# Request for Quotation RFO # 2004-13

**USAID Model Court Initiative** 

# for Developing an Online System for Managing Petitions and Notifications Submitted by Court Users to Moldovan Courts Date: November 5, 2021

Checchi and Company Consulting, Inc. (part of Dexis Consulting Group) requests quotations for pricing and terms of potential provision for Developing of an Online System for Managing Petitions and Notifications Submitted by Court Users to Moldovan Courts (hereinafter referred to as "the Online System"), as outlined below:

#### **BACKGROUND**

Checchi and Company Consulting, Inc. (Checchi), an international consulting company based in USA, is currently implementing the USAID-funded **Model Court Initiative (MCI) project in Moldova.** The goal of the MCI project is to assist the Government of Moldova to implement initiatives aimed at improving the efficiency, performance, and quality of court services based on best international practices and in line with international excellence standards for court services.

#### **INSTRUCTIONS TO OFFERORS**

With this RFQ, Checchi is soliciting offers from qualified companies to participate in the tender for Developing of an Online System in accordance with the specifications set forth below. As part of project activities, the MCI in Moldova requires the purchase of development services of an Online System for Managing Petitions and Notifications Submitted by Court Users to Moldovan Courts.

Offerors are responsible for ensuring that their offers are received by Checchi in accordance with the instructions, terms, and conditions described in this RFQ. Failure to adhere with instructions described in this RFQ may lead to disqualification of an offer from consideration.

#### Offer Submission Deadline

Offers must be received no later than **December 13, 2021, 23:59 local time.** Proposals received after the deadline may not be considered.

#### **Submission of Offers**

All offers must be submitted electronically to the following email address: <a href="mailto:moldova@dexisonline.com">moldova@dexisonline.com</a> .

Offers must be on company letterhead with the company's contact name and address.

Please quote reference "RFQ # 2004-13" in the subject of the email.

#### **Questions and Clarifications**

All questions and clarifications regarding this RFQ must be submitted in writing to <a href="moldova@dexisonline.com">moldova@dexisonline.com</a> no later than **December 09, 2021, 17:00 local time**. All correspondence must provide reference to the RFQ number. Questions and clarifications that may be of interest to other bidders will be circulated to all parties that submitted the questions.

Only the written answers issued by Checchi will be considered official and carry weight in the RFQ process and subsequent evaluation. Any verbal information received from employees of Checchi or any other entity should not be considered as an official response to any questions regarding this RFQ.

#### **Required Documentation**

The offers must include the following:

- Contact information of the Offeror. Cover letter, signed by an authorized representative of the offeror, which contains general information about the contractor, including full legal name and address of the company, full name of the legal representative (president or managing director) of the company, a contact name, email address, and telephone number to facilitate communication between Checchi and the prospective contractor;
- Offeror's professional track record and a description of a relevant portfolio demonstrating previous experience at least three successful projects of similar dimension and complexity, where at least one project was for a state institution;
- Official quotation (A. Cost and B. Technical), including specifications of offered items and/or services (see Sections ANNEX A. TERMS OF REFERENCE and ANNEX B. TECHNICAL SPECIFICATIONS);
- Description of approach and methodology to be used;
- Detailed CVs of staff to be involved and their roles and assignments within the project;
- Copy of offeror's corporate and tax registration documents or business license;
- Minimum three (3) references (names and contact information) that Checchi may contact to assess the company's past performance of similar work during the past three (3) years. References must include the following: name of the entity; contact name, phone number and email address; time periods when the work was performed; brief description of tasks, responsibilities, and deliverables;
- Other attachments (if any).

Offerors are requested to provide quotations on their official quotation format or letterhead.

#### Source/Nationality / Origin

Only firms legally registered in Moldova may submit an offer in response to this RFQ.

All services offered in response to this RFQ or supplied under any resulting award must meet **USAID Geographic Code 937** and **II0** in accordance with the United States Code of Federal Regulations (CFR), 22 CFR §228. The cooperating country for this RFQ is Moldova.

#### Quotations

**A. Cost:** Prices must be quoted as showing unit prices and total prices. Quotations must be expressed as fixed price, in USD. No taxes or fees are to be added. Checchi is VAT-exempt. Offers must clearly list all the items, indicate unit prices, quantities and total price.

- **B. Technical Quotation:** A technical quotation will be submitted demonstrating how the assigned tasks set forth in Annexes A and B shall be completed. The Technical Quotation shall be organized as follows:
- Cover page indicating the name of the company, registration number, contact information (address, telephone, e-mail for your company) and the name and title of the person authorized to negotiate the contract:
- Table of Contents;
- Acronyms page;
- Executive Summary a summary of the main elements of your technical proposal per the technical evaluation factors (5 pages or less);
- Technical Approach your detailed technical approach and methodology covering Annexes A and B, organized according the technical evaluation criteria (60-page limit);
- Annexes: You may provide additional information in Annexes labeled A, B such as Curriculum vitae of key personnel, charts, tables, technical specifications and other information.

#### **Validity Period**

Offers must be valid for a minimum of sixty (60) calendar days after the offer deadline.

**Eligibility**: By submitting an offer in response to this RFQ, the offeror certifies that it and its principal officers are not debarred, suspended, or otherwise considered ineligible for an award by the U.S. Government. Checchi

will not award a contract to any firm that is debarred, suspended, or considered to be ineligible by the U.S. Government.

#### **Negotiations**

It is expected that awards will be made based on submitted offers. However, Checchi reserves the right to conduct negotiations and request clarifications prior to awarding the contract.

#### **Basis for Award**

The award will be made to an Offeror whose offer is compliant with RFQ instructions and is evaluated as the most advantageous for Checchi.

#### **Terms and Conditions**

The award is subject to Checchi's standard terms and conditions. Please note that Checchi standard payment terms are ten (10) banking business days upon receipt of the complete documentation after acceptance of the deliverables. No advance payments are possible.

#### **Evaluation of Quotations**

All Responses must contain the elements outlined in this RFQ for Checchi and Company Consulting, Inc. to comprehensively evaluate each quotation.

Checchi and Company Consulting, Inc. will first evaluate quotations for compliance with the mandatory requirements/ elements of this RFQ. Quotations that do not contain all mandatory requirements/ elements will not be considered.

