TECHNICAL REQUIREMENTS

for the e-Parliament Information System of the Parliament of the Republic of Moldova

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Introduction

The UNDP "Strengthening Parliamentary Governance in Moldova" (SPGM) Programme works with the Parliament of the Republic of Moldova (PRM) to strengthen its law-making, oversight and representation functions with a specific focus on EU integration and the Sustainable Development Goals. The programme directly assists standing committees and the secretariat of parliament in the implementation of their mandate. Interventions include training, technical assistance, easy-to-read publications, exchanges and opportunities for learning from other parliaments, as well as the provision of specialized technical equipment.

At the request of the parliament, UNDP Moldova is initiating the procurement of an *off-the-shelf* software platform for the implementation of an e-Parliament system, in accordance with Permanent Bureau Decision No. 19 of 18 November 2015. The scope of the project is the delivery of an integrated system consisting of three components:

- Document management system (DMS)
- Electronic voting sub-system
- Public web portal

In line with the approved concept, the ultimate goal of implementing the e-Parliament system is to follow the global trend of establishing an information society to strengthen the democratic process. By implementing the e-Parliament system, the legislature will apply modern technologies and standards in support of its core functions:

- **Representative function.** The representative function of the PRM is characterized by its role as a venue for disparate perspectives, for the expression and debate of issues of local and national importance, and the translation of those debates into policies. For MPs, effective representation requires engaging their constituents in continuing dialogue in order to understand their views and perspectives, and to rely on their knowledge on various topics.
- **Legislative function**. A central role of parliament is to make new laws, as well as making changes to existing legislation. Draft laws are introduced by government or individual members of parliament. After review by the relevant parliamentary committee, the draft laws or bills are discussed and voted on in the plenary for adoption.
- **Oversight function.** Parliamentary oversight aims to promote people's freedoms and well-being, and to improve accountability and transparency in government. Oversight processes assess the impact of government action on society; help ensure that appropriate resources are provided to implement government programmes; identify unintended or negative effects of government policy and actions; and monitor the meeting of national and international commitments.

Overall, the implementation of e-Parliament will change the PRM's work processes through a standardization of many of its business processes. Additionally, the e-Parliament system is expected to increase parliamentary transparency and visibility through the introduction of a new and improved public web portal.

This Terms of Reference states the basic guidelines for implementation of this project, including the system's architecture, information components, work processes, functional and non-functional requirements, management, application and maintenance of the information system. In preparation for this project, an IT audit of existing system capabilities is currently being conducted, in the context of which a vision for the technical architecture, application and data architecture, as well as a plan for the transformation of ICT will be developed. These materials will be made available to the Contractor during the bidding phase for this e-Parliament tender.

1. General information

1.1 Abbreviations

All abbreviations used in this document are shown in Table 1.1

Table 1.1 Abbreviations

No.	Abbreviation	Description
1.	API	Application Programming Interface
2.	CMS	Content Management System
3.	COTS	Commercial Off-The-Shelf
4.	DB	Database
5.	DBMS	Database Management System
6.	ICT	Informatics and communication technology
7.	IS	Information System
8.	IT	Information technology
9.	MP	Member of Parliament
10.	OS	Operating System
11.	PRM	Parliament of the Republic of Moldova
12.	SDD	Software Detailed Design
13.	SLA	Service Level Agreement
14.	SOA	Service-Oriented Architecture
15.	SOAP	Simple Object Access Protocol
15.	SPRM	Secretariat of the Parliament of the Republic of Moldova
16.	SRS	Software Requirements Specification
17.	SSO	Single Sign On
18.	WSDL	Web Service Definition Language
19.	XML	Extensible Markup Language

1.2 Glossary

All definitions of terms commonly used in this document are outlined and explained in Table 1.2

Table 1.2 Glossary

No.	Term	Description
0.	Bidder	A company that makes a formal offer for the e-Parliament tender
1.	Contractor	The company selected for the implementation of the e-Parliament project.
2.	Computer system	A set of programs and equipment that provide automatic data processing (automated component of the information system).
3.	Computer and communication technology	A common term that includes all the technologies used to exchange and manipulate information.
4.	Credentials	A set of attributes that determine the identity and authenticity of users and systems within information systems.
5.	Data	Basic information units for people, topics, facts, events, phenomena, processes, objects, situations, etc., presented in a form that allows their reporting, commenting and processing.
6.	Data integrity	The status of the data when they retain their content and are interpreted unequivocally in cases of random actions. The integrity is maintained if data are not altered or corrupted (deleted).
7.	Database	Data are organized according to a conceptual structure that describes the basic characteristics and the relationship between the subjects.

No.	Term	Description
8.	e-Parliament	Computer system designed to automate PRM processes and support the key functions of the Parliament of Moldova
9.	Informative object	Virtual representation of existing tangible and intangible entities.
10.	Information resource	A set of information documented in the information system, maintained in accordance with the requirements and legislation in force.
11.	Information subsystem	A component part (with possibility of functional shutdown) of a complex computer system.
12.	Information system	Information processing system, together with supporting organizational resources, such as human and technical resources, provision and distribution of information.
13.	Keeping a diary	A function for capturing event information. Within the information systems, event records include details of the date and time, the user and the actions taken.
14.	Metadata	Manner of granting the semantic value of data stored in the database or in other words a set of data that describes and gives information about other data. (data about data).
15.	Personal data	All information related to an identified or identifiable natural person (subject to personal data). For this purpose, an identified person is a person who can be identified, directly or indirectly – in particular by reference to an identification number or to one or more specific elements of his physical, physiological, psychological, economic, cultural or social identity.
16.	Reliability of data	A level of compliance of data stored in computer memory or in documents, real status of objects in the appropriate domain of the system, which is reflected by these data.
17.	Software design document	Information system documentation that includes a detailed description of the following elements: data structures and their constraints, an information system architecture offered by the totality of the conceptual parts of the information system, the information system interface that encompasses the conceptualization of all the components of the user interface of the information system, which includes a detailed description of all scenarios for the implementation of the IT system.
18.	Software requirements specification	A document that contains a detailed description of all scenarios for interaction between users and the IT application.
19.	TLS/SSL	The TLS protocol, or its predecessor, the SSL protocol, are cryptographic protocols that provide secure communication between two nodes of a computer network for activities such as web pages, email, Internet fax, instant messaging, and other data transfer.
20.	Web portal	The official PRM web page (http://www.parlament.md) through which will be provided public access to the documents and data made available through the e-Parliament system.

2. Objectives and area of implementation of e-Parliament

2.1. Objectives

The primary goal of the e-Parliament system is to provide a powerful IT solution for automatization of the key functions of the PRM (law-making, oversight and representation), in order to achieve a transition from predominantly paper-based to digitalized work processes. Substantial changes will be implemented with regards to the law-making process and plenary voting, as both will be carried out entirely through electronic means.

The new public portal is expected to increase parliamentary transparency and visibility, as a gateway for sharing information between parliament and citizens. The new public portal will have a modern design, and provide easy access to parliamentary work using the latest technology. This component together with the DMS and e-Voting will be integrated into one solution that enables automatic publishing of parliamentary documents and data from the e-Parliament system, and allows for manual publishing of other relevant information.

The digitalization of parliamentary processes, especially law-making and oversight, is expected to reduce the efforts and costs incurred by the PRM in the process of approving laws, obtaining voting statistics; drafting and approving of documents and decisions; and disseminating the results of PRM activities. Given the nature of the parliament's activities, the PRM must be able to count on a safe, user-friendly, modern, efficient and technologically advanced platform that complies with the Moldovan legal framework. Please find below the specific objectives for each of the e-Parliament components.

Through implementation of the Document Management System (DMS), the PRM aims to achieve the following goals:

1. Ensure the transition of PRM activities to another working technology based on the elaboration and electronic recording of all documents related to PRM's activities
2. Reduce the time and effort involved in the process of drafting and approving documents, monitoring processes, extracting data and disseminating information on parliamentary activities
3. Provide access to information and data on the parliament's activities to the public (citizens, national and local authorities, civil society)
4. Implement international standards to ensure compatibility of processes and the possibility of automated data exchange
5. Ensure compatibility between the e-Parliament system and information systems of the Moldovan public authorities (including the e-Government Centre) interacting in legislative and oversight processes
6. Implement procedures for controlling access to data and ensuring the maximum security and privacy of data collections and users
7. Develop all functionalities needed to implement the provisions of the Decision of the Standing Bureau of the Parliament of the Republic of Moldova no. 19 of 18 December 2015 on the e-Parliament system

With regards to the e-Voting sub-system, the PRM aims to achieve the following goals:

1. Implement basic electronic voting functionalities on the laptops and tablet devices of MPs in the plenary
2. Easy user management
3. Improve the management of plenary sessions, including the allocation of speaking time
4. Registration of MPs attendance at plenary meetings
5. Confirming the presence/absence of MPs at voting time (via MPs' access cards),
6. Speedy execution of voting
7. Obtain more certainty about voting results
8. Delivery of meeting documents in digital format and immediate printouts of detailed vote minutes
9. Analytics of the data related to vote results
10. Establish a historical archive of votes for each legislature
11. Access to vote results via numerous search keys (member, session, date, topic, etc.), speeches in debates, interventions, declarations, etc.

Finally, the web portal and the information that it will contain should enable the citizens to access and monitor information on the legislature's activities by providing information about:

▪
1. Parliament's structure
2. Legislative process that provides the legal framework, draft acts and adopted acts
3. Plenary activities and related documentation
4. Parliamentary oversight
5. Public consultations
6. Parliamentary web TV
7. Latest news on parliamentary activities

2.2. General principles

In order to ensure the objectives of the e-Parliament system are achieved, the design and implementation should take into account the following general principles:

- **The principle of legality:** the creation and functioning of the IT system in accordance with the applicable national legislation and international standards and standards on the ground.
- **The principle of recording and systematizing the information entered into the system:** draft laws, additional documents, reports, opinions, etc. produced within the e-Parliament computer system will be recorded in separate registers in accordance with the applicable legislation.
- **The principle of identifying registered documents:** each document will be assigned a unique identification number and be accompanied by a record and log.
- **The principle of access to information:** citizens, civil society and the public and private sectors will have access to the results of the e-Parliament system for transparency in the decision-making process, participation in public consultations and through monitoring the legislative process. Any public information will be available for third-party users.
- **The principle of accuracy:** reducing time for drafting legal acts, preparing documents and decisions, etc. and excluding cases of violation of deadlines provided for the specific processes of the activities of PRM.
- **The principle of efficiency:** avoiding unnecessary spending, including unreasonable use of resources in the process of performing the functions of PRM (advocacy function, legislative function and Parliamentary control function).
- **The principle of consequences:** the information system will be developed in such a way that the documents and decisions adopted within PRM will go through all stages of the process without any deviation from legal norms.
- **The principle of splitting the architecture at different levels:** an independent design of the e-Parliament components in accordance with standards for interface between the levels.
- **The principle of service-oriented architecture:** the distribution of the functionality provided by e-Parliament across smaller, different units – called services – that can be distributed via the network and can be used together to create applications designed to implement the business functions of the IT system.
- **The secure data principle:** entry of data into the system will only be done through authorized and authenticated channels.
- **The principle of information security:** an adequate level of integrity, selectivity, accessibility and efficiency will be assured for data protection from loss, alteration, damage and unauthorized access.
- **The principle of transparency:** the design and implementation of the e-Parliament system will be according to a modular principle, using transparent standards in the field of ICT.
- **The principle of expansiveness:** there will be a possibility of expanding the e-Parliament computer system by adding new features or improving existing ones.
- **The principle of priority of the first person/single centre:** there will be a high-level responsible person with sufficient rights to make decisions and coordinate the activities for the creation and functioning of e-Parliament.
- **The principle of scalability:** the continuous operation of the e-Parliament computer system will be ensured as the volume of data and the demand for the information system increases.

- **The principle of simple and practical use:** the design and implementation of all program components, and the technical means that are available to users of the e-Parliament computer system, will be based on visual, ergonomic and logical principles of design.

2.3. Legal norms

The current legal framework of the Republic of Moldova must be taken into account in the process of implementing the e-Parliament information system. A set of 34 applicable legal and normative acts was identified, including:

- Acts regulating the business processes related to the activities of the PRM
- Acts regulating ICT initiatives and technologies promoted by the Republic of Moldova, which should be implemented within the IT system
- General acts that will form the overall framework for the functioning of the information system

The business processes of the PRM implemented in the e-Parliament system need to comply with and follow the subsequent acts and guidelines:

- Law no. 979 of 02 April 1996 on the adoption of Parliament's Rules of Procedure.
- Law no. 317-XV of 18 July 2003 on the normative acts of the Government and other central and local bodies of the state administration.
- Law no. 190-XII of 19 July 1994 concerning the petition.
- Law no. 100 of 22 December 2017 on normative acts.
- The concept of the e-Parliament information system, approved by the Decision of the Permanent Bureau of the Parliament of the Republic of Moldova no. 19 of 18 December 2015.
- The guidelines for maintaining the work of the Secretariat, approved by the Decision of the Permanent Bureau of the Parliament of the Republic of Moldova No. 7 of 20 March 2013.
- The guidelines on the circulation of draft legal acts in the Parliament, approved by the Decision of the Permanent Bureau of the Parliament of the Republic of Moldova no. 30 of 07 November 2012.
- Decision of the Government no. 208 of 31 March 1995 for approval of the Instructions for maintenance of the activities of the Secretariat in relation to the complaints of natural and legal persons addressed to the state bodies, enterprises, institutions and organizations of the Republic of Moldova.

When developing the e-Parliament information system, the Contractor should consider the implementation of the requirements contained in the following legislative and normative acts regarding ICT initiatives of the Republic of Moldova:

- Law no. 91 of 29 May 2014 concerning the electronic signature and electronic document.
- Decision of the Government no. 7104 of 01 September 2011 concerning the approval of the Strategic Programme for Technological Modernization of Governance (e-Transformation).
- Decision of the Government no. 128 of 20 February 2014, which refers to the Joint Government Technology Platform (MCloud).
- Decision of the Government no. 656 of 05 September 2012 concerning the approval of the Interoperability Framework Program.
- Decision of the Government no. 1090 of 31 December 2013 concerning the electronic government service on authentication and access control (MPass).
- Decision of the Government no. 405 of 02 June 2014, which refers to the integrated government digital signature service (MSIGN).
- Decision of the Government no. 708 of 28 August 2014, which refers to the government electronic service for keeping a diary (MLog).
- Decision of the Government no. 916 of 06 August 2007 in relation to the Concept of the Government Portal.
- Decision of the Government no .330 of 28 May 2012 for the creation and administration of the only Government Portal for public services, Official Gazette no. 104-108 of 01 June 2012.
- Decision of the Government no. 701 of 25 August 2014 concerning the approval of the Methodology for Publication of Open Government Data.

- Decision of the Government no. 945 of 05 September 2005 regarding the Public Key Certification Centres.
- Decision of the Government no. 320 of 28 March 2006 on approval of the Rulebook on the manner of application of the digital signature in the electronic documents of the public authorities.

In addition, the e-Parliament system must be developed and implemented in accordance with a number of legislative acts imposing organizational measures and external restrictions on the functioning of the information system. In this sense, the following legal acts must be considered when implementing the e-parliament system:

- Law no. 467-XV of 21 November 2003 on information and state information resources.
- Law no. 982-XIV of 11 May 2000 on access to information.
- Law no. 133 of 08 July 2011 in relation to the protection of personal data.
- Decision of the Government no. 1123 of 14 December 2010 regarding the approval of the Requirements for ensuring the security of personal data when processing them in the framework of the personal information systems.
- Decision of the Government no. 945 of 05 September 2005 regarding the Public Key Certification Centres.
- Law no. 982-XIV of 11 May 2000 for access to information.
- Law no. 1069-XIV of 22 June 2000 for Informatics.
- Law no. 241-XVI of 15 November 2007 on Telecommunications.
- Decision of the Government no. 967 of 09 August 2016 on the mechanism of public consultations with the civil society in the decision-making process.
- Decision of the Government no. 840 of 26 July 2004 on the creation of the telecommunication system of the state administration bodies.
- Decision of the Government no. 969 of 23 August 2007 for approval of the Rulebook on the e-mail system of the state administration bodies.
- Decision of the Government no. 735 of 11 June 2002 regarding the specific telecommunication systems of the Republic of Moldova.
- Decision of the Government no. 1032 of 06 September 2006 concerning the approval of the concept of the automated information system "Register of state information resources and systems".
- Order no. 94 of 17 September 2009 by the Ministry of Information Society Development regarding the approval of some technical regulations (the manner of recording electronic public services, providing electronic public services, providing information security in providing electronic public services, setting costs for development and implementation of automated information systems).
- Other laws, normative acts, standards in force in the field of ICT.

Furthermore, the design, development and implementation of the e-Parliament system must be carried out in accordance with the national and international standards and methodologies, as well as the recommendations and requirements set out for the ICT sector:

- Standard of the Republic of Moldova SM ISO / CEI / IEEE 15288: 2015, "Systems and software engineering. Processes of the life cycle of the system".
- Technical regulation "Software life cycle processes" RT 38370656-002: 2006; Official Gazette no.95-97/335 of 23 June 2006.
- World e-Parliament Report 2016, http://www.ipu.org/pdf/publications/eparl16-en.pdf
- World e-Parliament Report 2014, https://wepc2014.org/documents/
- World e-Parliament Report 2012, http://www.ictparliament.org/WePReport2012.html
- World e-Parliament Report 2010, http://www.ictparliament.org/wepr2010.html
- World e-Parliament Report 2008, http://www.ictparliament.org/wepr2008.html
- *The Handbook on "Information and Communication Technologies in Parliamentary Libraries"*, Global Centre for Information and Communication Technologies in Parliament, July, 2012), http://www.ictparliament.org/attachements/handbook-libraries/handbook-libraries.pdf
- Michael O. Leavitt, Ben Schneiderman, *Research-Based Web Design and Usability Guidelines*, https://www.usability.gov/sites/default/files/documents/guidelines_book.pdf
- The World Wide Web Consortium (W3C) (http://www.w3c.org) recommendations on website quality, the ability to view information accurately using widely used Internet search engines and compatibility with various IT platforms
- W3C Recommendations (http://validator.w3.org) to test web pages. All web pages generated by the e-Parliament system will be tested in accordance with these recommendations.

2.4. Scope boundaries and exclusions

The boundaries and exclusions of the scope of the e-Parliament System Implementation Contract are defined as follows:

- Preparation of diagrams depicting the business processes will be carried out based on already existing business process analysis and diagrams prepared during the previous auditing project at PRM. The Contractor will analyse the aforementioned business process diagrams and adjust them, if needed.
- The Contractor must configure the e-Parliament information system to support the legislative and other internal processes specified in this document, in accordance with the business process diagrams that will be provided by PRM and adjusted, if needed.
- All necessary forms and templates for each document processed by the system will be prepared by the Contractor based on the inputs that will be provided by PRM. The Contractor will work with the PRM Working Group to prepare the application and document forms and templates.
- Any upgrade of other external information systems so as to be able to exchange data with the e-Parliament is outside of the scope of work of the Contractor. The Contractor is obliged only to provide the technical specification of the data exchange interfaces that will be developed on the side of the e-Parliament to exchange data with other external information systems.
- Delivery of the hardware and network equipment required for the e-Parliament system implementation is outside of the scope of the Contractor's work, as the e-Parliament will be hosted in the PRM infrastructure or governmental cloud, MCloud. The detailed requirements regarding deployment of the e-Parliament system will be provided by the Contractor (e.g. requirements regarding the configuration of virtual machines and needed hardware resources).
- The Contractor must provide any needed third-party software licenses required for the e-Parliament information system to operate, including the installation and configuration of the system or third-party software (operating systems, database management systems, document and content management systems, etc.). The licensing policy must take into account that the public web portal component must be accessible by an unlimited number of users, and the back-office component will be accessed by up to approximately 500 users. The Contractor will receive access to the PRM infrastructure (or MCloud) in order to deploy the e-Parliament for testing, training, development and production environments. The Contractor must take into account that the licenses for MS Windows OS, MS SQL Server DBMS and MS SharePoint will not be included in the financial offer as these products are available at PRM.

2.5. Assumptions

The following assumptions have been made with regards to the development of these technical requirements:

- Most MPs possess an electronic signature that will be used for authentication in the system and signature of electronic documents.
- Access to the e-Government horizontal services (e.g. MSign, MPass) will be ensured by the e-Government Centre, upon request by the Contractor and the PRM.
- The PRM will provide to the Contractor the business process diagrams related to the legislative process that were prepared during the previous ICT auditing project at PRM. The Contractor will analyse the processes and will propose adjustments, if needed.
- The PRM will provide the Contractor with access to the existing institutional repository for the e-Archive system (based on DSpace technology) to understand the level and necessity of integration with e-Parliament.
- PRM will designate a technical Project Manager who will be responsible for coordinating the implementation of e-Parliament, who will assist the Contractor in communication and coordination of efforts with the PRM.
- Internet access is available for all future users of e-Parliament – departments/offices – with sufficient capacity to support the e-Parliament system.
- The PRM data centre (or MCloud, managed by the State Enterprise Centre for Special Telecommunications), contains sufficient computing, storage and connectivity resources to support the e-Parliament system's operation.
- The number of PRM staff that will use e-Parliament is up to 500 users, with an estimated 400 concurrent users. The platform shall be established by the Contractor for these number of users. However, the public web portal should be able to be accessed by an unlimited number of internet users.

2.6. Risks

The following risks have been identified for the implementation of the e-Parliament system:

Risk	Impact	Mitigation plan
Risk of institutional resistance	Medium	▪ The Contractor will ensure constant involvement of PRM during the implementation of the system. ▪ The business process for the legislative process, including a brief description, will be provided. ▪ The Permanent Bureau will prepare an order for the staff to implement and use the system.
Not all staff accept documents in an electronic format	High	▪ PRM, with the support of the Contractor, will propose legal amendments to ensure acceptance of electronic document formats. ▪ A regulation on the e-Parliament system shall be approved by the PRM Permanent Bureau.
Not all MPs and other PRM staff have electronic signatures used for authentication and signing of electronic documents	High	▪ To test the *system*, access will be granted using a username and password combination. ▪ During the implementation period, PRM will request that all involved users obtain digital certificates.
Users do not follow the terms (deadlines) for processing tasks	Medium	▪ The Contractor will implement functionality of e-Parliament which will enable internal notifications/alarms to be sent to users. ▪ The terms for executing tasks will be established by PRM. ▪ A time stamp will be applied at the most important stages of the tasks workflows. The time stamps may be provided by the public key certification centre using MSign.
Users continue using the old system, with paper-based applications, after the implementation of e-Parliament	Medium	▪ The regulations will be amended to ensure use of e-Parliament. ▪ Information sessions will be organized for PRM staff and MPs for the introduction of the e-Parliament system and use in their day-to-day activities.
Normative regulations contradict the proposed new business processes and proposed functionalities of the e-Parliament system. The internal regulation has to be amended according to the new processes and proposed functionalities of e-Parliament	High	▪ During development and implementation of e-Parliament, the necessary amendments will be made by PRM to enable functioning of the e-Parliament system.

Risk	Impact	Mitigation plan
Insufficient organizational capacity to manage the e-Parliament system	Medium	▪ The Contractor will train up to five persons to administrate and manage the e-Parliament system and to provide the end-user support. ▪ PRM will establish who is responsible for monitoring and coordinating use of the e-Parliament system.
Change and internal reorganization of the PRM	Medium	▪ e-Parliament will be designed to support changes in the organization of PRM. The administrators will be able to configure the organization model in the system using the administrative/management console.
High turnover of staff might impact the functioning of the system. Between the first training sessions and launch of the system, many staff might leave, which will require additional training for their replacements.	Low	▪ Train the trainer courses will be provided by the Contractor in order to ensure delivery of any additional training to the new staff.

3. General overview of the e-Parliament system

The e-Parliament system must provide a web interface that is accessible through a common browser (Microsoft Edge, Mozilla Firefox, Opera, Google Chrome or Safari). The e-Parliament system must be build using proprietary solutions, specific to web applications (XML, XSL, XHTML, WSDL, SOAP, etc.), to enable easy development of portable system components.

From a functional point of view, a reliable and scalable solution must be delivered, in order to increase the number of competing users and/or to increase the amount of information it manages based on an n-tier architecture (at least three levels) over time. The operation of the e-Parliament system requires an effective interaction with the IT system of the following institutions:

- **The PRM**, the e-Parliament needs to communicate successfully with the parliament's existing hardware and software infrastructure.
- **The e-Government Centre**, the e-Parliament system needs to integrate all MCloud platform services for optimal operation.
- **The Moldovan government**, the e-Parliament system must successfully interact with the IT infrastructure of the Moldovan State Chancellery and Ministries, providing a dedicated interface for electronic data exchange.

The e-Parliament system will have the following functionalities:

- **Computerization of PRM functions** – includes all functionalities provided for authorized PRM users through which all aspects of PRM implementation are computerized.
- **Configuration and management of e-Parliament** – includes all functionalities provided for authorized users with specific roles within PRM through which e-Parliament maintenance activities are performed.
- **Official website of PRM** – the official website of PRM through which public access will be provided to the documents and data obtained through e-Parliament.

4. Parties concerned and user roles

4.1 Owner

The owner of the e-Parliament system is the PRM. The role of the information system owner reflects the administrative aspects related to the overall competencies of the PRM for the administration and the continuous development of the information system. As such, the PRM will be able to assign its roles and rights to access the user interface and data to its staff members, in accordance with their service obligations.

