



## TERMS OF REFERENCE

### **Joint Team of AI private company (Developer of Solution) and Academic researcher in the field of Artificial Intelligence for the implementation of an AI Proof-of-Concept**

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## 1 Background

Artificial Intelligence (AI) plays a crucial role in fostering comprehensive social and economic development across various sectors. By harnessing the potential of AI technology, we can effectively achieve the objectives of sustainable development and adapt to the challenges of the fourth industrial revolution. Embracing AI enables us to stay abreast of rapid technological advancements and leverage the abundant opportunities it offers to boost economic growth and enhance the performance of governmental entities. AI also creates new job opportunities, contributing to labor market and fosters an environment conducive to innovation and entrepreneurship. Moreover, AI implementation enhances the efficiency, quality, and accessibility of public services while reducing associated costs. These ensure that all segments of society can benefit from improved services and experiences.

The Ministry of Digital Economy and Entrepreneurship (MoDEE) of Jordan has developed and published “AI Strategy and Implementation Plan (2023-2027)” (hereinafter referred to as “the AI Strategy”) with the vision of making Jordan a regional leader in the field of AI and providing a unique and attractive technological and entrepreneurial environment for AI to be effective, supportive and an essential component of the national economy.

Under these circumstances, Japan International Cooperation Agency (JICA) has started an international cooperation project with MoDEE titled “The Project for Promoting Artificial Intelligence Ecosystem in the Hashemite Kingdom of Jordan”. JICA is dispatching a consultant team to provide technical advice and assistance to the project implementation. The project purpose is to operationalize a **Public-Private-Academia platform** for promoting use of emerging technologies (especially AI) in Jordan. To achieve the project purpose, two major activities are being implemented. One is to establish and improve the capacity of the said platform. Another is to implement PoC (Proof of Concept) programs to promote AI use in real society by means of **Public-Private-Academia consortium**.

The National AI Steering Committee has been established for supervising the implementation of the AI Strategy and Implementation Plan (2023-2027) and takes role to discuss and monitor its progress with selected high-level members from the government (MoDEE), academia, and industry. The JICA project is working closely with the Committee, and the PoC program described in this ToR is selected based on the discussions of the Committee. A Project Secretariat has also been established to help implementation of the project including the PoC program.

This ToR document outlines the requirements for a Joint Team of private IT company and academic AI researcher to implement a PoC program.

## 2 Target PoC program

### 2.1 Title of the PoC program

“Ask Aqaba”: Development of a Customized Large Language Model for AQABA

## 2.2 Background and overview of the PoC program

ASEZA, the Aqaba Special Economic Zone Authority, is the financially and administratively autonomous institution responsible for the management, regulation, and the development of the Aqaba Special Economic Zone (ASEZ) in Jordan. It aims to promote economic growth through investment, trade, and tourism, leveraging Aqaba's strategic location on the Red Sea. ASEZA provides streamlined regulations, tax incentives, and infrastructure development to attract both local and international investors. To provide the best services to visitors to Aqaba, ASEZA has identified the need to develop a customized large language model (LLM) to leverage the extensive data available within the authority and enhance its operational efficiency. This PoC program aims to create a customized LLM that can provide accurate and context-specific responses in both Arabic and English languages, aiding decision-making processes and improving user interaction across ASEZA's various directorates. The LLM is expected to enhance key sectors of ASEZA, beginning with tourism and investment, and expand it across other pillars as a scalable prototype. This PoC program supports Jordan's broader goals of digital transformation and leveraging AI to accelerate development and improve services.

The direct objective of this PoC program is:

- **Develop a Scalable and Extendable LLM Prototype**

Create an LLM prototype that accepts inquiries and replies answers in written natural language (either in Arabic or English) regarding tourism and investment in Aqaba which are the most mature pillars of ASEZA, while ensuring scalability to extend the solution in the future (after the PoC program) to other ASEZA pillars as well as to other ministries across the Kingdom, based on the outcomes of the PoC.