Evaluation of offers will be performed according to the following evaluation criteria:

| #  | CATEGORY  | POINTS |
|----|---|--------|
| Ι. | Adequacy and quality of the proposed technical approach and development methodology in responding to the Terms of Reference (maximum 25p.)  | 25     |
|    | • Functional, Technology & Security evaluation: A. Functional Requirements = 60%; B. Non-functional requirements = 40%  |        |
| 2. | Relevant experience and proved expertise (maximum 25p.)   | 25     |
|    | • Specific experience of the Offeror relevant to the assignment: A. Overall experience = 70%; B. Local experience = 30% (maximum 15p.)  |        |
|    | <ul> <li>Minimum seven years of successful work experience in demonstrating at least 5 years<br/>of previous experience in software development on the Moldovan market (maximum<br/>5p.)</li> </ul>   |        |
|    | • The degree to which the Offeror demonstrates a very good professional reputation as evidenced by the recommendation letters and contact references (maximum 5p).  |        |
| 3. | Quality of technical proposal (maximum 20p.)  | 20     |
|    | <ul> <li>Proposed quotation and approach to this RFQ match the requirements, deliverables set out in this document. (maximum 10p.)</li> <li>Detailed and sound project plan for the successful completion of the work. (maximum 10p.)</li> </ul>  |        |
| 4. | Key Experts' qualifications and competence for the Assignment  Position K-1: Project Manager = 5p  A. General qualifications (general education, training, and experience) = 10%  B. Adequacy for the Assignment (relevant education, training, experience in the sector/similar assignments) = 80% | 15     |

|              | C.      | Relevant experience in the region (working level fluency in local                |     |
|--------------|---------|--|-----|
|              |         | language(s)/knowledge of local culture or administrative system, government      |     |
|              |         | organization, etc.) = 10%  |     |
|              | Po      | sition K-2: Business Analyst = 4p  |     |
|              |         | General qualifications (general education, training, and experience) = 10%       |     |
|              | В.      | Adequacy for the Assignment (relevant education, training, experience in the     |     |
|              | (       | sector/similar assignments) =80%   |     |
|              | C.      | Relevant experience in the region (working level fluency in local                |     |
|              |         | language(s)/knowledge of local culture or administrative system, government      |     |
|              | P.      | organization, etc.) = 10% sition K-3: Software Development Engineer = 2p         |     |
|              |         | General qualifications (general education, training, and experience) = 10%       |     |
|              | A.<br>D | Adequacy for the Assignment (relevant education, training, and experience) – 10% |     |
|              | В.      | sector/similar assignments) = 80%  |     |
|              | (       | Relevant experience in the region (working level fluency in local                |     |
|              | C.      | language(s)/knowledge of local culture or administrative system, government      |     |
|              |         | organization, etc.) = 10%  |     |
|              | Po      | sition K-4: Quality Assurance Specialist = 2p                                    |     |
|              |         | General qualifications (general education, training, and experience) = 10%       |     |
|              |         | Adequacy for the Assignment (relevant education, training, experience in the     |     |
|              |         | sector/similar assignments) = 80%  |     |
|              | C.      | Relevant experience in the region (working level fluency in local                |     |
|              |         | language(s)/knowledge of local culture or administrative system, government      |     |
|              |         | organization, etc.) = 10%  |     |
|              | Po      | sition K-5: Training Specialist = 2p   |     |
|              | A.      | General qualifications (general education, training, and experience) = 10%       |     |
|              | В.      | Adequacy for the Assignment (relevant education, training, experience in the     |     |
|              | _       | sector/similar assignments) = 80%  |     |
|              | C.      | Relevant experience in the region (working level fluency in local                |     |
|              |         | language(s)/knowledge of local culture or administrative system, government      |     |
|              |         | organization, etc.) = 10%  |     |
| 5.           | Price   |  | 15  |
|              |         |  |     |
|              |         |  |     |
| TOTAL SCORE: |         |  | 100 |
|              |         |  |     |

**NB:** Each sub-criterion will receive points only when it is proved through confirming documents, materials and/or documented experience.

#### **Evaluation Criteria Grading for Each Criterion:**

Exceptional 5 Points
Exceeds Expectations 4 Points
Meets Expectations 3 Points
Meets most but not All Expectations 2 Points
Non-Responsive to Expectations 1 Point

#### Partial Quotes: are allowed.

Checchi reserves the right to accept all or part of the quotation when awarding the contract. While preference will be given to offerors who can address the full technical requirements of this RFQ, Checchi may issue a partial award or split the award among various suppliers, if in the best interest of the Model Court Initiative project.

The Offeror that receives the most review points will be recommended for a contract.

# ANNEX A TERMS OF REFERENCE

# FOR DEVELOPING AN ONLINE SYSTEM FOR MANAGING PETITIONS AND NOTIFICATIONS SUBMITTED BY COURT USERS TO MOLDOVAN COURTS

#### I. Introduction

Checchi and Company Consulting, Inc. is an international development firm based in the United States of America, which is implementing the USAID-funded MCI Project in Moldova. MCI will assist the Government of Moldova to improve the efficiency and transparency of the Moldovan judicial system and improve access to justice for citizens of Moldova.

Checchi, through the MCI Project, will develop a new Online System for Managing Petitions and Notifications Submitted by Court Users to Moldovan Courts (hereinafter referred to as "the Online System"). The Online System is an electronic tool, which will help courts to improve their communication with the beneficiaries of their services by using information technologies.

To achieve this purpose, MCI seeks a Local IT Company, which will assess, map, design, develop and implement the new Online System. The new software will be sustainable and capable of integration with all relevant Egovernance Systems in Moldova.

#### 2. Background

The Online System will facilitate the courts's efforts in quality management, offering a tool that will help with the analysis of the problems that courts face in their activities. It will also help courts gain experience leading to a better decision-making process resulting in an improved performance of the courts.

The institutionalization of an Online System, which will be available on the courts' websites, also aims at familiarizing court users with the legal procedures they must follow when filing a petition or a notification related to a judge examining their case.

During the initial phase of developing the Online System, its direct beneficiaries will include the Pilot Model Courts (PMCs) – the Balti and Ungheni District Courts and the parties of the cases examined in these two courts. Initially, the functionalities of the online system will be tested in the PMCs. The PMCs and the case parties who will participate in the piloting of the online system will be consulted about all the details related to the designed functionalities.

Consequently, the scope and high-level activities under the current assignment include:

- Development of a new Online System, using modern technologies and high-resilience centralized architecture;
- Integration of the new Online System with relevant state information systems and development of APIs to allow exchange data with third-party systems, as well as integration with relevant e-Governance systems (MPass, MSign, MNotify, MPay, MConnect etc.);
- Training the PMCs court personnel in using the new Online System, as well as administrators from PMCs, Agency for Courts Administration (ACA) and SITCS (Service for Information Technology and Cyber Security) and facilitation of User Acceptance Testing (UAT) process;
- Warranty, system maintenance and user support.

Detailed technical specifications for development of the Online System are included in Annex B.

#### 3. Technical approach and methodology

An iterative development approach is required to deliver the project on time and in accordance with beneficiaries' expectations. When developing the project methodology, the IT Company shall consider the following aspects:

- Development shall be based on an iterative development methodology;
- The iterations shall result in monthly feature releases of Online System to test environment;
- The release plan and feature set shall be pre-approved by MCI and reviewed prior to the start of each iteration;
- A timeboxed approach (such as Agile with scrum, RAD, Kanban) shall be used within the monthly iterations, with MCI technical leader serving as product owner;
- The IT Company shall plan intermediary bi-weekly demo releases attended by MCI key staff (mandatory) and beneficiaries' representatives (as deemed necessary by MCI);
- After each demo release, the IT Company will prepare and submit progress report outlining progress against plan, risks and dependencies, next steps etc.

Prior to the start of the development, MCI will evaluate and approve the technical team, which will be involved in the development and implementation of the Online System. Any changes to the team shall be flagged to MCI and new team members shall be pre-approved by MCI before embarking on the project.