Additionally, the PRM will provide the technical infrastructure necessary to successfully operate all the components the e-Parliament system. The parliament will also employ qualified personnel needed for the administration and operation of the information system.

4.2 Buyer

The e-Parliament information system will be purchased by UNDP Moldova. Once the e-Parliament system is completed, in line with the current ToRs, the property rights will be transferred to the Parliament of Moldova.

At all stages of development, production and final acceptance of the e-Parliament information system, the UNDP as well as the PRM, may commission outside consultants, if necessary.

4.3 Business roles

The following entities will be involved in the process of managing the e-Parliament information system:

- **The PRM**, as the highest representative body of the people of the Republic of Moldova, is responsible for the administration and operation of the e-Parliament system. The PRM is the key actor in the process of customization, implementation and operation of the e-Parliament computer system, as a direct beneficiary and user of the project.
- **The e-Government Centre**, as the government body authorized to develop and implement the Moldovan e-transformation policy, including the MCloud platform and the interoperability framework of MConnect that will be used for e-Parliament to interact with external information systems (RSAJ, RSP, RSUD, etc.) and common platform services (MPass, MSign, MLog and MNotify).
- **The public authorities of the Republic of Moldova**, as institutions with which PRM exchanges data to fulfil its key functions. The design, development and implementation of the e-Parliament system should involve all relevant public authorities that have IT solutions, to implement the interoperability framework and to provide a common automated data exchange.

4.4 User groups and roles

The roles that are presented below are generic and determine user rights to access system's interface and functionalities. At the level of data and documents, the access rights will be set through configuration of users' groups, assigning explicit work flows also for each individual group.

User of e-Parliament – a generic role that corresponds to all e-Parliament authorized users that specifies all the features of the system's interface provided by e-Parliament. This user group has access to the following e-Parliament functionalities:

- He/she has access to the personal board through which he/she receives notifications and has quick access to documents of interest
- He/she has access to the workspace belonging to the group of users to which he/she belongs
- He/she adds new documents / materials in the document management workflow
- He/she processes the documents / materials of the working process of e-Parliament
- He/she comments on the processed documents through the working process of e-Parliament

- He/she manages the events on the agenda assigned to the groups to which the authorized user belongs
- He/she performs the tasks in the working process of e-Parliament
- He/she investigates the collection of documents stored in e-Parliament
- He/she generates documents and reports specific to his/her work tasks

PRM official – This authorized user group from the Secretariat of the Parliament has access to the following functionalities of e-Parliament:

- He/she has access to all functionalities of the role of the e-Parliament user
- He/she configures and manages PRM's legislatures
- He/she configures and manages the profiles of MPs
- He/she configures and manages the composition of the Permanent Bureau
- He/she configures and manages the permanent and ad-hoc parliamentary committees
- He/she configures and manages the parliamentary friendship groups (delegations)
- He/she configures and manages the organization of the Secretariat
- He/she configures and manages the user groups' agendas and events

Speaker of Parliament (President) – This authorized user has absolute decision-making functions for PRM work processes, with tasks for approving/rejecting project documents and deciding on alternatives to the evolution of the workflow. This role is assigned to the Speaker of Parliament and provides access to the following e-Parliament functionalities:

- He/she has access to the full functionality of the role of e-Parliament user
- He/she approves/rejects draft documents
- He/she improves and approves the resolutions of the decisions taken
- He/she approves/rejects the activation of work processes
- He/she decides on alternatives to the evolution strategy for each PRM workflow

Decisive PRM – This authorized user has functions related to decision-making functions for PRM work processes, with tasks for approving/rejecting documents and taking decisions at critical stages in the document management workflow. This role can be attributed to users in the Secretariat of Parliament (e.g. Secretary General, Heads of Departments) as well as user in the legislature (e.g. parliamentary committee chairs). This user group has access to the following e-Parliament functionalities:

- He/she has access to all functions of the role of e-Parliament user
- He/she approves/rejects draft documents
- He/she improves and approves the resolutions of the decisions taken
- He/she approves/rejects the activation of work processes
- He/she decides on alternatives to the evolution strategy for each workflow

Member of Parliament – This authorized user has functions related to voting on legislation, drafting documents etc. Part of his/her duties within the e-Parliament system (excluding voting) may be delegated to his/her assistant. This user group has access to the following e-Parliament functionalities:

- He/she has access to all functions of the role of e-Parliament user
- He/she votes on draft documents

Administrator – The appointed staff member of the PRM Secretariat authorized to administrate and set up the e-Parliament system, as well as to start/stop/restart components/sub-systems. This user has access to the following e-Parliament functionalities:

- He/she has access to all functionalities of users with the role of e-Parliament user
- He/she configures document templates generated within workflows
- He/she configures notifications/tasks generated within workflows
- He/she manages the application server
- He/she manages the production database

- He/she generates reports related to the audit of the information system and information content of the database of the IT system
- He/she manages user profiles, groups and roles
- He/she manages the system of nomenclature and metadata
- He/she makes backups and takes action to restore functionality after a system crash

5. Functional model of e-Parliament

5.1 Information objects of e-Parliament

5.1.1 Architecture of the e-Parliament system
From a conceptual point of view, the implementation of information systems in the work of PRM includes the implementation of various technological means for optimizing the processes and activities in the Parliament that at the same time will preserve and improve the quality of the data on the basis of which the Parliament operates.

In order to facilitate communication and the interoperability of information systems, between PRM and third-party applications, standard semantic structures should be applied for automated data communication. The identification of these structures by other applications and systems enables automated interpretation of the contents of the system's database.

Considering these aspects, the concept of data architecture of PRM is guided by the following principles:

- All information objects of PRM are managed exclusively by electronic means
- Information objects are stored using standards for digital representation of data
- PRM follows a conceptual model of data necessary and sufficient to ensure the management of all information objects electronically
- PRM adopts semantics for structuring information objects according to relevant international and national standards (for cases where these exist).

It should be noted that an easy way to store and represent records in the systems is by listing information. Listing information in this manner (e.g. search) produces uniquely authentic data extracts from a registry. Additional data relating to the registry are stored as attributes of the information object. The data and information operated by e-Parliament must be represented electronically by using open standards, such as UTF-8/UTF-16, XML, XML Schema, XML Signature, etc.

The concept of data architecture, that is provided, should offer both interoperable communication between applications, internal and external, and at the same time provide access to, and interaction with, internal and external users.

5.1.2 Conceptual model of e-Parliament
The core of parliamentary activities and the design of PRM data architecture are focused on the principle of information objects and processing documents. In this case, for the e-Parliament information system, only electronic documents are relevant, that include data with the same level of validity as the paper-based ones.

Information objects of e-Parliament System need to include relevant metadata on documents, appropriate workflow and user role permissions. They can be grouped into three major categories:

- Legislative materials – related to legislative acts, questions and motions
- Plenary operations – enabling planning and execution of the work of PRM
- Committee proceedings – planning and execution of the work of committees
- Standing Bureau – planning and execution of the work of the Standing Bureau of the Parliament

5.1.2.1 Legislative materials
The legislative materials module will allow MPs and legislative groups to draft legislative proposals and amendments and send them to the Secretariat. The Secretariat will also be able to use the editor (tool) to enter new legislative proposals that were received in non-electronic formats. After creation of a document, the users will be able to issue a notification on the new document.

The legislative material module needs to be implemented according to the Rules of Procedure of the Parliament, in order to provide consistency between the system and the parliamentary processes, containing the main text of an act and other related documents.

It is very important to make the legislative materials as intuitive as possible, which means that the system itself should guide the user through the process, giving advice about the next steps and the documents that need to be uploaded in order to maintain consistency with the Rules of Procedure.

The drafting of legislative proposals and amendments should also be facilitated by the system by having template-based documents with information pre-filled by the system. The document templates also need to be made in accordance with the existing documents in the Parliament. e-Parliament should also provide the possibility of creating custom document templates.

This module will allow the Parliamentary Secretariat to register a new legislative proposal, insert files in electronic version of documents with metadata, and start their processing according to the Rules of Procedure. The Parliamentary Secretariat needs to follow the document management and distribution as defined in the Parliamentary Rules of Procedure, which means that all the stages of the document and all the responsible people for a certain document need to be previously defined in the workflow. The system should allow for the creation of custom workflows for specific documents.

The system users, according to their access rights defined, will be able to see a list of all the legislative documents that are managed and processed by the system. While accessing the selected documents, the user will be able to see the entire history of the chosen document, including other related documents, signatures, amendments, deadlines, etc., all defined according to the Rules of Procedure.

The committee' secretaries will be able to insert files containing electronic version of documents, and associate these with appropriate subject workflow.

MPs and legislative groups will be able to search/read/access bills and amendments, see their status, and receive notifications of assignments of (their) legislative proposals.

5.1.2.2 Plenary operations

This module will allow the users of the Secretariat of Parliament and Parliament's Standing Bureau to plan the parliamentary Agenda, and update data on sittings, participants etc, using relevant system forms (according to responsibility). In addition, it will be possible to upload relevant meeting reports and minutes.

By using this module users should be able to schedule plenary sessions and create a draft session agenda, which will have to be approved later. Users should be able to choose the agenda items from the already finished and approved materials (i.e. bills) in e-Parliament. The user interface of this module should be very user-friendly and easy to use, with a possibility to drag and drop the materials in the agenda. After the draft agenda is approved the plenary event module of e-Parliament needs to send a notification to all MPs about the scheduled session and the session agenda.

The MPs votes will be recorded and counted through the e-Voting sub-system, which will offer basic voting functionalities on MPs' laptops or tablet devices within the plenary hall. This sub-system will be an integral part of, and will work seamlessly with, the e-Parliament main system.

Through the e-Voting system, the PRM will be able to record certified decisions/votes with strict numeric results in real time, as well as producing the documents necessary for reporting the voting. Users should vote by using yes/no/abstain or selecting an option from a list. MP' votes will be recorded in the Plenary Event Tracking Module; a relational database storing all votes, associated subjects and MPs will be available for extracting these data and inserting them into the system.

The votes and all other materials related to certain session (transcripts, video materials, conclusions etc) should be added to the Plenary Event Tracking Module, after the session is finalized, and should also be uploaded to the website.

MPs and parliamentary groups, committee secretaries, users of Parliamentary Secretariat and Parliament's Standing Bureau will be able to see all events and search / view related documents.

The Plenary Event Tracking Module should also provide the possibility to track statistical information about sessions, like number of materials per session, discussions, laws approved etc. This will allow the monitoring and tracking of the efficiency of MPs during sessions.

5.1.2.3 Committee proceedings
Through this module, the committee secretaries will be able to update data of committee meetings, record participants etc., using electronic forms (according to responsibility), and upload relevant meeting reports / minutes.

The Committee Events Tracking Module should provide the same functionality as the Plenary Event Tracking Module – providing tools to schedule sessions for the parliamentary committees.

MPs and parliamentary groups, committee secretaries, and users of Parliamentary Secretariat and Parliament's Standing Bureau will be able to see all events and search / view related documents.

The Committee Event Tracking Module should also provide the possibility to track the efficiency and performance of the Parliamentary committees by graphically presenting the relevant information for each committee, like number of draft laws discussed, the status of each draft law, number of reports etc. According to the user roles, different users will have access only to information from their committee.

5.2 Functions to be provided by the system

5.2.1 The basic functionalities of authorized users in e-Parliament

5.2.1.1 Dashboard
The Dashboard should be a single place where authorized users of e-Parliament can receive notifications and be able to preview and access all modules and events related to their interaction with e-Parliament, as defined per user role and access level (notification of system events, workflows, accessing direct documents, forms, calendar events etc.).

The Dashboard should present the main functionalities of the system in one central place and should warn users about the tasks they need to perform, customized per user role. The Dashboard will serve as a main (landing) page of the user interface of e-Parliament authorized users, presenting information and notifications related to that user.

5.2.1.2 Workspace
The system should enable the functionality of using workspaces where authorized users will be allowed to organize the work, including groups of users for the purpose of sharing and accessing related elements of the activity of these groups (documents, workflows, etc.).

5.2.1.3 Parliamentary objects
This functionality includes the possibility of an authorized user to add new materials to a defined event of the workflows, or adding a new agenda for parliamentary session and committee meeting. This functionality should be available for authorized users, providing all necessary metadata and documents while adding new material. The same logic applies to other information objects, such as plenary agendas, sessions, committee agendas and meetings, Standing Bureau agendas and meetings.

5.2.1.4 Document
This is one of the most important functionalities of the information system: it should cover document management through all its phases, from creation, modification, approval and distribution, to archiving.

This functionality should provide collaborative editing of documents (for users who have shared access to document), i.e. the possibility of simultaneous drafting of a document by multiple users. e-Parliament should be able to record and show the changes made by each user. It is desirable that the e-Parliament System support the legislative XML standards in the legislative process.

5.2.1.5 Comment on workflows and documents

With this functionality, the system should provide a mechanism for commenting on documents processed in a workflow, and comments on workflow actions. This functionality will provide authorized users with the ability to work on the quality of the document, making proposals for improving the document or asking questions. Commenting on the document, on the one hand, provides a way for users to cooperate in the process of creating the document, and on the other hand provides a mechanism for obtaining initial approval or rejecting the document by providing comments on workflow actions.

5.2.1.6 Tasks

The task management module of e-Parliament should provide a flexible management tool that contains and provides access to all current and historical information associated with users' tasks. The summary of the related user tasks will be displayed in the Dashboard, per authorized user.

An authorized user will be able to define their own tasks or assign tasks to their staff. The e-Parliament system should be able to automatically create and assign tasks when the user has been assigned to a workflow for processing and approval of materials. Once the material is processed (or redirected to another user), the task will close automatically.

The use of the module for task management will support direct collaboration and effective communication between users. Effective task management involves managing all aspects relating to an activity, including its status, priority, time etc.

5.2.1.7 Searching

This functionality includes all features related to the efficient storage and management of all documents created or managed through the e-Parliament information system.

e-Parliament will provide mechanisms for searching the available documents stored in the system, taking into account the access level of authorized users and document indexing technologies. The search functionality should provide a basic search option and an advanced search capability.

5.2.1.8 Generate documents and reports

This functionality covers all features related to generating reports and documents based on the system information and user access rights. Through this module, staff of the Parliamentary Secretariat General will be able to generate predefined reports, and other users will be able to view reports upon their user access profile.

5.2.1.9 Apply a decision

This functionality should provide defined roles within PRM to process and take actions in the workflows to apply decisions regarding material (approve/reject material), at the same time considering alternative turns in the material workflow. For specific roles in the system – for example, for the President of PRM – this functionality will enable defined actions like start-up of the decision workflow or suspending a workflow without taking into consideration the working flow constraints. This functionality will additionally provide information to users regarding what conditions need to be satisfied in order to continue with workflow progress on a specific action.

5.2.1.10 Digital signing

The e-Parliament solution should enable digital signing of XML documents in order to secure the content of legislative materials in the process of approval of decisions. This solution should also enable PDF document signing of legislative acts, to secure their content and to provide necessary signatures in the approval process. Both XML and PDF signing should be enabled through the browser by using MSign.

5.2.1.11 Mobile applications

The Bidder will deliver mobile apps which support all relevant functionalities of the desktop (web-based) system. The mobile apps will include support for approval actions and digital signing. The Contractor will deliver mobile apps on the following platforms: Android and iOS. Mobile aps must natively support the mobile OS (iOS and Android OS). Hybrid applications (incorporating the web view from the e-Parliament system) are not sufficient. Mobile apps must be approved and published and be part of the official stores of Apple and Google (Apple Store and Google Play).

5.2.2 The functionality of the administration tool of the e-Parliament system

5.2.2.1 Managing users, roles, groups and rights
This functionality will provide management with the authorization level of the system actors, by users, roles and groups, including managerial levels and external actors of the system. This module will provide methods for users' authentication, with a username and password provided for accessing the application. The authentication mechanism in some cases should include providing a digital certificate or identity, access cards etc.

This module will provide all necessary functionalities for defining user access rights for users of the system components/modules, data or documents, and specify the particulars of system components behaviour in interaction with authorized users.

5.2.2.2 Parliamentary composition management
The e-Parliament will support composition management that has a list of MPs for a specific Parliament composition; Parliament compositions are elected every four years. In the composition, besides the MPs, the standing committees should be configured, as well as their membership, which is selected per Parliamentary composition.

5.2.2.3 Permission management
The system will provide functionalities that will enable configuration on a user role level of each information object, which can be a legislative material type, plenary session, agenda, sitting, committee agenda, or committee sitting. Since each information object is related to its own specific workflow the permission configuration should enable management in each stage to decide which user role has access to view or edit metadata, and view or edit documents, and which user role can make an action to progress the workflow.

5.2.2.4 Create a document template
The system will provide functionalities that will enable configuration of documents' templates including all related metadata. The same should be made available for printing. This document template will be made available for usage in the defined event from the process workflows.
A document template will contain elements through which it will be possible to populate the templates with information relating to the defined system metadata for that document template for a specific case. This functionality will provide unification and standardization of the documents issued and processed within PRM.

5.2.2.5 Configure audit
This functionality will provide capability for configurable tracking of all the events and changes taking place in the system. System Administrator will have the possibility to define which events must be tracked.

5.2.2.6 Configure notifications
This functionality will provide the capability to configure notification information and graphical representation, which are part of the workflow progress notifying its users.

5.2.3 Other functionalities of the e-Parliament system

5.2.3.1 User authentication
This module should provide the functionalities of a universal authentication procedure for e-Parliament users and information subsystems of PRM. This will be valuable in those cases where the different applications of PRM are developed by different developers and where the different e-Parliament workflows have different mechanisms to authenticate users (credentials, access cards etc.).

This universal authentication service will provide user authentication for different applications of PRM, without the need of additional development of a separate authentication mechanism for all applications of PRM (this service will be called every time the login service for the identification of a person in e-Parliament is needed).

The authentication service will be one of the key elements of the System.

5.2.3.2 User authorization

This functionality will provide universal authorization proceedings for all computer subsystems of PRM in relation to the user authentication module.

The authorization service should provide access permissions to authenticated users when all data necessary for the authorization of the user are contained in e-Parliament.

5.2.3.3 Distribution of documents

The e-Parliament system should provide the functionality of document and data distribution through its automated workflows. The system should provide the following functionalities:

- This functionality will allow the use of system content providing automated publishing on the official website of *PRM* (http://www.parlament.md) data and relevant public documents produced within the business processes of PRM.
- This functionality will enable publishing of system documents for public discussions: i.e. publishing of draft legislative acts recorded in the workflows of PRM on the governmental participation platform.
- This functionality will enable publishing of system documents to the Data Portal: i.e. reports, statistics, and performance indicators of public services, in the context of their performance shown through e-Parliament.

It should be noted that these functionalities are meant to facilitate the process of distribution and presentation of public information, improving citizens' trust in e-Parliament.

5.2.3.4 Indexing

The solution should provide content indexing in order to provide a subsequent search of indexed documents in the system and relevant presentation of the results based on provided indexing and search parameters.

The e-Parliament solution will provide documents indexing on the full document content, while ensuring the reduction of synonyms, prefixes and suffixes, and the normalization of the relevant terms (weighting of terms must not depend on the size of the file).

5.2.3.5 Archiving documents

This functionality will provide automated preparation and archiving of documents processed in the e-Parliament solution workflows into the digital archive of PRM (DSpace).

This feature should provide information on the status of parties involved in the archive of documents. The archival of documents should occur in a defined manner, automatically triggered by a specific event of the e-Parliament workflow.

5.2.3.6 Event recording

The system should provide event recording, logging the events that occur through the functional components of e-Parliament. Any event generated within the business processes implemented in e-Parliament should be logged and saved in the corresponding tables of the database.

A logging mechanism should be developed on the basis of standards and best practices in the industry. The information system should deliver functionality to configure events.

5.2.3.7 Notifying users

This functionality should provide email notification to authorized internal and external actors involved in specific activities with PRM. The notification should be triggered by a specific action in the process workflow of e-Parliament. Notifications should be sent via email and at the same time should be presented on the user's Dashboard, ensuring direct access to the document or the source folder of the notification.

5.2.3.8 Data exchange with external systems

The system should provide periodical automated and manual data synchronization with other integrated systems.

The data synchronization of e-Parliament will be provided through dedicated services. e-Parliament will provide features that will ensure exposure of e-Parliament data to the other applications of PRM.

5.3. User interface of the e-Parliament system

The e-Parliament solution should provide a user-friendly interface that is intuitive and accessible to all types of users of the information system and accessed via a web browser. e-Parliament should provide an intuitive graphical design and user-friendly interface that is balanced and distinctively optimized for a minimum resolution of 1360x468. At the same time, the user interface should be responsive on multiple devices/screens and optimized for mobile devices, such as tablets, smartphones and touch screens.

For the convenience of users, the system should provide a context-sensitive help system, at the level of the user interface. Depending on the categories of users (and their roles), the system should provide a customized interface for each category of users.

The system should have a minimum of eight basic levels of access of the user to the e-Parliament system interface and data. In the context of user rights and roles set, as well as the optimal number of access groups that can be configured, the system should manage the following user roles:

- **PRM user –** Access level for users of PRM who will be able to use the system for the purpose of carrying out their activities.
- **PRM official –** Access level for PRM employees who will have authorization to manage organizational structure setup of PRM, legislatives, parliamentary committees, the parliamentary factions, the Permanent Bureau of PRM, friendship groups/official delegations. e-Parliament should provide users of this access level the functionality to configure and manage agendas of groups of users.
- **PRM decision-maker –** Access level provided to officials and members of the legislative body of PRM (chairs of parliamentary commissions, chairs of parliamentary factions, Secretary-General, heads of departments etc.). These users should be involved in the processes of PRM with authorization to endorse/approve/reject draft documents issued through e-Parliament, and should be able to manage and monitor the execution of workflows for which they are responsible.
- **Member of Parliament –** Access level provided to users who are part of the legislative body and able to have access to the e-Voting system of PRM for participation in the approval/rejection of draft decisions and documents of PRM.
- **PRM President –** The level of access that will provide authorization to the PRM President and his deputies to conduct monitoring on the workflows of PRM. The PRM President's powers will be much wider than PRM decision-makers.
- **Administrator of e-Parliament –** Access level provided to users with the most high-level access to the system resources. This level of access will be provided to users who are authorized to administer the proper functioning of the solution, providing access to all the functionalities of the system and the content of the database.
- **External information system access –** Access level granted to external actors, providing authorization to synchronize data and documents with the e-Parliament solution.
-

The e-Parliament solution should provide a multilingual interface in the Romanian language. The system should allow adding additional language versions, if necessary. The system should provide retrieval of information and records through simple searches or searches of higher complexity, through which a more accurate filtering of information can be achieved. Regardless of the nature of the information required by the user, the system should use the same method of query and retrieval of information.

The user interface of the system must ensure the filtering meets the search criterion presented by users, depending on their access rights. Indexed content should be filtered by choosing from pre-defined value lists.

5.4. Reporting, auditing and statistics system of e-Parliament

The e-Parliament system should provide a functionality for auditing and event logging, following the best practices in the industry. This functionality should provide configurable logging of technical and business events. The information system should provide a mechanism to generate predefined reports and ad-hoc reports ensuring relevant reporting information for the legislative analysis.

The e-Parliament solution should provide four categories of reports:
- Documents generated based on a default template – Templates of documents should be defined for each document type, populated with information relevant to the document (e.g. bill, amendment, opinion, etc.).
- Monitoring reports – Represents a category of reports intended for decision-makers within PRM used in assessing the interaction of authorized users of e-Parliament. This category of reports will allow users to foresee performance drawbacks in the work of the subdivisions and employees of PRM, or security issues and vulnerability of the computer system.
- Performance reports – Represents a category of reports directed towards the audit and analysis of the information contained in e-Parliament, providing information on the system and user performance (e.g. user performance report, system performance report, report on the performance of the Parliamentary faction, report on performance of Parliamentary commission, report on performance of the Secretariat of PRM, subdivision etc.).
- Public reports – These types of reports include reports for the general public, containing public data. They do not contain custom data. This category of reports generally will provide the values of key performance indicators for public data to be published through the official web page of PRM or the Open Data Portal.
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Taking into account the principle of ensuring transparency of the activities of PRM, the information system should provide functionality to publish public information through the official web page of PRM (http://www.parlament.md).

5.5 Web portal

The portal will be the gateway for every individual or organization that is looking for any type of information or services related to PRM. The web portal should be based on an integrated web content management and document management system. The web portal should include information about:
- Structure of the Parliament, with information about MPs, committee membership, parliamentary factions, the Standing Bureau and parliamentary leadership
- Information on the legislative process, by providing legal framework, draft acts and adopted acts
- Information on plenary activities and documentation
- Information on parliamentary oversight, including information on activities of special committees, hearings, motions etc.
- Information about other non-plenary parliamentary bodies, public hearings, meetings, conferences and official reports about the work of PRM (to be provided to civil society)
- Parliamentary web TV
- Latest news and other relevant information
-

The public web portal shall be a tool for promoting democracy and supporting communication and dialogue with citizens for general feedback and communication between MPs and citizens.

The portal must provide functionalities for finding, receiving, and viewing information:
- search engine
- broadcasting and webcasting
- alerting services
- mobile services
- security and authentication

The web portal should include a search functionality that will serve the needs of both MPs and citizens, at both the simple and advanced levels. Searching capabilities must allow for different search criteria and options to be specified

(metadata/ attributes search combined with full text search). Additionally, the web portal should include support for notifications and alert services for citizens.

