



Terms of Reference (ToR)

“Pathways to Employment in Palestine”

Service Procurement Contract “The Development
of AI-Driven Job Matching Platform”

Reference #: PSE21002-10064

Enabel in Palestine

June 2025

Table of Contents

1.	Identification of the overarching project.....	3
2.	Project background	4
3.	Assignment	5
3.1.	Background of the assignment.....	5
3.2.	The assignment	5
3.3.	Scope of Work (SoW)	6
3.4.	Technical Proposal Submission Guidelines	26
3.5.	Annexes.....	27

Identification of the overarching project

Identification of the overarching project that this assignment falls under.

Title of the EU	Palestinian Youth Empowerment Programme
Title of the Action	Youth Economic Empowerment in Palestine (YEP)
Duration	36 months, from January 2022
Geographical area	Palestine: West Bank (including East-Jerusalem) and Gaza strip
Total cost	5 million € (European Neighbourhood Instrument)
Institutional partner	Ministry of Labour – Palestine & TVET Commission – Palestine
Implementing partners	<ul style="list-style-type: none"> • The Palestinian Employment Fund (PEF) • Private Sector Umbrella Organizations (PSUOs) • NGOs, Civil Society Organisations (CSOs) or Foundations • Business Development Service providers • Vocational Training Centres (VTCs)
Beneficiaries	<p>Direct beneficiaries</p> <ul style="list-style-type: none"> • Youth between 15-29 years, including vulnerable youth and young women • Private sector enterprises • Palestinian Fund for Employment (PEF) • Private Sector Umbrella Organizations (PSUOs) • NGOs, Civil Society Organisations (CSOs) or Foundations • Business development training providers • Vocational Training Centres (VTCs) <p>Indirect beneficiaries</p> <ul style="list-style-type: none"> • Palestinian Public Employment Service (Employment Offices, One-Stop Shops, Employment Corners) • Ministry of Labour • TVET Commission • Education stakeholders
General objective (GO)	Enhance Palestinian young people's employability and economic empowerment
Specific objective (SO)	Young women and men are better equipped to access inclusive and decent employment opportunities
Expected Results	<p>Result 1: A model First Employment Facility is developed and accessible to young women and men graduates (<i>the assignment falls under this result 1</i>)</p> <p>Result 2: Young women and men are equipped with demand-driven, quality skills</p> <p>Result 3: Vulnerable young women and men are supported to develop micro- or small businesses that are relevant to their local economies</p>

Project background

Belgian Cooperation Portfolio Palestine 2022-2026:

The ongoing portfolio, titled “Empowered youth in a green Palestine” (EYGP) will focus on 2 pillars: The first one focuses on the empowerment of youth based on civic engagement, protection and a continuum between developing competencies, skills, access to employment and entrepreneurship. The second pillar, on the other hand, is dedicated to climate action, based on support to the development of an emerging green and circular economy with the view to contribute to a sustainable and inclusive Palestinian society, and reduce environmental hazards and dependency on non-renewable natural resources.

The objectives of the main two pillars under this portfolio are:

1. Young people in Palestine develop into active and critical citizen, ready for local and global challenges, through improved education, training, guidance and access to employment.
2. The Palestinian population makes use of the opportunities of a sustainable environment.

The **first pillar of the portfolio** focuses on the empowerment of youth, based on a continuum between developing competencies, skills, access to employment and entrepreneurship, and with specific attention to the following thematic priorities for the three main specific objectives (SOs):

- For SO1: Education and learning including crucial competencies for youth such as 21st century skills, Science Technology Engineering and Mathematics (STEM), general education as well as access to educational infrastructure.
- For SO2: Civic engagement and protection including information, awareness and support with regards to democratisation, human rights, civic space, citizenship, Sexual and Reproductive Health and Rights (SRHR), and Children affected by Armed Conflict.
- **For SO3:** Skills, employment and entrepreneurship addressing the mismatch between education and training, and the needs of the labour market, supporting the participation of young women and recent graduates in the labour market, supporting youth and women to start up a business while respecting the highest environmental and human rights standards, and supporting a conducive entrepreneurial ecosystem.

Under the specific objective 3, the aim of the **SO3 “Pathways to Employment in Palestine”** is that “more young women and men in Palestine are employed in decent work conditions or have their own income-generating business”.

The strategic orientations of the project focus on increasing employability and employment opportunities of youth, targeting the skills mismatch between demand and supply and increasing access to suitable employment pathways for specific groups, through improving the quality and the relevance of the TVET system and supporting business development and job creation.

Under this specific objective, Enabel is seeking to achieve the following main three results:

- Result (1): Increased access to skills development through investing in and upgrading TVET infrastructure.
- Result (2): The employability of young women and men is improved through support to equitable access to quality and demand-driven skills development.
- Result (3): Employment opportunities for young women and men are increased through entrepreneurship promotion and business development support.

Assignment

3.1. Background of the assignment

The Palestinian labor market faces significant challenges, including high unemployment rates, particularly among youth and women, and a mismatch between available skills and market demands. To address these challenges, the Ministry of Labor (MoL) and the Palestinian Employment Fund (PEF), with support from Enabel as part of the “Youth Economic Empowerment in Palestine (YEP)” program, are spearheading the development of an innovative AI-Driven Job Matching Platform. This platform is envisioned as a cornerstone of a future comprehensive Labor Market Information System (LMIS) for Palestine.

The initiative aims to modernize and streamline the process of connecting job seekers with employment opportunities and employers with suitable talent. By leveraging Artificial Intelligence (AI), the platform will offer advanced functionalities such as intelligent skill-based matching, personalized job recommendations, and robust labor market analytics. This will contribute to enhancing labor market efficiency, improving employability, and supporting evidence-based policymaking.

3.2. The assignment

3.2.1. Overall Project Goal

The overall goal of this project is to enhance youth employment in the Palestinian labor market by developing and implementing a state-of-the-art, AI-Driven Job Matching Platform. This platform will serve as a central hub for job seekers and employers, facilitating better employment outcomes, reducing unemployment, and providing valuable insights into labor market dynamics.

3.2.2. Overall Objectives of the Platform Development

The specific objectives for the development of the AI-Driven Job Matching Platform are to:

- **Develop a User-Centric Platform:** Create an intuitive, accessible (WCAG 2.1 compliant), and multilingual (Arabic and English) platform tailored to the needs of diverse user groups, including job seekers (especially youth and women), employers, Ministry of Labor (MoL) staff, Palestinian Employment Fund (PEF) staff, and other stakeholders.
- **Implement Intelligent Job Matching:** Integrate advanced AI algorithms for precise and efficient matching of job seekers' skills, qualifications, and preferences with employers' requirements, going beyond simple keyword matching.
- **Enhance Data Integration and Management:** Establish robust mechanisms for integrating data from various sources, including existing MoL/PEF systems, external 3rd party job portals, and potentially educational institutions, while ensuring data quality, security, and privacy.
- **Provide Actionable Labor Market Insights:** Develop comprehensive reporting and analytics capabilities to generate insights on employment trends, and platform performance, supporting evidence-based decision-making for policymakers and stakeholders.
- **Ensure Scalability and Sustainability:** Build a scalable and maintainable platform architecture that can accommodate future growth in user base and functionality and can be managed and updated by local technical teams with appropriate training.
- **Promote Inclusivity:** Design the platform to be inclusive, catering to users with varying levels of digital literacy and ensuring accessibility for people with disabilities.
- **Facilitate Seamless Integration:** Ensure the platform can integrate with external systems as specified in the SRS, including government databases for verification and data enrichment, and selected external job sites.