#### 4. Requirements regarding Offeror's Team

The proposed professional staff should have worked within the IT Company for at least I year.

The IT Company Team will include at least: Project Manager – I employee, Business Analyst – I employee, Software Developers – 3 employees, Quality Assurance Specialist - I employee, Training Specialist – I employee.

The Offer shall include the CVs of the proposed team members with letters of commitment that his/her employment contract will be full-time for the duration of the development and implementation of the Online System.

The IT Company Team will include five key personnel positions. The minimum qualification requirements for the key staff members are described below:

| Profile                   | Minimum Requirements   |
|---------------------------|--|
| Project Manager           |  |
| Qualifications and skills | <ul> <li>University graduate in IT&amp;C (Information Technology and Communications)<br/>fields, confirmed by graduation diploma.</li> </ul>   |
|                           | <ul> <li>Internationally recognized project management certification obtained at least<br/>5 years prior to the offer submission date; as a prove will serve the scanned<br/>copy of the diploma/certificate.</li> </ul> |
|                           | <ul> <li>Knowledge regarding a methodology for IT services management, and the<br/>necessary and sufficient skills for creating the IT flows and processes,<br/>respectively.</li> </ul>                                 |
|                           | Ability to speak, write and read English and Romanian fluently.  |

| Profile  | Minimum Requirements  |  |
|--|---|--|
| Professional   | At least 10 years of overall professional experience in the IT field.   |  |
| experience   | Professional experience as Project Manager in at least one project completed for implementation of an integrated information System of the same scale.  |  |
| <b>Business Analyst</b>  |   |  |
| Qualifications and   | Graduate studies in the IT&C field, confirmed by graduation diploma.  |  |
| skills   | <ul> <li>Knowledge on business processes modeling in the content of IT systems,<br/>proved by a diploma/ certificate in the field.</li> </ul>   |  |
|  | <ul> <li>Ability to speak, write and read English and Romanian fluently.</li> </ul>   |  |
| Professional   | At least 10 years of overall professional experience in the IT field.   |  |
| experience   | Specific professional experience proved through participating in at least one similar project for implementation of an integrated information System, in which he/she held a position of Lead Business Analyst. |  |
| Software Develop   | ment Engineer   |  |
| Qualifications and skills  | Graduate studies in the IT&C field, completed by graduation diploma.  |  |
| Professional   | At least 10 years of overall professional experience in the IT field.   |  |
| experience   | Specific professional experience proved through participating in at least one similar project, for implementation of an integrated information system, in which he/she held a position of Technical leader.     |  |
| Quality Assurance  | Specialist  |  |
| Qualifications and skills  | Graduate studies in the IT&C field, completed by graduation diploma.  |  |
| Professional   | At least 10 years of overall professional experience in the IT field.   |  |
| experience  Specific professional experience proved through participating in at least project, for implementation of an integrated information system, in which held a position of Quality Assurance Specialist. |   |  |
| Training Specialist  |   |  |
| Qualifications and   | Higher Education in ICT, or another relevant field.   |  |
| skills   | <ul> <li>Significant professional experience in conducting trainings.</li> </ul>  |  |
|  | <ul> <li>Significant professional experience in development and monitoring training<br/>courses.</li> </ul>   |  |
|  | Excellent speaking and writing in Romanian.   |  |
| Professional experience  | At least 5 years of overall professional experience in training users in using information systems. Experience in training representatives of the public sector is an advantage.                                |  |

### 5. Preliminary release plan

#### Iteration's name

#### Iteration I

- a. User Management Module
- b. Application Administration Module (Settings)
- c. Classifiers Management Module

#### Iteration 2

- a. Court management module (Subdivisions, Staff, Court Teams)
- b. System intern Notifications Module + System intern Notification Engine + Integration with M-Notify
- c. Security Module
- d. Audit Trail Module and Integration with M-Log
- e. Document Management Module (Repository)

#### **Iteration 3**

- a. Petitions and Notifications submission module
- b. Petitions and Notifications Management Module (included Petitions and Notifications for all types of courts)

#### **Iteration 4**

- a. Assignment Management Module
- b. Petitions and Notifications Transfer
- c. Archiving Module
- d. Templates Management Module
- e. Document Management Module (Versioning, Documents Sign)

#### Iteration 5

- a. Reports
- b. Application Administration Module (External Services Configuration Panel)
- c. API-Integration Module

#### 6. Implementation schedule

The IT Company shall take the following implementation schedule in account when planning project activities:

| #   | STAGE / Milestone                         | Delivery date* | Acceptance<br>date* | Liquidated damages |
|-----|---|----------------|---------------------|--------------------|
| 0   | PLANNING, DESIGN AND BUSINESS<br>ANALYSIS | Week 3         | Week 5              |                    |
| I   | SYSTEM DEVELOPMENT                        | Week 16        | Week 20             | Yes                |
| 1.1 | Iteration I                               | Week 4         | -                   | Yes                |
| 1.2 | Iteration 2                               | Week 8         | -                   | Yes                |
| 1.3 | Iteration 3                               | Week 12        | -                   | Yes                |
| 1.4 | Iteration 4                               | Week 16        | -                   | Yes                |
| 1.5 | Iteration 5                               | Week 20        | -                   | Yes                |
| 2   | USER TRAINING                             | Week 22        | Week 23             | Yes                |
| 3   | PILOTING                                  | Week 24        | Week 44             | Yes                |
| 4   | WARRANTY MAINTENANCE AND SUPPORT          | Week 96        |                     |                    |

<sup>\*</sup> Weeks from contract signing date

#### 7. Implementation stages

For a better understanding of the current assignment, the Offeror is required to identify and list the major implementation stages and related activities. Note that due to the iterative nature of the project, some of these phases and activities shall also be treated as iterative.

#### 8. Planning and design

During this phase, the IT Company shall perform the following major activities:

- Fine-tune the approach and methodology;
- Develop and agree with MCI and the beneficiaries (PMCs and ACA) about the high-level project plan and work breakdown structure; note that due to iterative nature of the project, detailed work plans will be developed and followed iteratively;
- Agree on the overall architectural approach and technical design aspects.

#### 9. System development

During the system development phase, the IT Company shall perform the following major activities:

- Develop the system according to functional and non-functional requirements of the stakeholders (PMCs, SCM, ACA and SITCS);
- Leverage the existing e-Government platforms for secure authentication, electronic signature;
- Automate system deployment, so that deployment of new builds is made with minimal manual intervention and downtime;
- Configure and maintain a test and production environment;
- Maintain at all stages of system development a complete and up-to-date set of technical documentation, as detailed in the deliverables section below.

#### 10. Testing and QA

During the testing and quality assurance phase, the IT Company shall perform the following major activities:

- Develop a complete set of test cases in a test management tool (e.g. TestLink or similar);
- Agree with the MCI stakeholders (PMCs, SCM, ACA and SITCS) on the quality metrics for deploying the new releases for UAT; such metrics would revolve around the acceptable number of defects and severities discovered during internal testing process;
- Thoroughly test each release so that it is free of defects and other non-conformities and within the agreed quality metrics;
- Develop test execution reports before deployment of new releases; ideally, these reports should be
  generated based on data from the test management tool, with summary and conclusions added by the
  QA manager and recommendations for deployment or returning the release into development based
  on agreed quality metrics;
- Perform regular code reviews so that each release has passed at least one quality review, demonstrated by a code review report;
- During pilot stage, perform security and performance testing to ensure that the system is secure and can withstand enough users for production use.