6. Functional requirements of the system

6.1. Conventions for the formulation of functional requirements

Each functional requirement is labelled with the prefix FRQ and one of the following marks:

- (**M**) = Mandatory = "The system **must** …";
- (**HD**) = Highly desirable = "The system **should** …"; and
- (**D**) = Desirable = "The system **may** …";

where:

- *MUST* – means that the requirement is defined is an absolute requirement.
- *MUST NOT* – means that the numbered requirement is defined is an absolute prohibition
- *SHOULD* – means that there may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.

Each functionality has the accompanying use-case diagram, which defines the requirement in a more detailed way and presents the business context in which the system functionality is applied. The detailed design that will be provided by the Contractor will have the detailed description of the functionalities.

The bid submitted by the Bidder must fulfil all the requirements stated as mandatory.

The bid submitted by the Bidder will receive a competitive advantage for each optional requirement that it fulfils. The information requirements are intended to provide more information for a better understanding of the context of other requirements.

6.2. Functional requirements for the basic functionalities

6.2.1. Using Dashboard
The functional requirements for implementing the Dashboard tool for certified and authorized e-Parliament users are listed in table below:

Table 6.1 Functional requirements regarding the Dashboard

Identifier	Obligation	Description of the functional requirement
FRQ001	M	e-Parliament authorized users will have a dashboard to be notified of important business events, to quickly access details and to view the upcoming activities.
FRQ002	M	On the dashboard, the following categories of information will be listed (available depending on the roles and rights, available to authorized users of e-Parliament): Scheduled activities for the day Planned activities for the upcoming period Notifications of tasks that user needs to perform Notifications concerning the progress of legislative materials workflows related to the user Deadline notifications of completion of the tasks assigned to the user Notifications concerning the progress of legislative materials that are awaiting approval by the user Overview of all legislative materials at a certain point in workflow progress Quick access by the user to the most recently used legislative materials Quick access by the user to most used legislative materials List of all publicly available legislative materials available in e-Parliament
FRQ003	M	E-Parliament will display on the Dashboard only relevant business events and data functionalities that are available per the rights and roles of each authorized user.

Identifier	Obligation	Description of the functional requirement
FRQ004	M	Dashboard will group the information per category in the form of aggregated value indicators (e.g. materials for debate – 20; materials for registration – 41; etc.), which will contain hypertext reference to access details (related records)

6.2.2. Viewing content in the workspace

The functional requirements needed to implement the mechanism for reviewing the content of the workspace within e-Parliament are shown in the table below:

Table 6.2. Functional requirements regarding viewing content in the workspace

Identifier	Obligation	Description of the functional requirement
FRQ005	M	e-Parliament-authorized users will have dedicated workspaces, with navigation capabilities in relation to specific information content.
FRQ006	M	The workspace will allow users to get to the detailed information available per specific information content available in the workspace, which will allow the users to better organize their work and will provide the necessary information at their disposal.
FRQ007	M	Authorized users will be able to process parliamentary objects, with information content and workflow specifics, via the common working spaces.
FRQ008	M	Authorized users will be able to send files via the common working spaces.
FRQ009	M	e-Parliament must provide the functionality to view the contents of parliamentary objects and documents in the workspace user interface.
FRQ010	M	It must be possible to manage the following types of documents: ▪ PDF documents ▪ Microsoft Office documents ▪ Multimedia documents
FRQ011	M	It must be possible to manage of the following types of object: ▪ Legislative materials ▪ Motions ▪ Questions ▪ Interpellations ▪ Sessions ▪ Agenda ▪ Sitting ▪ Committee work plans ▪ Committee sittings ▪ Standing Bureau sittings
FRQ012	M	The working space of the Parliamentary users should provide instant access to high-quality information and statistics, relating to legislative procedures, as well as integrated desktop tools for preparation of reports, briefs etc.
FRQ013	M	Each parliamentary user should have its own working space within the e-Parliament system that provides a calendar overview of the daily agenda and a daily list of activities for the given date.
FRQ014	M	The user interface of the workspace will provide an efficient and intuitive mechanism for structured content information of Parliamentary objects and documents.
FRQ015	M	The working space of the Parliamentary users should include good search tools, enabling the rapid identification and retrieval of appropriate information in a timely fashion.
FRQ016	M	Users should have reliable and timely access to appropriate information that enables them to fulfil their role effectively, plan their schedules and promote efficiency in their work.
FRQ017	M	e-Parliament will take into account the user's right to access objects and documents according to PRM's system of information security management, per their roles within Parliament:

Identifier	Obligation	Description of the functional requirement
		▪ Parliament representatives ▪ Parliament Secretariat professional staff ▪ President of PRM ▪ Administrators The system should have a so-called user desktop, with a specific user interface for different user roles.

6.2.3. Parliamentary objects

The functional requirements for the preparation of Parliamentary objects using the e-Parliament capacities are presented in the table below:

Table 6.3. Functional requirements regarding Parliamentary objects

Identifier	Obligation	Description of the functional requirement
FRQ018	M	e-Parliament will provide users with complex Parliamentary objects containing information on: ▪ Object metadata ▪ Documents ▪ Specific workflow process
FRQ019	M	Parliamentary objects will provide comprehensive and detailed information, assigned decision-making process for the following types of Parliamentary business: ▪ Legislative materials – related to the legislation acts, questions and motions ▪ Plenary operations – enabling planning and execution of the work of Parliament ▪ Committee proceedings – planning and execution of the work of committees
FRQ020	M	Creation of Parliamentary objects will take into account the user's right to manage such object types.
FRQ021	M	Access to Parliamentary objects will take into account the user's right to view content information of attributes and documents in the specific state of the workflow execution.
FRQ022	M	Modifying of Parliamentary objects will take into account the user's right to edit content information of attributes and documents in the specific state of the workflow execution.
FRQ023	M	e-Parliament will provide necessary metadata information that is specific for a Parliamentary object, in order to fully describe it with high-quality information.
FRQ024	M	A Parliamentary object can have its own attributes or references to other entities, either from its own database (example: references to acts adopted to be modified), or from databases of external applications, for e-Parliament integration with other applications, such as eArchive, eLibrary etc.
FRQ025	M	e-Parliament will present at least the following information related to documents processed through workflows: ▪ The steps in the workflow up to that point in time ▪ Date of receipt of the document in each of the processing steps. They must be capable of being both roles within the organization (directors, Secretarial department, a certain department) and nominees, depending on the workflow ▪ Date of completion of each of the steps of processing ▪ Pace at which the document is located at that point in time in the workflow (document tracing the journey) ▪ Deadline for resolution

6.2.4. Adding documents

The functional requirements for implementing the mechanisms for editing and processing documents within e-Parliament are presented in the table below:

Table 6.4. Functional requirements regarding adding documents

Identifier	Obligation	Description of the functional requirement
FRQ026	M	e-Parliament document management system will make possible to apply to multimedia (audio, video, graphics, etc.) the same access scheme, processing and archiving as for traditional documents.
FRQ027	M	e-Parliament must have the functionality to initiate workflows automatically and add documents.
FRQ028	M	e-Parliament will allow users with appropriate rights to enter and add documents in the workflow.
FRQ029	M	e-Parliament will allow access to users with appropriate rights to view the documents in a particular status of the workflow.
FRQ030	M	e-Parliament will allow users with appropriate rights to edit documents in a particular status of the workflow.
FRQ031	M	e-Parliament must provide the functionality to export a document from within e-Parliament in a PDF format.
FRQ032	M	The system must be a central repository of documents whose contents must be available and accessible to all organizational subdivisions.
FRQ033	M	e-Parliament will allow the approval of documents via electronic signature.
FRQ034	M	Final documents in the process will be individually signed using digital signature.
FRQ035	M	e-Parliament must include features which demonstrate that the integrity of the document bearing the digital signatures has been maintained.
FRQ036	M	The e-Parliament system must provide the functionality to store, along with the electronic documents: ▪ Digital signature(s) associated with the document ▪ Electronic certificate(s) verifying the signature
FRQ037	M	To facilitate the work of users of the system, the e-Parliament system shall provide the functionality to generate documents based on predefined templates, with the possibility of having pre-populated structured data previously entered into the system. Additionally, the user should have the option to edit documents created based on templates, using any standard applications for specific document types (e.g. MS Office, Adobe Acrobat and so on).
FRQ038	M	The e-Parliament system must allow tracking of changes in the documents, actions and workflow events in a user-friendly manner.
FRQ039	M	The e-Parliament system must have automatic versioning capabilities to track changes to documents, including information about users performing certain actions using major and minor versions of documents.
FRQ040	M	The system must have the functionality for co-authoring of documents, meaning multiple users can work on a single document at the same time.

6.2.5. Comment on workflows and documents

The functional requirements for implementing a management tool for submitting comments on documents that are stored or processed in e-Parliament are shown in the table below:

Table 6.5. Functional requirements for comments on workflows and documents

Identifier	Obligation	Description of the functional requirement
FRQ041	M	The e-Parliament system will provide a functionality to make comments on the document workflows processes.
FRQ042	M	Comments will be able to be added to each version of the document.
FRQ043	M	Any authorized user(s) involved in the processing of the document, the drawing up of the document or the supervision of these processes will be able to add comments.
FRQ044	M	The e-Parliament system will make it possible to add comments in additional documents by users that have the right to provide notes.
FRQ045	M	The system must enable comments to be provided on specific actions of the workflow process.

6.2.6. Execution of tasks

The functional requirements for implementing the load monitoring mechanism applied to authorized e-Parliament users are listed in table below:

Table 6.6. Functional requirements regarding the execution of tasks

Identifier	Obligation	Description of the functional requirement
FRQ046	M	The e-Parliament system must be able to manage and allocate resources for each activity.
FRQ047	M	The e-Parliament system will automatically generate users' tasks that represent a workflow element.
FRQ048	M	E-Parliament authorized users will be able to formulate tasks, assign tasks to users or a group of subordinates, and delegate tasks to other users/user groups.
FRQ049	M	The e-Parliament system must permit the formulation of subordinate tasks (creating new tasks on the basis of existing tasks) and to manage the relationships between tasks.
FRQ050	M	The task management component must provide a notification to warn users about the deadline of a task that needs to be accomplished.
FRQ051	M	The task management component will inform users, via the Dashboard, of critical tasks.

6.2.7. Finding materials and documents

The functional requirements that apply to the search tool and accessing stored documents in the e-Parliament database are shown in the table below:

Table 6.7. Functional requirements regarding finding materials and documents

Identifier	Obligation	Description of the functional requirement
FRQ052	M	The e-Parliament system must enable search of Parliamentary information: • Legislative materials • Plenary operations information • Committee proceedings information • Standing Bureau proceedings and all documents related to these objects.
FRQ053	M	The e-Parliament system must allow users to explore the contents of the inventory database using the classification system for documents and records.
FRQ054	M	The e-Parliament system must provide access to documents and objects through searches on the basis of the rights and roles available to the user.
FRQ055	M	Arrangements for subsequent manipulation of the document/file review must depend upon the rights and roles available to the user and the status of the document/workflow.
FRQ056	M	The search subsystem must support information trimming, e.g. search results must hide items to which the current user does not have access permissions.
FRQ057	M	Public documents will be available to all authorized users.
FRQ058	M	The system must support free text search of documents in various document formats.
FRQ059	M	The system must provide a search using exact or partial phrases to find keywords in the document or metadata.
FRQ060	M	The system must support simple and advanced searches. A simple search will execute a search for keywords within the attributes, metadata and content of documents. An advanced search will allow filtering of the search results with complex search queries. In advanced search mode, users will be able to select filters and input search criteria from the user interface.
FRQ061	M	Both quick search and advanced search must have a simple and intuitive user interface that can be used by users with average computer usage skills.

6.2.8. Generating documents and reports

The functional requirements for document generation and reports in e-Parliament are shown in the table below:

Table 6.8 Functional requirements regarding generating documents and reports

Identifier	Obligation	Description of the functional requirement
FRQ062	M	e-Parliament needs to deliver a reporting functionality for administrative roles of PRM to monitor the activity of subdivisions and employees on how the e-Parliament is used.
FRQ063	M	This reporting is required in the context of the entire system, including: ▪ Workflows' progress ▪ Files and records ▪ User activity ▪ Permissions and security
FRQ064	M	e-Parliament must provide a set of reports based on audit and analysis of users activity: ▪ Report on performance (number of sessions present/absence, number of legislative initiatives, number of amendments proposed, number of requests sent, number of requests in arrears, productivity indicators, etc.) ▪ Performance report for parliamentary faction (aggregated indicators per deputies who are part of the faction) ▪ Performance report on parliamentary committee (aggregated indicators of the activity of the parliamentary committee) ▪ Performance report on Permanent Bureau of PRM (aggregated indicators of the work of Permanent Bureau of PRM) ▪ Performance report on the activity of subdivisions from the Secretariat of PRM (aggregated indicators per employed subdivision) ▪ Performance report for the entire corps of deputies (aggregated indicators per all deputies) ▪ Performance report for the Secretariat of PRM (aggregated indicators per all employees of the Secretariat of PRM) ▪ Tracing the workflows ▪ A critical tasks report, which will record tasks which have exceeded the time limit for execution with specification of personnel where it was blocked, persons in charge, etc. ▪ Lists of documents under development that were prepared late in relation to a fixed deadline ▪ performance indicators
FRQ065	M	e-Parliament reporting platform will be used for the purpose of extracting editable printable version of documents.

6.2.9. Applying a decision

The functional requirements for approval of decisions in e-Parliament are shown in the table below:

Table 6.9 Functional requirements regarding applying decisions

Identifier	Obligation	Description of the functional requirement
FRQ066	M	e-Parliament will provide the decision-making functionality (approve/reject) for users responsible for workflows.
FRQ067	M	The categories of decision-making functionality might refer to: • set the document control/exclusion • approving/rejecting start of workflow (e.g. examination of the draft decision of the legislative act) • approving/rejecting a draft document • decision on workflow (choosing alternative workflow or changes in workflow evolution) • other categories of decisions

Identifier	Obligation	Description of the functional requirement
FRQ068	M	The workflow will evolve depending on the decision of the user with the decision-maker role.
FRQ069	M	e-Parliament will allow the President of Parliament as user to be able to kick off a workflow even if documents and data entered do not match the constraints (for example: all mandatory documents were not attached to the material, failure to comply with time constraints, etc.).
FRQ070	M	e-Parliament will allow the Parliament President user to be able to decide on transitions through workflow stages even if there have been constraints on those transitions.

6.2.10. Digital signing

Table 6.10 Functional requirements regarding digital signing

Identifier	Obligation	Description of the functional requirement
FRQ071	M	The e-Parliament system should provide support for digitally signing XML logical packages, including metadata, attachments and related activities (approval, rejection, review etc), using, at each step in the approval process, digital signatures offered by the Centre for Public Key Certification.
FRQ072	M	e-Parliament should enable digital signing through a browser extension for digital signing of XML, without the need for Java installation.
FRQ073	M	Browser extension for XML signing shall be fully compatible with leading web browsers: Google Chrome, Firefox, Opera and Edge.
FRQ074	M	Browser extension for XML signing shall be approved and shall be part of the official store of the leading web browsers: Google Chrome, Firefox, Opera and Edge
FRQ075	M	The e-Parliament system should provide support for digitally signing PDF documents in order to provide document integrity, validity and document approval by authorized users.
FRQ076	M	e-Parliament should enable digital signing through a browser extension for digital signing of PDFs, without the need for Java installation.
FRQ077	M	Browser extension for PDF signing shall be fully compatible with leading web browsers: Google Chrome, Firefox, Opera and Edge.
FRQ078	M	Browser extension for PDF signing shall be approved and shall be part of the official store of the leading web browsers: Google Chrome, Firefox, Opera and Edge
FRQ079	M	The browser extension for digital signing of PDF documents shall support digital signing with visible and invisible signatures on PDF documents
FRQ080	M	The browser extension for digital signing of PDF documents shall support management of a visible signature with the possibility of adjusting position and signature image by the end-users
FRQ081	M	The browser extension for digital signing of PDF documents shall support signing of large PDF documents (<200 MB)

6.2.11. Mobile applications

Table 6.11 Functional requirements regarding mobile applications

Identifier	Obligation	Description of the functional requirement
FRQ082	M	The Bidder shall deliver mobile apps which support all relevant functionalities of the desktop (web-based) system.
FRQ083	M	The mobile apps shall include support for approval actions and digital signing.
FRQ084	M	The Bidder shall deliver mobile apps on the following platforms: Android and iOS.

Identifier	Obligation	Description of the functional requirement
FRQ085	M	Mobile aps must natively support the mobile OS (iOS and Android OS). Hybrid applications (incorporating web view from the e-Parliament system) are not sufficient.
FRQ086	M	Mobile aps must be approved and published and be part of the official stores of Apple and Google (Apple Store and Google Play).

6.3. Functional requirements for legislative processes and parliamentary oversight

6.3.1. Legislative materials

Table 6.12 Functional requirements regarding legislative materials

Identifier	Obligation	Description of the functional requirement
FRQ087	M	The creating of draft acts should be done using one of the e-Parliament process templates for legislative materials.
FRQ088	M	The system must support different legislative processes, depending on the type of act considered under the Rules of Procedure.
FRQ089	M	The security subsystem must restrict the availability of material actions according to users' permissions.
FRQ090	M	The e-Parliament system should support draft act automatic versioning.
FRQ091	M	The e-Parliament system should use version numbers to keep track of changes. When a document is saved in the system for the first time, the system should assign a version number that should be changed every time the document is edited and saved.
FRQ092	M	History of drafts before registration will be optional and according to the needs of the draft owner.
FRQ093	M	The users of the system need to have access to a list of documents, and documents and all related materials.
FRQ094	M	When accessing a chosen piece of information, the user should see the whole history of that piece of information, including all the documents related to it, the collected signatures, amendments, deadlines and everything which is related to the Rules of Procedure.
FRQ095	M	The list providing the materials' history should be fully visible or visible with restrictions depending on the users' roles.
FRQ096	M	The e-Parliament system must be able to provide compound documents, i.e. documents with other documents contained in them. Compound documents may be composed of different versions of different documents in different formats. A compound document has content versions and all features as regular documents.
FRQ097	M	All contained documents within the compound document are independent objects with their versions, content and meta data. e-Parliament must have the ability to store the history of compound document content, i.e. snapshots of compound documents.
FRQ098	M	e-Parliament must provide full data integrity across the entire system (documents, meta data, dictionaries etc.)
FRQ099	M	e-Parliament must provide the possibility to create templates for all relevant legislative and other types of documents.

6.3.2. Legislative processes

Table 6.13 Functional requirements regarding legislative process

Identifier	Obligation	Description of the functional requirement
FRQ100	M	The e-Parliament system should cover the whole legislative process within the Parliament, from preparation of draft acts to their presentation and up to the final stage of adoption and publication. Legislative processes for acts must be in accordance with the Rules of Procedure.

Identifier	Obligation	Description of the functional requirement
FRQ101	M	All legislative materials within the e-Parliament system shall be ready once the minimum metadata are defined and required documents are attached.
FRQ102	M	The e-Parliament system itself should be able to guide the user and alert them if certain metadata are required to complete the material.
FRQ103	M	The component for management of legislation processes should provide the ability to indicate the timing of tasks in accordance with the legislation in place.
FRQ104	M	The e-Parliament system should also provide users with recommendations about the next steps that need to be taken in order to prepare the material according to the Rules of Procedure.
FRQ105	M	Once material is created within the e-Parliament system, the user will be able to add the necessary documents to the material.
FRQ106	M	The material creator will be able to assign additional contributors that can also work on the preparation of the material.
FRQ107	M	While preparing the material the initiator will be able to change the basic information for the material and also delete and remove the material from the system.
FRQ108	M	The approval of the material should be done according to the Rules of Procedures.
FRQ109	M	During the approval process, if the material is not properly prepared, it can be sent back for corrections.
FRQ110	M	The system must provide the possibility to generate statistics and customized reports monitoring the legislative process.
FRQ111	M	All the material types and possible statuses for each piece of material that are defined in the Rules of Procedure should be supported by the e-Parliament system.
FRQ112	M	The system should support different workflows for the different material types defined according to the Rules of Procedure.
FRQ113	M	The e-Parliament system should support actions, distributions, notifications and validation for each piece of material and status defined in the Rules of Procedure.

6.3.3. Amendments

Table 6.14 Functional requirements for amendments

Identifier	Obligation	Description of the functional requirement
FRQ114	M	Amendments can be created in the system itself, using templates.
FRQ115	M	Amendments can be registered electronically by submitting the amendments electronically through the system.
FRQ116	M	The system should allow all amendment-related information to always be associated with the amendment itself.
FRQ117	M	The users of the system should be able to create a new amendment, search an existing amendment, add documents to it or sign it after it has been completed.
FRQ118	M	The e-Parliament system should provide a possibility to record and monitor the status of the amendments.
FRQ119	M	The users should be able to follow the current status of the amendment within the process at any time.
FRQ120	M	The system shall automatically and in real time update all data, activities, reports and statistical indicators for the amendments

6.3.4. Parliamentary questions

Table 6.15 Functional requirements for parliamentary questions

Identifier	Obligation	Description of the functional requirement
FRQ121	M	The system should include a module for questions in Parliament addressed to a minister or member making an inquiry regarding specific issue.
FRQ122	M	The solution must support the process of handling questions and answers per a defined procedure.

Identifier	Obligation	Description of the functional requirement
FRQ123	M	The users of the system should be able to create a new question, search an existing question, or add documents to a question.
FRQ124	M	The e-Parliament system should provide a possibility to record and monitor the status of questions.

6.3.5. Interpellations

Table 6.16 Functional requirements regarding interpellations

Identifier	Obligation	Description of the functional requirement
FRQ125	M	The system should include a module for tracking interpellations. Interpellation is the procedure of a mechanism by which the MPs directly address the Government asking a for explanations on aspects of government official policy that relate to explain an act its internal or policy external activity.
FRQ126	M	The solution must support the process of handling interpellations and answers per a defined procedure.
FRQ127	M	The users of the system should be able to create a new interpellation, search an existing one and add documents to one.
FRQ128	M	The e-Parliament system should provide a possibility to record and monitor the status of an interpellation.

6.3.6. Motions

Table 6.17 Functional requirements regarding motions

Identifier	Obligation	Description of the functional requirement
FRQ129	M	The e-Parliament solution must support the management of motions in accordance with the Rules of Procedure. A motion must be registered with relevant metadata.
FRQ130	M	The system must enable definition of different motion types.
FRQ131	M	The system should enable motion procedures to be conducted per motion type-defined rules and legislation material requirements.

6.4. Functional requirements for organizing *parliamentary* work using e-Parliament

6.4.1. Plenary sessions

Table 6.18 Functional requirements regarding plenary sessions

Identifier	Obligation	Description of the functional requirement
FRQ132	M	Amendments can be created in the system itself, using templates.
FRQ133	M	The e-Parliament system should cover the whole lifecycle of the session, including organizing, recording, scheduling and closing of the session.
FRQ134	M	The e-Parliament system should provide a list of all the plenary sessions.
FRQ135	M	The users should be able to view plenary sitting attributes (number, date, status and location) and the agenda.
FRQ136	M	The users should be able to see all the documents that are related to a specific sitting.
FRQ137	M	Depending on the sitting phase or the privileges that the user has, the system should restrict documents access so that they can be opened for editing and/or just for review (read-only documents).
FRQ138	M	The system should support scheduling sessions for specific dates/times and venues (hall).
FRQ139	M	The system should have a possibility to schedule multiple sessions for the same day and time.

Identifier	Obligation	Description of the functional requirement
FRQ140	M	The system should have a possibility to interrupt the current sitting and reschedule it for another day.
FRQ141	M	The system should have a possibility to add a recording and live-streaming of a sitting.
FRQ142	M	Announcement of the sitting and notification to the members.
FRQ143	M	Supporting tools for records management for a sitting (agenda, conclusions, laws, minutes, voting results, video and audio recording, etc.)
FRQ144	M	Associating transcripts (text documents), video or audio files per sitting.
FRQ145	M	The system shall automatically and in real time update all data, activities, reports and statistical indicators for a session.
FRQ146	M	Each user should see all related documents and conclusions for each topic of the session prior to when the session begins.

6.4.2. Parliamentary agenda

Table 6.19 Functional requirements regarding Parliamentary agenda

Identifier	Obligation	Description of the functional requirement
FRQ147	M	The system should have a search option for materials that can be put on the agenda.
FRQ148	M	The process of preparing a draft agenda should be fully supported.
FRQ149	M	An authorized user should be able to change the general data about each sitting, add new items to the agenda, edit existing documents or add new documents.
FRQ150	M	A possibility to change the agenda at the beginning of the sitting, including adding/removing or reordering agenda items.
FRQ151	M	Managing of agenda items and related documents status.

