, authentication services will be provided by the government services and validated with state registers, if appropriate. Authentication services are to be provided by the eGovernment services through the available authentication mechanisms: mobile signature, electronic signature, electronic identity card or username and password. If necessary and appropriate, authentication results could be validated with state registers.

## Antivirus / Antispam solution

This refers to hardware and/or software solutions to provide antivirus and antispam protection for all servers. Files will be scanned while uploading to the system. If an infected file is detected, the uploading procedure will be stopped and the file will be rejected.

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

## Intrusion Detection System

This system 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.

## Email services

It can be assumed that automatic email services for notifications of the business and technical events will be provided by the notification service. This should cover the needs for exchanging information between the CDU, the NEPPs and the end users during the eProcurement process and for informing system administrators and end users of any technical issues in the system.

## Monitoring services

Monitoring services shall be provided by cloud infrastructure provider (or other infrastructure provider) and a logging service.

## Backup solution

Backup and recovery services shall be provided by the cloud infrastructure provider (or other infrastructure provider).

## Network equipment

Network equipment for the hosting of the system in the data centre shall be provided by the cloud infrastructure provider (or other infrastructure provider).

## Firewalls

Firewalling capabilities that meet the needs of the system shall be provided by the cloud infrastructure provider (or other infrastructure provider).

# System integration requirements

## National registers

The eProcurement system shall be interoperable with the following state registers (if available) when the interconnection is allowed by the affected entities:

Table 1. State registers to be connected to the eProcurement system

| **Registers or entities** | **Description** |
| --- | --- |
| State Register of Population | A national system for the registration of citizens and a source of personal data. Contains data on births, deaths, divorces, marriages, and internal and external migrations. Each person has an identification number that brings up the available information regarding the person. |
| State Register of Juridical Units | Contains registration data about enterprises and establishments, types of activity, details about the founders and administrators, etc. Each entity has an identification number, which is the unique registration number for the juridical units and also the entity’s fiscal number. It provides information on the company’s legal organisation and structure, main types of activities, years since foundation, whether a company is active or not, etc. |
| Tax Service | Service in charge of the collection of taxes paid by both citizens and businesses. It is a source of information on the past and current situation of potential bidders, regarding their obligations to state and public institutions. It is also a database of annual income declarations of natural and juridical persons. |
| State Treasury | Unit within the central government responsible for the management of the government treasury. It holds a register of the contracts awarded, and the payments and invoices issued in relation to these contracts. |
| State Register of Licences | As an example of this function, it will allow instantly checking if a certain company has an active license in a specific area required for a given tender. |
| State Register of Non-commercial Organisations | It comprises political parties, NGOs, different religious entities, public associations, etc. |
| Criminal Records Register | This registry allows consulting any criminal record from a company or individual. |

## eGovernment tools

The eProcurement system should use the following eGovernment tools, if they exist:

Table 2. eGovernment tools that can be integrated with the eProcurement system

| **Potential government tools** | **Description** |
| --- | --- |
| Electronic invoicing tool | Tool to create electronic invoices, to be used for eInvoicing. |
| Authentication tool | National service that allows authentication and access to digital public services. The service offers different authentication mechanisms: mobile signature, digital certificate, username and password. |
| Electronic signature tool | Tool to sign documents electronically. It will be used to submit bids and sign contracts online and will be integrated within the NEPPs. |
| Sender tool | Tool to send electronic communications. Can be used to communicate notifications to suppliers and procuring entities. |
| Connector tool | National interoperability BUS that can be used to facilitate connection to the above-mentioned registers, as well as connection between the CDU and NEPPs. |
| Cloud infrastructure | National cloud service that will be used to host the system. |
| Logging tool/service | Tool that will keep a register of the transactions within the system. |
| Payment tool | Tool that allows payments to be made electronically. |

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# Annex 1: Detailed level non-functional and technical requirements