**Important Note:** It is important to emphasize that this is a PoC program and is not a full scale development project. The target software is a “prototype” and is not designed to be used for public service (at least during the PoC program). However, we may implement “public testing” of the prototype during the PoC program if the prototype passed internal testing with satisfactory result. Even in that case, it is strictly required (according to the scope of this JICA project) that the UI (User Interface) must clearly show that the LLM is “prototype” with disclaimer of potentially unexpected result.

There are other implicit objectives that should be achieved through the implementation of this PoC.

- (1) **Optimize the Utilization of ASEZA's Data Assets**

Leverage ASEZA's existing data assets and available data from other government entities, as identified in the AI readiness report and survey, to enhance operational efficiency and improve data-driven decision-making.

**(2) Enhance User Experience and Information Access**

Develop a customized large language model (LLM) to provide accurate, relevant, and timely information to users in their preferred language (Arabic or English), improving accessibility and overall user experience.

**(3) Streamline Decision-Making and Reduce Workload**

Automate responses to common queries on ASEZA's portal, optimize workflows, and enable easy access to relevant data, reducing manual workload and supporting informed and timely decision-making.

**(4) Ensure Scalability and Adaptability**

Assess ASEZA's infrastructure feasibility for scaling the LLM system and implement mechanisms for real-time data updates, periodic model refinement, and seamless integration of new data sources to keep the models current, reliable, and adaptable to future changes.

**(5) Knowledge Transfer and Capacity Building for ASEZA's Team**

Facilitate comprehensive knowledge transfer through training sessions, workshops, and documentation to ensure ASEZA's team gains the skills and understanding needed to maintain, operate, and further develop the LLM solution after the implementation of the PoC program.

The figure below shows the current structure of ASEZA that consists of 7 strategic pillars, and the scope of this PoC program that must cover the first 2 pillars (Tourism and Investment) for the training of LLM, but it must also be designed to cover all 7 pillars in the future.

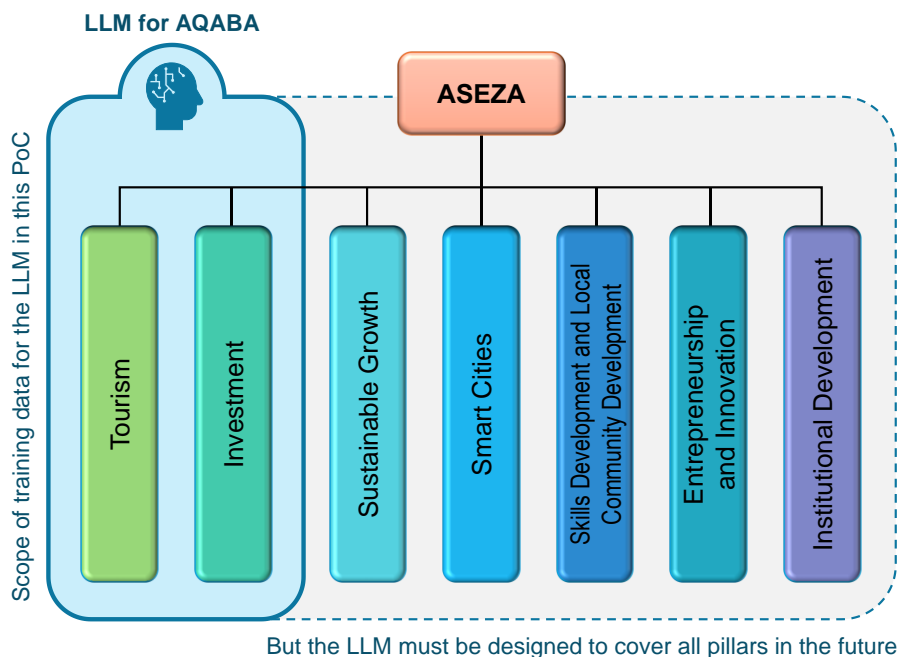


Figure 1: Current structure of ASEZA with 7 pillars and the scope of this PoC program

## 2.3 Specifications of the Expected PoC Solution

### 2.3.1 Overview of the system to develop in this PoC

The figure below shows overview of the system to develop in this PoC.

