



Annex III: Non-Functional Requirements & Compliance Sheet

The following section will address the non-functional requirements needed to implement the IFMIS. The Firm should state clearly if the proposed solution comply with these non-functional requirements or not by adding (Y for Yes, N for No) in the Compliance column of the table below.

No.	Requirement	Compliance (Y/N)	Vendor Notes
A	General Non-Functional Requirements		
1.	The solution shall be a web-based solution that complies with HTTP/HTTPS and HTML5 design. Each LGU will have its own VM server in the LGU with dynamic management, auto notifications/SMS, document management, reporting.		
2.	The solution should not require the installation of any software components on the clients' devices (zero footprints) other than a web browser compliant with standards.		
3.	Auto-Complete technology must be used in all search techniques to Fetch data from databases, especially the dropdown.		
4.	The system must be Arabic language.		
5.	The system should present the version of the applied software i.e., the version number, the content, and the last changes in this version. We recommend having the information on the login page with a summary of the latest updates.		
A1	The firm should commit to GUI Standards to ensure a user-friendly, easy to use:		
	The user can learn the system using the user manual without the help of the firm.		
	1. Consistency: Use consistent colors, fonts, icons, and layouts throughout the application. Follow platform-specific UI guidelines, Keep naming conventions, button placements, and navigation patterns uniform.		
	2. Visual Hierarchy & Layout:		



	Use contrast, typography, and spacing to guide user attention. Follow grid-based layouts for better organization. Align elements properly to maintain visual structure. The interface is divided into sections/groups. Headers & informative messages should be clear. User interface design should be clear, understandable, and easy to learn, the system should guide the user to operate its functions.		
	3. Navigation: Provide clear and intuitive navigation (e.g., menus, breadcrumbs, sidebars). Ensure a logical flow of screens and avoid unnecessary steps. Use predictable and familiar UI patterns.		
	4. Feedback & Responsiveness Show visual feedback for user actions (e.g., button clicks, hover effects, loading indicators). Ensure the application responds quickly to inputs. Use animations and transitions subtly to enhance user experience. Content search should be supported for both languages (Arabic and English). Mandatory fields should be visible to the user (* in red) before filling in the data, helpful, meaningful, and in the context of the language being used.		
	5. Accessibility: Support screen readers and keyboard navigation, Keyboard ease of use in the sort of fields within the same page for data entry. Use high-contrast text and background for readability. Provide alt text for images and ARIA labels for interactive elements, ensure proper color contrast to aid visually impaired users.		
	6. Input Controls & Forms: Use standard UI components or 3 rd party components with permanent license (buttons, dropdowns, radio buttons, checkboxes, grids, views, uploads components, else), provide clear error messages and validation feedback, use placeholders and labels to guide users.		
	7. Scalability & Adaptability: Design for different screen sizes and resolutions (at least 1024x768). Support multiple input methods (touch, mouse, keyboard), ensure UI elements scale properly on high-DPI screens.		
	8. Security & Privacy: Must use on WWW secure authentication methods (e.g., two-factor authentication), Avoid exposing sensitive data in UI, ensure proper handling of user input to prevent security vulnerabilities (e.g., XSS, SQL injection). The solution upon detection of inactivity of an interactive session shall prevent further viewing and access to the system by that session by		



	terminating the session, or by initiating a session lock that remains in effect until the user reestablishes access using appropriate identification and authentication procedures. The inactivity timeout shall be configurable.		
	9. Performance Optimization Optimize images, fonts, and animations to reduce load time. Minimize unnecessary UI elements for a clutter-free experience. Implement coaching and lazy loading where applicable.		
	10. Cross-Platform Compatibility Ensure the interface works consistently on different operating systems (Windows, macOS, Linux). Support multiple browsers and screen resolutions. Then test UI components on different devices (desktop, mobile, tablet).		
A2	Environment Constraints		
	1. Operating Constraints: The system should operate efficiently over standard municipal network infrastructures, supporting at least 50 concurrent users without performance degradation.		
	2. Response time: Any user-initiated action that requires a response (other than the above specified queries) should return the result within at most 10 seconds.		
	3. Open Lifetime Unlimited License: The solution must be highly available; availability is specified as 99.9% uptime. Firm should not perform any limitations for any future by locking the Application or database. <u>(Lifetime Unlimited License - Firm Commitments letter)</u>		
	4. Database Required: The solution should support the use of any relational Licensed database management system (RDBMS) that supports industry recognized standards and considered included in the price.		
6.	Auto Backup and Restore Mechanism: The solution must provide or at least facilitate automated backup and restore processes and procedures for the full or selective recovery of the solution and the associated information stored within.		
7.	Server Configuration Constraints: It is recommended that the proposed solution (the server side) is neutral operating system while taking into consideration that the strong preference for		