## Non-functional requirements

| **Non-functional requirements** | | |
| --- | --- | --- |
| **#** | **Category** | **Requirement** |
| NFR-001 | Security | The entire eProcurement system MUST be secure in such a way that the level of security is trusted by suppliers and procuring entities. |
| 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 bids). |
| NFR-006 | Security | The system MUST guarantee that data exchanged between the requester 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, whether successful or unsuccessful (such as attempted but failed logins). A server-side solution for log’s collection from multiple sources simultaneously and analysing in a visual way MUST be developed. |
| NFR-008 | Security | The system MUST be tested at least according to OWASP Top 10 Vulnerabilities[[17]](#footnote-17). |
| 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 provide secure communications between:   * the client browser and Networking Electronic Procurement Platforms; and * the Central Database Unit and Networking Electronic Procurement Platforms. |
| NFR-012 | 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-013 | Security | The system MUST encrypt data containing sensitive information stored in the various components of the system. |
| NFR-014 | Security | The system MUST be capable of using digital certificates on top of usernames and passwords for ensuring integrity and non-repudiation principles. |
| NFR-015 | Security | The system MUST provide Single Sign-On for end users and system administrators so that they can access services through the front-end and back-end without any additional authentication. |
| NFR-016 | Security | The system MUST implement at least a 3-tier architecture (database, application and presentation tiers). |
| NFR-017 | Security | The system architecture MUST be divided into different security zones and contain at least a DMZ and an internal zone. |
| NFR-018 | Security | The system MUST foresee embedded security controls. |
| NFR-019 | Security | The system MUST be hosted in a physical location with adequate HVAC, access controls, and fire detection and suppression mechanisms. |
| NFR-020 | Security | The system MUST provide a time-stamping mechanism on all transactions. |
| NFR-021 | Scalability | A combination of efficient software architecture, along with sufficient hardware components, MUST guarantee the scalability of the system. |
| NFR-022 | Scalability | The system’s logical architecture MUST be able to sustain at least a 30% increase in transactional load on a yearly basis. |
| NFR-023 | Scalability | The system MUST easily adapt to new requirements imposed by changes in legislation. |
| NFR-024 | Availability | The eProcurement system MUST be designed according to high availability principles. |
| NFR-025 | 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-026 | Availability | The system MUST incorporate a heartbeat service, which will periodically communicate on the normal work status of the system. |
| NFR-027 | Availability | The system MUST comply with the following Tier 3 requirements:   * multiple independent distribution paths serving the IT equipment; and * 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-028 | Performance | Response time of the system MUST not exceed 1 second for the execution of 90% of simple queries. |
| NFR-029 | Performance | Response time of the system MUST not exceed 3 seconds for the execution of 99% of simple queries. |
| NFR-030 | Performance | Response time of the system MUST not exceed 3 seconds for the execution of 90% of complex queries. |
| NFR-031 | Performance | Response time of the system MUST not exceed 10 seconds for the execution of 99% of complex. |
| NFR-032 | Performance | Response time of the system MUST not exceed 3 seconds for the generation of 90% of reports. |
| NFR-033 | Performance | Response time of the system MUST not exceed 10 seconds for the generation of 99% of reports. |
| NFR-034 | Performance | Response time of the system MUST not exceed 3 seconds for the execution of 90% of document management activities. |
| NFR-035 | Performance | Response time of the system MUST not exceed 10 seconds for the execution of 99% of document management activities. |
| NFR-036 | Interoperability | In order to facilitate adoption by public administration, the system MUST have a high degree of independence from other applications. |
| NFR-037 | Interoperability | Any references to nomenclatures in the context of public procurement MUST be made using the ‘Common Procurement Vocabulary’ (CPV). |
| NFR-038 | Interoperability | The system MUST implement the Advanced Open Contracting Data Standard to enable disclosure of data and documents at all stages of the contracting process. |
| NFR-039 | Usability | The provided solution MUST be user-friendly and easy to use. |
| NFR-040 | Usability | The front-end of the eProcurement system MUST comply with Web Content Accessibility Guidelines (WCAG)[[18]](#footnote-18). |
| NFR-041 | Usability | The eProcurement system MUST be multilingual. |
| NFR-042 | Logging | The system MUST register all system events and errors, status of exchanged messages, etc. |
| NFR-045 | Logging | The system log MUST contain the following data: date, time, system process, type/nature of actions, system error message. |
| NFR-046 | 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-047 | Logging | The system MUST generate a message upon any successful or unsuccessful update of a nomenclature, lists, etc. |
| NFR-048 | Logging | System events MUST be classified into categories: successful, unsuccessful and errors by criticality. |
| NFR-049 | 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-050 | 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-051 | Logging | The system MUST ensure sending, if necessary, of electronic messages to a system administrator or an authorised person. 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-052 | Control & audit | An auditor MUST be authorised to read all documents in the system related to a particular procedure(s). |
| 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 MAY 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 a 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 logout, 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 regarding users, PC or workstation identification, time and action. |
| NFR-061 | Incident management | The system MUST NOT allow deletion of data records. Only logical deletion is allowed. Deleted data MUST be marked accordingly in the system and not removed from the system, so that it can 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 versions, or other critical actions, 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 MUST be 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 system administrators with a possibility of cancelling the last user’s operations related to a specific tender. |
| NFR-071 | Operations | The system MUST integrate with the cloud infrastructure monitoring system. This implies an automated way to feed the monitoring system. |
| NFR-072 | Office integration | The system MUST ensure a high level of integration with spreadsheets and word processors, including copy, cut and paste (as a minimum). |
| NFR-073 | Office integration | The system MUST allow export of Business Intelligence data and report in TXT, CSV and PDF formats. |
| NFR-074 | End-users support | The system MUST provide online 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-075 | End-users support | The system MUST include tools such as manuals, tutorials and guidelines. |
| NFR-076 | End-users support | The system MUST allow auto-complete in the form fields. |
| NFR-077 | 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 Contract Data Standard available at the start of the project. |
| TR-002 | Architecture | The system MUST be built upon open-source code. |
| TR-003 | Architecture | An ad hoc process MUST be foreseen to allow for regular upgrades to the version of the system source code used by the eProcurement system, so that the system can be easily upgraded to the most recent updates. |
| TR-004 | Architecture | The system MUST be hosted in cloud infrastructure. |
| TR-005 | Architecture | The system MUST integrate with authentication service of the end-users and other relevant eGovernment services - connector, logging, invoicing, payment, notification. |
| TR-006 | Architecture | The system MUST integrate with the notification service for sending notifications by email (mobile notification may be supported in the future). |
| TR-007 | Architecture | The system MUST log all events in order to monitor the system, allow tracking of issues and incidents, and provide administrators with KPIs. |
| TR-008 | Architecture | The system MUST integrate with payment service for allowing electronic payment for e-services. |
| TR-009 | Architecture | The system SHOULD preferably use the connector to exchange information with state registers. |
| TR-010 | 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. |