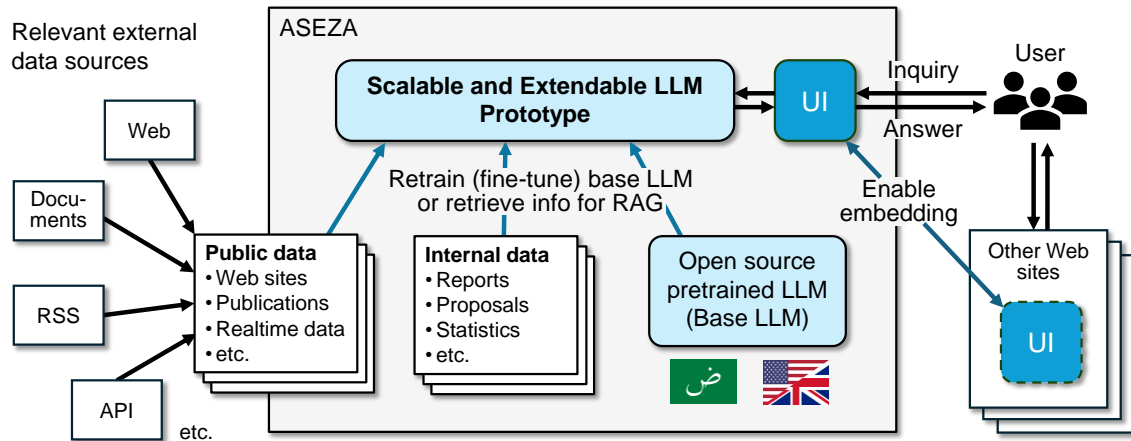


Figure 2: Overview of the system to develop in this PoC

### 2.3.2 Name of the LLM prototype

For better marketing of the developed LLM prototype, it is planned to give a unique name to the LLM prototype such as an easy-to-memorize simple Arabic name. At the time of writing this ToR, the name is determined as “Ask Aqaba”, but the name shall be confirmed again through discussions with stakeholders. The name must be clearly displayed in the UI (User Interface) of the LLM prototype together with the caption of “Prototype” and disclaimer message (See Figure 3 for detail).

### 2.3.3 Expected Inputs (data and source) to the PoC Solution

The success of this PoC is heavily dependent on the quality, relevance, and diversity of input data. **As the first step of this PoC**, the focus should be on publicly available, clean, and non-restricted data sources to minimize cost, time, and security risks. This scoped approach ensures alignment with the project timeline, budget constraints, and proves the value of the solution before larger investments are made.

#### **Publicly Available Data:**

- ASEZA's website: The ASEZA website contains a wealth of information about the organization, its mandate, services, and various initiatives. This includes published reports, news articles, and other textual content that can be used to train the language model.

- Industry publications and news articles: Relevant industry publications, news articles, and media coverage related to ASEZA's areas of focus, such as investment and tourism.
- Government and regulatory documents: Laws, regulations, and policy documents related to ASEZA's operational domains can help the model understand the legal and regulatory landscape within which the authority functions.
- Any other relevant data and information that are publicly available such as the followings. The applicant (a joint team of a private company and AI researcher(s); See 3 for detail) should propose any relevant data to be incorporated into the LLM.
  - Regional tourist information and platforms
  - Global investment databases
  - Geospatial data
  - Others
- The applicant should also explore possibilities to incorporate real-time data acquisition mechanism from external data sources through RSS feeds and APIs for enriching the model with additional public data where feasible and cost-effective.

**Internal Data of ASEZA:**

- Non-sensitive data from Tourism and Investment directorates, such as aggregated reports, public proposals, and general internal documentation.
  - Tourism Data: Clean datasets containing statistics such as overnight stays, visitor demographics, hotel and room counts, and occupancy rates.
  - Investment Data: Shareable legal frameworks, regulations, investment opportunities, incentive scheme, and council decision.
- Customer queries and feedback: Historical records of customer queries, complaints, and feedback received by ASEZA can help the model better understand the types of questions and issues that users typically face, allowing it to provide more tailored and helpful responses.
- Process documentation: Detailed documentation of ASEZA's internal processes, workflows, and standard operating procedures can be leveraged to train the model on the organization's best practices and decision-making frameworks.
- Any other relevant data and information that are available in ASEZA for training the LLM.