#### 11. User Acceptance Testing

User acceptance testing is a crucial phase for the success of the project and even though, most of the UAT activities shall be undertaken by the project beneficiaries, the IT Company shall perform the following activities:

- Develop, together with the stakeholders (PMCs, SCM, ACA and STICS), a conclusive set of test cases that will be used for user acceptance testing;
- Provide support to stakeholder in running the UAT test scenarios and documenting the findings.

#### 12. User Training

The following activities for under the user training phase:

- Develop and maintain complete user guides for each of the main actors with description of main operations and screenshots of the application;
- Develop and maintain a complete administrators' guide with description of administrative operations and screenshots of the application;
- Develop video tutorials for main scenarios by user roles, so that it is easy to train new users;
- Perform hand-on training for users in two pilot courts;
- After the pilot period, train a group of up to 15 trainers who will assist other courts than PMCs in using the Online System, with a focus on the functional and interface changes from the current version;
- Train a group of up to 5 system administrators from ACA and SITCS;
- Test the knowledge of trained users, including administrators, and issue certificates that confirm their ability to use and administrate the system.

#### 13. Piloting

Piloting is crucial for the project success, as it allows to use the software in real life conditions. The pilot phase shall start after Iteration 5 after the last feature release, to be agreed with MCI during project planning process. Piloting will start as soon as all (agreed) base scenarios are functional and no severity 0 and 1 defects have been identified during testing.

Online System will be piloted in 2 districts courts (Ungheni District Court and Balti District Court) during 4-5 months.

During the piloting of the Online System, the IT Company will ensure proper support to the users. It is expected that a bugfix release shall be developed and deployed during piloting phase, in order to fix high-priority non-conformities and adjustments to the system.

#### 14. Warranty maintenance and support services

Online System adoption relies on proper user support and system resilience. That is why Online System shall have proper user support for a period of 12 months from the date of final acceptance, at least in the 8.00-17.00 hours range during business days. During this period, the uptime SLA<sup>1</sup> (Service Level Agreement) for Online System shall be at least 99.9%;

The SLAs for resolving issues shall not exceed the following thresholds:

Percentage of hours in the given period, typically in a month, for which the system is fully available.

- For critical errors, the response time shall not exceed 2 hours, with resolution time not exceeding 4 hours;
- For medium severity errors, the response time shall not exceed I working day, with resolution time not exceeding 3 working days;
- For low severity errors, the response time shall not exceed I working day, with resolution time not exceeding 5 working days.

During this period, the MCI and the IT Company will meet quarterly to review the SLA levels identified above, and review / revise them as necessary to meet evolving system requirements.

The main tasks to be performed during this stage include, but are not limited to:

- Technical support to fix all reported non-conformities related to the Online System functioning;
- Troubleshooting problems related to the Online System configuration and functionality not identified during testing and acceptance phases;
- Support the administration of the Online System offered to designated users to ensure additional knowledge sharing and transfer as appropriate;
- Install updates and upgrades to all components of the Online System, including operating system, database, application server and any other third-party software.

#### 15. Post-warranty maintenance and support services

After the expiry of the warranty period, the Agency for Courts Administration (ACA) as the owner of the Online System may request the extension of services provision based on the cost included in the contract. The Supplier shall accept provision of such services at the specified cost for a period not less than I year.

#### 16. Deliverables

Project deliverables shall include at least the following:

#### A. Planning and design

- Agreed project approach and methodology;
- Project high level plan;
- System architecture and design;
- Business analysis document for system.

#### **B.** System development

- Requirements documentation, maintained throughout the duration of the project and updated with changes resulting from documented change requests;
- Developers' guide, detailing the steps to establish a development environment, as well as fully
  documented and updated source code, delivered using an agreed version control system (e.g. Git,
  SVN, TFS);
- System installation and configuration guides;
- API and integration guide, detailing exposed APIs and offering sample integration code in one or two of widely used programming languages.

#### C. Testing and QA

• Full set of test cases in one of agreed test management tools;

- Quality metrics for deployment of new releases to test and production, signed off by the beneficiary during project planning;
- Test execution reports (for each release), corresponding to agreed quality metrics;
- Code review reports (for each release);
- Security test report (for pilot and production candidate releases);
- Performance test report (for pilot and production candidate releases).

#### D. User acceptance testing

- Full set of test cases for UAT, agreed with the stakeholders (PMCs, ACA and SITCS);
- UAT test execution reports (for each release), corresponding to agreed quality metrics.

#### E. User Training

- User guides;
- Administrator guide;
- Video tutorials;
- Certificates of training completion.

#### F. Piloting

Report on system piloting, outlining main activities performed during this phase, encountered problems and how/if they were solved and recommendations for moving into production (if piloting was successful) or corrective actions to be implemented to allow moving to production.

#### G. Warranty maintenance and support

- The main deliverable for this stage shall be the monthly maintenance report, which will include the following:
  - Details about the incidents reported by users of the Online System during the reporting period and their status, including response and resolution SLAs;
- Details about other interventions during the reporting period (investigations, fine-tunes etc.);
- Actual uptime SLAs during reporting period;

Additionally, if the interventions during the maintenance stage require updates to the technical documentation, training materials, configurations and source code, such updates shall be delivered to MCI together with the monthly maintenance report.

#### 17. Other considerations

#### A. Intellectual property rights

Intellectual Property Rights for all Contract deliverables belong to MCI.

MCI may transfer the Intellectual Property Rights to third parties as appropriate.

# ANNEX B TECHNICAL SPECIFICATIONS

# FOR DEVELOPING AN ONLINE SYSTEM FOR MANAGING PETITIONS AND NOTIFICATIONS SUBMITTED BY COURT USERS TO MOLDOVAN COURTS

I. Project scope and objectives – Online System for Managing Petitions and Notifications Submitted by Court Users to Moldovan Courts

Online System for Managing Petitions and Notifications Submitted by Court Users to Moldovan Courts (hereinafter referred to as "the Online System") aims to improve courts' administrative efficiency, transparency and ensure courts' interaction with court users who consider filing a petition or a notification. The online system will be designed in accordance with legal requirements, including the national standards on the protection of personal data, and the needs of court users and courts to ensure the digitization of all appropriate operating processes. These objectives will be achieved through the following high-level and low-level functionalities:

#### Features that will enable courts to interact with their beneficiaries online

- Users of the Online System can be individuals or a legal entities.
- In under use the Online System the users will click the "Petitions and Notifications" drop-down menu on the court's website and will choose from two submenus: "Petitions" or "Notifications." Online System users who will want to submit a proposal will click a separate menu called "Proposals", which will be available on the court's website.
- The system will prompt the court user, who may be either an individual or a legal entity, to create a personal user account, and the user will fill out the user info sheet and will set up a password.
- The system will offer specific guidance for its users, such as a set of instructions on how to use its specific features at the start and a Frequently Asked Questions (FAQ) section.
- For the most effective interaction with courts and to raise the public's legal awareness, when court users select "Petitions" or "Notifications" from the drop-down menu, the system will show the legal definition of the corresponding legal term and will explain the court's competence to examine them in accordance with the relevant legal requirements.
- The "Petitions and Notifications" component developed to enable interaction with court users will contain two different electronic forms, one for petitions and one for notifications, where the user will fill out mandatory fields. Both electronic forms will request metadata about the surname, name, address, and email address if the complainant is an individual. If the complainant is a legal entity, the form will request the name, headquarters, and email address of the entity.
- The electronic petitions form will also have a mandatory field where the complainant will indicate the recipient court, the object of the petition, and the reason for it. The online system will include the option to upload potentially required documents.
- To submit a notification, the user will select the name of the judge referred to in the disciplinary allegation from a drop-down menu and will indicate the date and place of the alleged actions, a brief description of the facts that may constitute disciplinary offenses, and the evidence supporting the allegation or the persons who can confirm it as appropriate.
- Court users who want to use the "Proposals" menu will also indicate the recipient court, the object of the proposal, and the reasons for it. The online system will include the option to upload documents that may be required for the consideration of the proposal.
- The online system will support two languages. The electronic petitions and notifications forms will be available in Romanian and Russian. Users will sign petitions and notifications by means of the government's secure electronic signature service MSign, which is offered by the government's common

- technology platform that allows the authentication of electronic signatures. To ensure more options of using the system, it will allow submitting PDF versions of signed documents.
- As soon as the filing of the petition or notification is finished, the system will automatically generate a
  registration number and will notify the user via email and personal user account in the Online System
  about the registration of the petition or notification and the registration date generated by the system.
  Court users will have the option of either to retrieve an acknowledgement of receipt of their petition
  or receive a notification online from their personal user accounts in the Online System.
- After the petition and notification are filed, communication between the court user and the court will
  take place via the online system. The system will include functionalities for sending messages from the
  user's personal account to the court, for items such as additional inquiries.
- The court will be able to use the online system to request additional information from the user if the petition is incomplete or to notify the user that they need to come to the court.
- After examining the petition, the court will prepare an answer drafted on the court's letterhead and signed electronically by its Court President or Deputy Court President. The court will save the signed answer in the system and send it to the user's personal account in the Online System and email. For notifications, after examining their content, the court will be able to reply officially to the user's personal account that the notification has been forwarded to the Superior Council of Magistracy (SCM).
- The digital solution will be integrated with the government's service MNotify to enable the electronic notification of the court and the court user via the online system about the delivery and reception of messages.

# Features that will streamline the online filing and examination of petitions and the online reporting of notifications to the SCM by courts

- The online system will help to transform and to increase the efficiency of courts' operating processes by streamlining the work of personnel and will support use of information technology in judicial processes.
- Among other transformative changes for courts, the online system will bring a single digital register of
  petitions and notifications for the courts that will use the Online System. To ensure a single digital
  register, the court will save both the petitions and notifications that were filed on paper at the
  courthouse and those received vie email in the same Online System. This will help automate the
  handling of petitions and notifications and will streamline this process regardless of the submission type
  and format.
- As a result, the online system will enable the retrieval of the register of petitions, notifications, and
  uploaded documents in Excel, Word, PDF, and other data formats. This component of the online
  system will also offer filters for searching by various criteria, such as surnames, names, dates of receipt,
  dates of reply, document types (petition, notification, or proposal) and processing statuses in the
  system (submitted, filed, assigned, under examination, closed, pending, or forwarded to the SCM). This
  will allow court personnel to find information in the online register of petitions and notifications
  swiftly.
- The online system will also include a module for managing system administrators and users from the court based on their roles and level of access to data. System administrators and users from the court will access the online system using the government's electronic authentication and access control service, MPass, offered by the government's common technology platform. MPass was designed to ensure a secure mechanism for authentication and controlling users' access to information systems.
- The online system will offer multiple functionalities that ensure the in-house circulation of petitions and notifications, following all steps required by law and the processing procedures set by the court. Thus, the system will notify the online system administrator from the court whenever the court will receive a petition or a notification. The system administrator will refer petitions and notifications for examination to relevant court specialists using the functionalities of the system.

- The system will integrate a digital library that will offer the system administrator and relevant court specialists access to standard forms with the autocomplete function for important data, such as the letterhead and contact details of the court and the surname, name, and position of the person who replies to the petition or notification.
- The online system will also allow court specialists to forward notifications against judges and the
  enclosed documents submitted by Online System users to SCM's email. The online system will offer
  an electronic acknowledgment of the forwarding of each notification to the SCM's email through the
  system and an acknowledgment of receipt by the SCM.
- The automatic alerts of personnel about the deadlines for replying to petitions and notifications filed online will help to improve the performance of personnel and to raise court users' satisfaction. The digital solution will also facilitate the transmission of the prepared answer to the Court President or Deputy President of the court, as appropriate, for verification and the application of electronic signatures. To streamline the operating processes, the online system will offer court specialists the option to preview saved documents, including documents from court users and drafted answers, before sending. The online system will also contain a digital register of acknowledgments of electronic delivery and receipt of answers by court users.
- Since the online system will store documents submitted by court users and issued by the court, it will
  include a component for archiving petitions and notifications. The online system will also offer the
  possibility to audit the actions performed during the filing and examination of petitions and the
  submission of notifications to the SCM. Another advantage of the online system will be the possibility
  to retrieve statistical reports about the registration and examination of petitions and the submission
  of notifications to the SCM.
- 2. Online System will be interoperable with relevant government IT systems. This objective will be achieved through the following high-level functionalities:
- Online System will be hosted in the shared government infrastructure MCloud;
- Online System will integrate the platform-level e-government services MPass (for authentication),
   MSign (electronic signature), MLog (to ensure transaction integrity and non-repudiation),
   MNotify (for sending out notifications to users).
  - **3.** Online System will benefit of increased information security, translated into the following high-level functionalities:
- Online System will audit all sensitive actions (the list of the actions will defined during the elaboration of the business analysis) in the system and duplicate logging activities in Mlog. Such activities will be viewable from Petition & Notification history file.
  - 4. Create a scalable and flexible system for further legal changes without high costs and impact on existing functionalities
- Online System will provide a workflow mechanism to (re)configure the flow of the information objects within the system; this will allow the system to be reconfigured in an easier manner, with lower costs and without impact on the core architecture of the system;
- Online System will be easily adaptable to reflect any internal structure changes of the courts;
- Online System will have a scalable architecture so that future performance needs can be easily accommodated by horizontal and/or vertical scaling.

#### 5. Main Online System modules

Online System shall include the following main functional modules:

- Petitions & Notifications module, which includes functionalities for creation and management of Petitions & Notifications and information for each Petitions & Notifications, including online submission of Petitions & Notifications;
- 2. Petition & Notification files module, which includes functionalities for registering and managing Petitions & Notifications and information for each Petition & Notification, including participants and court documents (Letters etc.);
- **3. Courts management** module, including functionalities for registering and managing courts and court configurations, user management and permissions, working teams etc.;
- 4. Administration module, including system configuration, administration of classifiers etc.;
- 5. Reporting and statistics module.