6.4.3. Committee meetings

Table 6.20 Functional requirements for committee meetings

Identifier	Obligation	Description of the functional requirement
FRQ152	M	The e-Parliament system should cover the whole lifecycle of the committee meetings, including preparation, organizing, recording, scheduling and closing of meetings.
FRQ153	M	The e-Parliament system should show a list of all committee meetings.
FRQ154	M	The users should be able to access all documents that are related to a specific meeting.
FRQ155	M	Access to the session document should be controlled by the system based on the session phase or the privileges that the user has. The documents should be able to be opened for editing and/or for review (read-only documents), depending on privileges.
FRQ156	M	The system should support scheduling of meetings for a specific date/time/venue (hall).
FRQ157	M	The system should have a possibility to schedule multiple meetings for the same day and time.
FRQ158	M	The system should have a possibility to interrupt the current meeting and reschedule it for another day.
FRQ159	M	The e-Parliament system should have the functionality to record and/or live-stream committee meetings.
FRQ160	M	The e-Parliament system should have supporting tools for meetings' records management (agenda, conclusions, minutes, voting results, video and audio recording, etc).
FRQ161	M	The system should be able to measure performance of, and to monitor, committee meetings.

6.4.4. Committee agenda

Table 6.21 Functional requirements for committee agendas

Identifier	Obligation	Description of the functional requirement
FRQ162	M	The users should be able to view the general data about each meeting (number, date, status and location) and the meeting agenda.
FRQ163	M	The system should have a search option for materials that can be put on the agenda.
FRQ164	M	The e-Parliament system should support the preparation of a draft agenda.
FRQ165	M	Authorized users should be able to change the general data about each session, add new materials, or change the agenda.
FRQ166	M	The system should provide the option for editing an agenda at the beginning of the meeting, including adding/removing or reordering agenda items.
FRQ167	M	The system should also support recording and managing of the session agenda and schedule.

6.5. Functional requirements for the e-Parliament administration component

6.5.1. Central Administration and Configuration subsystem

Table 6.22 Functional requirements regarding Administration and Configuration component

Identifier	Obligation	Description of the functional requirement
FRQ168	M	The e-Parliament system must have a module for centralized management and configuration.
FRQ169	M	The Central Administration and Configuration subsystem shall be user-friendly and easy to use.
FRQ170	M	The Central Administration and Configuration subsystem must support management of Parliament's compositions, sessions, meetings and sittings.
FRQ171	M	The Central Administration and Configuration subsystem must support management of parliamentary groups, committees, MPs, Speaker's Office, Standing Bureau, Secretary General and Parliament Secretariat.
FRQ172	M	The Administration subsystem must have a user search option.
FRQ173	M	The Administration subsystem shall support configuration of calendar (working and non-working days calendar), which shall be used in relation to legislative processes.
FRQ174	M	The Administration module should have an interface to view and modify the e-Parliament system language in multiple languages.

6.5.2. Managing users, roles, parliamentary groups and rights

Table 6.23 Functional requirements regarding the management of users, roles, parliamentary groups and rights

Identifier	Obligation	Description of the functional requirement
FRQ175	M	e-Parliament will provide a mechanism for the management of profiles (accounts) of all authorized users.
FRQ176	M	The computer system will allow user access blocking/unblocking.
FRQ177	M	Within the users ' profiles it will be possible to manage the following types of data: ▪ User name ▪ Name (first and last name) ▪ Contact email address ▪ Contact telephone number ▪ Access password ▪ Departments to which the user belongs ▪ Institutions to which the user belongs (for external users)

Identifier	Obligation	Description of the functional requirement
		- User roles - strategy for authentication (username + password, digital certificate, identity, Active Directory) - active account on/off - profile picture - user certificate
FRQ178	M	Profiles of users will be able to add only users with the role of e-Parliament Administrator.
FRQ179	M	e-Parliament will provide a roles management mechanism.
FRQ180	M	A user can have several roles.
FRQ181	M	e-Parliament users shall be assigned to specific departments, working groups and positions in accordance with the organizational structure of the Parliament and according to the Rules of Procedure of the Parliament.
FRQ182	M	e-Parliament will provide a mechanism for the management of user groups.
FRQ183	M	When a user is added to a user group, e-Parliament will automatically assign the user to a user group-specific workspace.
FRQ184	M	A user can be part of multiple groups of users (e.g. a MP can be part of a Group of MPs, a member of the Committee and the Standing Bureau; and MPs may have access to three categories of workspaces: MP's workspace, Committee and Standing Bureau workspaces.
FRQ185	M	Administrators should be able to add, modify and delete users and groups of users in the system.
FRQ186	M	Administrators must be able to change the rights, permissions and user roles for all system functions.

6.5.3. Parliamentary composition management

The functional requirements for managing Parliamentary composition are presented in the table below:

Table 6.24 Functional requirements regarding the management of Parliamentary compositions

Identifier	Obligation	Description of the functional requirement
FRQ187	M	e-Parliament must support managing different Parliamentary compositions.
FRQ188	M	Parliamentary composition should be defined with period of activity, number, and all users, roles, groups and rights within a Parliamentary composition.
FRQ189	M	e-Parliament must support the authorization of user access per Parliamentary composition, where users are defined as MPs or Parliament officials within different departments.
FRQ190	M	e-Parliament must support defining committees and managing committee membership per Parliamentary composition.
FRQ191	M	e-Parliament must support the creation of plenary sessions, sittings and agendas within a Parliamentary composition.

6.5.4. Permission management

The functional requirements of administrative activities specific to e-Parliament are presented in the table below:

Table 6.25 Functional requirements regarding the management of permissions

Identifier	Obligation	Description of the functional requirement
FRQ192	M	Managing user permissions and role membership should be part of the Administration module.
FRQ193	M	Permissions should be managed on a user role level per: - Parliamentary objects - metadata fields - documents - reporting

Identifier	Obligation	Description of the functional requirement
FRQ194	M	Permission management in relation to Parliamentary objects should grant permission to user roles in each workflow state, by defining which user roles can: ▪ view object, and/or ▪ make an action
FRQ195	M	Parliamentary objects that must have permission management include: ▪ legislative materials – related to legislative acts, questions and motions ▪ plenary operations – enabling planning and execution the work of Parliament ▪ committee proceedings – planning and execution of the work of committees
FRQ196	M	Permission management in relation metadata fields is defined per object metadata granting rights per user roles to: ▪ view metadata, or ▪ edit metadata
FRQ197	M	Permission management in relation to documents is defined per Parliamentary object granting rights per user roles to: ▪ view metadata, or ▪ edit metadata
FRQ198	M	Permission management in relation to reports should enable granting rights per user roles to view end export a report.
FRQ199	M	The e-Parliament system security must enable individual users to browse and view only Parliamentary objects (workflow items) in relation to which he/she has proper authorization and permissions.
FRQ200	M	The e-Parliament system needs to support information trimming, e.g. to hide information (data, actions, materials and documents) in relation to which the user does not have appropriate permissions.
FRQ201	M	Users will have access only to those workflows and documents for which the permissions were set.
FRQ202	M	Security must extend to documents, such that access to specific documents can be controlled through security parameters.
FRQ203	M	The system must allow ad-hoc provision of rights of access to documents and other items, regardless of the type of protection / security and organizational structure.

6.5.5 Creating document templates

The functional requirements for creating a template for documents made through e-Parliament are shown in the table below:

Table 6.26 Functional requirements regarding the creation of templates for documents

Identifier	Obligation	Description of the functional requirement
FRQ204	M	e-Parliament will provide the functionality to configure and implement template document workflows.
FRQ205	M	Templates of printed documents will be extracted on the basis of the data gathered during the workflow activities.
FRQ206	M	The Contractor will configure and implement all related document templates and workflows according to internal PRM business processes
FRQ207	M	The system should allow users with no programming skills to define new templates or modify existing ones. Such templates should be stored in a repository.
FRQ208	M	e-Parliament must allow specific types of already used documents to have standardized forms (i.e. amendments, questions, decisions, opinions etc.), so templates can be defined and made available when creating such documents.
FRQ209	M	Based on indexed data, describing and pre-filling the form, the system would allow authorized users to complete the templates using e-Parliament or a standard application (e.g. MS Office).
FRQ210	M	e-Parliament must support generating conclusion documents based on predefined document templates with automatic filling of data from the system (agenda, time, date etc) in the processes of plenary operations.

6.5.6. Auditing

Table 6.27 Functional requirements regarding auditing

Identifier	Obligation	Description of the functional requirement
FRQ211	M	The system must have auditing capabilities with tracking of all events and changes taking place in the system.
FRQ212	M	The system should provide security administrators with the ability to configure audit parameters in the e-Parliament Audit subsystem.
FRQ213	M	e-Parliament must enable configuration of audits per different Parliamentary objects: ▪ Legislative materials – related to legislative acts, questions and motions ▪ Plenary operations – enabling planning and execution of the work of Parliament ▪ Committee proceedings – planning and execution of the work of committees
FRQ214	M	Audit configuration should be able to define audit parameters, consisting of information about: ▪ Parliamentary objects ▪ is an audit enabled? ▪ is an old object value audited? ▪ is a new object value audited?
FRQ215	M	The system should provide security administrators with the ability to browse and filter events, objects and users, and specific details of user actions provided by the e-Parliament Audit subsystem.

6.5.7. Notifications configuration

Table 6.28 Functional requirements regarding configuration of notifications

Identifier	Obligation	Description of the functional requirement
FRQ216	M	The Administration module should provide the functionality for managing the system notifications.
FRQ217	M	The Administration module should have an interface to view and modify the content and look and feel of notifications, including metadata information from e-Parliament records.
FRQ218	M	The system should automatically send notifications based on templates to various users involved in the process.

6.6. General functional requirements

6.6.1. User authentication
The functional requirements for implementing the authentication service in respect of e-Parliament users are presented in the table below

Table 6.29 Functional requirements regarding user authentication

Identifier	Obligation	Description of the functional requirement
FRQ219	M	e-Parliament will provide authentication services for authorized users of e-Parliament and third-party computer systems of PRM.
FRQ220	M	Depending on the user (profile configuration data) authentication service, e-Parliament will take account of the following login options: • authentication via username + password • authentication via digital certificate • authentication via the provided ID cards and voting access issued by PRM • authentication via Active Directory

Identifier	Obligation	Description of the functional requirement
FRQ221	D	The e-Parliament system should be able to provide user authentication
FRQ222	M	User authentication service of e-Parliament will provide a mechanism for single sign-on and single logout for all PRM third-party applications that will use the given service.
FRQ223	M	All authentication and logout events will be logged in the appropriate tables of e-Parliament.
FRQ224	M	SSO should support Web Single-Sign-On, SAML, OAuth, OpenID Connect, WS* interoperability, Claim mapping, Application Federation and LDAP directory services.

6.6.2. User authorization

The functional requirements for the implementation of the e-Parliament authorization service are listed in the table below:

Table 6.30 Functional requirements regarding user authorization

Identifier	Obligation	Description of the functional requirement
FRQ225	M	The e-Parliament system will provide functionality for the authorization of users that is authenticated based on interface facilities, data and documents.
FRQ226	M	Depending on the user (profile configuration), the authorization service will deliver the necessary data to the e-Parliament setup program interface for the user who is logged in.
FRQ227	M	Depending on the user (profile configuration), the authorization service will deliver the necessary data to the e-Parliament setup like access and limitations to certain data and files.
FRQ228	D	The e-Parliament system will be able to receive the necessary authorization data of authenticated users in e-Parliament.
FRQ229	D	The e-Parliament system will be able to provide, in specific cases, authorization data for other information systems of PRM.

6.6.3. Distribution of documents

The functional requirements for the implementation of a common mechanism for the interchange of data between e-Parliament and third-party PRM systems or outside PRM are shown in the table below:

Table 6.31 Functional requirements regarding distribution of documents

Identifier	Obligation	Description of the functional requirement
FRQ230	M	The e-Parliament system will have the functionality intended for the distribution of documents produced in the workflows of PRM.
FRQ231	M	The e-Parliament system will implement the following means of distribution of documents produced in the workflows of PRM: ▪ publishing internal documents on the PRM Portal ▪ publishing documents on the official website of PRM (http://www.parlament.md); ▪ publication of draft documents on a Government platform (http://particip.gov.md) ▪ publication of performance indicators, reports and statistics on the public Open Data Portal (http://date.gov.md).
FRQ232	M	The e-Parliament solution should have an advanced content management module for automatic publishing of information to the public websites of PRM.
FRQ233	M	Each document or piece of information to be published on the public web portal of the Government will be automatically taken from the e-Parliament system, so official portals integration with the e-Parliament system will be needed to automatically publish information in the system.
FRQ234	M	All documents related to materials (bills, notes, reports, etc.), legislative documents and other public documents must be made available for public users during the legislative life-cycle.

Identifier	Obligation	Description of the functional requirement
FRQ235	M	Because the portal can be accessed from all over the world, with different browsers and operating systems and by people with different skills and preferences, it is important that publicly accessible pages are compatible with W3C standards.
FRQ236	M	The public module must support search functionality.
FRQ237	M	Only documents that have reached a certain stage of the workflow for the stated publication will be published on the official website of PRM.
FRQ238	M	e-Parliament will provide automatic and manual functionality to publish documents on the official website of PRM.
FRQ239	M	e-Parliament will expose information on the public official web page of PRM, that was produced during the internal workflows of the System and that has public character.
FRQ240	D	e-Parliament will allow publishing of the drafts of documents on Government platform particip.gov.md, if required for public consultation.
FRQ242	M	Only documents that have reached a certain stage of the workflow will be published.
FRQ243	D	e-Parliament will provide automatic and manual functionality to publish documents on the particip.gov.md.
FRQ244	M	e-Parliament will use the service exposed by the Open Data Portal http://date.gov.md for the purpose of publication of performance indicators, reports and public statistics.
FRQ245	M	Only statistic reports that have reached a certain step of the workflow will be published on the Open Data Portal.
FRQ246	M	e-Parliament will provide automatic and manual functionality to publish performance indicators, reports and statistics on the Open Data Portal.

6.6.4. Indexing

The functional requirements for implementing the indexing tool for e-Parliament documents and records are presented in the table below:

Table 6.32 Functional requirements regarding indexing

Identifier	Obligation	Description of the functional requirement
FRQ247	M	The e-Parliament system must be able to automatically index meta information for documents and related structured data stored within the system.
FRQ248	M	The Contractor will propose a solution for users to manually designate the semantic index terms attached to a user's document by authorized users at the time of adding the document into the system.
FRQ249	D	It is recommended that the relevance of the terms in certain indexed documents to take into account users ' choice from their previous searches.
FRQ250	M	Documents in Romanian and Russian versions will be indexed.

6.6.5. Archiving documents

The functional requirements for implementing the archival tool for documents produced and stored in e-Parliament are shown in the table below:

Table 6.33 Functional requirements regarding archiving documents

Identifier	Obligation	Description of the functional requirement
FRQ251	M	e-Parliament will provide a functionality for archiving documents and records processed during workflows (documents and folders which have passed through all stages of drafting, processing and approval).
FRQ252	M	After documents or files are archived, they will no longer be able to be modified.
FRQ253	M	During archiving, documents will preserve their position and will not be able to be made accessible in processing operations. Access to the electronic document will be maintained, but it will possess features that are specific to the electronic document circulation (typically, it will only be available for viewing, extracting operations or print).

Identifier	Obligation	Description of the functional requirement
FRQ254	M	e-Parliament will allow grouping of documents and records archived in accordance with the nomenclature of the dossiers of PRM.
FRQ255	M	e-Parliament will allow assigning access rules to the archived documents depending on the roles and rights of users to have access to them.
FRQ256	M	e-Parliament will suggest actions in workflows for archiving of legislative acts which have not been adopted in the previous legislature.
FRQ257	M	e-Parliament will transmit the digital archive documents in the form in which they are produced in e-Parliament.
FRQ258	M	e-Parliament will expose an API for digital archive management of PRM to retrieve data on archived documents and files.
FRQ259	M	e-Parliament will log all events related to archiving of documents and records.

6.6.6. Event recording

The functional requirements relating to the recording of e-Parliament business events are presented in the table below:

Table 6.34 Functional requirements regarding event recording

Identifier	Obligation	Description of the functional requirement
FRQ260	M	The e-Parliament logging mechanism will include all events that are configured in the Audit Management component.
FRQ261	M	Events will be logged as one of the following categories of events: ▪ User authentication ▪ Add/change/suppress/record/document permissions ▪ Business events that are specific to PRM workflows (approval, document, document distribution, workflow transitions, etc.) ▪ Generate/access report ▪ Queries in relation to the database ▪ Other specific business events
FRQ262	M	Event logging will keep a sufficient dataset in order to be clear on the nature of the data modified or added, and so the records affected by the events in e-Parliament can be easily retrieved.
FRQ263	M	Event logging will contain a reference for direct access to the information object (document, form, etc.) related to the event.
FRQ264	M	The e-Parliament system will supply a mechanism for reports generation on logging events.
FRQ265	M	A logging mechanism will log critical business events.

6.6.7. Notifying users

The functional requirements related to notifications:

Table 6.35 Functional requirements regarding the process of user notifications

Identifier	Obligation	Description of the functional requirement
FRQ266	M	e-Parliament will provide a functionality to notify the users of business events that their involvement is required.
FRQ267	M	e-Parliament will be able to notify both internal actors (authorized users of e-Parliament) as well as external actors (e.g. a public authority submitting legislative proposals, the President etc.).
FRQ268	M	Notifications can be provided as: ▪ Notifications by email ▪ Notifications in the Dashboard of the user
FRQ269	M	Notifications can be related to events such as: ▪ Traceability of documents events within a Parliamentary workflow ▪ The realization term is exceeded ▪ An event agenda proposed for acceptance/announced/that will run in a while ▪ The need for user involvement in workflows ▪ The necessity to carry out approved actions

Identifier	Obligation	Description of the functional requirement
		▪ The result of the action requested by the user (acceptance, registration document, document approval, document approval refused, etc.) ▪ Traceable events in the document workflow (in the case of the monitoring of the development of the document review process) ▪ Problems affecting the performance of e-Parliament ▪ Assignment of user tasks
FRQ270	M	Users will have direct access to the reference record/document/workflow/electronic form related to the notification highlighted on the dashboard.
FRQ271	M	The e-Parliament system must support integration with SMS providers for sending text messages and SMTP for email notifications.

6.7. Functional requirements for the public web portal

6.7.1. General requirements for the public web portal

At the implementation stage of the public web portal component, the Contractor must take into account the PRM Visual Identity Guidelines approved by the Standing Bureau Decision, # 32 of 19 July 2017. The PRM Visual Identity Guidelines will be provided to the successful bidder.

The general functional requirements for implementing the public web portal are set out in the table below:

Table 6.36 Functional requirements regarding the public web portal

Identifier	Obligation	Description of the functional requirement
FRQ272	M	The system must have an advanced CMS (Web Content Management) module for publishing static content for citizens, with several levels of user rights for contribution and publishing.
FRQ273	M	In addition to the internal users there will be external users who will access information on the public website.
FRQ274	M	All documents related to proposed legal acts (amendments, opinions, reports, etc.) must be available to public users during the proposed legal acts' lifecycle in the Parliament as well as after.
FRQ275	M	Every document or of information that is allowed to be published should be automatically taken from the system.
FRQ276	M	The public website must be fully integrated with the e-Parliament system (Intranet) in order to automatically publish information from the system, such as: daily agendas; reports; and other activities and information.
FRQ277	M	The public web portal of PRM must be developed according to the guidelines and recommendations for parliamentary websites provided by the IPU (Inter-Parliamentary Union).
FRQ278	M	The portal shall provide the following user categorization and grouping: Improve accessibility and improve customer experience for users of the portal by presenting relevant and frequently needed services and information to the users based on their type Provide different sections targeted to the different types of users, who will access it Provide the option personalized for personalization of content by the user
FRQ279	M	The portal must provide different sections targeted to the different types of users that will access it.
FRQ280	M	The portal must offer a content personalization functionality.
FRQ281	M	The portal must allow the presentation of relevant and frequently needed services and information to the users, based on their type.
FRQ282	M	The portal must be capable of supporting mobile technologies and browsing from devices such as tablets, PDAs, etc.
FRQ283	M	The portal must comply with W3C accessibility standards.
FRQ284	M	The portal should support the principles of e-democracy and e-inclusion.

6.7.2. Portal's content publication lifecycle

The functional requirements for the content publication lifecycle:

Table 6.37 Functional requirements regarding Portal's content publication lifecycle

Identifier	Obligation	Description of the functional requirement
FRQ285	M	The CMS shall support multi-user content creation, review, update, approval, authorization and publication processing.
FRQ286	M	CMS must have approval workflows.
FRQ287	M	Check in/out and versioning capabilities must ensure the authorized people are editing content and that the most up-to-date-version is being propagated closer to final publication.
FRQ288	M	Separate environments should be created for authors to modify and review content before it is published.
FRQ289	M	The CMS shall have the ability to quickly publish content without waiting for the next standard content deployment job to run – automatically, at a specified interval.

6.7.3. Facilitate social media and communication with civil society

The functional requirements for social media and communication with citizens:

Table 6.38 Functional requirements regarding social media and communication with civil society

Identifier	Obligation	Description of the functional requirement
FRQ290	M	The portal should provide the possibility for connection with social network websites, such as Facebook, Flicker, YouTube, Twitter and Wikis.
FRQ291	M	The portal must provide tools for communication and dialogue with citizens for general feedback and communication between members and citizens.
FRQ292	M	The portal must be capable of supporting alerting services, such as email, RSS or other appropriate technologies that will enable citizens to be informed about important Parliamentary actions or recent changes that have taken place.
FRQ293	M	The portal must support public debates, through elements such as forums and blogs.
FRQ294	M	The portal must support contacting MP/Parliamentary groups.
FRQ295	M	The portal must support surveys / polls.
FRQ296	M	The portal must support public hearings / debates.
FRQ297	M	The portal must provide tools to enable MPs and officials respond to electronic contact from members of the public.
FRQ298	M	The portal must allow for social link sharing / social reviews / photo and video sharing.
FRQ299	M	The portal must support an update / alert functionality.

6.7.4. Parliamentary web TV

The functional requirements for Parliamentary web TV:

Table 6.39 Functional requirements regarding web TV component

Identifier	Obligation	Description of the functional requirement
FRQ300	M	Seamless transmission of meetings/events/briefings will make the parliament more accessible and transparent to its citizens.
FRQ301	M	Parliament TV will encourage e-participation by giving citizens access to the core legislative process without the intermediary of Parliament minutes or media coverage.
FRQ302	M	The portal must be capable of supporting all sessions that are recorded in parliament for multi-media broadcast on the Internet (streaming).
FRQ303	M	The portal shall be capable of presenting to users categorized video recordings for:

Identifier	Obligation	Description of the functional requirement
		• every plenary session • every bill that is subject to a Parliamentary procedure

6.7.5. Web analytics

The functional requirements for the Portal's web analytics:

Table 6.40. Functional requirements regarding web analytics

Identifier	Obligation	Description of the functional requirement
FRQ304	M	The portal must be able to keep track of the type of visitors accessing the portal, as well as the visitors' navigation trends within the portal. Content must then be displayed according to the users' stored interests and navigation history.
FRQ305	M	The portal shall have web analytics reports which will provide insights into the behaviour of users of the portal.
FRQ306	M	The portal shall be able to keep track of the type of visitors accessing the portal, as well as the visitors' navigation trends within the portal.

6.7.6. Portal structure and content

The functional requirements for structure and content:

Table 6.41 Functional requirements regarding Portal structure and content

Identifier	Obligation	Description of the functional requirement
FRQ307	M	The web portal must be integrated with the DMS in order to be used as a tool for promoting democracy. The web portal and the information that it contains should enable citizens to follow the work of PRM.

FRQ308	M	The portal structure should contain information on the following:
		▪ Access to the plenary operations
		▪ History and role of the parliament
		▪ Functions and activities
		▪ Parliamentary leaders
		▪ Parliamentary committees and other non-plenary bodies
		▪ Parliamentary oversight:
		    ○ motions
		    ○ hearings
		    ○ questions
		    ○ reports
		▪ information about MPs
		▪ political parties in the assembly
		▪ elections and election systems
		▪ Parliamentary Secretariat
		▪ Standing Bureau of the Parliament
		▪ legal framework
		▪ publications, documents and information services

FRQ309	M	The portal must include such information as what's new on the site, a site map, frequently asked questions / an "how do I?" section, a help section, and who to contact for questions about the website.
FRQ310	M	The portal must have a search engine that will serve the needs of citizens, at both the beginning and advanced levels.
FRQ311	M	The structure of the portal must be such that it is possible to maintain biographical details of each member, information about his / her participation in the Parliamentary proceedings, questions, bills, motions, and information pertaining to the development of his / her constituency.
FRQ312	M	From MPs' information contained in the portal it must be possible to compile a registry of members in a format that is publishable from this source.

Identifier	Obligation	Description of the functional requirement
FRQ313	M	All documents related to proposed legal acts (amendments, opinions, reports, etc.) must be available to the public via the portal during the proposed act's lifecycle in the Parliament, as well as after.

6.8. Functional requirements for the e-Voting sub-system

6.8.1. General requirements for the e-Voting sub-system

At the moment PRM uses the Bosch e-Conference system, which includes e-voting facilities. The functionality is accomplished through a combination of hardware and software components.

Currently, the Bosch system is not localized and integrated with other PRM IT systems. The interoperability between the e-Voting system and other PRM IT systems (e.g. the web portal) is a mandatory point in PRM's ICT modernization plan.

The Bosch e-Conference system is not properly configured according to the regulation of PRM in terms of voting procedures. A lack of technical documentation for the existing system and a lack of training for IT personnel is an impediment.

Failure by MPs to comply with formal procedures is another impediment. The lack of an e-Parliament system that could provide information to the Bosch e-Conference system is also an issue that makes it difficult to solve the problem.