### **Authority Matrix for Data**

- A data authority matrix should be established to define ownership and prevent conflicts between public, private, and academic stakeholders. This ensures clear governance and control over data sources during the PoC.

### **Neutrality and Accuracy of Data**

- Since the PoC will use publicly available data from other sources than ASEZA to train the LLM, the neutrality of the input data must be carefully examined. It is required to have regular auditing mechanism such as data review meetings among stakeholders for assuring the data neutrality and accuracy.

#### 2.3.4 Data Collection and Curation

To ensure the quality and relevance of the input data, the applicant needs to establish a robust data collection and curation process. This may involve:

- Identifying and cataloging all relevant data sources, both public and internal
- Scraping data from public websites: Identifying reputable public sources and using web scraping techniques to collect relevant data while ensuring compliance with legal and ethical guidelines.
- Developing data extraction, parsing, and cleaning techniques to transform the data into a consistent format suitable for model training
- Implement data versioning mechanism, to stay up to date with all data changes in the future.
- Performing data quality checks to identify and address any issues, such as missing values, inconsistencies, or biases.

#### 2.3.5 Suggested approach for implementation

This section outlines a suggested approach for achieving the goals of PoC program. The final approach should be determined in collaboration with ASEZA's subject matter experts, operational teams, and the joint implementation team by exploring possible alternative methods aligned with ASEZA's vision.

### **Selection and Integration of Pretrained Model**

- Model Selection: The Joint Team should evaluate and select an appropriate open-source

pretrained LLM as the starting point for the ASEZA language model. Potential candidates include LLaMA, QWEN, BLOOM, JAIS, Aalam or any other relevant open source model.

- Initial Setup: An initial research phase should compare the available models using practical testing with some real data from ASEZA to evaluate their accuracy and performance. Based on these results, the Steering Committee (SC) and ASEZA stakeholders will decide on the most appropriate model.
- Infrastructure Compatibility: The selected model must also be compatible with ASEZA's current servers. The researcher in the Joint Team should validate this compatibility by running the initial model in inference mode and assessing its capability to support further training and customization. The Joint Team could propose required hardware (especially GPU) for training and inference purpose in the PoC program. The recommended hardware is one GPU such as NVIDIA Tesla A100. The Joint Team could propose any additional hardware for the PoC if it's considered necessary and include them in the quotation, but the hardware requirements must be sufficient for the scope of PoC program and not for full-scale product.

### **Training and Evaluation**

- Data Collection: The Joint Team should gather publicly available data from ASEZA's website, industry publications, news articles, government documents, and other relevant sources in the Tourism and Investment in ASEZA. This data will encompass information about ASEZA's mandate, operations, services, and the broader ecosystem in which it operates.
- Fine-Tuning Process: The pretrained model should be fine-tuned (additionally trained) using the collected data to develop a language model that accurately represents ASEZA's two directorates and can address all related queries.
- Testing phase: Extensive testing should be conducted during the early stages of implementation to identify and address issues such as incorrect answers and hallucinations, which can significantly impact the output of LLM. A robust feedback mechanism must be established throughout the training and testing phases, involving ASEZA stakeholders and testing team to monitor model responses and provide continuous feedback for improvement.  
The testing team might include a dedicated group from ASEZA. Additionally, if feasible, university students from data-related fields can be involved to assist in testing, validating answers, and contributing to the feedback process.  
Once the internal testing is complete, the applicant should evaluate the performance of developed LLM prototype using KPI listed in 2.4, and if the evaluation is satisfactory, then the LLM prototype will be open to the public on ASEZA's Web site to perform a public testing



with real users.