Some of the Online System requirements may change during the business process analysis. Consequently, please take into account that the beneficiaries (MCI, PMCs and ACA) will approve the specific flow details and functionalities during the respective iterations before entering development stage.

#### 6. Project constraints

- **Implementation time**. Due to constraints related to the timeline of MCI Project, the Online System shall be piloted, finalized and put into production no later than December 2022.
- Warranty services to ensure full system operation without major defects.

#### 7. General functional requirements

The current section documents a number of functional requirements that are important for the understanding of the beneficiary needs. Detailed functional requirements shall be elucidated iteratively during automation of each flow. **All requirements are mandatory**.

| Code  | Functionality   | Outcome   |
|-------|---|---|
| FRQ I | Petition & Notification initialization and Petition & Notification management | The Online System must ensure registration and management of Petitions & Notifications.   |
| FRQ 2 | Automatic number assigning to the Petition & Notification                     | The Online System must generate unique Petition & Notification in predefined configurable format. The Petition & Notification number will be kept unique during whole Petition & Notification life cycle.   |
| FRQ 3 | Registration of general<br>data Petition &<br>Notification                    | The Online System will provide web-form for ensuring capture of main Petition & Notification data. This data will include, but is not limited by: Type of petitioner (individual, legal entity), IDNP / IDNO, Name, Surname, Telephone, Country, District, Residence address, Gender (Male, Female), Language preferences (Romanian, Russian languages), E-mail; Judge's name, Date and place where the facts were committed, brief description of the facts, annexes, comments, etc. |

| Code    | Functionality  | Outcome   |
|---------|--|---|
| FRQ 4.1 |  | The Online System must allow uploading of files and assigning them to Petitions & Notifications.  |
| FRQ 4.2 |  | The Online System shall allow uploading of files with allowed extensions only. The list of allowed types of files will be configurable. The Online System will ensure multiple files upload (bulk upload).                                |
| FRQ 4.3 |  | The Online System shall generate documents (in .pdf format) based on predefined document templates and data from database.  |
| FRQ 4.4 | Files and documents management                             | All documents generated by Online System will be stored into system together with the uploaded files. The system will provide access to these documents to Users with appropriate permissions.  |
| FRQ 4.5 |  | The Online System must ensure versioning functionality for all uploaded documents as well as documents generated by the system. The Online System will store and provide access to all versions of files as well as keep version history. |
| FRQ 4.6 |  | System will ensure functionality of document templates management.  |
| FRQ 4.7 |  | The Online System will generate and assign an unique IDs to every file uploaded in the system as well as document generated by Online System.   |
| FRQ 4.8 |  | The Online System will have a "Preview in PDF" functionality that will allow users to preview any document generated by the system before its saving.   |
| FRQ 5   | Automatic generation of Petition & Notification name       | The Online System must ensure automatic creation of the Petition & Notification name, this will be generated from the First and Last names of the person who sent the Petition & Notification.  |
| FRQ 6   | Petition & Notification registration                       | For every Petition & Notification registered in the Online System, the system will generate the following documents:  • Petition & Notification registration confirmation; • Delivery Slip;   |
| FRQ 7   | Petitions & Notifications assignment                       | The Online System will provide information (view) regarding assignment of Petition & Notification to specific User who has a "Specialist" role in the system.   |
| FRQ 8   | Acceptance into procedure of the Petitions & Notifications | System must allow the modification of the status of the Petition & Notification (it will be permitted to the program user with the role of "Specialist").   |

| Code     | Functionality                        | Outcome   |
|----------|--------------------------------------|---|
| FRQ 9.1  |                                      | The Online System will have a flexible tool for response letters generation based on predefined templates managed in system.  |
| FRQ 9.2  |                                      | The Online System must ensure management of structure of the generated letters.   |
| FRQ 9.3  |                                      | The Online System will provide functionality to automatically insert the information in response letter's about relevant parties (the legal standing, name, first name, address of the participant and the additional address, e-mail). The Online System will automatically send response letters to relevant parties. |
| FRQ 9.4  | Management of response letters       | The Online System must allow the creation of a letter using an already existent template response letter in the respective Petition & Notification.   |
| FRQ 9.5  |                                      | The Online System must allow, if necessary, the multiple selection of the Participants registered in the Petition & Notification to whom the letter will be sent.   |
| FRQ 9.6  |                                      | The pdf version of the letter must be saved in the Petition & Notification's files.   |
| FRQ 9.7  |                                      | The Online System will ensure automatic sending via e-mail of the letters to the Participants that have the e-mail address registered in the system. To confirm receiving of letters, the receiving Parties will access the e-mail sent by court.   |
| FRQ 10.1 |                                      | The Online System must provide functionality to Add, Edit, Delete, View letters for selected Petition & Notification.   |
| FRQ 10.2 |                                      | The Online System must provide MS Word template selection for drafting letters based on type of Petition & Notification and its category.   |
| FRQ 10.3 | Petitions &<br>Notifications Letters | The template must be pre-filled with Petition & Notification information data available from database.  |
| FRQ 10.4 | (Resolutions)                        | The Online System must provide a document collaboration tool to add comments and track changes.   |
| FRQ 10.5 |                                      | The Online System shall provide Draft or Final document statuses for any letter.  |
| FRQ 10.6 |                                      | The documents that have the Final document status must be generated in .pdf format and added to Petition & Notification files.  |
| FRQ I I  | Petition & Notification<br>Summary   | The Online System must allow to view, print and export (in .pdf format) the summary of the Petition & Notification that must contain all specific information about Petition & Notification.  |

| Code     | Functionality                                 | Outcome  |
|----------|---|--|
| FRQ 12   | Withdrawal of the Petition & Notification     | The Online System will ensure registration of information regarding withdrawal of Petition & Notification. At least the following information must be saved: Date, Author, Subject and Participant.  |
| FRQ 13.1 |   | The Online System must enable automatic saving of all information related to actions carried out by Users of the system in the context of a Petitions & Notifications.   |
| FRQ 13.2 |   | All messages in the Actions List must be configured using configurable templates.  |
| FRQ 13.3 | Petition & Notification<br>Tracking (Actions) | The Online System must provide functionality of registration all actions in the sheet of actions of carried out on information from a file such as:  actions of saving information,  actions of amending information,  actions of deleting information, files assignment, connecting files, changing files status etc).  |
| FRQ 13.4 |   | When any action related to Petition & Notification component is done and recorded, the system must provide a link to the appropriate component.  |
| FRQ 13.5 |   | When the list of actions is accessed by User, the system must display this list sorted in reverse chronology order (with the most recent actions at the top), by "date of registration".  Also, the Online System must allow the ascending / descending sorting of information from all sections with a click on the head of the table in any of the headings. |
| FRQ 13.6 |   | The Online System must provide functionality of exporting data from the actions sheet in MS Excel document.  |
| FRQ 14.1 |   | The Online System must provide functionality of transfer the Petition & Notification from one court to SCM or/and ACA via email.   |
| FRQ 14.2 | Petition & Notification<br>Transfer           | The Online System will ensure recording of information about Petition & Notification transfer in a specific registry.  |
| FRQ 14.3 |   | System must provide the actions list of the transferred Petition & Notification files.   |
| FRQ 15.1 | Petition & Notification<br>Closing/Archiving  | The Online System will change Petition & Notification status to "Closed" in accordance with some predefined rules.   |
| FRQ 15.2 |   | The Online System will not allow any change of cases with "Closed" status.   |