	the server operating system must be Microsoft Operating System and Windows Server will be Windows Server 2012 or later.		
8.	Client Configuration Constraints: Installing the system shouldn't have any pre-requirements on the side of the client's hardware. There is no need to link the software to any client's hardware rules and the system should operate on the client with zero configuration. The system should require minimal client-side configuration, with no dependency on fixed server IP addresses. Changes in server configurations should not disrupt client access.		
9.	Performance Requirements: The system should be highly effective and ensure efficiency. Routing applications from one point to the other along with their notifications should be almost instant, with a maximum delay of 1 minute.		
10.	Accuracy and Precision: The accuracy and precision of the data are not over 0.003%, no way to have errors in calculations and too many adjustments vouchers, especially in accounts transfer between the MOLG and LGUs. The system must ensure high accuracy and precision in all financial calculations, adhering to standard accounting practices.		
11.	Reliability and Availability: The system must have 0 downtime failures. Errors logging and Audit trails. Also, the availability of service 24/7, how to protect from failure, a strategy for error detection, and a strategy for correction must be clear.		
12.	Security Requirements & Segregation of Duties: Internal security is guaranteed as the system will allow users of the system to view what they are authorized to. The system will provide passwords for every user Logon, and it is the Municipality's responsibility to ensure that passwords are kept secret with no sharing among staff. A strong encryption technique is required for the transmission of data between the MOLG and LGUs. The system should have user management features that consider adequate segregation of duties among the users and allow for the creation of roles, groups, and levels of authority to control access to the system by taking into consideration the municipalities' sizes and the number of users.		



13.	Certificates of Used Tools: The software provider must clarify all the needed tools & installations with versions that will be used in the software. Any Licenses (Database licenses, Application servers, 3rd party tools licenses, etc.) are included in the offered price. Include the software provider providing proof of valid licenses. And include clauses to ensure all third-party components are up-to-date and supported.		
14.	The recommended hardware architecture presented by MDLF must fit the solution. Server is a Virtual Machine. Software run in 99.9% uptime environment to include but not limited to the number of web servers, application servers and database nodes and any associated software licenses required to support the needed high availability and security requirements must be mentioned.		
B	Data Migration & software preparation		
	The proposed system should facilitate the full migration of data from the current system to the new one and allow automatic migration at the time of installation of the new system. Include data validation and cleansing processes.		
C	MDLF Test & demo		
	1. The firm will present all functionality to MDLF team to be approved and to be deployed later to the targeted LGUs. The successful result of the test will be the start to deploy software to the targeted LGU's. - After updating all comments regarding the missing functional and nonfunctional requirements, the Firm shall submit an Acceptance Test Result Report to express that the software is ready for next tests. MDLF User acceptance Test (UAT) (MDLF formed receiving committee): MDLF team will do further testing to ensure that all functional requirements are fit. LGU Test: testing the deployed software at each LGU, report result must be generated to MDLF indicating that the software is working, "LGU signature is required".		