Also, it must be mentioned that the existing Bosch e-Conference system implemented in the plenary hall does not have a module for configuring recording of the metadata of a speech in the audio file. The specialized shredder mode is not available.

To solve the aforementioned problems, it is necessary that the system ensures the implementation of the working mechanisms with the audio records specified in Decision of the Permanent Bureau no. 10 of 14 May 2014 regarding the approval of the Rules for the use of electronic devices in Parliament's plenary meetings and of the functional requirements concerning the system for the management of Parliament's plenary meetings.

Important: Please see the information included in *Annex A. Existing situation related to the e-Voting and conference sub-system*.

Table 6.42 Functional requirements regarding the e-Voting sub-system

Identifier	Obligation	Description of the functional requirement
FRQ314	M	The e-Voting sub-system shall offer basic voting functionalities through MPs' laptops or tablet devices within the plenary hall.
FRQ315	M	It shall be integral to, and work seamlessly with, the e-Parliament main system.
FRQ316	M	Through the e-Voting system, PRM shall be able to record certified decisions/votes with strict numeric results in real time, as well as producing the documents necessary for reporting of the voting. Users should vote by using yes/no/abstain or selecting an option from a list.
FRQ317	M	The voting sub-system should support the following voting types: ▪ Simple majority ▪ Absolute majority ▪ Qualified majority
FRQ318	M	The e-Voting sub-system shall consist of the following components: ▪ The Chairman's Console, for managing the voting steps and viewing vote results ▪ The MP Voting Module (part of the MPs' desktop (PC, laptop or tablet) for identifying MPs and casting votes ▪ The Display Information Module, for displaying voting data in real time as the votes cast their votes, and for displaying the voting results
FRQ319	M	The Information System for Meetings Management and e-Voting of PRM must be designed and implemented on the basis of PRM's requirements and Decision no. 10 of the Permanent Bureau on the approval of Rules for the use of electronic devices

Identifier	Obligation	Description of the functional requirement
		in plenary meetings of the Parliament and of the Functional Requirements for the Management System of Plenary Meetings. In this regard, the Contractor will have to carry out detailed analysis and design activities in order to prepare a clear and detailed technical specification of the Information System for Meetings Management and e-Voting that must be developed and implemented. For further details see Chapter "Tasks and Deliverables".
FRQ320	M	The PRM Information System for Meetings Management and e-Voting must be fully compatible and integrated with the existing Bosch Conferencing and PRM voting infrastructure. PRM will provide all needed technical documentation, support and access related to the Bosch equipment, which is currently available.
FRQ321	M	The e-Voting subsystem must offer all the functionalities needed for performing activities related to the plenary meetings and voting processes. Through the equipment offered by the Bosch Conference and Voting System, the PRM must be able to take certified decisions with sure numeric results within very short time limits, as well as producing the documents necessary for reporting voting acts.
FRQ322	M	The voting results must be displayed on the displays of the plenary session hall of the Parliament.
FRQ323	M	The system must be able to operate with the following displays: ▪ The plenary meeting hall displays ▪ The display of the Chairman of the Plenary Meeting ▪ The MPs' displays – a tablet PC installed at each MP's seat
FRQ324	M	The system must provide all needed data related to the results of a voting procedure to the official website of the Parliament, via secured channels using web services and secured protocols.
FRQ325	M	The system must have the possibility to register all needed information regarding a plenary meeting. At least the following items: ▪ List of the bills proposed for voting ▪ Agenda ▪ Management of speeches ▪ Voting type ▪ Quorum ▪ List of MPs Other relevant data will be defined during the analysis and design phase of the system.
FRQ326	M	The proposed e-Voting sub-system will save into the Database of the system all actions related to updating legislative acts and other issues involved in the plenary meetings and voting process of PRM, ensuring traceability.
FRQ327	M	The legislative acts involved in the plenary meetings and/or voting processes will be saved in the form of a folder where several documents will be managed (versions, opinions, minutes, etc.).
FRQ328	M	The system must provide a real-time Parliamentary voting functionality.
FRQ329	M	The chairman of the plenary meeting must have the possibility to start and stop each plenary meeting.
FRQ330	M	A plenary meeting may take more than one day and in such cases the system must have the possibility to save the status and all the data related to the plenary meeting and to continue with it the next day.
FRQ331	M	The chairman of the plenary meeting must be able to summon delegates to vote, as well as starting and stopping voting processes.
FRQ332	M	It must be possible for final vote results to be automatically printed or exported to a file (e.g. PDF file).
FRQ333	M	The proposed e-Voting sub-system must include functionalities that will allow automatic seat assignment, microphone monitoring and control, as well as voting management.

Identifier	Obligation	Description of the functional requirement
FRQ334	M	The system must ensure the planning of minutes of speeches in the plenary meetings of PRM.
FRQ335	M	The e-Voting sub-system must allow the management of Parliamentary factions and groups.
FRQ336	M	PRM's e-Voting sub-system must be organized in autonomous and complementary modules built into a single system designed to ensure the proper functioning of Parliament's plenary hall and its related processes.
FRQ337	M	PRM's e-Voting sub-system must have a special security system that ensures data integrity and protection and prevents any unauthorized access. Also, the system must ensure the saving of logs.
FRQ338	D	The system shall be connected to the module controlling access into the Parliament building and shall be able to simultaneously identify MPs who have registered their presence in the plenary hall, as well as MPs who are in the building but have not registered their presence in the plenary hall.
FRQ339	M	The chairman of the plenary meeting during the plenary meeting must be able to access and display on the screens in the Parliament plenary hall information regarding the MPs who are present in the Parliament building but are not in the plenary hall.
FRQ340	M	The language of the system's graphical user interface (GUI) will be Romanian.

6.8.2 Functional requirements regarding the registration and management of MPs

The proposed solution must offer the possibility to make the following operations (a non-exhaustive list):

Table 6.43 Functional requirements regarding the registration and management of MPs

Identifier	Obligation	Description of the functional requirement
FRQ341	M	The system must register MPs entering the Parliament building.
FRQ342	M	The system must register MPs' presence in the Parliament's plenary meetings.
FRQ343	M	The system must provide a dedicated GUI for registering the presence of MPs manually. Such a situation may occur if the system is down and the MPs' presence is registered on paper. When it becomes available, the paper list will be registered in the System through the aforementioned user interface by an authorized user.
FRQ344	M	The system must ensure the registration of MPs' presence in the Parliament's plenary hall and provide the possibility to check his/her presence whenever the plenary meeting's chairman finds it necessary, and also must be able to register MPs' presence in the meeting halls of Parliament's working bodies.
FRQ345	M	The system must offer the possibility to activate and broadcast a sound signal to invite MPs to the plenary meeting hall, which will be broadcast to all the facilities inside the Parliament building.

6.8.3. Functional requirements regarding the management of MPs' speeches

Table 6.44 Functional requirements regarding the management of MP's speeches

Identifier	Obligation	Description of the functional requirement
FRQ346	M	During the plenary meetings the system, for each MP, will register speeches: ▪ Making proposals for the agenda ▪ Participating in debates ▪ Making statements at the end of the meeting ▪ Giving replies ▪ Intervening in procedural issues ▪ Asking questions/interpellations ▪ Submitting proposals or proposing amendments

Identifier	Obligation	Description of the functional requirement
FRQ347	M	The system must compile and display on the screen of the plenary meeting's chairman and on the other screens in the plenary meeting hall lists of the MPs (according to the "first come, first served" principle) who have registered to: ▪ Make proposals to the agenda ▪ Participate in debates ▪ Ask questions on the topics discussed ▪ Give speeches on topics discussed ▪ Make statements ▪ Intervene on procedural issues ▪ Give replies
FRQ348	M	The system must allow adding new items to the agenda that are not currently on the agenda list.
FRQ349	M	The information regarding MPs' interventions on procedural issues and the right of reply must be displayed on the screen of the plenary meeting's chairperson separately from the interventions regarding the issues on the agenda.
FRQ350	M	MPs' requests to intervene regarding procedural issues must first of all be accepted by the chairman of the plenary meeting session outside the list of the MPs registered to ask questions regarding the issues on the agenda. If an MP does not address procedural issues, the chairman of the session plenary meeting must have the possibility to mute his or her microphone.
FRQ351		The chairman of the plenary session must have the possibility to accept an MP's request to reply as soon as the respective member of parliament or his faction have been mentioned during the speech of the previous speaker. The system must also record this fact.
FRQ352	M	All MPs will be registered electronically in the list of speakers related to the issues on the agenda, by the System Administrator. For each registered MP for speeches the subjects they are going to speak about will be assigned. The list of speakers will be compiled separately for each subject on the agenda and must be displayed on the screens in the plenary hall and on the PRM Speaker's screen.
FRQ353	M	The system should allow the registration of all guests, who will intervene to speak on the topics listed in the agenda. The system should allow for the classification of speakers per agenda item and included at least the following categories: ▪ Author ▪ Rapporteur ▪ Co-reporter ▪ Guest
FRQ354	M	The system must allow the registration of MPs, who intend to make declarations at the end of the meeting. The list of MPs registered for final declarations must also be displayed on the screens in the hall, as well as on the PRM Speaker's screen.
FRQ355	M	All MPs' requests to ask questions regarding the issues on the agenda must be recorded using the plenary management system. The list of MPs registered to ask questions regarding the issues on the agenda must be displayed on the screens in the plenary hall, as well as on the PRM Speaker's screen.
FRQ356	M	The system must separately provide information about the MPs who are about to speak on behalf of their faction and those who are intending to speak in their own name.
FRQ357	M	The system must allow the Plenary Meeting's Chairman to limit MPs' registration for interventions.
FRQ358	M	The system must manage the time of MPs' speeches, which are limited and timed. The speaking time is reduced to: ▪ One minute – for an intervention for amending and supplementing the agenda during its examination; and to give a reply regarding the rapporteur's answer to the question he or she has been asked ▪ Two minutes – to ask the rapporteur a question and for the rapporteur to reply; to express the Parliamentary faction's or MP's own point of view on each issue being debated; to justify an amendment rejected by the committee; for the rapporteur's

Identifier	Obligation	Description of the functional requirement
		reply to an oral amendment; for the right to reply of the member of parliament who has been mentioned from a microphone; for submitting a proposal or objection regarding issues of compliance with Parliament's rules and procedures; to ask a question during the time
		▪ Three minutes – to justify the amendments moved for a second reading, not accepted by the committee; to give a reply if the faction or the MP was mentioned in a speech from the central rostrum; to reply to a statement at the end of the meeting if an MP or a faction were mentioned; to give an oral answer to a question asked during the Cabinet's time; for an MP who has been penalized by the Parliament to offer explanations;
		▪ Five minutes – for the MP's speech on the first reading of a bill; for the speech of a bill's author before the end of the debates; for the MP's speech regarding the issues on the agenda; for the MP's statement at the end of the plenary meeting;
		▪ Seven minutes – for the faction's speech on the first reading of a bill; for the faction's speech regarding the issues on the agenda; for the faction's statement at the end of the plenary meeting.
FRQ359	M	The system must allow, at any time, the plenary meeting's chairman to select the name of an MP who wants to take the floor, regardless of the type of intervention.
FRQ360	M	The system should offer the plenary meeting's chairman the possibility, at any time, to unmute the microphone to give the floor to the plenary attendees, regardless of whether their presence is documented in the speakers' list or not.
FRQ361	M	The system must allow the plenary meeting's chairman to suspend the MPs' registration for speeches, as well as each MP separately.
FRQ362	M	Usually the Secretariat staff assists the registration of deputies for speeches that will be given from the central rostrum. The system must display on the screen of the plenary meeting's chairman and on other screens in the plenary meeting hall the list of MPs who have registered with the Secretariat to speak regarding the issues on the agenda.
FRQ363	M	The system must offer the possibility to the chairman of the plenary meeting to extend the time available to each speaker.
FRQ364	M	The system must determine the number of questions asked by the MP on the topic discussed (usually two questions) to give him the opportunity to ask more questions if needed, taking into account the proportional breakdown by faction.
FRQ365	M	The system must provide a video of the person who is speaking (the speaker) during the plenary meeting, including information about the speaker (at least: name and Parliamentary faction).
FRQ366	M	The system must display the exact time and the remaining time for the speech, according to PRM's Regulation.
FRQ367	M	The system must transmit the aforementioned video (FRQ365 and FRQ366) to the video director. This can be done using the pre-set video conference system cameras installed in the plenary session hall.

6.8.4 Functional requirements regarding MPs' votes

It is worth mentioning that prior to the beginning of the e-Voting procedure, the chairman of the plenary meeting invites all MPs to take their seats and prepare for the voting procedure. The PRM's Secretariat doubles this invitation to vote by activating a sound signal, which is broadcast throughout the entire Parliament building.

Table 6.45 Functional requirements regarding MP's votes

Identifier	Obligation	Description of the functional requirement
FRQ368	M	Prior to starting the voting procedure, if necessary, or at the request of a Parliamentary faction or group, the chairman of the plenary meeting shall verify the Parliamentary quorum through a repeated electronic registration of the MPs.
FRQ369	M	An MP votes in person, by open or closed vote, using his or her card.

Identifier	Obligation	Description of the functional requirement
FRQ370	M	The Information System for Meetings Management and e-Voting will not allow an MP to vote for another MP.
FRQ371	M	The open e-Voting must be carried out by connecting one of the buttons/options "vote for" or "vote against". The "abstain" option needs to be developed but should remain hidden, with the possibility of being activated if Parliament's Rules of Procedure are amended.
FRQ372	M	The Information System for Meetings Management and e-Voting must display the results of the open voting process on the screens of the plenary hall.
FRQ373	M	Depending on the nature of the draft legislative act subjected to voting, the system must provide the possibility to automatically determine if the project has been voted for or not. (e.g. the majority of the 10 present: 51 for or three-fifths for – the project has been voted for)
FRQ374	M	More specifically, the system must allow an open vote by a roll call, showing the choice of each MP and the total number of choices. The information must be displayed as a list of MPs in alphabetical order or, if desired, alphabetically ordered and broken down by factions, independent and unaffiliated MPs, and must include the total number of MPs.
FRQ375	M	The system will provide to the chairman of the plenary session functionalities to start and stop the voting process.
FRQ376	M	In addition, after an open voting, the system must display on the screens in the plenary meeting hall at least the following: ▪ The date, month, year and the time of voting ▪ The title of the bill voted on ▪ The category of the draft legislative act voted on ▪ The number of MPs registered before voting (quorum) ▪ The number of "for" votes and the number of "against" votes ▪ The voting results Also, along with MPs' voting choices, their distribution layout in the hall must be displayed, marked with colours.
FRQ377	M	The system must provide the option to order the display of the results of a roll call vote, broken down by factions, independent MPs, and unaffiliated MPs.
FRQ378	M	The voting results mentioned in FRQ376 and FRQ377 will be displayed on all available screens: ▪ Screens in the plenary session hall ▪ Screen of the chairman of the plenary meeting ▪ MPs' screens
FRQ379	M	The e-Voting sub-system must archive all the data related to the voting results processed by the system and save them in the database, together with the draft legislative act folder.
FRQ380	M	The e-Voting sub-system must be able to send all the results of the MPs' roll call vote for each topic, with the exception of closed voting, to the official Parliament website in order to be published and made publicly available.
FRQ381	M	If, during a voting procedure, a fraud attempt is detected (e.g. an MP has tried to vote, or has voted, for another MP), the plenary meeting's chairman must have the possibility to suspend the voting procedure in the system. After order is restored the voting procedure may be resumed. This fact must also be registered in the system by the chairman of the plenary meeting. It will be possible to suspend the voting only during the same plenary meeting.
FRQ382	M	If any technical problems arise during the voting process, the plenary meeting's chairman shall suspend the voting procedure and order the elimination of the problem, after which the voting procedure shall resume. If the technical problems cannot be solved, the plenary meeting's chairperson shall order voting by a show of hands. However, when the system becomes available, it should allow the registration of the event that has taken place, post-factum.
FRQ383	D	The system must provide the possibility to record the results displayed on the hall screens using the video system.

8.6.5 Functional requirements regarding the management of MPs' access cards

It must be mentioned that each MP's card is unique, has the owner's name on it, is rigorously recorded and is non-transferable.

Table 6.46 Functional requirements regarding the management of MP's access and voting cards

Identifier	Obligation	Description of the functional requirement
FRQ384	M	The MP's card can be used for: ▪ MP's identification ▪ Registration at meetings of Parliament's working bodies ▪ Exercising voting rights ▪ Enabling the microphone
FRQ385	M	The system must ensure the registration of MPs' cards and related data about MPs. After mandatory validation of a newly elected MP, he/ she will receive a new card and the system will allow for the registration of this fact.
FRQ386	M	The system will enable the registration of an MP's card being deactivated. This may occur upon the expiration or discontinuation of their mandates, when the MPs must return their access passes to Parliament's Secretariat.
FRQ387	M	If an MP loses or damages his or her identity or access card, he or she must immediately inform the Secretary General, who must be able to create a report in the system on this fact and order a new card.
FRQ388	M	Until a new card is issued, the MP will be able to vote with a provisional card, which will also be registered in the system and associated with the MP.
FRQ389	M	The system will keep forever all records related to each MP regarding how many cards he/she has/had and the number of these cards.

6.8.8. Display Information Module

The general functional requirements for implementing the Display Information Module:

Table 6.47 Functional requirements regarding the Display Information Module

Identifier	Obligation	Description of the functional requirement
FRQ390	M	The e-Voting system shall have various outputs available for the distribution and display of information.
FRQ391	M	All necessary information of voting activities, such as voting results, shall be present on the display system.

7. Non-functional requirements for e-Parliament system

This section sets out the requirements for the non-functional features of the e-Parliament system. The e-Parliament solution must meet the non-functional requirements outlined below.

7.1 Conventions for the formulation of non-functional requirements

The non-functional requirements listed in this document are indicated using the following conventions:

- All requirements are indexed with two values, **X** and **Y**, where **X** represents the category of the requirement described in Table 7.1, while **Y** is the unique identifier of the requirement in the category to which it belongs.
- For each functional requirement: **M** = a mandatory requirement, **D** = a desired requirement, optional, and **I** = a requirement of an informative character.

The bid submitted by the Bidder must fulfil all the requirements stated as mandatory. The bid will receive a competitive advantage for each desirable requirement that it fulfils. The informational requirements aim to provide more information for a better understanding of the context of other requirements.

Table 7.1 Categories of requirements

Value	Meaning	Interpretation
ARH	Architecture requirement	The requirement refers to the architectural aspects of the conceptualization of the e-Parliament system.
DEL	Delivery requirement	The requirement refers to the results to be provided by the e-Parliament developer.
FLEX	Flexibility requirement	The requirement refers to the flexibility to adapt the e-Parliament system to new needs.
GMS	Requirements of guarantee, maintenance and support post-implementation	The requirement refers to the characteristics of the services for operational maintenance and post-implementation of the e-Parliament system, required in the framework of the procurement.
INT	Interoperability requirement	The requirement applies to the e-Parliament system's interoperability framework.
SLA	Service Level Agreement - Requirement regarding the level of offered services	The requirement refers to the quality parameters for which warranty, maintenance and post-implementation services must be provided.
MG	Project management requirement	The requirement applies to aspects of project management during the design, development, implementation, commissioning and operation of e-Parliament.
PERF	Performance requirement	The requirement refers to the performance of the e-Parliament system.
RC	Resilience and continuity requirement	The requirement refers to the properties of e-Parliament's response to critical events and the rapid return of its functionality.
SEC	Security requirement	The requirement refers to aspects of information security that e-Parliament system should provide.
SC	Scalability requirement	The requirement refers to e-Parliament's adaptability to increase the number of users, transactions and information base.
SM	Maintenance requirement	The requirement applies to aspects of maintenance after the delivery of e-Parliament.
TP	Platform requirement	The requirement applies to the technological platform required for e-Parliament.
UI	User interface requirement	The requirement refers to the user interface that e-Parliament will provide to authorized users.
CSI	Implementation services requirement	The requirement refers to the services provided for the implementation of the e-Parliament system and commissioning.
CPI	Post-implementation requirement	The requirement refers to the guarantee and maintenance services after the implementation of e-Parliament system.

7.2. Licensing and intellectual property requirements

The PRM will have the non-exclusive right to use the e-Parliament application software required for an indefinite period, according to these technical requirements. The PRM will not have the right to sell or transmit the application software to third parties. The application software will remain the intellectual property of the software Contractor, who is entitled to develop, equip and sell it as a product or service to other users.

All data stored in the e-Parliament databases are owned by the PRM. Access to these data is subject to the terms and conditions regarding the confidentiality of the information throughout the entire contractual period of the Contractor and beyond.

The Bidder will submit its proposed licence model for the e-Parliament solution, which will satisfy the above- mentioned requirements. The Bidder will describe the proposed licensing model and provide arguments on why this is best model for the PRM. It will present a comparative analysis for the proposed model and other licensing models that are commonly used for e-Parliament systems.

7.3. System architecture requirements

The e-Parliament architecture must be in line with the needs of the PRM in terms of the flexibility and maintenance of the IT system. The PRM advocates a modular architecture based on interoperable components. These principles must be visible at all levels of the e-Parliament architecture.

7.3.1. General requirements for the e-Parliament architecture
Table 7.2. contains the specifications for non-functional general requirements for the architecture of the e-Parliament system.

Table 7.2 General requirements for the e-Parliament architecture

ID	Obligation	Requirement
ARH 001	M	The e-Parliament architecture must be based on open standards, and must support the most common open standards (XML, XSD, XSLT, WSE, (X)HTML, WebDAV, SOAP).
ARH 002	M	The e-Parliament architecture must be service-oriented architecture (SOA).
ARH 003	M	The e-Parliament architecture will be a client-server type, organized in at least three vertical levels, clearly separated, so each higher level depends only on its lower level – data level, the logic and the presentation layer (data layer, business layer and presentation layer).
ARH 004	M	The e-Parliament system shall support its hosting on physical servers, a virtualization platform or in the Cloud.
ARH 005	M	The e-Parliament architecture should be tailored to implementation and used in virtualized environments.
ARH 006	M	The system should allow, if necessary, different architectural-level servers (both physical and virtual) to be separated.
ARH 007	M	The characteristics of the IT System- architecture which is oriented on virtualized environments are: latent consciously, aware of component failure, parallelized, aware of the use of resources.
ARH 008	M	The communication between all system components will be secure, using the internal interfaces of the system components for this purpose.
ARH 009	M	The solution should provide redundancy at each node through failover clustering and / or network load balancing.
ARH 010	M	The Bidder must provide a detailed design for the e-Parliament system including the architecture for planned installation of the proposed product.
ARH 011	M	The e-Parliament system should be accessible both through the internet and intranet.

7.3.2. Requirements for presentation level of the e-Parliament architecture

The level of presentation of the architecture is responsible for ensuring the interaction of users with the business functions of the e-Parliament system. This level of architecture manages how users access and use the functions of the IT system and perform their work tasks, as well as for administrative purposes.

The e-Parliament system will be used by representatives of the Secretariat of the Parliament and the PRM, a body of deputies, and authorized external users. In addition, the e-Parliament system will communicate with other IT systems installed at the parliament and with external application interfaces of third parties (see interoperability specifications of e-Parliament).

Table 7.3. contains a specification of the non-functional requirements in relation to the presentation level of the architecture of the e-Parliament system.

Table 7.3 Requirements for the presentation level of the e-Parliament architecture

ID	Obligation	Requirement
ARH 012	M	The e-Parliament system will allow the user to access a single client application for all authorized business functions. Exceptions are allowed for roles with privileged rights.
ARH 013	M	The client application can be run in a standard operating environment or minimal configurations by the user (for example, only standard system software).
ARH 014	M	The standard client application for e-Parliament will be accessible through a web browser.
ARH 015	M	The e-Parliament system will be compatible with the latest generation main web browsers (Microsoft Edge, Internet Explorer, Google Chrome, Opera, Mozilla Firefox) on Windows, and Safari on MacOS.
ARH 016	M	The e-Parliament system will be compatible with Microsoft Internet Explorer/Microsoft Edge.
ARH 017	M	The presentation level will not implement business rules, except validation of input data.

7.3.3. Requirements for e-Parliament architecture business logic

The business logic of the e-Parliament architecture implements the basic functionalities of the IT system. The business logic level pertains to performing the PRM attributions via e-Parliament and is responsible for accessing, processing, and transforming data from applications, managing business rules, and ensuring the consistency and accuracy of data.

The level of business logic is accessed through the presentation level to make the business functions of the IT system available to users. It can also provide these functions to external IT applications through specialized interfaces, which are also part of the business logic level.

The SOA architecture requires a high degree of granularity at the level of components of the business logic. Each logical block provides its functions through internal and / or external interfaces. Other business logical components, presentation-level components, or external systems can access these blocks.

Table 7.4. contains the specifications for the non-functional requirements that are developed at the business logic level of the architecture of the e-Parliament system.

