COUNCIL OF EUROPE

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APPENDIX I

Business and Technical Requirements

for development of an information system for risk analysis of money laundering and terrorist financing among real estate sales and leasing agents

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TABLE OF CONTENTS

ABBREVIATIONS

AML/CFT	Anti-Money Laundering and Counter-Financing of Terrorism
API	Application Programming Interface
APR	Agenciji za privredne registre - Serbian Business Registers Agency
COE	Council of Europe
HTTPS	Hypertext transfer protocol secure
JSON	JavaScript Object Notation
MUST	Ministry of Internal and Foreign Trade of the Republic of Serbia
REST	Representational State Transfer
SOAP	Simple Object Access Protocol

1 EXECUTIVE SUMMARY

The Council of Europe, in line with market needs and aiming to enhance business transparency and protect the rights and interests of citizens, is issuing a public tender for the procurement of services for the development and implementation of an advanced information system for risk analysis of money laundering and terrorist financing among real estate sales and leasing agents. This project aims to improve risk analysis and recording needs for the purpose of AML/CFT (Anti-Money Laundering and Counter-Financing of Terrorism), as well as the efficiency, availability, and transparency of data about licensed agents, thus facilitating monitoring and regulation of the real estate market. The procurement includes the development, implementation, testing, and maintenance of a software solution that will enable integration with existing systems, high levels of data security, and adaptability to future technological advancements.

The procurement subject includes services for the "Development of a system for risk analysis of money laundering and terrorist financing among real estate sales and leasing agents for the needs of the Ministry of Internal and Foreign Trade of the Republic of Serbia (MUST)."

2 DESCRIPTION OF THE CURRENT SITUATION AND IMPACT OF THE DIGITAL SERVICES PROJECT

The existing state of business processes at MUST is characterized by a rather manual and time-consuming data collection procedure. At the beginning of each year, a table with questions relevant to the previous year is defined. The Market Inspection, as the supervisory authority, collects data on the operations of agents in real estate sales and leasing through a questionnaire for the prevention of money laundering and terrorist financing. This procedure is manually done: sending questionnaires to 1200 addresses, entering questionnaires/data into the platform, processing and analysing data from the questionnaires, creating and analysing risk matrices for AML/CFT, and preparing the risk assessment matrix. The ultimate goal is to prepare immediate inspection supervision of the agents in accordance with the obtained results and risks defined in the National Risk Assessment for this area. This approach can be error-prone and inefficient, given the extent and complexity of the data being processed.

The project to develop a system for analysing the risk of money laundering and terrorist financing among real estate sales and leasing agents will significantly impact the digitalization of MUST's services, enabling faster, more efficient, and more transparent data and risk level management for AML/CFT. The implementation of this system is expected to:

i. Increase data processing efficiency - Automating the current manual data entry from Excel sheets will reduce the time needed to process information.
ii. Improve data accessibility and quality - A centralized database will facilitate easier access to updated and accurate information about agents.
iii. Enhance transparency - The public and interested parties will have easier access to information about licensed agents, contributing to greater market transparency.
iv. Strengthen data security - Advanced technological measures will ensure better data protection within the system.
v. Support decision-making - Analytical features of the system will provide a better understanding of the real estate market, threats, and vulnerabilities among agents for the AML/CFT area, contributing to more informed decision-making within the Ministry.

This project represents a key step in MUST's digital transformation, directing the Ministry towards more modern, efficient, and user-oriented digital services.

3 FUNCTIONAL DESCRIPTION OF THE SYSTEM FOR RISK ANALYSIS OF MONEY LAUNDERING AND TERRORIST FINANCING AMONG REAL ESTATE SALES AND LEASING AGENTS

The following sections of the document outline the functional requirements of the new user monitoring system (hereafter referred to as the System).