3.3. Scope of Work (SoW)

3.3.1. Overall Assignment Scope

This project is divided into **two distinct but interdependent lots**. **Lot 1 focuses on the development of the core platform**, while **Lot 2 focuses on the development of the AI engine** and its associated functionalities. Lot 1 and Lot 2 can be supplied by two different vendors or by a single vendor. The Vendor(s) (per lot) is/ are responsible for the complete lifecycle of the AI-Driven Job Matching Platform development. This includes:

- **Lot 1 (Core Platform Development)** will be responsible for the development of the entire platform including user-facing application, core business logic (front-end development), database management, integrations with the AI services developed in Lot 2 (Back-end development of the system).
- **Lot 2 (AI Engine Development)** will be responsible for developing, training, and deploying the AI Engine including all AI models, and exposing these models as robust, scalable APIs to be integrated by Lot 1.

Vendors(s) in lot 1 and 2 will work jointly to make the platform function at its best performance to realize the objectives of the project.

3.3.2. Lot (1) Scope of Work (SoW)

3.3.2.1. General Scope for Lot 1

The Vendor for Lot 1 shall be responsible for the end-to-end lifecycle of the core Job Matching Platform development. This includes requirements validation and system design for platform components, development of all functionalities, integration of AI services from Lot 2, comprehensive testing (including integration testing with Lot 2 services), deployment of the platform, initial user training for platform administrators, and providing a period of post-deployment support for the platform components.

The platform must be developed in strict accordance with the functional, non-functional, and technical requirements detailed for Lot 1 in this ToR and the relevant sections of the Software Requirements Specification (SRS) document (Annex A).

The development should follow an agile methodology, allowing for iterative development, regular feedback, and flexibility, while adhering to an overall project timeline coordinated with Lot 2.

3.3.2.2. Key Deliverables for Lot (1) (High-Level)

While a detailed list of deliverables is provided in Section 3.3.2.8, the high-level deliverables for Lot 1 include:

- A fully functional, tested, and deployed core Job Matching Platform (integrating Lot 2 AI services).
- Comprehensive technical documentation for the platform (architecture, database design, deployment guides, platform API specifications for Lot 2 integration if any are exposed by Lot 1).
- User manuals for all platform features and administrative functions.
- Source code and all related development artifacts through escrow agreement for the platform components.
- Training materials and sessions for system administrators and technical staff on platform management and maintenance.
- One year post-deployment support for the platform components.

3.3.2.3. In-Scope Activities and Features for Lot (1)

The scope of work for Lot 1 encompasses the development and implementation of the following core platform features and functionalities (referencing the SRS for full details):

- **User Management System:** Secure registration, profile management (for job seekers, employers, MoL/PEF staff, administrators), robust authentication (including considerations for MFA), and fine-grained authorization (role-based access control).
- **Job Posting Management System:** Tools for employers to create, edit, publish, manage, and archive job postings with standardized templates, rich text formatting, and

- categorization. Workflow for job posting approval if required.
- **Job Search and Application Management:** Advanced search and filtering capabilities for job seekers (location, sector, keywords, etc.) for standard search, and integrating the AI-powered search results from Lot 2.
- **Integration Framework:**
 - Development of APIs or adapters for connecting with specified external systems (e.g., government databases for verification, selected external job sites for basic data exchange).
 - Seamless integration of AI services (e.g., matching, recommendations, CV parsing) provided by Lot 2 via well-defined APIs. Lot 1 is responsible for the client-side implementation of these integrations.
- **Reporting and Analytics Module (Standard):** This module will deliver standard dashboards and reporting functionalities for both users and administrators, offering insights into platform usage, user statistics, job posting trends, and other key metrics. It will generate pre-defined reports based on core platform data managed within Lot 1. Additionally, it should be designed for seamless integration with existing and available reporting tools such as Microsoft Power BI, enabling enhanced visualization and potential consumption of aggregated insights provided by Lot 2 for advanced analytics displays.
- **Security Framework:** Implementation of robust platform-wide security measures including authentication, authorization, data encryption (in transit and at rest for platform data), protection against common web vulnerabilities (OWASP Top 10), and adherence to data privacy regulations for platform-managed data.
- **Multilingual Support:** Full platform functionality, UI/UX, and content management capabilities in both Arabic (including RTL support) and English.
- **Content Management System (CMS):** A user-friendly CMS for the platform administrators to manage static content, news, articles, career advice guides, FAQs, and other informational pages on the platform.
- **Notification System:** Comprehensive notification system via email, in-app alerts, and SMS with the ability to integrate with SMS service providers (gateway) for SMS alerts.
- **Accessibility:** Ensuring the platform complies with Web Content Accessibility Guidelines (WCAG) 2.1 Level AA standards.
- **System Administration Module:** A comprehensive administration panel for managing users, system configurations, platform settings, basic audit trails (for platform activities), content moderation tools, and platform health monitoring.

3.3.2.4. Out-of-Scope Activities for Lot (1)

The following activities are explicitly excluded from the scope of Lot 1:

- Development, training, and maintenance of custom AI models (this is the responsibility of Lot 2). This includes the core matching algorithms, CV parsing AI, recommendation engines, and any other AI-specific logic.
- Procurement of hardware infrastructure for hosting the platform (servers, network equipment, etc.). However, the Lot 1 Vendor may be asked to provide specifications for the required infrastructure for the platform to ensure sufficient and reliable platform operation.
- Content creation for news, extensive guides, or policy documents beyond basic templates and system-generated content, unless specified as a minor setup task.
- Development of native mobile applications (iOS/Android) unless explicitly stated as an optional or phased component within the proposal evaluation for Lot 1. The primary focus is a responsive web application.

3.3.2.5. Detailed Functional Requirements for Lot 1

The platform components developed under Lot 1 must deliver a comprehensive suite of functionalities catering to Job Seekers, Employers, Ministry of Labor (MoL) Administrators, Palestinian Employment Fund (PEF) Users, Third-Party Job Portals, and Guest Users. These requirements are derived from the overall project SRS (Annex A) and are specifically allocated to Lot 1.

Key functional areas for Lot (1) include (refer to SRS for full details):

- 3.3.2.5.1. User Registration and Profile Management:**
- Secure and intuitive registration processes for all user roles (Job Seeker, Employer, MoL/PEF Admin).
 - Comprehensive, multi-staged profile creation and management dashboards for Job Seekers (personal details, education, work experience, skills - excluding AI-driven skill extraction/validation, preferences, document uploads like CVs, certificates).
 - Comprehensive, multi-staged profile creation and management dashboards for Employers (company details, contact information, industry, size, document uploads like company registration).
 - User account management features: password recovery, profile editing, account deactivation/deletion requests.
 - Role-based access control (RBAC) for administrators to manage user accounts and permissions.
- 3.3.2.5.2. Job Posting and Management (Employer Portal):**
- Intuitive tools for employers to create, edit, preview, publish, unpublish, and archive job postings.
 - Standardized job posting templates with customizable fields (job title, description, responsibilities, qualifications, experience required, location, salary range (optional), application deadline, etc.).
 - Support for rich text formatting in job descriptions.
 - Job classification and categorization based on predefined taxonomies (sector, industry, job function).
 - Employer dashboard to manage all their job postings, view applicant numbers, and track status.
 - Optional workflow for MoL/PEF approval of job postings before they go live.
- 3.3.2.5.3. Job Search and Application (Job Seeker Portal):**
- Advanced search functionality with multiple filters: keywords, location, job category, employment type (full-time, part-time, contract), experience level, date posted.
 - Ability to save job searches and receive alerts for new matching jobs (based on saved search criteria and AI recommendations which are resulted from Lot 2).
 - Detailed job view displaying all relevant information from the job posting.
 - Simple add to “List of Interest” feature to keep potential job opportunities for the job seeker..
 - Job seeker dashboard to track offered jobs, recommended profiles, interested seekers. and manage saved jobs.
- 3.3.2.5.4. Content Management System (CMS):**
- Admin interface for MoL/PEF staff to create, edit, publish, and manage static content pages (e.g., About Us, Contact Us, Privacy Policy, Terms of Service).
 - Functionality to manage news, articles, career advice resources, and FAQs.
 - Support for multilingual content (Arabic and English).
- 3.3.2.5.5. Reporting and Analytics (Standard Platform Reports):**
- Admin dashboards with key platform statistics: number of registered job seekers and employers, number of active job postings, application rates, etc.
 - Basic reporting capabilities for MoL/PEF staff on platform usage and trends (e.g., jobs by sector, registrations over time). (Advanced analytics leveraging AI insights from Lot 2 may be displayed via this module but are generated by Lot 2).
- 3.3.2.5.6. System Administration Module:**
- User account management (activate, deactivate, manage roles).
 - System configuration settings (e.g., site parameters, notification templates).
 - Management of taxonomies (e.g., job categories, locations, skills list for manual entry).