	5. MDLF Final Acceptance Report (Overall Certificate of Acceptance) The supplier is required to supply all customizations, additional modules, reports, etc. made during the project to the LGU. During the warranty and maintenance period, any changes to the running solution will require a corresponding update and delivery of the source code of customized/additional modules, reports, etc... and the necessary supporting scripts and instructions to generate the customizations/additional modules/reports from the source code to the LGU. The certificate of acceptance (COA) must be signed after all the above [1-4] services mentioned above are completed.		
D	Deployment IFMIS to LGU's - onsite:		
	The firm will install/deploy the software on each LGU mentioned in Annex I once the hardware is ready on-site, the Installation will include database and application configuration and all needed software's to have IFMIS fully operational and ready for LGU testing.		
E	Documentation and Manual		
1.	Firm should submit the final updated version for all system documentation including but not limited to the following: 1. Database Manual 2. Installation Manual 3. Operating Manual (user manual) 4. APIs' documentation 5. Other relevant technical documentation, etc.		
F	Maintenance		
1.	Maintenance and support costs (after completing the two-year free warranty) shall be provided by the software provider at rates that are competitive and in line with market standards. The rates should consider factors such as the size of the municipality and the volume of transactions processed. The software provider is required to submit, along with the technical proposal, a draft Maintenance Agreement. This agreement should outline the terms and conditions of the maintenance and support services to be provided after the warranty period. It should cover		



	all potential risks and issues that could be faced by the municipalities' users, ensuring comprehensive support and service continuity. The Maintenance Agreement should include, but not be limited to, the following: - A detailed description of maintenance and support services offered, including preventive maintenance, corrective maintenance, and any additional support services. - Service Level Agreements (SLAs) specifying response times, resolution times, support hours, and availability guarantees, tailored to the needs of municipalities of different sizes. - A transparent pricing structure for annual maintenance fees, clearly outlining how rates are calculated based on factors such as municipality size, number of users, and transaction volumes. - Terms and conditions for software updates, upgrades, and enhancements, including any associated costs. - Provisions for risk mitigation and management detail how potential risks and challenges faced by users will be addressed, including data security measures, backup and recovery procedures, and compliance with relevant regulations. - Escalation procedures for unresolved issues, including points of contact and timelines. - Termination clauses and conditions, including notice periods and any associated penalties or fees. - Obligations of both the software provider and the municipality, ensuring clarity of responsibilities and expectations. The proposed maintenance and support rates and terms will be subject to negotiation and agreement with each municipality in separate contracts. The software provider is expected to offer fair and reasonable rates that reflect the market conditions and are affordable for municipalities of varying sizes and capacities. By requiring the submission of the draft Maintenance Agreement with the technical proposal, the municipalities can assess the suitability of the maintenance services offered and ensure that all potential risks and needs are adequately addressed from the outset.		
G	Licensing		



	a) Lifetime License: License of IFMIS software should be based on site (municipality), not on the number of processors, users or any other operational criteria. b) Licenses of Used Tools: The software provider must clarify all the needed tools & installations with versions that will be used in the software. Any Licenses (Database licenses, Application servers, 3rd party tools licenses, etc.) are included in the offered price. Include the software provider providing proof of valid licenses. And include clauses to ensure all third-party components are up-to-date and supported. The Firm will include any other license fees needed for 3rd party tools in the submitted financial proposal.		
H	Source Code Ownership		
	The Source Code should be kept at MDLF as Closed Envelop with commitment letter that this source code is final and under (Escrow Agreement) which should ensure that the source code is available at the time of vendor's bankruptcy. For solutions that utilize commercial-off-the-shelf software (COTS), then it is required to supply all customizations, additional modules, reports, etc. made during the project to the LGU. During the warranty and maintenance period, any changes to the running solution will require a corresponding update and delivery of the source code of customized/additional modules, reports, etc.... and the necessary supporting scripts and instructions to generate the customizations/additional modules/reports from the source code to the LGU.		
I	Database Ownership		
	Database access, designs, schemas, scripts, templates, data dictionaries, reference data, symbols and any other code or software associated with the data produced, used and stored by IFMIS is owned by the targeted municipalities. This does not affect the rights of the Firm to use such software designs and artifacts in its products or with other clients. So, it is important to deliver Super User name & password of the database per LGU (Firm should send commitments letters for this to MDLF)		