3.1 Functional Units

The system for analysing the risk of money laundering and terrorist financing among real estate sales and leasing agents must include the following main functional components:

i. Case Overview (Dashboard) - A screen with case status data that allows for quick case diagnostics through the display of relevant information such as the case identification number, case name, case status, opening date, etc.
ii. User Registry - Involves a quick tabular overview of all cases, enabling actions such as exporting to Excel format, mass data modifications, data checks, document creation and printing, sending correspondence to users, user reminders, and more. A detailed view is available for each user, which also offers the possibility of updating all data from the system.
iii. User Database Management - MUST already maintains a Registry of real estate sales and leasing agents, which needs to be linked to this registry and pull certain data into the system's database.
iv. User Interface - Development of an intuitive user interface for various types of users (agents, administrators).
v. Case Search Engine - Allows searching and finding cases based on a number of relevant criteria.
vi. Document Management - Involves creating documents based on templates with automatic data filling, manual modification of documents before storage, storing documents in the database, and their printing.
vii. User Statistics - Enables viewing statistical indicators.
viii. Reporting - Offers a range of predefined reports.
ix. Security and Data Protection - Implementation of security protocols for data and user privacy protection.

The system must also include functionalities not explicitly stated in this document but implemented in the existing system. In the phase of analysing business requirements and creating a detailed functional specification, the Contractor is required to document, and MUST to verify and approve a final and comprehensive set of business requirements that will be subject to acceptance testing and system acceptance.

The system must be modular, reliable, adaptable, and capable of further upgrades. The entire final system and source code remain the property of MUST.

3.2 Functional Requirements

3.2.1 Case Search Tool

The system must enable search and discovery of cases based on a large number of relevant criteria, including: identifier, text, year of receipt, group of statuses, status, method, indicators, date of record completion, etc.

The system must allow tabular display of results by pages and sorting by any result column.

The system must enable opening case details by clicking on a result.

3.2.2 Case Review

In the case review dashboard, the system must provide a display with the status data of the case, enabling quick diagnostics through the display of relevant information such as the status of the case, user status, etc. The status of the case is additionally indicated through coloured indicators, where possible statuses correspond to different colours.

The system displays grouped interface elements ("tabs") for updating individual groups of data about the case.

For effective management of cases within the system, the dashboard view of each case should include the following elements:

i. Case Identification Number - A unique identifier for each case for easier identification and search.
ii. Case Name - By the name or registration number of the agent for quick reference.
iii. Case Status - The current status of the case (e.g., in processing, pending, completed).
iv. Opening Date - The date when the case was opened or when the request was received.
v. Processing Deadline - The expected deadline within which the case should be processed.
vi. Closing Date - The date when the case was successfully closed.
vii. Responsible Person - The name of the officer or team responsible for processing the case.
viii. Related Documents - Links to documents, forms, or reports related to the case.
ix. Comments/Notes - Space for entering additional information or notes about the case.
x. Action History - A chronological overview of all actions taken on the case, including status changes and additions.

In addition to these basic elements, the dashboard should allow filtering and sorting of cases by various criteria (e.g., date, priority, status) to enable users to easily navigate and manage a large number of cases. Integration with advanced features such as deadline notifications and automated reminders can also increase efficiency and reduce the likelihood of overlooking important cases.

3.2.3 Data Recording

The system must enable a request to be returned to the user for revision, or for data transfer into the System. After the request has been revised, it must be possible to update the data in the System.

The system must allow every control question to record responses and any attachments (documents). The entered responses, as well as evidence obtained electronically from other institutions, should be automatically recorded in the system to document the state at the time of processing and allow for later recording in the context of the time of case review.

The system must enable manual correction of structured data retrieved from registries such as APR, since external registries sometimes contain unreliable data or are delayed in updating

data. Such manual corrections need to be clearly indicated and recorded through a monitoring log (audit log).

In certain situations, the system should allow for subsequent updates to responses to control questions. The system must enable the recording of modified responses with the date and time of modification.

3.2.4 Document Management

The system must enable the creation of templates for various types of documents. Templates consist of sections (building elements) that can be combined into complete documents and may contain references (placeholders) to subject data that are automatically filled in when the document is generated.

The system must allow for manual editing, storage, and printing of generated documents.

The system must enable the restriction of template use to a specific time period. It is necessary to introduce so-called "validity periods," i.e., the ability to enter a time range during which a particular template can be applied.

The system must allow for a hierarchy of forms, where activity is linked to the entire hierarchy, and it should be possible to select a specific form to be applied in a particular situation.