# Annex 2: Open Contracting Data Standard (OCDS)

The Open Contracting Data Standard (OCDS)[[19]](#footnote-19) is a free open data standard for presenting Public Procurement data in a structured way. OCDS has been implemented by over 30 governments around the world since its beginning in 2014, such as United Kingdom, Canada, Mexico, Colombia and Moldova.

OCDS defines a common data model which enables the disclosure of data and documents at all stages of the contracting process by providing:

* A set of recommended data fields and documents to publish;
* A common structured data model;
* Guidance and tools to support implementation and data use;
* Tools and formats to publish, share and exchange data.

OCDS has been created to support public entities in increasing transparency in the procurement process, as well as to allow a deeper analysis on data generated during procurement procedures by different parties.

**Benefits of OCDS**

The adoption of OCDS entails the following **benefits** for a public procurement tool:

* **Reduction of costs and increase of value for money in procurement**: Reporting on public spending can help when planning high value projects and regular repetitive contracts, optimising the procurement process. It also allows for a better monitoring of the delivery of the goods and services, facilitating the collection of feedback on the implementation of the contract.
* **Foster more competitive contracting**: Open contracting data can be used by suppliers to understand and find potential procurement opportunities in the market, allowing firms to identify upcoming opportunities for re-contracting. Open information shared between platforms due to the common standard of OCDS also increases the possibilities that foreign companies can participate in the procurement tenders.
* **Prevention of fraud and corruption**: Public procurement has suffered from low transparency and lack of control, so all stakeholders (civil society, the private sector and Government) have an interest in identifying and combating corruption in public contracting. OCDS can be used to analyse data looking for ‘red-flags’ that might indicate improper use of public money.
* **Increase SME’s** (Small and Medium Enterprises) **participation:** Using OCDS facilitates sharing information in an open and user-friendly way for SMEs. It allows SMEs to access and understand the tenders and their awarding procedures in a simple way. Simplifying the way the information is presented makes participating in tenders more affordable to SMEs by reducing the amount of time and skills needed to successfully participating in the tendering process.
* **Monitoring service delivery**: Monitoring the procurement process in an effective way implies being able to trace budget and donor data to the contracts and results. Crossing information allows users to verify whether results are being delivered on the ground, comparing expected results as per their contract to actual delivery data. OCDS helps monitor tools facilitate the data extraction and management for these purposes in a standardized format that can be used for control panels definition.