- Audit trails for key administrative actions on the platform.
- Tools for basic platform monitoring and health checks.

3.3.2.5.7. Integration with Lot 2 AI Engine:

- Lot 1 platform must be designed to seamlessly integrate with the AI-Engine provided by Lot 2 for:
 - ◆ Displaying AI-driven job recommendations to job seekers.
 - ◆ Displaying AI-driven candidate recommendations/shortlisting to employers.
 - ◆ Submitting CVs/resumes to Lot 2 for parsing and displaying the extracted/structured information in user profiles.
 - ◆ Incorporating AI-powered search results into the job search functionality.
- The platform must handle AI-Engine calls, data exchange, and error handling gracefully when interacting with Lot 2 services.

3.3.2.5.8. Integration with External Systems:

- As specified in the SRS, develop secure APIs or adapters for data exchange/verification with designated government databases or pre-approved third-party systems (e.g., for basic identity or qualification checks, if applicable).

3.3.2.6. Specific Non-Functional Requirements for Lot (1)

Lot (1) must adhere to high standards of quality, performance, documentation, and security for all platform components. These NFRs are critical for user satisfaction, system stability, and trustworthiness. (Refer to SRS for detailed metrics where applicable).

3.3.2.6.1. Performance:

- **Response Time:** Standard page loads, form submissions, and AI search results should typically complete within 3 seconds under expected load conditions.
- **Throughput:** The platform must support thousand concurrent users performing typical platform operations without significant degradation in performance.
- **Resource Utilization:** Efficient use of server resources (CPU, memory, network bandwidth) for all platform operations.

3.3.2.6.2. Scalability:

- The platform architecture must be horizontally and vertically scalable to accommodate a growing number of users, job postings, and platform data over time.
- Ability to handle peak loads efficiently without service disruption.

3.3.2.6.3. Security (Platform-Specific):

- **Authentication and Authorization:** Secure user authentication mechanisms (e.g., strong password policies, option for Two-Factor Authentication). Robust Role-Based Access Control (RBAC) for all platform functionalities.
- **Data Protection:** Encryption of sensitive platform data (e.g., user credentials, PII) both in transit (HTTPS/TLS 1.2+) and at rest (e.g., AES-256 for database fields). Secure storage and handling of uploaded files.
- **Privacy and Compliance:** Adherence to Palestinian data protection laws and principles of GDPR. Clear privacy policies and user consent mechanisms for platform data usage.
- **Vulnerability Management:** Protection against common web vulnerabilities (OWASP Top 10). The Vendor for Lot 1 will be responsible for security testing of platform components.
- Secure coding practices must be followed throughout the development lifecycle.

3.3.2.6.4. Usability and Accessibility:

- Intuitive, user-friendly interface (UX/UI) for all user groups, minimizing learning curve. Design should be modern and professional.
- Responsive web design for seamless experience across desktops, tablets, and mobile devices.
- Compliance with Web Content Accessibility Guidelines (WCAG) 2.1 Level AA.
- Full support for multilingual interface and content: Arabic (including Right-to-Left layout) and English.

3.3.2.6.5. Maintainability (Platform Codebase):

- Well-structured, documented, and modular code for all platform components.
- Ease of updates, bug fixing, and future enhancements to platform features.
- Comprehensive technical documentation for platform architecture, database schema, and deployment procedures.
- Clear logging mechanisms for platform events and errors.

3.3.2.6.6. Reliability (Platform Services):

- High availability for all platform services (e.g., 99.5% uptime target, excluding scheduled maintenance) assuming effective physical infrastructure (servers).
- Mechanisms for efficient and effective data backup, validation, and recovery for platform data.
- Data integrity and consistency for all data managed directly by the platform.

3.3.2.7. Technical Requirements for Lot (1)

System Architecture (Platform):

- The Vendor should propose a robust, modern, and scalable multi-tier architecture (e.g., presentation, application, data layers) or a microservices-based architecture for the platform components.
- The architecture must clearly define how it will integrate with Lot 2 AI services (e.g., via a dedicated API gateway or direct API calls).
- Clear separation of concerns between platform logic and AI logic (handled by Lot 2).

Technology Stack (Platform):

- Vendors should propose a modern, proven, and scalable technology stack for the web platform. Open-source technologies are encouraged where appropriate.
- **Backend:** Suitable frameworks
- **Frontend:** Modern JavaScript frameworks/libraries (e.g., React, Angular, Vue.js), the vendor can propose other approaches.
- **Database:** Robust relational database system (e.g., PostgreSQL, MySQL) for core platform data. Potentially NoSQL databases for specific use cases if justified (e.g., CMS content, session management).
- **Search Engine :** Technology for standard keyword-based search if not solely reliant on Lot 2 (e.g., Elasticsearch, Solr, or built-in database search capabilities if sufficient for basic search).
- The chosen stack must be well-supported, secure, and allow for effective integration with the AI engine from Lot 2.

Data Management & Database Design (Platform):

- Design and implementation of a robust, normalized, and efficient database schema for all platform-specific data (users, jobs, applications, CMS content, etc.).
- Mechanisms for data validation, integrity, and consistency.

- Strategy for data backups and recovery.

API Design for Integration with Lot 2:

- While Lot 2 is primarily responsible for exposing AI service APIs, Lot 1 must design its components to effectively consume these APIs.
- Lot 1 may need to expose limited APIs if Lot 2 requires callbacks or data pushes from the platform (to be defined during joint design phase if lots are separate).
- Adherence to RESTful principles or GraphQL as appropriate for API communication.
- Secure API consumption (authentication, authorization of API calls to Lot 2).

Development Methodology:

- An agile development methodology (e.g., Scrum, Kanban) is required, with iterative development cycles, regular demonstrations, and stakeholder feedback.

Version Control:

- Use of a modern version control system (e.g., Git) for all source code and configuration files.

Testing (Platform):

- Comprehensive testing strategy for all components, including unit testing, integration testing (of platform modules), system testing, and support for User Acceptance Testing (UAT).
- Specific focus on integration testing with Lot 2 AI service APIs.

3.3.2.8. Expected Deliverables for Lot (1)

The Vendor for Lot (1) shall provide the following deliverables:

- **DL1: Project Management Deliverables:**
 - **Project Management Plan (PMP):** Detailed plan including methodology, team structure, communication plan, risk management plan, quality assurance plan, and detailed work breakdown structure (WBS) with timelines.
 - **Regular Progress Reports:** Weekly or bi-weekly reports detailing activities completed, planned activities, issues, risks, and budget status.
 - **Meeting Minutes:** For all official project meetings.
 - **Final Project Report:** Summarizing the entire project, achievements, lessons learned, and recommendations.
- **DL2: Inception Report (Lot 1 Specific):** Detailed project plan, refined requirements understanding for Lot 1, proposed platform architecture, technology stack confirmation, and risk assessment.
- **DL3: System Design Document (Lot 1 Specific):** Thus includes:
 - **System Architecture Document:** Detailed description of the proposed system architecture, including components, modules, interfaces, data models, and technology stack choices.
 - **UI/UX Design Document:** Comprehensive wireframes, mockups, and prototypes for all user interfaces, demonstrating user flows and adherence to usability and accessibility standards.
 - **Database Design Document:** Detailed schema, entity-relationship diagrams (ERDs), and data dictionary.
 - **Integration plan for Lot 2 AI-Engine:** Detailed and realistic plan to ensure seamless integration with the AI model/engine.
- **DL4: Deployed Job Matching Platform:** Fully functional and tested platform, deployed to the specified environment(s) (development, staging, production), integrating AI services from Lot 2, this includes:
 - **Developed Software (Iterative Releases):** Access to staging/testing environments with iteratively developed and functional software modules/features as per the agreed sprint or iteration plan.
 - **Source Code Repository:** Access to the version-controlled source code through escrow agreement with all development branches and history.
 - **Deployment Scripts and Configuration Files:** All necessary scripts and configuration files for deploying the platform to staging and production environments.