3.2.5 Record Statistics

The system must enable recording and review of statistical indicators of users.

The system also allows for the review of user statistics for all previous cases during past years.

3.2.6 Automated Reminders

The system must have the ability to display automated reminders (alarms) to end-users and send such reminders upon the expiration of certain deadlines or the occurrence of significant events related to the System. The system should deliver reminders to users via automated email messages.

Since the deadlines for sending reminders depend on the year of implementation, the system must allow for setting deadlines for a specified time period and for modifying or configuring these deadlines by the administrator.

3.2.7 Reporting

Within the reporting section of the System, it is necessary to develop a set of standard reports:

i. Report on Registered Agents - Displays all currently active agents, including basic information such as name, address, and license status, which is retrieved from the existing Registry of Agents. Additional information about deleted agents and the reasons for their deletion is also included.
ii. License Request Report - Includes data on new requests, renewals, and the statuses of request processing.
iii. Annual Statistical Report - Contains aggregated data on new licenses and renewals.
iv. Report on Violations and Sanctions - A detailed report on agents who have violated regulations, with information about the type of violation and imposed sanctions, and

allows MUST to independently enter information about inspections, violations, and sanctions.

These reports enable thorough analysis of the real estate market, oversight of agents, and transparency in operations, contributing to the efficiency and reliability of the system.

3.2.8 Risk Assessment Report

Elements such as "Company Number", "Legal Form of the Agent", "Primary Activity Code", "Registration Number from the Agents' Registry", and "Total Number of Employees at the Agent" are part of the risk assessment matrix structure. For automatic generation of risk assessment reports, the system should integrate the following components:

i. Input data:
   a. Data collected through the System.
ii. Data processing:
   a. Develop logic for automatic mapping and categorization of collected data according to defined risks and weights mentioned in the risk assessment matrix; this should be implemented in the newly developed System and allow modification of risk weights as per the needs of risk assessment and analysis.
   b. Implement algorithms for calculating risk based on the entered data, taking into account the weights (weights) for each risk category.
iii. Report generation:
   a. Automatic creation of risk assessment reports based on processed data and calculated risks.
   b. Ability to customize reports according to user needs, including various levels of detail.
iv. Interface for review and analysis:
   a. Development of a user interface that allows the review and analysis of generated risk assessment reports.
   b. Filtering and searching functionalities for easier access to specific data within the reports.
v. Integration with existing systems:
   a. Integration with the real estate agents' registration and leasing system where data about registered agents, licenses, and workers will be pulled into the System.

It is crucial to develop a robust system that can efficiently manage large volumes of data, providing accurate and relevant risk assessments to support decisions within MUST.

3.3 Implementation timeline of the project

The implementation timeline for the required application is structured to ensure efficient development, testing, and deployment within a maximum timeframe of 9 months. This structured approach is divided into several key phases, each with specific deadlines:

i. Clarification and Refinement of Functional Requirements:

   a. Collaborate with MUST to clarify and refine the functional requirements of the application. This phase should be completed by the end of the first month of the project.

ii. Installation of Development and Test Environment:
   a. Set up the development and test environments on the MUST infrastructure. This installation must be completed by the end of the first month as well.

iii. Iterative Development Using Agile Methodology:
   a. From the second to the sixth month of the project, the application will be developed iteratively using agile project methodology. This includes continuous integration and testing to ensure adaptability and efficiency throughout the development phase.

iv. Installation of the Production Environment:
   a. The production environment will be installed on the infrastructure provided by the Office for IT and e-Government, provided by MUST. This should be done by the end of the sixth month latest.

v. Necessary Configurations According to User Needs and Roles:
   a. Configure the application to meet specific user needs and roles, ensuring customization and proper access controls. This must be completed by the end of the sixth month latest.

vi. Training of Users and Administrators:
   a. Conduct training sessions for all types of users and administrators to ensure they are well-prepared to use the new system effectively. Training should occur by the ninth month of the project latest.

vii. Deployment of the Software Solution into Production Use:
   a. The final step involves putting the software solution into production use. This transition should occur by the end of the ninth month latest, marking the completion of the project.