Table 7.4 The requirements of the business logic level of the e-Parliament architecture

ID	Obligation	Requirement
ARH 018	M	The business logic level must be completely independent of the level of presentation and applications that directly access the business logic level (through specialized application interfaces).
ARH 019	D	The business logic level must have a completely modular architecture based on components that can be used and abstract interfaces. At this level, there must be no

ID	Obligation	Requirement
		identical functionality of different components at this level (for example, data access).
ARH 020	D	The business logic level must include and define the "business workflow" and the components of the "business entity".
ARH 021	D	Access to the components of the "business entity" will be through the components of the "business workflow".
ARH 022	M	The business entities must be clearly identified at the business logic level and encapsulated in components of the "business entity" type.
ARH 023	M	Components of the "business entity" type must be complete and contain all business data and logic associated with the business entity that it possesses, necessary for conducting business operations, applying the relevant business rules, and maintaining the integrity and accuracy of the contained data.
ARH 024	M	The business logic components must communicate with each other through dedicated internal interfaces/functions (tight coupling).
ARH 025	M	The business logical components must be accessible to external applications only through external application interfaces defined for that purpose.
ARH 026	M	The architecture at the business logic level will allow users competitive access to the e-Parliament objects and functions.

7.3.4. Requirements for the technological level of the e-Parliament architecture

At this level of the architecture, soft and hardware?? components are required to manage the e-Parliament components that are part of the above levels (data level, business logic level, and presentation level).
The technological level of architecture must ensure availability and accessibility of system components.

Table 7.5 Technological level requirements for the e-Parliament architecture

ID	Obligation	Requirement
ARH 027	M	The technology architecture of the system must have a high level of resistance to crashes, with no single points of failure.
ARH 028	M	The technological architecture must provide a rational and balanced use of processing resources.

7.4. Requirements relating to the technological platform

The technology platform is composed of all software and hardware components needed to provide the operational environment in which e-Parliament will operate. The technology platform includes: development platforms and programming languages in which the code of the computer system develops, systems for managing databases, operating systems on which the system components can work, the specific guarantee needed for the program to work properly on the computer system, the hardware platform on which the system components function, etc.

In order for the system to be accommodated, flexible and easy to maintain, there must be a minimum level of systemic dependence on the technology platform that processes its components.

7.4.1. General requirements for the e-Parliament technology platform
Table 7.6. contains a specification of the non-functional general requirements for the e-Parliament IT platform.

Table 7.6 General requirements for the e-Parliament technology platform

ID	Obligation	Requirement
TP 001	M	The system architecture must be optimized for work in environments such as Cloud computing. The features of a Cloud-based architecture are: aware of latency, aware of failing component, parallelized, aware of the use of resources.

ID	Obligation	Requirement
TP 002	M	The technologies at the level of the technology platform must be homogeneous (a minimum number of different technologies; for example, the same middleware and database operating systems).
TP 003	M	The e-Parliament system must support the creation, modification, processing, storage and access to text in Unicode format.
TP 004	M	The Bidder will provide in its offer comprehensive and exhaustive information about the technology platforms supported by its application and the relevant restrictions.
TP 005	M	The e-Parliament system should provide support for XML and Web 2.0 technologies.
TP 006	M	The system must natively support Simple Network Management Protocol (SNMP) traps

7.4.2. Requirements for the presentation level of the e-Parliament technology platform

This section contains the requirements related to the technologies that are present at the presentation level of the e-Parliament system.

Table 7.7 Requirements for the presentation level of the e-Parliament technology platform

ID	Obligation	Requirement
TP 007	M	The system must be accessible to any user connected to the corporate PRM network using standard computer workplace technology (desktop, portable computers, tablets, printers, etc.).
TP 008	M	All impressions and reports generated by e-Parliament must be able to be printed in the format specified on the page. The e-Parliament system must automatically size the output documents to fit the user-defined format (for example: A3/A4, portrait/landscape, etc.). There must be one or more options for the type of output documents (example: PDF, XML, XLS, DOC, etc.).
TP 009	M	The client side of the system must be able to work on Windows 7 and newer operating media.
TP 010	M	The client side of the system must be independent of the working environment it operates (accessed through the most recent web browsers).

7.4.3. Requirements for the business logic level of the e-Parliament technology platform

This section contains the requirements for the technologies present at the business logic level of e-Parliament.

Table 7.8 Requirements for the business logic level of the e-Parliament technology platform

ID	Obligation	Requirement
TP 011	M	The components that form the business logic level must be developed in modern programming languages that are widely accepted in the industry, and especially in the ICT sector of the Republic of Moldova (for example, C#, Java, etc.).
TP 012	M	The technologies present at this level must enable the integration of components that are or will be developed by PRM through the application interfaces available.

7.4.4. Requirements for the data level of the e-Parliament technology platform

This section contains the requirements for the technologies that are present at the e-Parliament data level.

Table 7.9 Requirements for the data level of the e-Parliament technology platform

ID	Obligation	Requirement
TP 013	M	The Contractor shall provide a mechanism to store data for e-Parliament.
TP 014	M	The solution shall store the content (documents, tables, images, video, sound, and metadata) in a relational database management system.

ID	Obligation	Requirement
TP 015	M	If necessary, the Contractor will identify additional needs to ensure the legality and performance of the system (additional licences, data warehousing facilities, etc.).
TP 016	M	The e-Parliament system must use the database management system MS SQL Server that is available at the PRM.
TP 017	M	The e-Parliament system must use the document collaboration system MS SharePoint server that is available at the PRM.

7.4.5. Requirements for the level of digital signing in the e-Parliament technology platform

This section sets out the requirements for the technologies that are present at the level of e-Parliament digital signing of XML and PDF documents.

For document signature, the e-Parliament system will use **MSign** service, which is a government electronic signature and verification service. It offers digital signing and time stamping. MSign is integrated with many information systems in Moldova for accessing e-services. MSign allows signing of various digital content: web forms, offline documents, images. The e-Governance Centre will provide the integration guide in this regard.

Table 7.10 Requirements for digital signing for the e-Parliament technology platform

ID	Obligation	Requirement
TP 018	M	The e-Parliament system will use the MSign service to realize digital signature functionality. The e-Government Centre will provide the MSign Integration Guide to the Contractor.
TP 019	M	The time stamp will be provided by the certified public key certification centre, using MSign.

7.4.6. Requirements for the technological level of the e-Parliament technology platform

This section sets out the requirements for the technologies used by the e-Parliament platform.

Table 7.11 Specific technology requirements for the e-Parliament technology platform

ID	Obligation	Requirement
TP 020	M	All system components (for example, middleware, databases) must work on Windows Server 2012 R2 operating systems or newer operating systems.
TP 021	M	The system components must be able to work on any hardware platform (for example, Windows Servers, Oracle/Sun server, HP Unix servers, etc.).
TP 022	M	The e-Parliament components shall work on standard hardware, available for purchase by the PRM on the Moldovan market.
TP 023	M	The Bidder shall include in its offer all detailed information on the recommended technology platform (within the limits of the available alternatives), taking into account the needs of the PRM set forth in this document. In the case of a winning bid, this will be the basis for the establishment of a technology platform that applies to the system.

7.5. Requirements for an interoperability framework

The interoperability feature of e-Parliament is a feature of the IT system for communicating with other IT applications. The system architecture establishes the interfaces that are required for successful interoperability between e-Parliament and other PRM systems or public authorities in the Republic of Moldova.

Table 7.11 Requirements for the e-Parliament interoperability framework

ID	Obligation	Requirement
INT 001	M	All interfaces exposed by the e-Parliament system must be based on open standards. All the flow of messages between e-Parliament and external entities will be achieved using open standards (XML, XSLT, WSE, (X)HTML, WebDAV, SOAP).
INT 002	M	The e-Parliament system will have application interfaces listed in the future ICT architecture document, in addition to the reference conditions.
INT 003	M	All interfaces provided by e-Parliament will be able to communicate with external applications in both real and off-line mode.
INT 004	M	The system will have the capability to define new standard interfaces to access all key business functions of the system (for example, document generation, transaction generation, access to business information stored in e-Parliament). These interfaces must enable the management of business entities by applying all relevant business rules and using the entire property of the business entities.
INT 005	M	The system will have the capabilities to define new interfaces for accessing external systems using open standards. These interfaces will be available for selecting functions within the e-Parliament functionalities implementation system.
INT 006	M	The system will have standard interfaces for data export within tools such as Data Warehouse.
INT 007	M	All system interfaces should be properly documented (for example using the Web Services Description Language model).
INT 008	D	The e-Parliament system will have specific opportunities for electronic data exchange solutions. These capabilities can be used to integrate e-Parliament with external systems, as well as for the interoperability of external systems without e-Parliament to participate in the flow of information.
INT 009	M	The e-Parliament system shall support web service integration with external systems by supporting the following specific standards and protocols: • SOAP 1.2 • Single WSDL with all complex datatypes • The SOAP message must include a security header containing claim data for the consumer user. This header must be encrypted and digitally signed according to OASIS Standard • The claim user data must be included as a SAML Token • The web service must be registered as a relying party in the single sign on, and configure SSO (single sign on) to provide data for authentication and authorization of the consumer user • Implementation of the web service must support the following standards and protocols: WS Federation, WS Security, WS Trust, WS Addressing, WS Policy

The e-Parliament system should take into account the related aspects of the computer technologies and initiatives used in the field that are in use? in the territory of the Republic of Moldova.

7.6. Performance requirements

The e-Parliament system must have the ability to process, in due time, transactions made by PRM users in the volume resulting from PRM activity.

Table 7.12 Performance requirements of e-Parliament

ID	Obligation	Requirement
PERF 001	M	The search response time of an external user/service should not exceed one second (it does not apply to generating a report).
PERF 002	M	The e-Parliament system must be able to manage up to 500 concurrent sessions (authorized user links and external systems).
PERF 003	M	The Bidder will include in the administration and users guides information about processes that can reduce the efficiency of e-Parliament and its recommendations for the simultaneous operation of these processes (for example: it is not advisable

ID	Obligation	Requirement
		that X process for generating daily reports take place simultaneously with process Y for generating a backup copy).
PERF 004	M	The report generation and access to business analysis information should not affect the operational performance of the system at the transaction processing level. The system documentation will identify significant performance impact reports and the Contractor's recommendations for generating those reports will be formulated in such a way that it will not affect the e-Parliament performance indexes.
PERF 005	M	The Bidder shall indicate in its tender the guaranteed minimum values for the characteristics of the operation of the system in relation to the technology platform recommended by the Bidder.
PERF 006	M	The e-Parliament system must have the capacity to process at least 10,000 transactions per day.

7.7. Requirements for user interface and ergonomics

The system interface must be user-friendly and easy and intuitive to use. The time required for training to use e-Parliament should be minimal. The users will have access to support information at any time to facilitate the proper use of the system.

Table 7.13 User interface requirements

ID	Obligation	Requirement
UI 001	M	All business functions accessible to e-Parliament users must be able to be accessed by GUIs.
UI 002	M	The system must have friendly user interfaces, intuitive and convenient to use for users with non-administrator roles and for the administrator.
UI 003	M	The e-Parliament user interface must have a unique style of graphic design. Graphics and text used should be used consistently from the point of view of the meaning associated with them.
UI 004	M	All users' interfaces developed must be at least in the Romanian and Russian languages. The user will be able to select the language version of the user interface.
UI 005	M	Interface users will be optimized for desktop computers or laptops with widescreen resolution.
UI 006	M	The e-Parliament system will have, for the most important functionalities, the possibility of adapting the user interface (the interface will deliver a responsive design) depending on the device used by the user (notebook, desktop computer, Tablet, smartphone).
UI 007	M	The e-Parliament system must allow the definition or translation of centralized specific terms used within the system (for example, Delete = Remove).
UI 008	M	The e-Parliament system will allow saving of intermediate operations initiated by the user (automatically or at the request of the user).
UI 009	M	e-Parliament must have an integrated search function. Procedures for data retrieval and records will be achieved through simple searches (specify search strings) or searches of a higher complexity, through which a user can achieve a more exact information filtering.
UI 010	M	The contents of any table of results must be exported in DOC/XLS/XLSX, DOCX and PDF formats.

7.8. Sustainability requirements

In order for e-Parliament to be accessible for business users at the agreed level, it must be constantly monitored and maintained. The IT system must be able to proactively identify problems and prevent them by easily deploying operational maintenance activities in all components of the system.

Table 7.14 Maintenance requirements for e-Parliament

ID	Obligation	Requirement
SM 001	M	The Contractor will upgrade the system to the latest versions of the platform for the entire period of maintenance.
SM 002	M	The Contractor will maintain two versions of the system: a production environment and a testing environment.

7.9. Scalability requirements

When using e-Parliament, the number of processed transactions and competing users will be able to be significantly increased or reduced from one period to another. For rational use of processing resources, the IT system must be adaptable (up and down).

Table 7.15 Scalability requirements for e-Parliament

ID	Obligation	Requirement
SC 001	M	The e-Parliament system will provide increased processing capacity without interrupting operations. To this end, the system will support the horizontal expansion of the processing capacity (for example, adding new servers and load balancing).
SC 002	D	The e-Parliament system can be configured to automatically adjust to key levels (lag-sensitive). The system will be adjusted up and down.
SC 003	M	The system must be capable of serving virtually an unlimited number of transactions, with adequate allocation of resources for data processing and storage. The resources will be allocated horizontally (allocation of new servers without increasing the performance of existing servers).
SC 004	M	The system must be scalable: e-Parliament must be able to expand the number of users, with no change in the initial solution. The solution should be scalable both vertically and horizontally. The Bidder should specify the architecture for the planned vertical and horizontal scaling.
SC 005	M	The system must ensure a balanced distribution of load on different hardware and software to operate the system within acceptable parameters with an increasing system load.

7.10. Requirements for providing security

The e-Parliament system must allow appropriate control over the risks related to the security of information relating to the use. The security measures that are implemented must comply with security policies approved in PRM and must ensure adequate prevention, detection and response to security incidents. The e-Parliament system must implement a multi-layered security approach at the system level and have the capacity to integrate this into the PRM institutional model for information security management. The e-Parliament system will use the MSign service for digital signature.

7.10.1. Security architecture requirements

This section sets out the security architecture requirements implemented within e-Parliament.

Table 7.16 Requirements for the e-Parliament security architecture

ID	Obligation	Requirement
SEC 001	M	The e-Parliament architecture must be conceived using a secure by design approach.
SEC 002	M	The security architecture of the e-Parliament system must be documented at the technical level.
SEC 003	M	The documentation will describe the implemented security model, the present components, and the role of each component in terms of security.
SEC 004	M	The documentation will include the network-level specifications of the system components and the network provider's network access rules that should be set by PRM for secure access to all system components (for example, a communication link between services).

ID	Obligation	Requirement
SEC 005	M	All system processes associated with system components will work with minimum privileges required to perform assigned tasks.
SEC 006	M	All access credentials used by the application must be configured in the administrative interfaces. e-Parliament will not contain hard-coded access credentials.
SEC 007	M	e-Parliament will not store credentials in an open form at the level of its components (in the database, configuration files).
SEC 008	M	All external e-Parliament interfaces will be accessed using secure authentication methods (for example, X.509 certificate).
SEC 008	M	e-Parliament will guarantee the full protection and integrity of the content database SSI "Financial Control".
SEC 009	M	The access to features offered to unauthorized users (service exposure on the official PRM website) will be controlled by overload protection of the service by one or more network nodes.
SEC 010	M	All fields filled in by users must be validated according to the type of client and server.
		The system must support encrypted communication channels, such as HTTPS, SSL and TLS.
SEC 012	M	e-Parliament will ensure the confidentiality of the data transmitted through the communication channels.
SEC 013	M	The user actions will be recorded in electronic logs.
SEC 014	D	The system will emit a periodic signal indicating its functional status.

7.10.2. Authentication mechanism requirements

This section sets out the requirements for an authentication mechanism to be implemented within e-Parliament.

Table 7.17 Requirements for the e-Parliament authentication mechanism

ID	Obligation	Requirement
SEC 015	M	e-Parliament will allow access to its functions only after a successful identification of the user / administrator. e-Parliament will support at least the following authentication methods: based on ID and password, Windows authentication (Active Directory integration) and M-Pass. e-Parliament will allow users to change their individual passwords.
SEC 016	M	e-Parliament will allow users to register their account information (example: ID, password, name, surname, email, etc.).
SEC 017	M	The user passwords must be protected. The method of protecting passwords must ensure that they are not intercepted, seized or recovered.
SEC 018	M	e-Parliament will enable defining and implementing a set of rules for using passwords. The policies must allow conditions to be set at least for: • complexity of password • mandatory password change • term of validity of the password • re-use of passwords • the number of failed authentication attempts allowed • a dictionary of forbidden passwords The IT system will provide the user with timely information on the application of policies for using the passwords (for example, a password expiration message for N days).
SEC 019	D	The e-Parliament system will allow differentiated use of policies for using passwords for different user groups.
SEC 020	M	The e-Parliament system will allow user accounts to be blocked, disabled or suspended at the application level.

ID	Obligation	Requirement
SEC 021	M	The e-Parliament system can be integrated with the PRM deployment service (PRM uses the MS Active Directory solution). When creating a new user account, the e-Parliament system will have the option of selecting from the list of available users in the directory service.
SEC 022	D	The e-Parliament system can be integrated with external services, such as (Identity Services Providers (ISPs)). For this purpose, open standards and protocols from the field will be used (for example, SAML). The authentication methods that need to be supported by including an external ISP are: • ID and password • X.509 certificate • one-time password (OTP)
SEC 023	M	For mobile applications, access will be based on user access credentials and a unique key in the client application configuration. The communication with the system server will be encrypted.
SEC 024	D	e-Parliament will provide differentiated application of authentication methods, depending on the resources available (for example, the default ID and password, and additional one-time password for the administrative interface).
SEC 025	M	The e-Parliament system will allow setting the number of concurrent connections that can be initiated by the user.
SEC 026	M	The e-Parliament system will allow setting the expiration time for user sessions in case of inactivity.
SEC 027	M	The e-Parliament system will have effective mechanisms to prevent the unauthorized download of active sessions initiated by legitimate users.
SEC 028	M	An e-Parliament work session will be blocked at the request of the user or automatically at the end of the user session.

7.10.3. Authorization mechanism requirements

This section sets out the requirements for the authorization mechanism to be implemented within e-Parliament.

Table 7.18 Requirements for the e-Parliament authorization mechanism

ID	Obligation	Requirement
SEC 029	M	The e-Parliament system will allow granular management of access rights to all objects of the information system and possible actions (e.g. business entities, properties of entities and business, electronic forms, menus, reports, create/view/update/remove).
SEC 030	M	The e-Parliament system will allow the definition of user groups and roles within the system and assigning users and groups to these roles.
SEC 031	M	The e-Parliament system will allow the granting of access rights to the user explicitly, group and role. A group of users will be able to contain several sub-groups/roles. A user can be assigned one or more groups and roles, its rights of access can be determined on a cumulative basis.
SEC 032	M	System security must extend to the documents. Access to documents' specifications shall be controlled by security parameters.

7.10.4. Requirements for the input/output data validation mechanism

This section sets out the requirements for the validation mechanism for the incoming/outgoing data within the electronic forms provided by e-Parliament.

Table 7.19 Requirements for the data entry/data exit mechanism provided by e-Parliament

ID	Obligation	Requirement
SEC 033	M	The e-Parliament system will have appropriate mechanisms for preventing data entry (incoming data from authorized users, input from external applications).

ID	Obligation	Requirement
SEC 034	M	All actions for changing critical and sensitive data within The e-Parliament system will be made through specialized forms and documents in accordance with the workflow for these categories of documents (for example, adding amendments to a bill, changing voting data, etc.).
SEC 035	M	The e-Parliament system will perform a complete and independent validation of data at the presentation, business logic, and data levels, to ensure the completeness and accuracy of the data.
SEC 036	M	The e-Parliament system will have mechanisms for protecting additional privacy data (for example, display of masked data, encrypted data storage, user authentication, etc.).
SEC 037	M	The e-Parliament system will have appropriate mechanisms to prevent the manipulation of data stored in the application.

7.10.5. Requirements for managing exceptions and errors
This section sets out the requirements for the mechanism for managing exceptions and errors within e-Parliament.

Table 7.20 Requirements for mechanism for managing exceptions and errors of e-Parliament

ID	Obligation	Requirement
SEC 038	M	The e-Parliament system will centrally record all exceptions and errors generated by its components.
SEC 039	M	When an error occurs, the e-Parliament system will display a generic error message to the user. It may contain an error code and a unique identifier of the error to facilitate support.
SEC 040	M	The e-Parliament system will have the necessary tools for analysing and processing the records of exceptions and errors.

7.11. Resilience and continuity requirements
This section sets out the requirements for the continuity and resilience properties of the system required by PRM.

Table 7.21 Requirements for resilience properties of e-Parliament

ID	Obligation	Requirement
RC 001	M	The e-Parliament system will have tools for executing the procedures for automatic backup generation and managing historical backups.
RC 002	M	• The e-Parliament system must have mechanisms to ensure the integrity of data in case of crashes in any component.
RC 003	M	• The e-Parliament system must have mechanisms for the operative restoration of accessibility in case of incidents in continuity.
RC 004	M	• The e-Parliament architecture must be resistant to component failures and must have no single points of failure.
RC 005	M	• The e-Parliament system must have mechanisms to ensure the integrity of data in case of accidental crashes at any level of its components.
RC 006	M	• The e-Parliament system must have mechanisms for the operative restoration of accessibility in the case of incidents of continuity.

8. Implementation requirements

This chapter sets out the requirements related to the different implementation phases of the e-Parliament project. The purpose of these conditions is to ensure that the Contractor provides an IT solution that meets all the technical specifications, and that its properly functioning in the production environment with a reasonable degree of security.

The requirements contained in this chapter are all mandatory. The Bidder will need to specify for each one, how it intends to implement the requirement (if related to the planned arrangements after the signing of the agreement) or provide the requested information (if related to the bidding phase). The bid must also contain detailed information on the ability of the Bidder to fulfil the conditions set out in this chapter.

8.1. General requirements

This section contains general requirements for organizing and executing the e-Parliament implementation project.

Table 8.1 General requirements for the implementation of e-Parliament

ID	Obligation	Requirement
CSI.1.	I	PRM has chosen a strategy of implementing the e-Parliament project step by step to increase the chance of success of the project and to facilitate the integration of e-Parliament into PRM activities. The project management approach is expected: • to produce tangible results in a short period of time right after the start of the project. The implementation will be done in a transparent way throughout the project. • to allow produced, fully-functioning products, in particular e-Parliament's functional capabilities, to be used by PRM when they are finalized. • to allow the transfer of knowledge and the establishment of the PRM capabilities for the use, operation, maintenance and adaptation of e-Parliament to take place across the entire project for the implementation of the system.
CSI.2.	M	The project of implementing the e-Parliament system will last 9 months from the date of signing the agreement, after which the support and maintenance phase will start.
CSI.3.	M	The Bidder will describe in its offer the proposed management approach to the organization of the e-Parliament implementation project. It will make clear why the proposed approach is best suited to implement the e-Parliament project within the set deadline.
CSI.4.	M	The Bidder's approach for project implementation must be independent of the implementation of other applications and components that are part or will be part of the PRM's applications architecture.
CSI.5.	M	The approach proposed by the Bidder must ensure that the key steps for implementing e-Parliament set out in the reference conditions are met and produce the results required by the reference conditions.

8.2. Project management requirements

During the implementation, project management activities will produce several deliverables that will need to be coordinated and agreed by the PRM to ensure smooth execution of the project activities. The general requirements for organizing the framework for managing the e-Parliament implementation project are presented in Table 8.2.

Table 8.2 Requirements for management of the e-Parliament project

ID	Obligation	Requirement
CSI.6.	M	The Contractor is responsible for managing project implementation, in accordance with the project plan and the practices agreed with PRM. The Contractor is responsible for identifying and mobilizing the resources required to carry out the activities in its area of responsibility, as set out in the project management plan, at the agreed level of quality.
CSI.7.	I	PRM is responsible for all procedures and administrative aspects related to the preparation for project implementation, including organizing an internal project team, and preparing the ICT environment.
CSI.8.	M	The project will be managed using a well-known methodology or project management standard (for example, PMBoK PRINCE2, etc.).
CSI.9.	M	The Contractor will prepare a draft project initiation document (PID / Project Charter) after the signing of the Contract. The document will explicitly mention at least the following: - The organizational plan for the project management, including: project director, project committee, members of the project team from the Contractor, roles for the members of the project team from PRM. - For each role, the key tasks identified in the project. - Practices applicable to interaction and collaboration within the project, including: project management, detailed project planning, resource management, the communication plan, change management, risk management, quality management of deliveries, tracking progress and reporting, exception management, and project library management.
CSI.10.	M	PRM and the Contractor will designate a Project Manager, who will need to lead project teams from PRM and the Contractor, respectively.
CSI.11.	M	The Project Manager, on behalf of the Contractor, will have the necessary authority to carry out the project activities and will be primarily responsible for producing and presenting the results in accordance with the determined quality conditions and criteria.
CSI.12.	I	The Contractor may designate one or more team leaders to facilitate the process of communication and collaboration with the PRM team, depending on the areas of competence.
CSI.13.	M	If the Contractor is represented by a consortium or subcontracts another company to participate in the project, the roles and responsibilities of each member of the consortium or subcontractor will be clearly stated.
CSI.14.	I	PRM may hire external consultants to whom part of the project management functions of PRM and the quality assurance function for the entire project will be delegated.
CSI.15.	D	The Contractor will demonstrate its expertise and experience by presenting the relevant certificates of compliance (e.g. ISO 9001, ISO 20000, ISO 27001, etc.).

8.3. Tasks and deliverables

Please find below all tasks and deliverables per project phase. All deliverables must be submitted in an electronic format.