- **Fully Deployed and Operational Platform:** The final, tested, and approved AI-Driven Job Matching Platform deployed in the production environment specified by the Contracting Authority.
- **DL5: Testing and Quality Assurance Deliverables:**
 - **Test Plan and Strategy Document:** Outlining the testing approach, scope, types of testing (unit, integration, system, UAT, performance, security), tools, and environments. (Due: Before development commencement)
 - **Test Cases:** Detailed test cases for all functional and non-functional requirements.
 - **Test Reports:** Reports for each testing phase (unit, integration, system, performance, security) detailing test execution, results, defects found, and resolution status.
 - **User Acceptance Testing (UAT) Support Materials and Report:** Materials to facilitate UAT by stakeholders, and a final UAT report with sign-off.
- **DL6: Documentation Deliverables:**
 - **Technical Documentation (Lot 1 Specific):**
 - Platform Architecture Document.
 - Database Schema and Data Dictionary.
 - Deployment and Configuration Guide.
 - Platform API documentation.
 - Integration guide for Lot 2 AI services (from Lot 1 perspective).
 - **User Documentation (Lot 1 Specific):**
 - Comprehensive User Manuals (in Arabic and English) for all platform user roles (Job Seekers, Employers, MoL/PEF Administrators).
 - System Administration Manual (in Arabic and English).
- **DL7: Training Materials and Sessions (Lot 1 Specific):** Training materials and conduct of training sessions for all MoL/PEF system administrators and technical staff (around 60) on platform operation, management, and basic maintenance.
- **DL8: Post-Deployment Support Plan/ Platform Maintenance:** Plan outlining the support period, scope, and procedures for Lot 1 components.

3.3.3. Lot (2) Scope of Work (SoW)

3.3.3.1. General Scope for Lot (2)

The Vendor for Lot (2) shall be responsible for the complete lifecycle of the AI Engine development. This includes, but is not limited to, in-depth requirements analysis for AI functionalities, selecting the appropriate AI models and techniques, data acquisition strategy (in collaboration with MoL/Enabel and Lot 1 vendor), data preprocessing, feature engineering, model development and training, rigorous model evaluation and validation, deployment of models as scalable API services, and providing a limited period of post-deployment support and potential model retraining/tuning.

The AI Engine must be developed in strict accordance with the functional, non-functional, and technical requirements detailed for Lot (2) in this ToR and the relevant sections of the Software Requirements Specification (SRS) document (Annex A).

Collaboration with the Lot (1) Vendor is critical, particularly concerning API design, data exchange formats, integration testing, and performance optimization.

3.3.3.2. Key Deliverables for Lot (2) (High-Level)

While a detailed list of deliverables is provided in 3.3.3.8, the high-level deliverables include:

- A fully functional, tested, and deployed AI Engine providing services via APIs.
- All developed AI models, including trained model files and associated configurations.
- Comprehensive technical documentation for the AI Engine (architecture, model descriptions, API specifications, data requirements, training procedures).
- Source code for all AI models, data processing scripts, and API services through escrow agreement.
- Training materials and sessions for technical staff on AI Engine maintenance,

- monitoring, and potential retraining processes.
- One-year post-deployment support for the AI Engine for a defined period, including performance monitoring and necessary adjustments.

3.3.3.3. In-Scope Activities and Features for Lot (2)

The scope of work for Lot 2 encompasses the development and implementation of the following AI-driven features and functionalities (referencing the SRS for full details):

- **AI-Driven Matching Engine:**
 - **Skill-Based Matching Algorithms:** Design, develop, and train sophisticated algorithms to match job seeker profiles (skills, experience, education, preferences) with job posting requirements, going beyond simple keyword matching. This includes semantic understanding of skills and job roles.
 - **CV/Resume Parsing and Analysis:** Develop and train models for automated extraction, structuring, and normalization of information from uploaded CVs/resumes in various formats (e.g., PDF, DOCX, text). This includes identifying key entities like skills, work experience, education, contact information, etc., with a strong focus on Arabic language CVs.
 - **Job Recommendation Engine:** Develop and train models to provide personalized and relevant job recommendations to job seekers based on their profiles, historical activity, and learned preferences.
 - **Candidate Recommendation Engine:** Develop and train models to provide intelligent shortlisting and ranking of suitable candidates for employers based on job requirements and candidate profiles.
- **Natural Language Processing (NLP) for Arabic:** Specialized NLP capabilities for processing and understanding Arabic text in CVs, job descriptions, and user-generated content. This includes handling various Arabic dialects and morphological complexities if relevant to the data.
- **Bias Detection and Mitigation:** Implement strategies and techniques throughout the AI model development lifecycle to identify and mitigate potential biases (e.g., gender, age, ethnicity) in matching and recommendation algorithms. Provide reports on bias assessment and mitigation efforts.
- **Model Explainability:** Where feasible and appropriate, provide mechanisms or reports that offer insights into why certain matches or recommendations are made (e.g., key contributing factors).
- **Continuous Learning/Improvement Framework (Strategy):** Propose a strategy for how the AI models can be monitored and potentially retrained or updated over time to maintain or improve performance as new data becomes available.
- **API Development for AI Services:** Design, develop, and deploy robust, scalable, and well-documented APIs for all AI functionalities to be consumed by the Lot 1 platform. This includes APIs for: submitting data for CV parsing, requesting job matches, requesting candidate recommendations, etc.

3.3.3.4. Out-of-Scope Activities for Lot (2)

The following activities are explicitly excluded from the scope of Lot 2:

- Development of the user-facing platform, UI/UX, core non-AI business logic, and general platform infrastructure (this is the responsibility of Lot 1).
- Direct integration with external non-AI systems (Lot 1 will handle this, potentially passing necessary data to Lot 2).
- Development of standard platform reporting and analytics dashboards (Lot 1 responsibility, though it may consume data/insights from Lot 2).
- Procurement of hardware infrastructure for hosting the AI Engine, beyond providing specifications for its requirements.
- Primary responsibility for overall platform security, user management, and CMS (these are Lot 1 responsibilities, though Lot 2 must ensure its own components and APIs are secure).

3.3.3.5. Detailed Functional Requirements for Lot (2)

The AI Engine developed under Lot 2 must provide the core intelligent functionalities of the platform. These requirements are derived from the overall project SRS (Annex A) and are specifically allocated to Lot 2.

3.3.3.5.1. Skill-Based Job-to-Candidate Matching:

- Develop models that go beyond keyword matching to understand the semantic meaning of skills, job titles, and experience descriptions.
- Generate a relevance score or ranking for job seekers against a given job posting.
- Generate a relevance score or ranking for job postings against a given job seeker profile.
- Consider factors such as skill proficiency (if available), years of experience, industry relevance, and potentially job seeker preferences.

3.3.3.5.2. Candidate-to-Job Matching (Job Recommendation):

- Provide personalized job recommendations to job seekers based on their available profile, including parsed CV, data, explicit preferences, and platform interaction history (e.g., viewed jobs, applied jobs).
- Ability to explain (at a high level) the basis for recommendations (e.g., “based on your skills in X and Y”).

3.3.3.5.3. Job-to-Candidate Matching (Candidate Recommendation/Shortlisting):

- Provide employers with a ranked list of suitable candidates for their job postings.
- Allow employers to understand key factors contributing to a candidate’s match score.
- Support filtering or re-ranking based on employer-defined criteria if feasible.