This timeline is designed to ensure that each phase builds upon the previous one, allowing for adjustments based on ongoing testing and feedback, thereby maximizing the effectiveness and usability of the application upon its launch.

4 TECHNICAL REQUIREMENTS FOR THE SOLUTION

4.1 Application Programming Interface

The system must provide an Application Programming Interface (API) that enables integration with other systems of MUST. Through the API, the System must allow other systems access to data and facilitate various integration scenarios for data exchange and actions defined by the functional specification.

The API must be implemented based on HTTP(S) and JSON standards and designed in accordance with REST principles and best practices.

The API definitions of the System must be developed based on OpenAPI specifications according to the OpenAPI Specification standard 3.1.0 (or higher) published by the OpenAPI Initiative organization.

The system must ensure the ability to make the API available to external systems.

Exceptionally, in the case that a certain external system with which integration is performed does not support web service technology based on HTTP, REST, and JSON technologies, an alternative interface such as data exchange via SOAP web services, database, or files, or others, may be implemented according to the technical capabilities of the external system.

4.2 Integrations with Other Systems

The system needs to be integrated with the following systems of MUST:

i. Registry of agents in real estate sales and leasing

MUST is required to ensure modifications on the side of other MUST's systems as necessary to meet the functional and non-functional requirements of the System.

4.2.1 User Rights Management

User rights management for the system should be structured as follows:

i. Within MUST:
    a. System Administrators have the highest level of access, including managing user accounts, rights, and security settings.
    b. Processing Officers have access to enter, modify, and review data about agents and transactions.
    c. Analysts have access to reports and analytical tools, but cannot modify data.
ii. For external users:
    a. Agents have access only to their own data, the ability to update information, and submit requests.

This structure ensures that each user group has an adequate level of access needed to perform their functions, while maintaining a high level of security and data protection.

4.3 Integrations with Systems of Other Institutions

The system needs to be integrated with external systems managed by the following institutions:

i. Agency for Business Registers (APR) for retrieving data from the central registry of actual owners.

The system should regularly, over an extended monitoring period, download and store data necessary for report generation.

4.4 Technical and Non-Functional Requirements

The system must be implemented as a web application installed on servers according to the available infrastructure, which users access via an Internet browser. Supported browsers are listed below in the description of requirements for user workstations.

The system also provides an Application Programming Interface (API) implemented using web service technology to enable integration with other information systems both within and outside MUST.

4.4.1 Infrastructure

The system must meet the technological prerequisites for implementation on the infrastructure of the Office for IT and e-Government, which will be provided by the MUST.

Alternatively, should MUST decide so, the system can also be implemented on the MUST's infrastructure.

4.4.2 System Environment

The contractor is required to establish a development and testing environment on the software and hardware infrastructure provided by MUST. The development environment will be used for the development of the entire information system, as well as for internal functional and integration testing by development teams. The system testing environment will be used for system testing and any subsequent modifications in the system by users, for testing data migration procedures, and for user training. MUST will timely provide access to the infrastructure of the Office for IT and Electronic Administration or its own infrastructure through which the initial system setup is enabled.

The contractor is required to establish a production environment in accordance with the detailed Project Plan, which will be agreed upon with MUST. The production environment will be used for the official operation of MUST.

4.4.3 Server Operating System

For the installation of its server component, the System must be compatible with Windows Enterprise version 10 or higher. The licenses for the operating system are provided by MUST.

4.4.4 Databases

The system must use the existing Microsoft SQL Server database for data storage purposes. Hardware, licenses, and database administration will be provided by MUST.

4.4.5 Load Distribution

The system must ensure scalability and high availability through the use of redundant distribution across multiple servers, with the option to use a virtualized server environment.

Load distribution between servers will be managed using a Load Balancer component.

In the case of system implementation on the infrastructure of the Office for IT and e-Government, the capabilities of load balancing provided by that environment will be used. If implemented on the MUST infrastructure, the executor is required to implement redundant software load balancing based on open-source components and distributed across separate MUST servers, without the need for additional licenses and other costs, or by using existing MUST resources.