| Code     | Functionality               | Outcome  |
|----------|-----------------------------|--|
| FRQ 15.3 |                             | The Online System must provide functionality of archiving/extraction of the Petitions & Notifications files (closed Petitions & Notifications only).   |
| FRQ 15.4 |                             | The Online System must log any event of accessing and extracting archived data.  |
| FRQ 15.5 |                             | The Online System must provide functionality of searching, sorting and viewing Petitions & Notifications.  |
| FRQ 15.6 |                             | The Online System must allow Users to access and conduct actions of archiving/extraction depending on their Role access permissions.   |
| FRQ 15.7 |                             | The Online System must generate and provide statistics on Petitions & Notifications that have been archived and extracted.   |
| FRQ 16   | Registers                   | At least following Registers must be implemented in the Online System:  • Petitions & Notifications Register • Transfers Register • Archiving Register • Petitions & Notifications Movements Register • In/Out documents Register  |
| FRQ 17   | Personalization<br>features | The Online System must ensure access to its functionality depending on Users' roles. Thus, all functionalities available for specific Users acting in a specific Role will be arranged in the personalized form like:  |
| FRQ 18.1 | Searching                   | My Petitions & Notifications, My Notifications etc.  The Online System will support filtering Petitions & Notifications according to the classifiers. System also should support multiple filters (e.g. for example search by general date - "Name", "First name", "Date of receipt of the petition, notification or proposal", "Date of dispatch of the reply", search by document type "Petition", "Notification", "Proposal" and according to the status of the document in the system - "Submitted", "Registered", "Distributed", "Under examination", "Completed", "Incomplete", "Submitted to the SCM"). Thus, searches in the online register of petitions and notifications will be able to be adapted to the needs, in order to find information in a short time.). |
| FRQ 18.2 |                             | The system must allow exporting search results in at least following files: .xls, .pdf, .csv.  |
| FRQ 18.3 |                             | The Online System must support both – simple and advanced types of search. Simple search will return results that contain searching criteria.  |

| Code     | Functionality  | Outcome  |
|----------|--|--|
|          |  | Advanced search will represent a search using different indexes and combinations of searching criteria and will return more targeted results.  |
| FRQ 19.1 | Management of  | The Online System must ensure central IT Administrators to create and manage an unlimited number of general classifiers as well as the sub-classifiers used by the System.   |
| FRQ 19.2 | classifiers  | The Online System must provide flexible visual tools for configuration of classifiers by Petitions & Notifications type and type of courts.  |
| FRQ 20.1 |  | The Online System will allow its IT administrators to create and manage templates documents used within Online System.   |
| FRQ 20.2 | Templates  | The Online System must provide the functionality of configuration of unlimited number of templates used for different case types and for different courts.   |
| FRQ 20.3 | Management   | The Online System must provide the functionality of creation, configuration and management templates for different types of notifications (internal notifications and email notifications). These functionalities will be available for Users acting under central IT Administrator role.  |
| FRQ 21.1 | Notifications/Alerts<br>Management                       | The Online System shall ensure management of alerts/notifications. Alerting/notifying should be triggered by various system events; alerts/notifications must be sent to different actors in order to inform them about tasks awaiting their action in the System. The Online System must ensure internal, email and SMS alerts/notifications. |
| FRQ 21.2 |  | Alerting/notifying functionality will be configurable by IT Administrators via administrative/management console.  |
| FRQ 22.1 | Court  | System must ensure management of all staff of all courts (Users registered in the System).   |
| FRQ 22.2 | staff/courts/premises<br>availability management<br>tool | The Online System will allow adding/editing/locking/unlocking/deleting Users' personal and employment data and assigning them to specific role and court.  |
| FRQ 23.1 | Workflow<br>management                                   | The Online System should provide functionality of configuration the Court processes using visual workflow management tools, in such a way that the module Petition & Notification can have different statuses.   |
|          |  | The Petition & Notification may be viewed/processed only by the authorized Users with appropriate access permissions according to the workflow configuration.  |

| Code     | Functionality | Outcome  |
|----------|---------------|--|
| FRQ 23.2 |               | Workflow shall define statuses of Petition & Notification examination process, notifications, forms, input and output documents etc.   |
| FRQ 23.3 |               | The Online System must ensure creation and management of unlimited number of workflows.  |
| FRQ 23.4 |               | Workflow management functionality will be available for courts' IT Administrators only.  |
| FRQ 23.5 |               | The Online System will allow IT Administrator to change workflow without changing of source code or changing system architecture. Changing of workflow will cause minimum System downtime.   |
| FRQ 24.1 |               | The Online System should provide Users with "hints" linked to specific forms or form elements.   |
| FRQ 24.2 | Users support | The Online System must provide Users acting in all roles (including IT Administrators) access to online User Guides and Video tutorials. Access to this supporting information will be provided taking into consideration the permissions linked to certain roles. |
| FRQ 24.3 |               | The Online System must provide online Helpdesk module to allow User posting support tickets (discovered bugs, issues, questions, proposals etc.).  |
| FRQ 24.4 |               | The Online System Helpdesk must support statuses during whole lifecycle of support tickets (for example - newly created, in work, pending, rejected, solved etc.).   |
| FRQ 24.5 |               | The Online System Helpdesk must provide IT Administrator with functionality of making notes to the tickets (notes will not be available for Users).  |
| FRQ 24.6 |               | The Online System must provide instant messaging functionality in order to allow Users to request an urgent online support from IT Administrator.  |
| FRQ 25.1 |               | The Online System must provide generation and visualization of statistical statements specific to the activities within the courts (3 reports).  |
| FRQ 25.2 | Reporting     | System must provide the opportunity to create and maintain the following statistics reports grouped in categories as follows:  Report for the District Courts Report for the Court of Appeal Report for the Supreme Court of Justice                               |
| FRQ 25.3 |               | Reports must be presented in both tabular and graphical format (charts).   |

| Code     | Functionality | Outcome  |
|----------|---------------|--|
| FRQ 25.4 |               | The Online System will provide filtering functionalities by any field.   |
| FRQ 25.5 |               | The Online System will ensure export of reports at least in following formatsxls, .pdf and .csv.   |
| FRQ 25.6 |               | Reporting component (module) must allow IT Administrator to change a specific report without damaging other reports or whole System functionality. |
| FRQ 25.7 |               | Access to reports will be granted by the Online System depending on Users roles, teams, groups, courts etc.  |