3.3.3.5.4. CV/Resume Parsing and Information Extraction:

- Accurately parse CVs/resumes in common formats (PDF, DOCX, TXT), with a primary focus on Arabic and secondary on English.
- Extract key information: contact details, work experience (job titles, companies, durations, responsibilities), education (degrees, institutions, graduation dates), skills (technical, soft), languages, certifications, etc.
- Structure the extracted information into a standardized format (e.g., JSON) for consumption by the Lot 1 platform and other AI models.
- Handle variations in CV layouts and terminologies.

3.3.3.5.5. Arabic Natural Language Processing (NLP):

- Robust NLP capabilities for Arabic text, including tokenization, stemming/lemmatization, part-of-speech tagging, named entity recognition (NER) for skills, organizations, locations, etc.
- Consideration for dialectal variations if present in the input data and relevant for matching.
- Ability to handle challenges specific to Arabic text processing (e.g., diacritics, ambiguity).

3.3.3.5.6. API Endpoints for AI Services:

- Well-documented, versioned, and secure APIs for all AI functionalities.
- APIs should be designed for low latency and high throughput.

3.3.3.6. Specific Non-Functional Requirements for Lot (2)

Lot 2 must adhere to specific NFRs crucial for the effectiveness, fairness, and trustworthiness of the AI Engine.

3.3.3.6.1. Accuracy and Relevance:

- Matching & Recommendation Quality: Models must achieve a high level of

accuracy and relevance in matching candidates to jobs and recommending jobs/candidates. Specific metrics (e.g., precision@k, recall@k, nDCG) and target thresholds should be defined and agreed upon during the project, based on available data and benchmarks.

- CV Parsing Accuracy: High accuracy in extracting key fields from CVs (e.g., F1-score for skill extraction, work experience). Targets to be defined.

3.3.3.6.2. Performance (AI Engine):

- Inference Latency: API response times for AI predictions (e.g., matching, parsing) must be low enough to ensure a good user experience on the Lot 1 platform (e.g., typically <1-2 seconds for most AI service calls under expected load).
- Throughput: The AI Engine APIs must be able to handle a significant number of concurrent requests from the Lot 1 platform. (Specific targets to be derived from SRS user load projections).

3.3.3.6.3. Scalability (AI Engine):

- The AI Engine architecture must be scalable to handle increasing numbers of users, jobs, CVs, and API requests.
- Ability to scale model serving infrastructure (e.g., horizontally by adding more instances).

3.3.3.6.4. Fairness, Bias, and Ethics:

- Bias Detection and Mitigation: Proactive measures to identify and mitigate potential biases in data and models related to gender, age, ethnicity, or other protected characteristics. Vendor must describe their methodology for bias assessment and mitigation.
- Transparency and Explainability: Where feasible, provide insights into model decisions. This does not necessarily mean full model interpretability but rather high-level explanations for users or administrators.
- Adherence to ethical AI principles.

3.3.3.6.5. Robustness and Reliability (AI Engine):

- AI models should be robust to variations in input data and gracefully handle edge cases or noisy data.
- High availability for all AI API services (99.5% uptime target, excluding scheduled maintenance for model updates) assuming effective physical infrastructure (servers).

3.3.3.6.6. Maintainability and Updatability (AI Models & Engine):

- Well-documented code for model development, training scripts, and API services.
- Clear procedures for retraining models, deploying updated models, and versioning models and APIs.
- Strategy for monitoring model performance in production and identifying the need for updates/retraining.

3.3.3.6.7. Data Requirements for AI:

- Clear specification of data required for training and operating the AI models (format, volume, quality).
- Secure handling and storage of any data used for model training or operation, in compliance with data privacy regulations.

3.3.3.7. Technical Requirements for Lot (2)

AI Engine Architecture:

- Vendor to propose a robust and scalable architecture for the AI Engine, including components for data ingestion, preprocessing, model training, model serving, and API management.

Technology Stack (AI Engine):

- Programming Languages: suitable programming language for AI development.
- AI Frameworks: Standard, well-supported frameworks
- API Development: Frameworks for building robust APIs (e.g., FastAPI, Flask, Django REST framework).
- Model Serving: Solutions for deploying models as scalable services.
- The chosen stack must be compatible with the Lot 1 platform for seamless integration.

API Design and Development:

- Design and implement secure, versioned, and well-documented RESTful or other suitable APIs for all AI services.
- APIs must be robust, handle errors gracefully, and provide clear response codes and messages.
- Authentication and authorization mechanisms for API access.

Data Handling and Storage (AI-Specific):

- Strategy for managing datasets used for training, validation, and testing of AI models.
- If the AI engine requires its own data stores (e.g., vector databases for semantic search), these should be specified and justified.
- Compliance with data security and privacy requirements for all AI-related data.

Model Training and Evaluation:

- Rigorous model training and evaluation methodologies.
- Use of appropriate validation techniques (e.g., cross-validation) to ensure model generalization.
- Clear documentation of model performance metrics and evaluation results.

Version Control:

- Use of a modern version control system (e.g., Git) for all AI model code, training scripts, and configuration files. Consider tools like DVC for data versioning.

3.3.3.8. Expected Deliverables for Lot (2)

The Vendor for Lot 2 shall provide the following deliverables:

- **DL1: Project Management Deliverables:**
 - **Project Management Plan (PMP):** Detailed plan including methodology, team structure, communication plan, risk management plan, quality assurance plan, and detailed work breakdown structure (WBS) with timelines.
 - **Regular Progress Reports:** Weekly or bi-weekly reports detailing activities completed, planned activities, issues, risks, and budget status.
 - **Meeting Minutes:** For all official project meetings.
 - **Final Project Report:** Summarizing the entire project, achievements, lessons learned, and recommendations.
- **DL2: Inception Report (Lot 2 Specific):** Detailed project plan for AI engine development, refined AI requirements, proposed AI models and techniques, data acquisition and preprocessing strategy, AI architecture, technology stack confirmation, and risk assessment.
- **DL3: AI Engine Design Document:** Detailed architecture of the AI engine, description of selected models, data flow diagrams, API specifications, and model training/evaluation strategy.

- **DL4: Deployed AI Engine (API Services):** Fully functional and tested AI services, deployed and accessible via APIs to the specified environment(s).
 - **Developed AI Model:** Fully functional and tested AI services.
 - **Trained AI Models:** All trained model files, associated configurations, and any necessary artifacts for their deployment and use.
 - **Source Code Repository:** Complete, well-commented source code for all AI models, data processing scripts, training pipelines, and API services, to be placed in escrow via a code repository.
 - **Deployment Scripts and Configuration Files:** All necessary scripts and configuration files for deploying the AI services.
 - **Fully Deployed and Operational AI Engine:** The final, tested, and approved AI Engine deployed in the desired job matching platform.
- **DL5: Testing and Quality Assurance Deliverables :**
 - **Test Plan and Test Reports (Lot 2 Specific):** Detailed test plans, test cases (including for model accuracy, API functionality, performance, security of AI components), and reports for all testing phases in addition to providing support to facilitate UAT by stakeholders and a final UAT report.
 - **Bias Assessment and Mitigation Report:** Report detailing the methodologies used and findings related to bias in AI models, and steps taken for mitigation.
- **DL6: Technical Documentation (Lot 2 Specific):**
 - AI Engine Architecture Document.
 - Detailed Model Cards/Documentation for each AI model (describing its purpose, data used, performance, limitations, fairness considerations).
 - Comprehensive API Documentation .
 - Model Training and Deployment Guide.
 - Data Requirements and Preprocessing Guide.
- **DL7: Training Materials and Sessions (Lot 2 Specific):** Training materials and conduct of training sessions for MoL/PEF technical staff on AI engine understanding, monitoring, basic maintenance, and potential retraining procedures.
- **DL8: Post-Deployment Support Plan/Maintenance (AI Engine):** Plan outlining the support period, scope (including model performance monitoring), and procedures for Lot 2 components.