4.4.6 User Workstations

Internal users of MUST access the system using workstations connected to MUST's internal network. The system must be compatible with Internet browsers:

i. Microsoft Edge
ii. Google Chrome

in their latest versions according to the maintenance and upgrade policy of their providers.

External users, who are obligated to fill in the system information for the analysis of money laundering and terrorist financing risks among real estate agents and lessors, also access the system. It must be compatible with modern and most commonly used Internet browsers.

5 IMPLEMENTATION OF THE SOLUTION

5.1 Project Activities

The project for the development and implementation of the MUST System must encompass the following activities:

i. Preparation and execution of the implementation project with detailed and clear implementation procedures,
ii. Analysis of business requirements and creation of a detailed functional specification of the System,
iii. Development and testing of the System's application modules,
iv. Creation of a system acceptance testing plan,
v. Creation of technical documentation for the maintenance of the System,
vi. Installation and configuration of the development, testing, and production environments of the System,
vii. Training of key users to operate the System,
viii. Installation and configuration of the production environment of the System according to specifications and final tuning of the System,
ix. Launching the production environment of the System into operation,
x. Support during the production use of the System throughout the warranty period.

5.2 Project Organization

MUST and the Executor will each appoint a Project Manager from their side. The Project Manager will be the single point of contact between the contracting parties and will ensure the creation of plans, monitoring, and reporting on the execution of project tasks, communication, and coordination between the project teams on both sides.

MUST and the Executor will also each appoint a Project Team that will regularly monitor the implementation of the project and resolve ongoing issues. Additionally, an Oversight Committee will be appointed, which will meet quarterly to approve quarterly reports, approve project modifications, approve the final report, and accept the implemented software.

5.3 Testing and Acceptance of the Solution

The Executor is expected to carry out standard testing procedures for both the test and production systems, and to ensure the quality and stability of the system. Records of the testing will be kept and must be presented to MUST upon request.

The Executor is obligated to deliver detailed system acceptance testing procedures as part of the system implementation, which include acceptance criteria based on the expected results from using the system.

Successful completion of the acceptance testing is a prerequisite for MUST's acceptance of the system delivery. The Executor is expected to provide necessary on-site support during the acceptance testing and the system deployment.

5.4 Copyright and rights of exploitation of developed solutions

MUST acquires ownership rights over all delivered documentation in all forms, over the source code, over the executable versions of the software, over design models, and over all materials generated through engagement on the requested activities (Copyright).

MUST is the holder of copyright property rights and other intellectual property rights on works and other products, i.e., creations protected by intellectual property rights, that are produced using the services subject to this procurement, unless it has already, by virtue of the law, become the holder of the said rights.

In terms of the aforementioned, upon delivery of the procurement items from the Executor, MUST acquires exclusive, substantively, temporally, and spatially unlimited rights to exploit copyright and other intellectual property rights on creations that are subject to the System, all in accordance with regulations governing the protection of intellectual property.

MUST is authorized to freely transfer the aforementioned rights without any restrictions. The Executor, author, or third party is excluded from any exploitation of these rights.

5.5 User Training

As part of the project implementation, the Contractor is expected to provide training based on the "Train the Trainer" principle, aiming to educate a total of 12 trainers. The Contractor will conduct training in a classroom setting through project workshops where key users will participate in testing the implemented processes, or alternatively, using multimedia communication tools for virtual meetings. MUST will then ensure that its key users conduct training for all end-users involved in the processes in any way.

The Contractor is also expected to educate key IT staff from MUST, specifically IT administrators, on the procedures for configuring and maintaining the System.

In addition to conducting training, the Contractor is obligated to deliver technical documentation for the configuration and maintenance of the system.

5.6 Support During the Warranty Period

The warranty period starts from the date of signing the Handover Protocol of the software solution. The minimum warranty period that the Executor must provide is 24 months after the handover of the solution. During the warranty period, the Executor commits to:

i. Ensure the implemented software solution operates without errors, provided that it is used in accordance with its purpose and user instructions.
ii. At the request of MUST, at their own expense, remove any malfunction or defect in the shortest possible time continuously from the day of receiving the notification of the defect, if the notification is submitted within the warranty period. The offeror is obligated to respond to MUST's report within a working day, from 07:30 to 15:30 hours.