**How Open Contracting Digital Procurement System (OCDPS) uses the OCDS**

The **Open Contracting Digital Procurement System (OCDPS) of the EBRD UNCITRAL Public Procurement Initiative** is designed to facilitate the automated generation and publication of open procurement data in OCDS format and in real time. This results in clean and rich open procurement data, available for immediate and broad re-use without the need for data extraction or further processing.

The way procurement data is extracted and presented prevents the negative effects of data manipulation by creating a common source of objective and clean data that is automatically generated and available to all stakeholders – that is, Government, businesses and civil society.

The data architecture based in OCDS provides the foundation for the open data analytics solution, ensuring a high level of data resilience of the electronic procurement system.

The publication of procurement data aims to ensure that all public procurement information is accessible online in open formats, so that it can be used, reused and redistributed by any interested party.

The use of OCDS in OCDPS bears a twofold objective:

* **Publication and Analytics:** The system needs to standardize data in order to provide open access to the citizenship. Then, the system can publish the information in different platforms and in other formats that will facilitate working with the data, such as JSON and CSV. Published data can be used for visualisation, monitoring and analysis purposes, granting any stakeholder the possibility of conducting an oversight of the procurement function.
* **Interoperability:** Interoperability allows the system to share information in OCDS format with services of National Electronic Procurement Platforms and different systems and Government services, even in other countries or platforms. The use of the same data standard guarantees that different systems with different processes and different languages can understand each other in an automated manner.

# Annex 3: Business Process Model and Notation (BPMN)

Business Process Model and Notation (BPMN) is a graphical representation for specifying business processes through a standardized business process model using a Business Process Diagram (BPD). Similar to Unified Modelling Language (UML) activity diagramming standard, it is based on a flow chart technique.

The purpose of BPMN is to support [business process management](https://en.wikipedia.org/wiki/Business_process_management) by implementing a notation system that is easily understandable, both for business users and technical people. It functions through mapping between the graphics of the notation and the underlying constructs of execution languages.

**BPMN in Open Contracting Digital Procurement System (OCDPS)**

In the context of eProcurement systems, BPMN is used to provide a detailed definition of processes, guaranteeing compliance with applicable public procurement regulations and ensuring flexibility to cover country specific needs. This system was carefully selected as a fundamental pillar for the OCDPS design and implementation.

The OCDPS design is based on a **modular approach to the BPMN representation of the procurement processes** and the underlying workflows, which provides the system with an error proof structure. This means that the tool is compliant with the regulatory framework by default and that it guides the user (both procuring entity and suppliers) through the procurement flow. This ensures that no errors are made in the process, while also remaining compliant with relevant legal frameworks.

One of the fundamental features that define the eProcurement philosophy applied to OCDPS is that the user does not need to have extensive knowledge of the regulatory framework. The system is in charge of managing the process steps, independently from the knowledge the user may have about the procedure or the legislation. According to updates in the regulatory framework, the tool will be updated for each relevant step.

OCDPS, through BPMN, has a catalogue of transparent, legally compliant procedures that allows the user to adapt and adjust the procuring process to specific needs, such as:

* Selecting the procuring procedure;
* Setting up the evaluation criteria;
* Setting up the awarding and exclusion criteria.

Therefore, the OCDPS tool is designed upon the basic principles of the BPMN system in order to establish a solid foundation that will ensure compliance with the standards of UNCITRAL, WTO GPA (Government Procurement Agreement) and relevant regional frameworks.

**BPMN advantages for OCDPS**

The benefits of BPMN in OCDPS are detailed in the following points:

* **Guaranteeing that UNCITRAL mandatory requirements are applied**. High Level BPMN Process Description (levels 1 and 2) describe the fundamental concepts, showing the general steps and exception paths making sure that the basic principles and mandatory requirements of the UNCITRAL Model Law on Public Procurement are met.
* **Allowing the country to specify their own characteristics, laws and validation constraints**. Moreover, in OCDPS, the BPMN diagrams in Low Level BPMN Process Description (levels 3 and 4**)** are part of the executable process implementation. This capability of BPMN is a major reason for its adoption.
* **Guaranteeing that the processes are correctly understood and designed**. OCDPS uses detailed BPMN diagrams asa work tool in common sessions between business analysts, technical developers and business managers to define and explain the conditions and procedures at a deep level. They work together to concrete the particular characteristics of each country on the processes.
* **Assisting the user** (procuring entity or supplier) to execute their tasks, following the guidelines and avoiding human error. OCDPS uses the executable BPMN to get a guided program which guarantees that, if the procurement law in a country changes, the tool can be updated to support the new procedures. Therefore, the user does not need to increase their knowledge in the new legislation to continue using the system.