- **User Interface (UI) Development:** A user-friendly Web interface should be developed and integrated into ASEZA’s Web sites, allowing users to interact with the system in both Arabic and English. The UI must adjust its size and design to both PC and mobile-devices automatically. The UI must also be able to embed into other Web sites in the form of JavaScript API so that the LLM prototype can be integrated into any external Web page related to Aqaba (such as the page of Jordan Tourism Board<sup>1</sup>) once the owner of target web site and ASEZA have agreement. The concept design of UI is shown in the figure below, but the applicant can propose other designs if it is considered better.

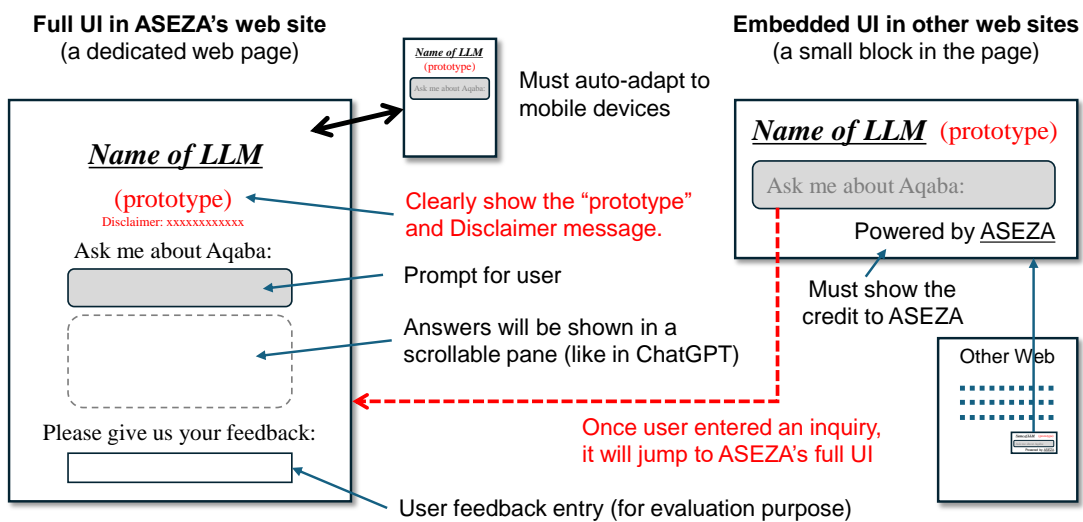


Figure 3: Concept design of UI for the LLM prototype

### Other Possible Alternative Approaches

Other suitable approaches that align with ASEZA’s goals and strategies are open for consideration based on Joint Team recommendations, such as starting with one specific pillar (tourism for example) and expanding gradually, or by implementing some RAG (Retrieval-Augmented Generation) techniques which involves iterative development of a comprehensive model, starting with a base model as a ground truth and progressively enhancing its capabilities.

### 2.3.6 Continuous Update and Ongoing Maintenance

#### Scheduled Data Collection and Update

- **Regular Data Refreshes:** The Joint Team should establish a routine schedule to collect new data

<sup>1</sup> <https://international.visitjordan.com/Wheretogo/Aqaba>

from relevant sources (e.g., websites, APIs) that are critical for maintaining up-to-date content. This involves semi-automated or manual processes for periodically fetching data and preparing it for use, ensuring that the information supporting the language models is timely and relevant.

- **Staged Data Integration:** Once new data is collected, it should first be tested in a controlled (staging) environment. This allows the Joint Team to conduct quality checks and verify data accuracy and consistency before incorporating updates into live models, reducing the risk of errors or instability.
- **Coordination with Stakeholders:** The Joint Team should work with ASEZA's teams to prioritize data sources and determine the frequency of updates, focusing on the most critical and time-sensitive information.

#### **Regular Maintenance and knowledge Transfer**

- **Scheduled Model Enhancements:** Over time, the Joint Team should also schedule updates to the model itself. These updates may involve retraining, tuning parameters, or integrating new features based on accumulated data, feedback, and identified performance gaps, ensuring that the model improves continually in both relevance and accuracy.
- **User Feedback Integration:** In addition to data updates, the Joint Team should provide feedback mechanism from users to refine the model's responses and address any performance issues. This will help optimize the model for specific use cases and improve its ability to serve users effectively.
- **Training for ASEZA staff and post-PoC support:** ASEZA team should be trained to operate and manage the system, ensuring effective knowledge transfer. The Joint Team should also provide technical support for the developed system after the PoC for six months.