3.3.4. Project Phases and Tentative Timeline

3.3.4.1. Proposed Project Timeline

The core project phases are expected to be completed **by 31/12/2025** from the contract signing date. Vendors should propose a detailed project timeline as part of their technical proposal, broken down into the following indicative phases. The Contracting Authority is open to agile approaches with iterative deliveries. **Both lots will start in parallel and as soon as contracts are signed.**

Phase	Indicative Duration	Primary Lot(s) Involved	Key Focus
1. Inception and Planning	3 weeks	Both (Coordinated)	Requirements validation, detailed planning, initial architecture.
2. System Design	3 weeks	Both (Coordinated)	Detailed platform architecture, database design, UI/UX, AI model design, API specs.

Phase	Indicative Duration	Primary Lot(s) Involved	Key Focus
3. Development & Iterative Releases	10-12 weeks	Lot 1 & Lot 2 (Parallel)	Platform build (Lot 1), AI model development & API creation (Lot 2).
4. System Testing & QA	Overlaps with Dev.	Both (Coordinated)	Unit, integration (Lot 1 & Lot 2), system, performance, security testing.
5. User Acceptance Testing (UAT)	2 weeks	Client (Support by Both)	Client validation of the integrated platform with bug fixes.
6. Deployment and Go-Live	2 weeks	Both (Coordinated)	Production deployment of platform and AI engine.
7. Technical Documentations (manuals, training materials, etc) in Arabic and English	In parallel	Lot 1 & Lot 2 (Parallel)	Providing the technical documentations for both lots.
8. Training	1 week (Concurrent)	Both	Administrator and technical staff training for platform and AI engine.
9. Post-Deployment Support (Included in the price offer)	12 months	Both	Warranty, bug fixing, and support.

Vendors should provide a realistic and detailed work plan with specific timelines for each lot.

3.3.4.2. Reporting Requirements

The Vendor will be required to:

- Regular progress reports (e.g., bi-weekly) will be required for each lot, detailing activities completed, progress against milestones, issues encountered, and planned activities. Standard templates may be provided by the Contracting Authority.
- Participate in regular project review meetings with the Contracting Authority and relevant stakeholders.
- Maintain a risk and issue log, to be reviewed regularly by the contracting team in the regular meetings.

3.3.4.3. Coordination Between Lots (If Awarded to Different Vendors)

If Lot 1 and Lot 2 are awarded to different Vendors, a high degree of coordination and collaboration will be mandatory. The Contracting Authority will ensure overall project oversight through a supervising entity (focal point), which will be responsible for technical supervision, ensuring proper coordination and timeline alignment. This process will be carried out in collaboration with the project's steering committee, comprising the Enabel team, external technical experts, and the supervising entity's team. Nonetheless, the selected vendors will be contractually required to:

- Participate in joint planning and review meetings.
- Establish clear communication channels and points of contact.
- Collaboratively define and manage the API interface between the Platform (Lot 1) and the AI Engine (Lot 2). This includes agreeing on API specifications, data formats, authentication mechanisms, and error handling.
- Coordinate development sprints and timelines to ensure timely integration.
- Conduct joint integration testing and troubleshooting.
- Share necessary documentation and updates promptly.

The proposal should outline the vendor's approach to such collaboration if they are bidding for a single lot.

Vendor Qualifications and Team Composition

3.3.5. For Lot (1): Core Platform Development

3.3.5.1. Lot (1) Required Experience and Expertise

Interested Vendors must demonstrate proven experience and expertise in the following areas:

- **Proven Track Record:** Proven experience in designing, developing, deploying, and maintaining large-scale, secure, and scalable web-based platforms (min 2 projects in the last 5 years). Experience with public sector or international development organization projects is highly desirable.
- **Technology Stack Proficiency:** Demonstrable, in-depth experience with the proposed technology stack for platform development (including specific backend frameworks, frontend frameworks, and database systems as outlined in their proposal).
- **Complex Web Applications:** A strong portfolio of successfully delivered web applications showcasing complex functionalities such as advanced user management, intricate data models, third-party integrations, and comprehensive administrative interfaces.
- **Accessibility Standards:** Verifiable experience in developing platforms compliant with internationally recognized accessibility standards (e.g., WCAG 2.1 Level AA).
- **Agile Methodologies:** Proven experience in successfully delivering projects using agile development methodologies (e.g., Scrum, Kanban), including iterative development, continuous integration, and regular stakeholder engagement.
- **API Integration:** Significant experience in designing, developing, and consuming RESTful APIs for integration with third-party services and external systems.
- **Security Implementation:** Expertise in implementing robust platform security measures, including secure coding practices (aligned with OWASP Top 10), data encryption (in transit and at rest), secure authentication and authorization mechanisms, and vulnerability management.
- **Multilingual Platforms:** Experience in developing and maintaining multilingual platforms. Specific experience with Arabic language support (including Right-to-Left UI implementation) is a significant advantage.
- **Data Management and Reporting:** Experience in developing systems that require robust data management, data integrity controls, and flexible reporting and analytics capabilities.
- **Support and Maintenance:** Demonstrable experience in providing post-deployment support, ongoing maintenance, system upgrades, and comprehensive training for technical and non-technical users.

3.3.5.2. Lot (1) Proposed Team Structure and Key Personnel Roles

Vendors must propose a dedicated and qualified team with clearly defined roles and responsibilities for the successful execution of Lot 1. The proposal must include an organizational chart for the project team and detailed CVs for all key personnel, highlighting their relevant experience and qualifications for the proposed roles. Minimum key personnel and their expected qualifications include:

- **Project Manager:**
 - Minimum 7+ years of experience managing complex software development projects, with a strong preference for experience with agile methodologies.
 - Proven leadership, communication, risk management, and stakeholder management skills.
 - Relevant project management certifications (e.g., PMP, PRINCE2 Agile, Certified ScrumMaster) are highly desirable.
 - Experience managing projects of similar scale and complexity.
- **Lead Software Architect/Technical Lead:**

- Minimum 7+ years of experience in software architecture and full-stack development of enterprise-grade web platforms.
- Expertise in the proposed technology stack for Lot 1 and a strong understanding of microservices, scalability, and security principles.
- Proven experience in designing and documenting scalable, maintainable, and secure system architectures.
- **Senior Backend Developer(s):**
 - Minimum 5+ years of hands-on experience in backend development using the proposed technologies.
 - Strong experience in API development (RESTful services), database design and management (SQL and/or NoSQL), and server-side logic.
- **Senior Frontend Developer(s):**
 - Minimum [5+] years of hands-on experience in frontend development using modern JavaScript frameworks (e.g., React, Angular, Vue.js).
 - Strong experience in UI/UX implementation, responsive design, cross-browser compatibility, and performance optimization.
 - Demonstrable experience in implementing WCAG 2.1 AA accessibility standards.
- **UI/UX Designer:**
 - Minimum [3+] years of dedicated experience in designing user-centric interfaces and user experiences for complex web applications.
 - A strong portfolio demonstrating expertise in wireframing, prototyping, user research, and usability testing.
 - Experience with designing for accessibility and multilingual platforms.
- **Quality Assurance (QA) Engineer/Lead:**
 - Minimum [3+] years of experience in software quality assurance, including manual and automated testing of web applications.
 - Experience in developing comprehensive test plans, test cases, and test scripts, and executing various types of testing (functional, non-functional, performance, security).
 - Familiarity with QA automation tools and frameworks.
- **DevOps Engineer:**
 - Minimum [3+] years of experience in setting up and managing CI/CD pipelines, infrastructure as code, containerization technologies, and cloud deployment (if applicable).
 - Focus on automation of build, test, and deployment processes.

The proposal should indicate the level of effort (full-time, part-time) for each team member.