The result of all this design is a **very modular system** **which can be adapted to new regulatory frameworks with a reduced investment in terms of effort in hours or costs**.

1. <https://standard.open-contracting.org/> [↑](#footnote-ref-1)
2. UN (2012), UN Procurement Practitioner's Handbook. Access at: <https://www.ungm.org/Areas/Public/pph/index.html> [↑](#footnote-ref-2)
3. UNCTIRAL Model Law (2011) http://www.uncitral.org/pdf/english/texts/procurem/ml-procurement-2011/2011-Model-Law-on-Public-Procurement-e.pdf [↑](#footnote-ref-3)
4. An example of the implementation of the Observer Tool can be consulted here: [http://bi.prozorro.org/en f](http://bi.prozorro.org/en)or the Ukraine case. [↑](#footnote-ref-4)
5. Business documents are documents (on paper or electronic documents) that represent suppliers 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-5)
6. Additional information at document “Technical documentation for Networking.Multi-Platform Electronic.Public Procurement System”, section “Let’s go!”:

   <https://ebrd-digital-transformation-mtender.github.io/Documentation/letsGo/> [↑](#footnote-ref-6)
7. Additional information at “Bluprint for execution of framework agreements”:

   [MTender/Blueprint for execution of FA.docx at master · EBRD-Digital-Transformation-MTender/MTender · GitHub](https://github.com/EBRD-Digital-Transformation-MTender/MTender/blob/master/supporting%20documents/Blueprint%20for%20execution%20of%20FA.docx) [↑](#footnote-ref-7)
8. Additional information at document “Technical documentation for Networking.Multi-Platform Electronic.Public Procurement System”, section “Let’s go!”:

   <https://ebrd-digital-transformation-mtender.github.io/Documentation/letsGo/> [↑](#footnote-ref-8)
9. Bluperint for restricted procedure: [MTender/Blueprint for Restricted procedure.docx at master · EBRD-Digital-Transformation-MTender/MTender · GitHub](https://github.com/EBRD-Digital-Transformation-MTender/MTender/blob/master/supporting%20documents/Blueprint%20for%20Restricted%20procedure.docx) [↑](#footnote-ref-9)
10. Blueprint for GPA procedure: <https://ebrd-digital-transformation-mtender.github.io/Documentation/API/> [↑](#footnote-ref-10)
11. <https://e-gpa.wto.org/en/GPAInBrief> [↑](#footnote-ref-11)
12. Additional information regarding direct award can be found at:

    [MTender/11. MTender\_ Procurement procedures without call for competition partially conducted out of the system\_v1.docx at master · EBRD-Digital-Transformation-MTender/MTender · GitHub](https://github.com/EBRD-Digital-Transformation-MTender/MTender/blob/master/supporting%20documents/11.%20MTender_%20Procurement%20procedures%20without%20call%20for%20competition%20partially%20conducted%20out%20of%20the%20system_v1.docx) [↑](#footnote-ref-12)
13. Additional information on Framework Agreements: [OECD iLibrary | Framework Agreements (oecd-ilibrary.org)](https://www.oecd-ilibrary.org/governance/framework-agreements_5js4vmnmnhf7-en;jsessionid=mmYr4jIFJ_WN0gG1V3JLHjZD.ip-10-240-5-48) [↑](#footnote-ref-13)
14. UNCTIRAL Model Law (2011): <http://www.uncitral.org/pdf/english/texts/procurem/ml-procurement-2011/2011-Model-Law-on-Public-Procurement-e.pdf> [↑](#footnote-ref-14)
15. A DMZ or demilitarized zone (sometimes referred to as a perimeter network) is a physical or logical sub-network that contains and exposes an organisation's external-facing services to a usually larger and untrusted network, typically the Internet. [↑](#footnote-ref-15)
16. Although there are no restrictions of operating systems supported by the infrastructure of the cloud, the systems currently installed are Windows or Linux-based. [↑](#footnote-ref-16)
17. <https://owasp.org/www-project-top-ten/> [↑](#footnote-ref-17)
18. <https://siteimprove.com/en/accessibility/wcag-compliance-website-checker/> [↑](#footnote-ref-18)
19. <https://standard.open-contracting.org/latest/en/> [↑](#footnote-ref-19)