	The municipalities will have the right under this signed agreement to use the IFMIS database in the future to develop, integrate or customize IFMIS, independent of the Firm and/or using third parties.		
J	Training Reports		
	The Firm shall provide the Training report with date and time, LGU Attendant, Tainer contacts, and subjects covered (signed by LGU).		
K	Open API deliverables		
	The system should provide open APIs <u>of all database tables (that includes insert /Modify/Delete/List All/query on PK)</u> that allow for integration with other LGUs software applications related to IFMIS and documentation on how to perform integration with other systems. <u>(Firm should send commitments letters for period to cover delivery and the Free Maintenance period)</u> The software provider must develop and provide all necessary integration tools/applications to share data between systems and act on that data. Integration must cover all applied systems and tools in each municipality. For each of the above, we need documentation to demonstrate the operation of the API code in C# to run and check the result within the IFMIS environment.		
L	Customer Support:		
	The Software provider shall maintain a Central Help Desk and contact center for any problem resolution and troubleshooting. The Central Help Desk and Contact Center shall be available on the phone, fax, and e-mail during office hours. It should address all the issues pertaining to operation support and maintenance, which may arise at all other centers. Software support during the warranty period shall include technical support for all software components, with a 24x7 support line, as well as providing, licensing, installing, and integrating all released software patches and updates for the proposed solution. The vendor shall provide, during the warranty period, supplementary support in accordance with an agreed-to-escalation procedure. The escalation procedure can initially involve		



	telephone support but must culminate in the Proposer providing on-site support if needed. The proposal must define the proposed support of escalation procedures. The proposal must define the proposed support of escalation procedures. Municipalities' end-users must be able to view the status of their support request(s) at any time through an online tracking system to be provided by the Proposer.		
M	Warranty, Support, and Maintenance:		
	1) The warranty period for the system shall run concurrently for all system components, up to <u>two years</u> from the date of obtaining the user acceptance test from each municipality. 2) The software provider should warrant that the documentation provided shall completely and accurately reflect the operation and maintenance of the system and provide the municipalities' admins with all the information necessary to maintain the system. 3) If there is a change in the system's configuration of any equipment or software being installed prior to user acceptance, it will require that all previously installed system components be upgraded to match the updated configuration. 4) The software provider shall warrant compliance with all applicable laws and regulations relating to the system including any change or specific requirement from MOLG. 5) The software provider shall warrant that its employees, agents, and subcontractors assigned to perform services under this contract shall have the proper skill, training, and background to perform competently and professionally and that all work will be so performed. MDLF reserves the right to remove any subcontractors/ team members if their work is deemed incompetent or unprofessional. 6) The selected Software provider shall provide technical support during the free maintenance period that includes continued support to the users for a testing period of six months starting on the day after obtaining the final user acceptance test. 7) The selected Software provider should confirm (through a commitment letter) that he will provide operational support and maintenance service for a period <u>of 2 years</u> from the go-live date. 8) The operational support will be to ensure that the application system is functioning as intended and attend to addressing problems associated with the operation of the application system. 9) For a period of <u>2 years</u> from the "Go-Live" date, the Software provider shall implement all changes in functionality necessitated by any changes in applicable legislation, statutes, rules, or government notifications (Government Orders) that modify the baseline requirements. This		



	includes all modifications or alterations that may require changes to the design of the system or application software. 10) In case the end-user problems relating to the Application Software provided by the Software provider are not resolved within a reasonable time (the Software provider is to specify this time in their response to this request for proposal), the Software provider shall depute its personnel to the location and provide the necessary help. 11) The Software provider shall bear all kinds of costs such as travel, boarding, daily allowances, etc. incurred for this purpose. 12) The software provider should specify their proposed set-up to support the following: • The ongoing maintenance of the system. • The Warranty Support includes the period and service level agreement. • The training methods, facilities, and personnel, which will be made available at project startup on an ongoing basis • The helpdesk and support services that shall be provided • The software maintenance and support policies and procedures Software providers shall provide a copy of their Service Level Agreement including the: • Standard terms and conditions • Response times • Reporting mechanisms • Performance standards and indicators.		
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