3.3.6. For Lot (2): AI Engine Development

3.3.6.1. Lot (2) Required Experience and Expertise

- **Proven AI Track Record:** Proven experience at the individual and/or enterprise levels in designing, developing, deploying, and maintaining AI solutions, with a specific focus on Natural Language Processing (NLP), recommendation systems, and predictive analytics (min 2 projects in the last 5 years).
- **AI Project Portfolio:** A strong portfolio of successfully delivered AI projects, demonstrating real-world application and impact. Experience with AI in human resources, recruitment, or labor market analysis is a plus.
- **AI Technology Stack Proficiency:** Demonstrable, in-depth expertise in the proposed AI technology stack, including Python and its ecosystem.
- **Multilingual AI Development:** Experience with developing and fine-tuning AI models for multilingual contexts. Specific and demonstrable experience with Arabic NLP (including various dialects if relevant) is highly desirable and will be a significant advantage.
- **Ethical AI and Bias Mitigation:** Expertise in and a clear methodology for addressing AI ethics, ensuring fairness, identifying and mitigating biases in data and models, and promoting model transparency and explainability where appropriate.
- **AI Model Integration:** Proven experience in integrating AI models and services into larger software systems and platforms, including API design for AI services.
- **AI Documentation and Training:** Experience in providing clear technical

documentation for AI systems (model architecture, training data, performance metrics) and delivering training to technical teams on managing and maintaining AI solutions.

3.3.6.2. Lot (2) Proposed Team Structure and Key Personnel Roles

Vendors must propose a dedicated and highly skilled AI team with clearly defined roles. The proposal must include an organizational chart for the AI project team and detailed CVs for all key AI personnel. Minimum key personnel and their expected qualifications include:

- **AI Project Lead/Manager:**
 - Minimum [7+] years proven individuals and/or enterprise experience specifically in managing AI projects from conception to deployment.
 - Strong technical understanding of AI concepts, methodologies, and the development lifecycle.
 - Excellent communication, coordination, and risk management skills, particularly important if Lot 1 is managed by a different vendor, requiring close collaboration.
- **Lead AI Scientist/Machine Learning Engineer:**
 - Minimum [5+] years of hands-on experience in developing, training, and deploying advanced AI models.
 - Deep expertise in NLP (including semantic understanding, text parsing, classification), recommendation systems, and relevant statistical and machine learning algorithms.
 - Proficiency in the proposed AI technology stack and experience leading AI development efforts.
- **Data Scientist(s):**
 - Minimum [3+] years of practical experience in data analysis, feature engineering, building and validating AI learning models, and deploying them.
 - Strong programming skills and experience with relevant AI libraries and frameworks.
 - Experience with Arabic NLP is a strong plus for team members.
- **Data Engineer (Highly Recommended)**
 - Minimum [3+] years of experience in designing, building, and maintaining robust and scalable data pipelines for AI projects.
 - Expertise in data extraction, transformation, and loading (ETL), data warehousing, and big data technologies if applicable.
- **AI QA/Test Specialist**
 - Minimum [3+] years of experience in designing and implementing testing strategies specifically for AI models, including evaluating model accuracy, robustness, fairness, and performance against benchmarks.
 - Familiarity with techniques for testing non-deterministic systems.

3.3.7. For Vendors Bidding on Both Lots

Vendors submitting proposals for both Lot 1 and Lot 2 must meet the qualifications and team composition requirements specified for each individual lot. In addition, such vendors should clearly articulate in their proposal:

- **Integrated Team Structure and Synergies:** A detailed description of the proposed integrated team structure, highlighting how synergies between the platform development team (Lot 1) and the AI engine development team (Lot 2) should be established and leveraged. This should include clear lines of communication, shared responsibilities where appropriate, and a unified project governance model.
- **Unified Project Management Approach:** A comprehensive project management plan that ensures seamless coordination, communication, and integration between the development activities of Lot 1 and Lot 2. This plan should detail how dependencies will be managed and how a cohesive final product will be delivered.

- **Value Proposition for Combined Award:** A clear explanation of the potential efficiencies in terms of cost, timeline, risk reduction, or enhanced quality and innovation that can be achieved if both lots are awarded to a single vendor. This should go beyond simple cost aggregation and demonstrate tangible benefits from a unified approach.

3.3.8. On the Shelf Systems Considerations

In addition to custom development solutions, vendors may propose existing "On the Shelf" (ready-made) systems that can meet some or all of the requirements outlined in this ToR. These pre-existing solutions may offer advantages in terms of implementation speed, proven reliability, and potentially lower costs. This section outlines the specific considerations, requirements, and evaluation approach for vendors proposing On the Shelf systems for either Lot 1, Lot 2, or both.

3.3.8.1. On the Shelf Systems Considerations

3.3.8.1.1. Modified Requirements for On the Shelf Systems

Vendors proposing On the Shelf systems should note the following modifications to the standard requirements:

3.3.8.1.1.1. Staffing Requirements

The staffing requirements outlined in Section 10 (Vendor Qualifications and Team Composition) are modified as follows for On the Shelf systems:

- **Project Manager:** Responsible for overall implementation, coordination with Enabel and stakeholders, and ensuring successful deployment.
- **Implementation Team:** While the full development team described in previous sections may not be required, vendors must still provide a qualified implementation team with the following key roles:
 - **System Configuration Specialist(s):** Expert(s) in configuring the proposed system to meet the specific requirements of the project.
 - **Integration Specialist(s):** Technical expert(s) responsible for integrating the system with external platforms and data sources as specified in the SRS.
 - **Training Specialist:** Responsible for developing training materials and conducting training sessions for administrators and end-users.
 - **Support Specialist(s):** Responsible for providing technical support during and after implementation.
 - **Product Development Team Access:** Vendors must demonstrate that they have access to the product development team or equivalent technical resources for addressing any critical issues, bugs, or necessary customizations that may arise during implementation.
 - **Software engineers for customization purposes.**

3.3.8.1.1.2. Timeframe Considerations

The project phases and timeline outlined in 3.3.4.1 (Project Phases and Timeline) are modified as follows for On the Shelf systems:

- **Accelerated Implementation:** Vendors should propose an accelerated implementation timeline that reflects the reduced development effort required for an existing system.
- **Configuration Phase:** Instead of the development phase, vendors should detail a configuration phase that outlines how the existing system will be configured to meet the specific requirements of the project.

- **Integration Timeline:** Special attention should be paid to the timeline for integrating the system with external platforms and data sources, as this may still require significant effort even with an existing system.
- **Training and Knowledge Transfer:** The timeline should include adequate time for comprehensive training and knowledge transfer to ensure that local staff can effectively manage and maintain the system.

3.3.8.1.1.3. Customization Capabilities

Vendors must clearly articulate the customization capabilities of their On the Shelf system:

- **Standard Customization Options:** Detail the standard configuration and customization options available within the system without requiring code modifications.
- **Extended Customization Possibilities:** Outline what aspects of the system can be customized beyond standard configuration options, if necessary.
- **Customization Limitations:** Clearly identify any aspects of the system that cannot be customized or modified to meet specific requirements.
- **Customization Process:** Describe the process for requesting and implementing customizations, including timeframes, costs, and approval procedures.

3.3.8.1.1.4. Licensing and Ownership Model

Vendors must provide detailed information on the licensing and ownership model:

- **License Type:** Specify whether the system is offered as a perpetual license, subscription-based service, or other licensing model.
- **License Scope:** Detail what the license covers (e.g., number of users, modules, features).
- **Ownership of Data:** Clearly state that all data entered into or generated by the system belongs exclusively to Enabel and the designated Palestinian authorities.
- **Ownership of Customizations:** Specify the ownership rights for any customizations developed specifically for this project.
- **License Duration:** For subscription-based models, specify the minimum subscription period and renewal terms.