**Throughout the PoC program, the procedures will be executed with close collaboration between the Joint Team and ASEZA's subject matter experts, MODEE, and JICA consultant team.**

#### 2.3.7 Scalability Risk Plan and Mitigation Strategies

The joint team should create a Scalability Risk Plan and Mitigation Strategies for future expansion of the LLM (after the implementation of the PoC) including the followings.

- Identified scalability risks (e.g., hardware limitations, increased data volume, growing user demands).
- Mitigation strategies (e.g., future-proofing hardware, incremental scaling, cost projections for

upgrades).

- Recommendations for hardware and system requirements for future upgrades based on projected growth.

## 2.4 Key Performance Indicators (KPIs)

The success and effectiveness of the ASEZA Large Language Model PoC will be evaluated using the following key performance indicators:

- **Response Accuracy:** Achieve an accuracy rate of at least 90% on a test set of commonly asked questions and domain-specific queries.
- **Response Relevance for Sub-Domain Queries:** Achieve a relevance score of 85% or higher for each directorate. (can also maintain a considerable BLEU score or ROUGE-L)
- **Query Resolution Time:** Keep average latency below 1~2 seconds for standard queries.
- **User Satisfaction Score:** Maintain an average user satisfaction rating of at least 4 out of 5 across both Arabic and English.
- **Consistency of Responses:** At least 90% consistency on repeated queries.

The last two indicators can be evaluated by a dedicated team from ASEZA to ensure user satisfaction and responses consistency.

### 2.4.1 Additional KPIs for Addressing Specific Risks

Followings are some additional Metrics that can be taken into consideration for the evaluation. The Joint Team should discuss with stakeholders whether to adopt some of these metrics in addition to the KPIs listed above.

#### (1) Removing Hallucinations

- **Fact Verification Rate:** Percentage of outputs verified using trusted sources (e.g., FEVER, WikiData).
- **Faithfulness Metrics:** Use QAGS, TruthfulQA, and F1/Precision-Recall for factual consistency and classification accuracy.

#### (2) Knowledge-Grounded Metrics

- **BLEURT:** Compare outputs with authoritative datasets for faithfulness.
- **Uncertainty Scoring:** Flag outputs with confidence below 70% for review.

### (3) Preventing Abusive or Toxic Language

- **Toxicity Score:** Maintain scores below 0.2 using tools like Perspective API.
- **Offensiveness Detection:** Use classifiers (e.g., ToxicBERT) to ensure non-offensive language.
- **Harmful Language Coverage:** Measure the recall of harmful content detection.

### (4) Preventing Overgeneralization

- **Specificity Metric:** Evaluate detail and relevance using human annotations or embedding-based similarity.

### (5) Diversity Metrics

- **Lexical Diversity:** Assess vocabulary richness (e.g., Type-Token Ratio).
- **N-gram Diversity:** Measure unique n-grams in outputs.
- **Relevance Score:** Ensure alignment with input queries using BM25 or semantic similarity.
- **Entropy-Based Measures:** Avoid repetitive or generic responses.

## 3 Implementation body of the PoC program (Important)

This PoC program shall be implemented by a Public-Private-Academia consortium consisting of members from the target government organization (beneficiary of the PoC, and provider of data to be used in the AI system), private IT company (developer of the PoC solution), and academic AI researcher (the technical advisor in the field of the latest AI technology). The reason for formulating the three-parties consortium is to demonstrate the importance of collaboration among government, industry and academia for accelerating the development of local AI industry which contributes to solving socio-economic problems in Jordan. The focus of JICA project is to try to develop and enhance the capacity of local AI industry and academia instead of relying on foreign companies so that it would also contribute to generating local employment in the field of advanced technologies like AI. There is another reason to employ three-parties collaboration in this PoC that such collaboration has been proved to be very successful in Japan.