PHASE I/MILESTONE 1: Design of the system

Task 1.1: Hold workshops with all stakeholders and prepare a detailed requirements specification/design for the purpose of completing the configuration/adaptation of the e-Parliament system. The Contractor will propose a design that is aligned with the specified technical requirements and will be approved in according with the project governance.

Task 1.2: Prepare detailed requirements for the virtual servers and other Cloud infrastructure. The specification shall be prepared in such a way as to satisfy the minimum requirements for the e-Parliament system to operate in the PRM's infrastructure, including the installation, taking into consideration that such requirements shall enable the efficient operation of the system for the next five years (requirements shall include the number and specification of resources for virtual machines, licensing requirements (if any), detailed infrastructure and Internet speed to be provided by PRM, etc.).

Task 1.3: Prepare the technical specifications for the PRM's hardware (e.g. PCs, other devices, etc).

Task 1.4: Define datasets needed for the interaction of the DMS component with the public web portal and e-Voting components of the e-Parliament system, as well as with other external systems, such as the Digital Archive (DSpace System) and screens in the plenary session hall.

Task 1.5: Prepare a detailed implementation plan for the e-Parliament system including the sequence in which functionalities will be realized, according to the detailed requirements specification, discussions with the stakeholders and possible specifics of the solution offered by the Contractor. The detailed implementation plan shall also include an estimation of the time required for the working group members.

Task 1.7: Prepare project management status reports on a biweekly basis, regardless of the project sub-phase, which includes at a minimum the overall project status, reporting of issues, achievements and planned activities, achieved milestones and deliverables. Besides this reporting requirement, any materialization of identified as well as unforeseen risks that could impact project progress shall be reported immediately.

PHASE II/MILESTONE 2: Configuration/adaptation of the system

Task 2.1: Establish the configuration/development and test environments in the PRM's infrastructure.
Task 2.2: Install and configuration/adaptation of the e-Parliament priority functionalities, according to the detailed requirements specification.
Task 2.3: Generate data to be published on the official website of PRM.
Task 2.4: Integrate with other PRM IT systems, according to the specification and identified datasets.
Task 2.5: Configure the public portal component.
Task 2.6: Train users that will be involved in the piloting phase.
Task 2.7: Launch the system in the pilot mode for the established priority functionalities and workflows.

PHASE III/MILESTONE 3: Piloting of PRM e-Parliament system

Task 3.1: Monitor the piloting phase.
Task 3.2: Prepare and submit the piloting report.

PHASE IV/MILESTONE 4: Final configuration and user training

Task 4.1: Analyse the results of the piloting period and take corrective measures, if needed.
Task 4.2: Implement all functionalities established during the preparation of the detailed requirements specification of the e-Parliament system.
Task 4.3: Identify and implement requirements for the reporting module
Task 4.4: Train users on the e-Parliament system functionalities (both end-users and system administrators).

PHASE V/MILESTONE 5: Quality assurance (testing) of PRM e-Parliament System

Task 5.1: Prepare test scenarios and detailed testing plan.
Task 5.2: Perform testing (load and stress testing), iterative (including corrective measures).
Task 5.3: Carry out security testing of the entire e-Parliament software solution.
Task 5.2: Deploy and receive acceptance of the e-Parliament system in the "production" environment of PRM's infrastructure, according to the plan.

PHASE VI/MILESTONE 6: Post-implementation support

Task 6.1: Provide technical support to correct any shortcomings related to the functioning of the system for a period of 12 months after the acceptance of the delivered system.
Task 6.2: Troubleshoot on problems related to the adaptation/development/configuration of the e-Parliament system functionalities not identified during testing and acceptance phases in the warranty period.
Task 6.3: Transfer additional knowledge, if deemed necessary by PRM staff during the warranty period.
Task 6.4: Provide post-implementation support according to the requirements and the Service Level Agreement (SLA) specified within the service specifications.
Task 6.5: Provide any available updates and upgrades to the installed IT solution, including DBMS and other third-party software.
Task 6.6: Implementation of the workflows and minor additional functionalities that will be identified by the PRM during the post-implementation phase and modifications in the existing workflows.

Table 8.3 List of deliverables

Identifier	Deliverables

DELVB01	Detailed software requirements specification document, updated at the design stage of the system, including the analysis documentation and requirements specification (business process diagrams related to the business processes and workflows, data flow diagrams, etc.) in a form needed either for an offered COTS configuration/upgrade or for a complete adjustment of the e-Parliament system. The software detailed requirements specification document must include the following:
	
	The system architecture, describing the models in UML language, to include at least the following (with sufficient level of detail):
	• Analysis model, including:
	    ○ requirements model and/or use case model
	    ○ domain model, fully specifying the entities and the relations between them
	• Component model, including a narrative description of all components, the links between them and integration interfaces with other systems/external components
	• Logical model
	• Deployment model, including a narrative description of all nodes and the links between them. This model will also contain the precise specifications of the equipment and operation environments for the operation of the system at normal parameters, as well as specifications for a minimal configuration
	• Dynamic model including diagrams and a narrative description of the states and transitions of the key entities

DELVB02	Hardware specification for the virtual servers and other needed cloud infrastructure.
DELVB03	Technical specification for the PRM's hardware, if needed.
DELVB04	Detailed plan for software development and implementation plan of the e-Parliament system.
DELVB05	Report on piloting period, which will include discovered bugs, concerns, proposals and conclusions.
DELVB06	Software installation package (including third-party tools and libraries, if applicable).

Identifier	Deliverables
DELVB07	System installation and configuration guidelines (to include at least how to install the application, what the hardware and software requirements are, platform description and configuration, application configuration and disaster recovery procedures).
DELVB08	Training materials. Guidelines for users and system administrators (in Romanian language).
DELVB09	Software licences (if applicable).
DELVB10	Documentation of APIs used for integration with other IT systems, if any.
DELVB11	Testing plan and testing scenarios.
DELVB12	Performance and security testing reports.
DELVB13	Full package of unit tests.
DELVB14	Support period for at least 12 months, including: • patching of security flaws (at application level) • fixing of defects • investigation of errors detected during system operation • regular delivery of maintenance and support reports

8.4 Training of users

Table 8.4 Training and training materials

ID	Obligation	Requirements
TRN001	M	The Contractor will prepare a detailed training programme, including the training materials for identified target groups. The programme and training materials shall be approved by PRM before commencement of the training. Materials used during training sessions shall be prepared in the Romanian language, printed and filed.
TRN002	M	The Contractor shall prepare, print and deliver training materials in the form of manuals for all training participants. The format and number of copies shall be coordinated with the PRM.
TRN003	M	The curriculum for the IT Technical Staff group will contain the entire set of components and controls used for the configuration of the system, containing theoretical and lab lessons. The final exam shall be conducted after the trainees implement an individual task of configuring the system legislature (simple, covering the main components and functions). Examination shall be performed in the presence of the Project Manager and approval shall be obtained from the Secretariat of Parliament before issuance of certificates.
TRN004	M	The Contractor will conduct the training for the IT Technical Staff group comprising of at least three IT specialists from the PRM. The Contractor's official certification will be mandatory for all operators of the system and will only be given to those training participants that have displayed the necessary level of knowledge and skills in the final exam to the Project Manager. The training shall include courses related to the technologies based on which the system is developed. A detailed description of training performance and provided outputs shall be provided by the Bidder. The PRM has the right to make changes in the training programme and request repetition of the course in case of unsatisfactory, performance without any change to the contract price.
TRN005	M	The curriculum for the IT Technical Staff Group shall contain a description of administration tools provided by the system.
TRN006	M	The Contractor shall conduct a training of trainers, in order to train facilitators for other user groups. Subsequently, the facilitators will be certified.

TRN007	M	The Contractor will provide hands-on training to the IT specialists appointed by the PRM's Project Manager, considered as the main target group, with the aim of acquiring knowledge and skills for future maintenance of the e-Parliament system. A curriculum for formal training will also be developed, including relevant system maintenance questions, and help desk aspects.
TRN008	M	The curriculum for e-Parliament system users shall contain the following (but not be limited to): • Detailed explanation of the utilization of the application(s) for interaction between different users and roles and the utilization of the e-Parliament system • Detailed responsibilities of each role • Utilization of application to implement necessary activities • Reporting and other appropriate information • Practical utilization and walkthroughs for easier understanding of materials. The Contractor shall examine and provide proof that the users are able to work with system. If so requested, the Project Manager will repeat the training for users who did not pass the exam.
TRN009	M	Training for all groups must be conducted in Romanian. Training materials shall be in the Romanian language.

8.5 Software specifications

8.5.1 The proposed software solution must be licensed according to the software and hardware manufacturers' licensing policies. The database server (DBMS) must also be covered with licences, according to the Bidder's proposed solutions. Licensing costs for MS SQL Server and MS SharePoint shall not be included in the Bidder's Proposal.

8.5.2 The Bidder must deliver all necessary software licences according to its proposed software solution.

8.5.3 All software licences must be offered with a minimum of 36 months of support.

8.5.4 All the software products must come with customer support, with SLA 8x5 for at least the first 12 months, starting from the date of acceptance of the proposed solution.

8.5.5 If the Contractor's offered/proposed system solution includes any third-party software, these also must be covered by relevant licences with 36 months of support. No software for the information system shall be used or delivered without having the relevant licence.

8.6 Hardware specifications

8.6.1   The Bidder will specify in its technical proposal the detailed maximum specification of the hardware resources needed for the functioning of the e-Parliament system. Also, the Bidder shall provide a detailed specification of the needed hardware for the operationalization of the system (e.g. tablets, pcs, displays, other devices, if needed).

8.6.2   The project does not include the procurement of any hardware for hosting the software solution. The proposed IT solution is planned to be hosted on PRM's infrastructure or in the governmental Cloud – MCloud. However, the Bidder must provide the detailed requirements for the needed hardware.

9. Post-implementation requirements for maintenance and support services

The purpose of the post-implementation requirements for the e-Parliament system is to achieve the following goals:

- Resolve issues in the functioning of the e-Parliament system in a timely and correct fashion with minimal impact on ongoing parliamentary activities.
- Overcome issues in the functioning of the e-Parliament system, without affecting the functioning of the entire IT system of the parliament.
- Adapt the functionalities provided by the system over time to the changing business needs of the PRM.

To achieve these goals, the Contractor should provide support and maintenance services, in accordance with the technical requirements listed below. The Contractor must describe its activities to meet these requirements by providing sufficient information on how it will provide the required services at the requested level, as well as information on its technical, organizational and competence capabilities. The PRM expects the bid for support and maintenance services after implementation to be based on best practices in project management and IT service management (e.g.: ISO 20000, ITIL, etc.).

9.1. General requirements for post-implementation maintenance and support services

This section sets out the general requirements for maintaining and supporting the e-Parliament system after implementation.

Table 9.1 General requirements for maintenance and support

ID	Obligation	Requirement
CPI.1.	M	As a part of the agreement for implementation of the e-Parliament system, the Contractor shall provide maintenance services and support for computer system applications for a period of 12 months from the date of final acceptance of the delivery of the e-Parliament system.
CPI.2.	M	The cost of the agreement for implementation of e-Parliament will include all support and maintenance services after implementation, with the exception of development services.
CPI.3.	M	The cost of the agreement for the implementation of e-Parliament will also include development services as defined in these reference requirements by the Contractor, at the request of the recipient.
CPI.4.	M	Any errors in the work of e-Parliament discovered during the post-implementation period of 12 months will be fixed by the Contractor (these activities will not be considered development activities).
CPI.5.	M	After one year of post-implementation maintenance and support, the PRM may request continuation of service delivery. The Contractor is obliged to accept the subsequent provision of the services for the period requested by the PRM, on the conditions arising from these reference requirements and the Contractor's offer (including the level and cost of services etc.).

9.2. Specification of post-implementation support and maintenance services
This sub-section identifies the types of support and maintenance required after system implementation. Any further reference to these terms will have the meaning set forth in this point. The conditions of PRM for each type of service are also determined.

9.2.1. Support services for the e-Parliament computer system
The Contractor will provide support services for the proper and efficient use of the e-Parliament system by the PRM and for overcoming incident arising from the operation of the e-Parliament system.

An incident is any event that affects or can affect the normal functioning of the information system. An e-Parliament technical problem is the reason that could lead to an incident.

These support services are delivered upon request for consultation by the PRM for advisory support regarding the use, configuration and maintenance of the e-Parliament computer system. The services are designed to ensure that e-Parliament is used on time for PRM quality parameters. The quality parameters for system operation are as follows:

- **Availability** – the ability of the computer system and its components to receive questions from authorized entities and immediately respond to these questions.
- **Usability** – the ability of the IT system to function properly, delivering to the users and licensed entities the expected services.
- **Performance** – the ability of the computer system to respond to legitimate issues in accordance with the established parameters.
- **Security** – the ability of the IT system to ensure the confidentiality, integrity and availability of stored and managed data.

Table 9.2 sets out the terms for the support services that the Contractor must provide during the 12-month post-implementation period.

Table 9.2 Requirements for e-Parliament support services

ID	Obligation	Requirement
CPI.6.	M	The Contractor shall provide the PRM with support and management for addressing incidents involving e-Parliament, regardless of the reasons for the incident (e.g. application errors, system software issues, external application issues). For this purpose, depending on the specificity of each individual case, the Contractor may undertake the following activities: - Receiving information from the PRM about the incident and the context of its occurrence - Locating the incident and identifying immediate actions for mitigating the impact of the incident - Identifying the causes of the incident and determining what needs to be done to eliminate the incident - Directing the PRM to undertake activities to mitigate the impact of the incident and resolve it within the set deadline - Submission of detailed information to the PRM on the causes of the incident, the rationality of the actions undertaken and the planned activities for preventing the repetition of similar incidents - Examining the need to register a new e-Parliament issue (if the problem is registered, the Contractor will deal with it in accordance with the requirements of the support services).
CPI.7.	M	- The Contractor shall provide support and management services for problem-level troubleshooting. For this purpose, depending on the specificity of each individual case, the Contractor may undertake the following activities: - Receiving and collecting information related to the problem, symptoms, effects, specific conditions - Analysing and locating the problem in the e-Parliament components, identifying the interdependencies that contribute to the manifestation of the problem or that are affected by the problem - Identifying interim solutions to mitigate the effects of the problem and guide PRM for their implementation - Identifying solutions to the problem, regularly communicating with PRM about the progress made to identify solutions - If the solutions are related to the level-of-application configurations, PRM guidelines will be implemented for their implementation

ID	Obligation	Requirement
		▪ If the solutions include changes to the e-Parliament program code, they will be managed by the Contractor and will be implemented within the maintenance services within the set deadline.
CPI.8.	M	The Contractor shall provide advisory services to support the use of e-Parliament by the PRM. For this purpose, depending on the specific needs of the PRM consultants, the Contractor can undertake the following activities: Receiving request from PRM for advice and information on specific function of the system Identify solutions and verification of those in testing environments for the Contractor providing full and precise answers on how the PRM should work on the e-Parliament's operation in accordance with the request for consultation.
CPI.9.	M	The above-mentioned types of support services shall be provided by the Contractor for a period of 12 months (post-implementation), a minimum of 100 hours of development per month are planned to be used, which need to be included in the Bidder's Proposal.

9.2.2. Services for maintenance of the e-Parliament computer system

The maintenance services must be provided by the Contractor during the 12-month post-implementation period, in order to keep applications running within optimum operating parameters. For this purpose, the Contractor may come with modifications and version updates to the applications. These updates are aimed at improving the application's performance, eliminating existing problems, errors and weaknesses known to the Contractor.

New releases will be related to e-Parliament software packages that are delivered to the PRM at the Contractor's initiative and contain all previously made changes at the application level. In addition, they may contain changes and updates, new application components that were not present in old versions of the applications. Table 9.3 lists the requirements for maintenance services that the Contractor should provide during the warranty period.

Table 9.3 Requirements for e-Parliament maintenance services

ID	Obligation	Requirement
CPI.10.	M	The Contractor shall provide an update to the e-Parliament system and deliver services for new releases.
CPI.11.	M	The Contractor will prepare software packages and documentation for upgrades and new releases.
CPI.12.	M	The implementation of all updates and new releases will be performed according to the requirements set out in the "Change Management" section of this technical requirements document.

9.2.3. Development services for the e-Parliament computer system

The development services are provided by the Contractor at the request of PRM for the alignment of e-Parliament with the changing business needs of PRM.

A request for change/development is the PRM's request to the Contractor for changes in the functionality of e-Parliament or to provide new functionalities for the IT system.

The request from PRM will be considered as if it is for a change/development only if the required functionality is not provided by e-Parliament or is provided otherwise than PRM requires. In the second category, there are no requirements for the correction of functionalities that pose a problem related to e-Parliament (as defined above).

The development services will be calculated on an hourly basis per person, and will be delivered upon request by the PRM. The Bidder will have to offer a price per person/hour service for development services, and the PRM will pay for these services per request, upon delivery of the service, in addition to the amount of the agreement, depending on the scope of the services rendered. Table 9.4 lists the conditions for development services that the Contractor could provide during the post-implementation period of 12 months.

Table 9.4 Requirements relating to the e-Parliament development services

ID	Obligation	Requirement
CPI.13.	M	The Contractor shall provide services for modification and development of e-Parliament. The scope of the changes should contain at least: ▪ Changes at the e-Parliament presentation level ▪ Changes at the business logic level of e-Parliament ▪ Changes at the data level for e-Parliament
CPI.14.	M	As part of the services for change and development of the e-Parliament system, the Contractor shall: ▪ Accept the request for change with the description of the related functional specifications ▪ Develop a technical project (SRS and SDD) regarding the request and its coordination with the PRM ▪ Make changes and development at the level of the e-Parliament components
CPI.15.	M	The implementation of changes and development at a system level will be carried out under the conditions set out in section 9.5 – change management.
CPI.16.	M	The Bidder shall describe the proposed model for managing change and development requirements. The information included in the bid must be sufficient to assess that the relationship between the Contractor and PRM in the development services development process will be transparent and fair.
CPI.17.	M	The Contractor will provide development services for e-Parliament, as part of the operational maintenance and development services for the system. The development services will include: ▪ Modifying the existing functionality of e-Parliament ▪ Implementing new functionalities of e-Parliament
CPI.18.	M	Any development of application software connected to the e-Parliament system will be initiated after a request from the PRM. The request will be accompanied by functional specifications for the requested change. The implementation of any change related to e-Parliament will go through the change management process agreed with PRM. For changes to the application software, the process will provide at least: ▪ Implementation in the PRM testing domain by performing PRM unit testing ▪ Implementation in the PRM testing domain and making acceptance tests, including e-Parliament users ▪ Implementation in the production environment of PRM according to the established change management procedure ▪ Review and final acceptance of the change
CPI.19.	M	The Contractor will include in its offer a price per person/hour development services for the 12-month post-implementation period.
CPI.20.	M	Additional development services for those involved can be requested from the PRM and provided by the Contractor based on additional agreements signed between the parties.

9.3 Service level related to the e-Parliament

The level of support and maintenance services after implementation set the requirements under which these services must be provided by the Contractor.

9.3.1. Support services
The parameters that characterize the level of support services are the following:
▪ **Response time** – is the time in which the Contractor responds to a support request, including diagnosing the situation and determining the actions to be taken for solution.

- **Settlement time** – is the real time within which the Contractor is expected to fully address requests from the PRM in its area of responsibility.

PRM requests for support and maintenance services after implementation will be ranked in terms of their importance for the parliament The importance will depend on the impact (product or probability) of the event that caused the need to request for the quality parameters for the e-Parliament operation.

Table 9.5 Classification of the importance of support requests

Classification	Impact on the quality parameters for the operation of the application
Critical	Availability: the computer system is not available for all or most users. Important transactions must be made as soon as possible. Usability: key business functions cannot be used. There are no alternative procedures and functionalities. Performance: the response time for user issues makes the computer system virtually unavailable. Security: there is a large risk of compromising the confidentiality, integrity or availability of data.
High	Availability: the computer system is not available for many users. Significant transactions and operations must be performed within the next 24 hours. Usability: key business functions can be used only in a limited way. Performance: the response time for customer issues affects to a significant degree deployment of key business processes. Security: there is a large risk of compromising the confidentiality, integrity or availability of data.
Usual	Availability: the computer system is not available for some users. There are transactions and operations that need to be performed in the next three days. Usability: the business functionality of the system can be limited. Performance: the response time for user issues moderately affects business processes. Security: there is a risk of compromising the confidentiality, integrity or availability of data.
Low	Availability: the computer system is not available for a limited number of users. There are no transactions and operations to be performed within a maximum of three days. Usability: the business functionality of the IT system is not significantly disturbed. There are alternative procedures and functionalities. Performance: the user response time is longer than usual. Business processes are not affected. Security: there is a smaller risk of compromising the confidentiality, integrity or availability of data.

When placing a request for support and maintenance services, the PRM will determine the classification of the request in accordance with table 9.5 and provide brief information on the situation. The PRM will be able to reclassify, if changes occur in the context of the requests. The Contractor will provide support services on weekdays in accordance with the legislation of the Republic of Moldova, between the hours of 08:00 to 18:00. The level of support services provided by the Contractor must meet the requirements set out in Table 9.6.

Table 9.6 Duration of requests for support of PRM

ID	Obligation	Classification of the request set by PRM	Remote response time	Settlement time
CPI.21.	M	Critical	1 hour	4 hours
CPI.22.	M	High	4 hours	24 hours
CPI.23.	M	Usual	24 hours	3 days
CPI.24.	M	Low	3 days	Best efforts *

* The Contractor will make every effort to resolve the service request as soon as possible with normal operation. The deadline for resolving the request will be communicated and accepted by the PRM. Subsequent changes in the time limit will be permitted only with PRM's acceptance.

9.3.2. Maintenance services

The requirements for the level of maintenance services provided by the Contractor during the e-Parliament post-implementation period are described in Table 9.7.

Table 9.7 Requirements of service for e-Parliament maintenance during post-implementation period

ID	Obligation	Requirement
CPI.25.	M	The Contractor will apply a policy to minimize the frequency of issuing updates at the application level. The policy proposed by the Contractor will allow the PRM to apply the new monthly updates. An exception may be made for upgrades to remove critical and/or security issues at the e-Parliament level.
CPI.26.	M	The proposed policy must not include mandatory installations of new versions of the e-Parliament software applications. The Contractor's policy will allow the PRM to implement new versions of applications once every three years or on demand
CPI.27.	M	The Contractor shall submit to the PRM its schedule for issuing updates and new versions. For updates, the Contractor shall notify the PRM at least one month in advance. For new versions, the Contractor will notify the PRM at least six months in advance.
CPI.28.	M	In order to keep the e-Parliament system running, the Contractor may perform maintenance work on information components related to IT. The type of maintenance work, the Contractor's obligations regarding their coordination with PRM, and their period and duration are given in the following table: <table><thead><tr><th>Type of maintenance work</th><th>Notification to the user</th><th>Period and duration of works</th></tr></thead><tbody><tr><td>Normal maintenance work</td><td>Five days in advance.</td><td>Performed outside the guaranteed availability period for e-Parliament. Duration will not exceed eight hours.</td></tr><tr><td>Large-scale maintenance work</td><td>10 days in advance.</td><td>Performed outside the guaranteed availability period for e-Parliament. The duration of such work must not exceed 24 hours.</td></tr><tr><td>Emergency maintenance work</td><td>With notification as soon as the need for the initiative arises.</td><td>Can be made at any time. Their duration will not exceed four hours.</td></tr></tbody></table>
CPI.29.	M	All the maintenance services defined above will have to be delivered as warranty services of the solution and will have to be calculated in the overall price of the solution, as a part of the total agreement amount.

9.3.3. Development services

The parameters characterizing the level of development services provided by the Contractor during the post-implementation period of 12 months are described in Table 9.8.

Table 9.8 Requirements for development services for e-Parliament in the period after implementation

ID	Obligation	Requirement
CPI.30.	M	The Contractor will respond to a development request of PRM within three days.
CPI.31.	M	The Contractor will come up with budget estimates and a proposed solution within 10 days.

ID	Obligation	Requirement
CPI.32.	M	The Contractor will deliver the solution at the time agreed with the PRM, applying the "best effort" principle.
CPI.33.	M	The Contractor will allow the PRM to prioritize the development requirements and consider some at a later stage upon mutual agreement. The revision of search priorities will allow the PRM to consider the Contractor's delivery time for solutions.

9.4 Support services management

The method for organizing support services, including the period after the 12 months of post-implementation period, is described in the non-functional requirements included in Table 9.9.

Table 9.9 Requirements for management services to support e-Parliament

ID	Obligation	Requirement
CPI.34.	M	The provision of services by the Contractor will be carried out in accordance with best practices defined in ISO 20000. The operator must be proactive, open and transparent in their communication with the PRM. They should also have internal processes and capabilities for operational performance, according to best practices in the field.
CPI.35.	M	The support services will be provided on the basis of a service level agreement, which will be attached to the contract signed between the Contractor and UNDP. The agreement will determine the level of support and maintenance services after implementation based on the requirements included in this specification.
CPI.36.	M	The Contractor will have a customer support centre to which all requests from the PRM will be directed. The work programme and the organization of the activities of the support centre must provide support and maintenance services after implementation at the level specified in this specification.
CPI.37.	M	The Contractor must be able to demonstrate easy access to the support centre.
CPI.38.	M	The support services will be provided remotely. However, if necessary, the Contractor's specialists will be transferred to the PRM's location.
CPI.39.	M	In order to provide support and maintenance services after implementation, the Contractor will make an application platform available via the internet. The application platform will be provided appropriately. All interactions between the PRM and the Contractor in the support and maintenance service during the post-implementation period will be performed through the appropriate platform.
CPI.40.	M	The Contractor will monitor the quality of support and maintenance services during the post-implementation period and will respond to deviations from set quality criteria in order to prevent incidents.
CPI.41.	M	The Contractor shall submit monthly reports to the PRM for the services provided and for their level. The reports will also contain information about the activities undertaken or planned by the Contractor to improve the quality of the services.
CPI.42.	M	The payment for the support and maintenance services after the implementation will be done on a monthly basis after the services are delivered (based on the service report), according to the amount of delivered service hours calculated based on the unit price and defined minimum of person/hours per month.