# 8. Non-functional requirements

# **G**eneral requirements

| NFRQ I.  | The solution will be developed using an existing off-the-shelf product or at least a robust framework that will cover workflow management of the Online System.   |
|----------|---|
| NFRQ 2.  | The graphical user interface shall be available in Romanian and Russian languages.  |
| NFRQ 3.  | Graphical user interface elements must comply with Level A requirements of the Web Content Accessibility Guidelines (WCAG) 2.0.   |
| NFRQ 4.  | Graphical user interface shall be fully responsive and adapt to the resolution of target devices (e.g. laptop, netbook, desktop computer, phone).   |
| NFRQ 5.  | The Online System must provide full APIs for two-way data exchange with third-party information system of public authorities.   |
| NFRQ 6.  | The Online System will have a minimum 3-tier architecture (with separate levels for data) and will be based on SOA services.  |
| NFRQ 7.  | The Online System variables (e.g. parameters, data storage paths, connection with external services, etc.) shall be configurable, and will not require recompiling the solution or direct interventions in the database in case of changes to such variables. |
| NFRQ 8.  | The Online System will have visual business process configuration tool.   |
| NFRQ 9.  | The system will use open standards and formats for communication protocols.   |
| NFRQ 10. | The services exposed to the public will be technologically neutral (e.g. operating system, browser etc.).   |

# Information security and data protection requirements

| NFRQ 11. | The Online System must comply with the technical requirements for the information systems required by SMV ISO/IEC 27002:2013 Information technology. Security techniques. Code of practice for information security management.   |
|----------|---|
| NFRQ 12. | The Online System must be developed, taking into account the best practices in web application security, and be immune to common security vulnerabilities. At least the top 10 OWASP common security risks for web applications shall be taken into account, 2 as well as top 25 most dangerous software errors that can cause severe security vulnerabilities in software applications according to how CWE/SANS.3 |
| NFRQ 13. | The Online System shall comply with the provisions of Government Decision No. 1123 of 14.12.20104 on security guidelines for personal data protection.  |
| NFRQ 14. | Access to the functions offered to anonymous users shall be protected against overloading.  |
| NFRQ 15. | All fields of the forms filled out by users must be validated on both client and server.  |
| NFRQ 16. | Communication of the Online System with other systems will be done using digital certificates.  |
| NFRQ 17. | Access to the Online System shall be carried out in a controlled fashion.   |
| NFRQ 18. | Access to external functions offered to users is done using MPass authentication service.   |
| NFRQ 19. | All user actions shall be recorder. Sensitive events shall also be logged in MLog journaling service.   |
| NFRQ 20. | The Online System shall have a heartbeat service for monitoring purposes.   |

### Interoperability

| NFRQ 21. | The electronic data exchange between the Online System and external information resources will be performed through the Government interoperability platform "MConnect".   |
|----------|--|
| NFRQ 22. | The proposed Online System must be integrated with the following common platform services:  • Service for Electronic Payments (MPay);  • Government Authentication Platform (MPass);  • Notification Service (MNotify);  • Logging Service (MLog);  • Interoperability Government Platform (MConnect);  • Digital Signature (MSign). |
| NFRQ 23. | Application interfaces must be based on open standards (REST HTML, SOAP).  |

<sup>2</sup> https://www.owasp.org/index.php/Top\_10\_2017-Top\_10

<sup>3</sup> http://cwe.mitre.org/top25/

<sup>4</sup> http://lex.justice.md/md/337094/

| NFRQ 24. | All implemented application interfaces in the Online System must be properly documented (e.g. using Web Services Description Language – WSDL).                                 |
|----------|--|
| NFRQ 25. | The Online System shall support the internal notifications and alerts by sending e-mail messages using predefined templates to the indicated recipients using MNotify service. |

# **Application Access Control**

| NFRQ 26. | The Online System will manage access rights to the application based on user profile and roles.                                |
|----------|--|
| NFRQ 27. | The Online System shall provide the ability to check the list of profiles at any time and all rights assigned to each profile. |
| NFRQ 28. | The Online System will not require the use of default or generic accounts.   |
| NFRQ 29. | The Online System will provide automatic session expiration after a period of user inactivity.                                 |

# **Data integrity**

| NFRQ 30. | The Online System will ensure that input of sensitive data is subject to user review before submission.   |
|----------|---|
| NFRQ 31. | The Online System will ensure that the process of data entry includes consistency checks.   |
| NFRQ 32. | The Online System will provide data validation controls for data input fields.  |
| NFRQ 33. | The Online System will ensure that application parameters are stored separate from the application code and easily verifiable. Changes to such parameters shall be subject to strict logging. |

# **Data confidentiality**

| NFRQ 34. | All data sent via insecure channels shall be encrypted using SSL or other means. |
|----------|--|
|          |  |

### **Business continuity**

| NFRQ 35. | The Online System will ensure that critical parts of the architecture are covered by |
|----------|--|
|          | redundant components or system mirroring.  |

# **Performance requirements**

| NFRQ 36. | The average response of the server shall not exceed 3 seconds at the nominal load of the system.           |
|----------|--|
| NFRQ 37. | The Online System will ensure an agreed level of service (SLA) with a minimum overall availability of 99%. |

| NFRQ 38. | The Online System must be sized and offer the possibility of increasing both the amount of data and the number of concurrent connections.                                |
|----------|--|
| NFRQ 39. | The Online System must allow authentication/authorization of at least 100 external users within a 10 minutes window.   |
| NFRQ 40. | The Online System will allow concurrent activity for at least 300 external users and concurrent servicing of at least 100 queries.                                       |
| NFRQ 41. | The Online System will allow concurrent activity at least 100 simultaneous users and internal maintenance of at least 100 queries.                                       |
| NFRQ 42. | The Online System will have the capacity to store annually more than 2.5 million Petitions & Notifications and operate over 50 000 changes to Petitions & Notifications. |
| NFRQ 43. | Prior to delivery for pilot and production, the Online System shall undergo performance testing, which will include load and stress testing.                             |

# General user interface requirements

| NFRQ 44. | The Online System shall be fully compatible and accessible using any modern web browser (e.g. Google Chrome, Mozilla Firefox, Microsoft Edge etc.).  |
|----------|--|
| NFRQ 45. | The Online System must have a user-friendly and intuitive interface, aligned to best practices in Web 2.0.   |
| NFRQ 46. | The Online System should display success or failure messages for all add / modify / delete operations. Such messages must be consistent with the rest of the Online System.  |
| NFRQ 47. | For operations that lasts longer than 3 seconds to complete, the system will display a pre-loader with a meaningful message (e.g. "Please wait").  |
| NFRQ 48. | All elements of the same type (grids, links, buttons, etc.) shall comply with the same look and feel throughout the Online System (in terms of size, position, name, style, etc.).   |
| NFRQ 49. | Whenever there is an option to create new items of the same type (for example, a new user, a new folder, etc.) or to edit or remove existing items, this operation should be made available on the existing list of items. |
| NFRQ 50. | Items in grids must be arranged in ascending/descending by clicking on the column heading.   |
| NFRQ 51. | Date fields should have options for inserting dates by using the date selector.  |
| NFRQ 52. | The user interface shall be adapted for use on mobile devices.   |