3.3.8.1.1.5. Support and Maintenance

Vendors must provide comprehensive information on support and maintenance:

- **Support Levels:** Detail the different levels of support available (e.g., basic, premium, 24/7).
- **Support Channels:** Specify the available support channels (e.g., email, phone, ticketing system).
- **Response Times:** Provide guaranteed response times for different issue severity levels.
- **Maintenance Schedule:** Detail the frequency and nature of system updates and maintenance activities. The vendor is also preferred to have a dedicated ticketing system in place to log, track, and manage maintenance requests, incidents, and user-reported issues efficiently and transparently.
- **Version Upgrade Policy:** Explain how system upgrades are managed and what level of control Enabel will have over the upgrade process.
- **Local Support Capabilities:** Describe capabilities for providing local support in Palestine, including language support in Arabic.

3.3.8.2. Functionality Comparison

Vendors proposing On the Shelf systems must provide a **functionality comparison** to demonstrate how their existing system meets the requirements specified in the SRS. This request serves as a **critical evaluation** tool to assess the alignment between the proposed system and the project requirements.

The Functionality Comparison requires vendors to:

1. Map System Features to SRS Requirements: For each functional and non-functional requirement listed in the SRS, vendors must indicate whether their system:
 - Fully Meets (F): The requirement is fully met by the standard system without customization.
 - Partially Meets (P): The requirement is partially met by the standard system and would require some configuration or minor customization.
 - Requires Customization (C): The requirement is not met by the standard system but could be addressed through customization.
 - Not Available (N): The requirement cannot be met by the system, even with customization.
2. Provide Feature Details: For each requirement, vendors must provide a brief description of how their system addresses the requirement, including specific features, functionalities, or limitations.
3. Outline Customization Needs: For requirements marked as "Partially Meets" or "Requires Customization," vendors must outline the specific customization needed, the estimated effort required, and any potential limitations or risks.
4. Highlight Alternative Approaches: Where appropriate, vendors may propose alternative approaches to meeting requirements that leverage the strengths of their existing system while still achieving the desired outcomes.

Vendors with ready-made systems/solutions can use the following form:

Requirement ID	Requirement Description	Compliance (F/P/C/N)	Feature Details	Customization Needs (if applicable)	Place in the technical proposal (section and page number)

3.3.8.3. Evaluation Considerations for On the Shelf Systems

On the Shelf systems will be evaluated using modified criteria that take into account the specific advantages and limitations of pre-existing solutions:

- **Functional Coverage:** The degree to which the system meets the functional requirements specified in the SRS, as demonstrated in the Functionality Comparison Form.
- **Implementation Timeline:** The proposed timeline for implementing, configuring, and deploying the system.
- **Total Cost of Ownership:** The total cost over a 5-year period, including licensing, implementation, customization, support, and maintenance.
- **Customization Flexibility:** The system's ability to be customized to meet specific requirements not covered by the standard functionality.
- **Integration Capabilities:** The system's ability to integrate with external systems and data sources as specified in the SRS.
- **User Experience:** The quality of the user interface, ease of use, and alignment with the user-centric objectives outlined in Section 4.
- **Multilingual Support:** The system's support for Arabic and English languages, including right-to-left text rendering for Arabic.
- **Accessibility Compliance:** The system's compliance with WCAG 2.1 Level AA accessibility standards.
- **Security and Data Protection:** The system's security features, data protection mechanisms, and compliance with relevant standards.
- **Scalability and Performance:** The system's ability to handle the expected user load and data volume, and to scale as usage grows.
- **Vendor Track Record:** The vendor's experience in successfully implementing similar systems, particularly in the MENA region.
- **Local Support Capabilities:** The vendor's ability to provide local support in Palestine, including Arabic language support.

3.3.8.4. Proposal Requirements for On the Shelf Systems

In addition to the standard proposal requirements outlined in previous sections, vendors proposing On the Shelf systems must include:

- **System Overview:** A comprehensive overview of the proposed system, including its history, current version, market position, and key differentiators.
- **Client References:** At least three references from clients who have implemented the system, preferably in similar contexts or regions.
- **Demo Access:** Information on how Enabel and MoL/PEF can access a demonstration version of the system during the evaluation period.
- **Implementation Methodology:** A detailed methodology for implementing the system, including configuration, data migration, integration, testing, and deployment.
- **Training Plan:** A comprehensive plan for training administrators, technical staff, and end-users.
- **Support and Maintenance Plan:** Detailed information on the proposed support and maintenance arrangements.
- **Licensing and Pricing Model:** Clear explanation of the licensing and pricing model, including any volume discounts, educational/non-profit discounts, or special terms for international development projects.
- **Completed Functionality Comparison:** The fully completed request as specified in Section 3.4.4.2.

3.4. Technical Proposal Submission Guidelines

3.4.1. Proposal Structure and Content Requirements

Interested Vendors are required to submit a comprehensive proposal for each or both lots structured as follows. Failure to adhere to the prescribed structure or provide all requested information may result in disqualification.

Vendors may bid for Lot 1, Lot 2, or both. If bidding for both, a separate technical and financial proposal must be submitted for each Lot. A cover letter may indicate the bid for both lots and any potential synergies or discounts if awarded both.

Volume I: Technical Proposal

The Technical Proposal for each lot should be clear, concise, and directly address the requirements outlined in this ToR and the annexed SRS. It should not contain any financial information and should **not exceed 15 pages** excluding annexes.

- **Cover Letter:** A formal letter of application signed by an authorized representative of the Vendor.
- **Executive Summary:** A brief overview of the Vendor's understanding of the project, proposed solution, key strengths, and unique value proposition.
- **Understanding of Requirements:** Demonstrate a clear understanding of the project objectives, scope, and specific requirements for the lot(s) being bid for. Highlight understanding of the Palestinian context.
- **Proposed Technical Solution & Methodology:**
 - For Lot 1: Detailed description of the proposed platform architecture, technology stack, UI/UX design approach, development methodology, integration strategy for Lot 2 APIs, security measures, and QA/testing plan for platform components.
 - For Lot 2: Detailed description of the proposed AI engine architecture, AI models and techniques, data handling strategy, API design, development methodology, bias detection/mitigation approach, model validation, and QA/testing plan for AI components.
- **Work Plan and Timeline:** A detailed work plan, including a Work Breakdown Structure (WBS), specific activities, deliverables, milestones, and a realistic project timeline, aligning with the phases outlined in for the lot(s) you bid for.
- **Proposed Team:**
 - Organizational chart for the proposed project team.
 - Roles and responsibilities of each team member.
 - Detailed CVs of all key personnel (as defined in Section 3.4.1.2 and 3.4.2.2), highlighting relevant experience, qualifications, and certifications. CVs should be signed by the respective individuals.
 - Confirmation of availability of key personnel for the project duration.
- **Quality Assurance and Testing Strategy:** Detailed approach to quality assurance, including types of testing to be performed (unit, integration, system, performance, security, UAT support), testing tools, and processes.
- **Risk Management Plan:** Identification of potential risks (technical, operational, project management) and proposed mitigation strategies.
- **Innovation and Creative Value:** (Optional, but encouraged) Highlight any innovative approaches, creative solutions, or value-added services the Vendor proposes that could enhance the platform or project outcomes, particularly in addressing the unique challenges of the Palestinian labor market, **noting that ready-made solutions with customizations based on the requirements are highly encouraged.**
- **Relevant Project Experience:** Detailed descriptions of at least 2 similar projects successfully completed in the last 5 years for the applied lot, particularly those developing or deploying solutions (ready-made with customizations) with public sector clients. Must fill Form 6.4: Similar assignment in the RFP.

- **Certifications:** Copies of any relevant company certifications (e.g., ISO 9001, ISO 27001).
- **Training and Post-Deployment Support Plan.**
- **Collaboration Plan (if bidding for a single lot):** Approach to collaborating with the vendor of the other lot.
- **Any other information deemed relevant by the bidder.**

3.5. Annexes

- **Annex A: Detailed Software Requirements Specification (SRS)**

— End of Terms of Reference —