9.5 Change management

All changes made to the e-Parliament system in the context of providing support and maintenance services will be guided by a mature change management process. Table 9.10 contains the requirements for organizing change management.

Table 9.10 Requirements for change management in e-Parliament

ID	Obligation	Requirement
CPI.43.	M	In its offer, the Bidder shall include information about the proposed approach to managing application changes.
CPI.44.	M	The Contractor shall propose to the PRM a procedure for managing changes in applications. The procedure will need to be approved by the PRM.
CPI.45.	M	The change management procedure must cover at least the following activities under the responsibility of the Contractor: ▪ Testing environment changes ▪ Preparation of a plan for implementation of the changes ▪ Preparing a roll-back plan for unsuccessful changes ▪ Preparing detailed technical documentation for the changes including a description of the changes, affected components, installation instructions, a roll-back plan in the event of failure, and follow-up procedures to ensure the proper implementation of the changes) ▪ Updating user documentation and technical documentation for applications ▪ Providing software packages for changes ▪ Supplying files containing the source code for the changes (the authenticity and integrity of the software packages and the source code must be provided by applying the digital signature of the Contractor – code signing) ▪ Responding immediate in case of detection of errors in the implemented changes and their correction in the shortest possible time
CPI.46.	M	In the process of maintaining and developing the e-Parliament system, it is anticipated that the Contractor will make a number of changes to the e-Parliament components (system components and application software). All changes made by the Bidder at the level of the system will be implemented according to a common agreed change management process. The changes that may have a significant impact on the e-Parliament's quality parameters will be approved by PRM. The required elements for this type of change will be: ▪ Testing in the testing area ▪ A plan for implementing changes ▪ A roll-back plan ▪ A review after implementation The Contractor will monitor all changes to the e-Parliament system in the Register of Changes. The PRM will have access to this registry.
CPI.47.	M	For the maintenance services as well as the development services, the Contractor will provide software for project management and a user support portal, i.e. a system for reporting and solving problems. Through this software, records of all tasks, problems and bugs will be kept.

9.6 Termination of the agreement

If the parties decide not to renew the service support and maintenance agreement after implementation, the PRM's activities should not be affected. The PRM must be able to enter into an agreement with another company or support and maintain the e-Parliament system itself.

Table 9.11 contains conditions related to termination of contractual relations between the Contractor and the User in relation to the maintenance and support services in the period after the implementation of the e-Parliament system.

**Table 9.11 Conditions for termination of the agreement for execution of maintenance services
and support after the implementation of e-Parliament**

ID	Importance	Requirement
CPI.48.	M	If the support and maintenance agreement after the implementation is expected to be impaired, the Contractor must ensure at least the following: • All source codes (or COTS-related files) related to e-Parliament are sent to PRM • All documentation related to the e-Parliament system is updated and submitted to PRM • All entries for PRM requests submitted to the Contractor (for incidents, problems, consultations, changes, developments, etc.) are exported in a commonly agreed format (for example, CSV, XLS, etc.) and sent to the PRM • The Contractor shall keep all records made during the delivery of services, source codes and documentation related to e-Parliament for one calendar year.
CPI.49.	M	For a period of one calendar year after expiration of the Service Level Agreement, the Contractor shall be ready to cooperate with third parties authorized by the PRM to provide support services and maintenance services after the implementation of the e-Parliament system. For this purpose, the Contractor shall be able to provide at least any stored information that will help improve the service.
CPI.50.	M	In the offer, the Bidder will include the information about the proposed approach to terminate the support services and maintenance post-implementation, taking into account the requirements and needs of PRM.
CPI.51.	M	The SLA agreement for support and maintenance services in the post-implementation period is concluded for a period of 12 months. Each party may at any time request the termination of the signed agreement. For that purpose, the party wishing to terminate the agreement shall notify the other party of its intention at least three months in advance.
CPI.52.	M	All data stored in e-Parliament databases are owned by the PRM. In case of termination of the agreement, the Contractor shall provide the PRM with a procedure for exporting data in the format agreed with PRM. The selected format should allow the PRM to fully import data into other similar solutions.
CPI.53.	M	The e-Parliament application software is provided by the Contractor and represents its intellectual property for the entire period of service provision. The PRM shall receive a non-exclusive right to use the e-Parliament system's software without the right to reproduce and distribute it in the following situations: ▪ The agreement is terminated because of the failure of the Contractor to comply with its obligations and obligations ▪ The term of validity of the agreement has expired When signing the agreement, the parties will sign an additional agreement of the "escrow agreement" type that will determine the way the source code comes into ownership of the PRM in those situations. The costs associated with the implementation of the escrow agreement shall be borne by the Contractor.

10. Testing and quality assurance

The Bidder shall prepare and submit in it proposal methodology and procedures specifying details of how it intends to design and develop the system. The methodology shall include details about goods, materials needed for information technologies (hardware, system software, COTS software, custom software, etc.) and testing activities. The methodology shall be updated after signing of the Contract Agreement and adapted according to the project plan after the acceptance of the Project Manager. Special attention shall be drawn by the Contractor during the methodology preparation and during implementation to PRM requirements related to the integration of the already developed procedures and processes to the new system and uninterruptable operation of the current system until commissioning is completed by the Contractor. The Bidder shall demonstrate that the proposed methodology and procedures they will use fully cover the topic of the project so that it is possible to test all the functionalities identified and agreed with PRM in the auditing, system analyses and design phase.

10.1 Inspections

Inspections at e-Parliament development stage

10.1.1   The contractor shall keep a system development version in the development environment.

10.1.2   At least 70% of the developed specific system components shall be subjected to unit testing. This is will not be applicable in the case of using COTS products.

10.1.3   The contractor shall regularly update the components of the development environment and support the regular reports with system demonstrations.

10.1.4   The contractor shall document and address PRM requests that will be classified into defects and modification requests, if appropriate.

Inspections at system delivery stage

10.1.5   To perform the delivery the Contractor shall install the system components on an integrated environment (according to the configuration requested by PRM).

10.1.6   The contractor shall install the system components according to the installation guidelines.

10.1.7   The contractor shall install the system components together with the PRM's System Administrator.

10.1.8   The contractor shall modify the configuration parameters according to the installation guidelines.

10.1.9   The contractor shall modify the configuration parameters together with the System Administrator.

10.1.10 The contractor shall demonstrate the functionality of all system components.

10.2 Pre-commissioning tests

10.2.1   In addition to the Contractor's standard check-out and set-up tests, the Contractor (with the assistance of PRM) shall perform tests on the system, before installation will be deemed to have occurred and for this the PRM shall issue the installation certificate(s).

10.2.2   PRM will check if all automatic mechanisms of integration with other computer subsystems meet the requirements.

10.2.3   The Contractor will perform the accessibility testing according to the Web Content Accessibility Guidelines (WCAG) 2.0. The Contractor shall provide details about the testing method and the achieved results.

10.2.4 The Contractor shall perform the security testing at least according to OWASP Top 10 vulnerabilities. The Contractor shall provide details about the testing method and the achieved results. The Contractor will conduct the performance testing for at least two components:
   o load testing
   o stress testing

10.2.5 The PRM has the right to hire a third-party quality-assurance company to carry out independent testing of the newly implemented e-Parliament system

10.2.6 The acceptance criteria for pre-acceptance testing are:
   o 100% of the nonconformities detected at the delivery were addressed
   o 80% of the accessibility tests for a level are successful
   o 100% of the security tests are successful
   o Performance is better than required
   o No critical nonconformities and less than two major nonconformities and 30 average and minor nonconformities were detected

10.2.7 The acceptance date will be the point when all the nonconformities detected when the system is put into production have been addressed.

10.3 Operational acceptance tests

10.3.1 The Contractor shall prepare and submit all needed documentation for tests and operational acceptance tests procedures in advance.

10.3.2 The PRM (assisted by the Consultant) will perform the tests on the system and its subsystems installation to determine whether the system and the subsystems meet all the requirements mandated for operational acceptance.

10.3.3 The PRM will check the entire business cycle and the related technical performance through operational tests.

10.3.4 The operational acceptance criteria are the following:
   o All positive scenarios have been successfully performed and are operational
   o At least 80% of the negative scenarios are successfully handled
   o There are no high or critical severity bugs
   o No testing scenario will corrupt the data integrity

10.3.5 Major deficiencies shall be considered errors that cause obstruction of system functionalities that prevent avoiding or overcoming a situation in which the System Administrator or even system developers need to get involved.

11. Required format of technical proposals

11.1 Description of information technologies, materials, and other goods and services

11.1.1   The Bidder must provide detailed descriptions of the essential technical, performance, or other relevant characteristics of all key information technologies, materials, other goods, and services offered in the proposal (e.g. version, release and model numbers). If it does not provide sufficient details, the Bidder runs the risk of its proposal being declared non-responsive.

11.2 Commentary technical requirements

11.2.1   To assist the proposal evaluation, detailed descriptions should be given in the form of an item-by-item commentary cross-referencing the bid with the technical requirements. All cross-referenced information must, at a minimum, include clear titles and page numbers.

11.2.2   The commentary should demonstrate the substantial responsiveness to the technical requirement with regards to the overall design of the system and the individual information technologies, goods, and services offered.

11.2.3   In demonstrating the responsiveness of its proposal, the Bidder is strongly urged to use the Technical Responsiveness Checklist. Failure to do so will significantly increase the risk that the Bidder's technical proposal will be declared technically non-responsive. Among other things, the checklist should contain explicit cross-references to the relevant pages in the Bidder's technical proposal.

11.3 Preliminary project plan

11.3.1   The Bidder must prepare a preliminary project plan describing, among other things, the methods and human and material resources that the Bidder proposes to employ in the design, management, coordination, and execution of all its responsibilities. The plan should also describe the estimated duration and completion date for each major activity. The preliminary project plan should also state the Bidder's assessment of the major responsibilities of UNDP (buyer), the PRM (owner) and any other involved third parties in system supply and installation, as well as the Bidder's proposed means for coordinating activities by each of the involved parties to avoid delays or interference.

11.3.2   Additionally, it is imperative that the preliminary project plan contains an implementation schedule.

11.4 Confirmation of responsibility for integration and interoperability of information technologies

11.4.1   The Bidder must submit a written confirmation that, if awarded the Contract, it shall accept responsibility for successful integration and interoperability of all the proposed information technologies included in the system.

11.5 Project management methodology

11.5.1.   Project management activities must be conducted in accordance with an internationally recognized methodology of specific project management professional bodies.

11.5.2   In the technical proposal the Bidder shall submit a detailed description of the project management methodology that will be used in the project and will describe how the proposed experts will be involved.

11.5.3   In the technical proposal, the Bidder shall submit the detailed plan for the provision of services for the entire term of the Contract. The service provision plan should contain all requested services, by stages.

11.5.4   In the technical proposal, the Bidder shall describe how the progress in project activities will be reported. The Bidder shall describe in detail the reporting procedure in terms of reporting periods, forms used, the information to be contained in reports, and the reporting approval process.

11.5.5   The Bidder shall describe in his proposed project plan how communication between project participants will be ensured.

11.5.6   The Bidder will describe in the technical proposal how problems will be solved that may arise during the project.

11.5.7   The procedures and forms to be used for management of problems, their escalation and resolution will be presented.

11.5.8   The Bidder will present the plan of acceptance to be used in the project for partial delivery/acceptance and the final completion/acceptance. The plan, divided in stages, and the forms for partial and final completion/acceptance, shall be submitted.

11.5.9   The Bidder will describe in the technical proposal how changes during project implementation will be treated (within the terms of reference). The procedure related to change management and the forms to be used in this process will be described.

11.5.10 The Bidder will adjust size the project management team so that, for the entire duration of the Contract, the people responsible for carrying out this activity are available on-site to ensure the best implementation of the project.

11.5.11 Given the complexity and duration of the project, the Bidder should consider the need for provision of an adequate number of man-days for project management activities by allocating key and non-key experts. The key experts for these activities are Project Managers.

11.5.12 The Proposal must include an initial project plan, with as many details as possible, to meet the requirements of staging and the project deadline.

11.5.13 The implementation of the entire system should cover the following steps:

- Analysis
- Design
- Configuration/adaptation, including internal testing
- Implementation
- Acceptance tests
- Training of users
- Production entering
- Maintenance and support

11.5.14 Technical assistance and support during the initial plan is required to be submitted with the proposal. It must cover all the steps mentioned in 11.5.13.

11.6 Analysis and design

11.6.1   The Bidder should describe in detail the methodology by which analysis and design activities will be conducted.

11.6.2   The Bidder must submit, along with the proposal, the procedures and work instructions for analysis and design implemented within their organization. The Bidder must describe the tools that they use to ensure:
- Collection and recording of requirements
- Full coverage of the project theme
- Tracking requirement changes

- Traceability of requirements from project objectives to technical specifications
- Modeling of processes and activities in accordance with recognized modeling and representation standards (UML or equivalent)

11.6.3   The Bidder must submit detailed deliverables that will be the result of appropriate service delivery at the stages of development and design. The description should include at least the following information:
- Form(s) to be used for each deliverable
- Description of the contents of each deliverable
- How the content of deliverables will be interpreted

11.7 Development/configuration and internal testing

11.7.1   The Bidder should describe in detail the methodology by which they will conduct development/configuration and internal testing activities and demonstrate the integration of these procedures for analysis and design procedures.

11.7.2   The Bidder must submit with the Proposal the procedures and work instructions for development/configuration and internal testing implemented within their organization

11.7.3   The Bidder must submit the detailed deliverables that will result from appropriate service delivery at the stages of development / configuration and internal testing.

11.8 Implementation

11.8.1   The Bidder should describe in detail the methodology by which they will conduct implementation activities.

11.8.2   The Bidder must submit with the Proposal the procedures and the instructions for implementation within their organization and will demonstrate the integration of these procedures with procedures related to development/configuration and internal testing.

11.8.3   The Bidder must submit detailed deliverables that will result from the provision of appropriate services in the implementation phase. The description should include at least the following information: form/forms to be used for each deliverable description, description of the contents of each deliverable, description of how the content of deliverables will be interpreted

11.8.4   The Bidder shall describe the procedure for user training. The procedure should include at least the following information: description of courses and expected results; course assessment method; trainee assessment method; and forms to be used.

11.9 Acceptance tests

11.9.1   The Bidder will present in detail the methodology and procedures by which specific acceptance testing activities will be conducted. The methodology will be adapted to the project.

11.9.2   The Bidder shall demonstrate that the proposed methodology and procedures they will use fully cover the topic of the project so that it is possible to test all the functionalities identified in the analysis and design phase.

11.10 Production entry
The Bidder must submit the plan to be used upon the system's entry into production. The submitted plan must consider the logical links between the subsystems to ensure a coherent production entry.

11.11 Technical responsiveness checklist

Note to Bidder: The following checklist is provided to help the Bidder organize and consistently present its technical proposal. For each of the technical requirements, the Bidder must describe how its technical proposal responds to each requirement. In addition, the Bidder must provide cross-references to the relevant supporting information, if any, included in the proposal. The cross-references should identify the relevant document(s), page number(s), and paragraph(s). The technical responsiveness checklist does not supersede the rest of the technical requirements (or any other part of the proposal documents). If a requirement is not mentioned in the checklist, that does not relieve the Bidder of the responsibility for including supporting evidence of compliance with that requirement in its technical proposal. One- or two-word responses (e.g. "Yes," "No," "Will comply," etc.) are normally not sufficient to confirm technical responsiveness to the technical requirements.

Sample of the technical responsiveness checklist:

Tech. Require. No. FRQ001	Technical Requirement:	Mandatory
Bidder's technical reasons supporting compliance:		
Bidder's cross-references to supporting information in technical proposal:		

Tech. Require. No. ARCH001	Technical Requirement:	Mandatory
Bidder's technical reasons supporting compliance:		
Bidder's cross references to supporting information in technical proposal:		

Tech. Require. No. TP001	Technical Requirement:	Mandatory
Bidder's technical reasons supporting compliance:		
Bidder's cross references to supporting information in technical proposal:		

12. Implementation schedule

#	Task /item	Responsible parties	Deliverables	Start week	End week (incl. acceptance)	Milestone
1	PHASE I: Analysis and Design					
1.1	Contract signing and kick-off meeting. Hold workshops with the stakeholders and prepare a detailed software requirements specification	Contractor, PRM	Approved detailed software requirements specification	W1	W8	No
1.2	Prepare and approve the detailed requirements specification for the virtual servers and other Cloud infrastructure	Contractor, PRM	Approved hardware specification for the virtual servers and other needed Cloud infrastructure	W1	W8	No
1.3	Preparation of technical specification for the client's hardware (e.g. PCs, tablets and other devices, if necessary).	Contractor, PRM	Technical specification for the client's hardware, if needed	W1	W8	No
1.4	Defining datasets from other PRM IT systems (e.g. Digital Archive, etc) needed for the implementation of electronic data exchange.	Contractor, PRM	Datasets for electronic data exchange	W9	W10	No
1.5	Preparation of the detailed plan for installation of the e-Parliament system	Contractor	Detailed plan for adaptation/configuration and implementation of the e-Parliament system	W9	W10	Yes
1.6	Preparation of the final set of functionalities that will be installed for the pilot use of the system.	Contractor, PRM	Approved priority workflows and functionalities for the piloting period	W9	W12	Yes

#	Task /item	Responsible parties	Deliverables	Start week	End week (incl. acceptance)	Milestone
2	PHASE II: Installation of the pilot version					
2.1	Establishment of the test environments either in PRM's or MCloud infrastructure.	Contractor, PRM (or CTS if MCloud is selected)		W13	W14	No
2.2	Installation of the e-Parliament priority functionalities according to the prepared detailed requirements specification.	Contractor		W13	W14	Yes
2.6	Establish data to be published on the official website of PRM (public web portal)	Contractor		W13	W14	No
2.3	Integration with other PRM IT systems, according to the specification and identified datasets	Contractor, PRM		W15	W16	No
2.4	Configuration of the public web portal component	Contractor, PRM		W15	W16	No
2.5	Training of users that will be involved in the piloting phase	Contractor, PRM	Initial versions of training materials: training curricula; user's manuals	W15	W16	No
2.7	Launch the system in the pilot mode for the established priority functionalities and workflows.	Contractor, PRM, UNDP	Minutes of acceptance for launching the piloting phase	W17	W17	Yes
3	PHASE III: Piloting					

#	Task /item	Responsible parties	Deliverables	Start week	End week (incl. acceptance)	Milestone
3.1	Monitoring of the piloting phase	Contractor, PRM, UNDP		W17	W20	No
3.2	Preparation and submission of the Piloting Report	PRM, UNDP	Report on piloting period, which would include discovered bugs, concerns, proposals and conclusions	W21	W21	Yes
4	PHASE IV: Final configuration and users' training					
4.1	Analyse results of the piloting period and apply corrective changes if needed.	Contractor	Report on corrective changes of the software as a result of piloting	W22	W24	No
4.2	Implementation of all functionalities established during the preparation of the detailed design of the e-Parliament system.	Contractor	Report on implemented functionalities (all functionalities according to SRS document)	W25	W28	No
4.3	Identifying requirements and implementation of the reporting module agreed with the PRM	Contractor, PRM	System reporting requirements and implemented reports	W25	W28	Yes

#	Task /item	Responsible parties	Deliverables	Start week	End week (incl. acceptance)	Milestone
4.4	Final training on using the e-Parliament functionalities according to the train-the-trainer approach (all users of e-Parliament, including Systems Administrators)	Contractor, UNDP	Training curricula, user's manual, administrator's manual, training presentations	W29	W30	Yes
5	PHASE V: Quality assurance (testing)					
5.1	Preparation of the test scenarios and detailed testing plan	Third-party quality assurance	Approved testing plan and scenarios	W31	W32	
5.2	Performance testing (load and stress testing), iterative (including corrective activities)	Third-party quality assurance, Contractor	Report on performed testing (performance)	W33	W36	
5.3	Security testing, iterative (including corrective activities)	Third-party quality assurance, Contractor	Report on performed testing (security)	W37	W40	
5.4	Deployment and acceptance of e-Parliament in the "production" environment of PRM or MCloud according to the testing plan	PRM, UNDP, Contractor	Approved Minute of Final Acceptance	W41	W42	Yes
6	PHASE VI: Support and maintenance					

#	Task /item	Responsible parties	Deliverables	Start week	End week (incl. acceptance)	Milestone
6.1	Technical support to correct any shortcomings related to the e-Parliament functionalities or the system software configuration for a period of 24 months after the acceptance of the first version (warranty period hereinafter).	PRM, UNDP, Contractor		W43	(12 months after operational acceptance)	No
6.2	Troubleshooting of problems related to the development/configuration of the e-Parliament functionalities not identified during testing and acceptance phases in a warranty period	PRM, UNDP, Contractor		W43	(12 months after operational acceptance)	No
6.3	Additional knowledge transfer if it is deemed necessary by PRM staff in the warranty period.	PRM, UNDP, Contractor		W43	(12 months after operational acceptance)	No
6.4	Post-implementation support according to the requirements and the SLA	PRM, UNDP, Contractor		W43	(12 months after operational acceptance)	No
6.5	Provide any available updates and upgrades to the installed IT solution, including DBMS, BPM Platform, other third-party software	PRM, UNDP, Contractor		W43	(12 months after operational acceptance)	No

#	Task /item	Responsible parties	Deliverables	Start week	End week (incl. acceptance)	Milestone
6.6	Implementation of the workflows and minor additional functionalities that will be identified by PRM during the post-implementation phase and modifications in the existing workflows.	PRM, UNDP, Contractor		W43	(12 months after operational acceptance)	Yes

Annex A. Existing situation related to the e-Voting and conference sub-system

The PRM currently operates a Bosch e-Conference solution without any adapted software for PRM voting. The Bosch conference software available at the parliament that should be used in conjunction with the e-Parliament system, is as follows:

- DCN-SW-E – Conference Software Main Module
- DCN-SWID-E – The ID-card Encoding module
- DCN-SWMM-E – Conference Software Microphone Management
- DCN-SWPV-E – Conference Software Parliamentary Voting
- DCN-SWSI-E – Simultaneous Interpretation Software Module
- DCN-SWDB-E – Conference Software Delegate Database
- DCN-SWSMD-E – Conference Software Streaming Meeting Data
- DCN-SWSACC-E – Standalone Automatic Camera Control
- DCN-SWMD-E – The Message Distribution Module
- DCN-SWMPC-E – Conference Software Multi PC Module
- DCN-SWAT – The Attendance Registration and Access Control Software Module

It is important to mention that currently there is no DCN-SWAP Application Programming Interface at the parliament. This component needs to be installed, in order to allow usage by third party applications for controlling modifying, adding, removing and updating a subset of the DCN-SW configuration and control data. This can only be used in combination with the DCN-SW Conference Software module.

The DCN-SWAPI is deployed as a Microsoft.Net component. It also includes a subset of the DCN-SW control functionality to control meetings. DCN-SWAPI is necessary to be installed, in order to offer the PRM's conference system the following possibilities:

- Control DCN meeting, session, discussion and voting
- Exchange and synchronize delegates' and participants' information with third-party systems
- Import vote scripts
- Encode ID cards solution for third-party systems
- C-Sharp source code example available

More specifically, DCN-SWAPI enables the following control and configuration functions of DCN-SW via the API:
Control functions available via the API:

- Control the DCN system
- Stop and start meetings
- Stop and start sessions
- Control participants microphones
- Control request and response lists
- Control prepared and ad-hoc voting and summon participants for the voting

Configuration functions available via the API:

- Add or remove delegates to the system. This implies per delegate:
  - Definition of title, first, middle and last name
  - ID card assignment
  - Assignment to a group (e.g. political party)
  - Language assignment

- Update delegate information
  - Encode ID-card for a delegate (in combination with DCN-SWID)
- Assign or remove delegates as participant to or from a prepared or active meeting. This implies per participants:
  - Assignment to the meeting

- o   Assignment to a seat

- Add or remove votes to/from a voting script of a prepared or active meeting. This implies per voting:
  - o   Assignment to voting script
  - o   Definition of voting template to use
  - o   Definition of voting answer set to use
  - o   Definition of voting 100% setting
  - o   Update voting information in a voting script of a prepared or active meeting.
  - o   Example C-Sharp source code and extensive software developer manual available on DCN-SW DVD.

The DCN-SWAPI licence enables third-party interfacing to DCN-SW software. To be able to use extended DCN-SW functionality, like Microphone Management (DCN-SWMM), delegate database (DCN-SWDB) or voting (Parliamentary DCN-SWPV or Multi-voting DCN-SWMV) via the API requires the appropriate DCN-SW licences.