In this PoC program, the target government organization is ASEZA as primary stakeholder. A representative person will be appointed from the ASEZA for this PoC and this person will be a member of the consortium. Private IT company and Academic AI researcher will be selected by a tender process as a Joint Team based on this ToR. This means that the applying party must not be an IT company alone or researcher alone, but must be a Joint Team of both. All tender processes will be implemented by the Project Secretariat together with JICA consultant team.

The expected roles of the three parties are summarized in the table below.

Table 1: Expected roles of PoC consortium members

Roles	Government Organization	Private IT company	Academic AI researcher
Basic role	Beneficiary of solution, Provider of data	Developer of AI solution	Research and Advisor on the AI method to apply in PoC
Reporting	<ul style="list-style-type: none"> <li>Communicate with both private IT company and academic AI researcher</li> </ul>	<ul style="list-style-type: none"> <li>Communicate with both government organization and academic AI researcher.</li> </ul>	<ul style="list-style-type: none"> <li>Communicate with both government organization and private IT company</li> </ul>
		<ul style="list-style-type: none"> <li>Must have a unified contact point for reporting to and communicating with stakeholders (see chapter 4 below)</li> </ul>	
Designing	<ul style="list-style-type: none"> <li>Provide input as the initiator of problem to be solved.</li> <li>Assess availability of data to be used in the solution.</li> <li>Provide sample data for designing the solution.</li> </ul>	<ul style="list-style-type: none"> <li>Collaborate as a team to do the followings.</li> <li>Interview government organization for requirements</li> <li>Design prototype PoC solution based on the result of interview as well as information on available data</li> <li>Validate the system design and its required data</li> </ul>	
Implementation	<ul style="list-style-type: none"> <li>Provide full data that is necessary to build / train AI model.</li> </ul>	<ul style="list-style-type: none"> <li>Collaborate as a team to do the followings.</li> <li>Develop a prototype working solution for the PoC</li> </ul>	
Testing	<ul style="list-style-type: none"> <li>Evaluate the result of testing and provide advice from the standpoint of data owner</li> </ul>	<ul style="list-style-type: none"> <li>Perform testing of the PoC solution and solve issues found in the testing</li> </ul>	<ul style="list-style-type: none"> <li>Verify and validate the test result and provide technical advice on the improvement of AI model from the standpoint of advanced AI researcher</li> </ul>
Evaluation	<ul style="list-style-type: none"> <li>Evaluate the performance by comparing the result with human tests. <b>(KPIs 4,5).</b></li> </ul>	<ul style="list-style-type: none"> <li>Evaluate the result from the standpoint of implementation methods <b>(KPI 3)</b></li> </ul>	<ul style="list-style-type: none"> <li>Evaluate the result from the standpoint of performance of applied AI technologies. <b>(KPIs 1,2)</b></li> </ul>

#### 4 Unified Contact Point of the Joint Team (Focal point)

The Joint Team must have a single, unified point of contact (focal point) to reporting to and communicate with stakeholders (MoDEE, AI Steering Committee, JICA consultant team, target government organization) which represents both private IT company and academic AI researcher. Any coordination among the consortium members must be done internally within the consortium, and each member must not communicate independently or directly with the stakeholders. Stakeholders will not provide any coordination within the consortium, but it would be possible for the unified point of contact (focal point) to consult such matters with stakeholders.

#### 5 Requirements for private IT company

- a. Must be a Jordanian company registered with the CCD with relevant licensing segmentation to

- provide technology services. A valid licensing permit must be present.
- b. If the applicant is a consortium of Jordanian companies, all must be registered with the CCD and have a valid licensing permit. Should the consortium include foreign companies, they should not be consortium leaders nor can they render more than 20% of work required.
  - c. Must have a major IT development team in Jordan that consists of 80% or more team members who are Jordanian nationals or permanent residents in Jordan.
  - d. Experience in development of systems that employ machine learning technologies and other AI-related technologies.
  - e. Minimum one (1) year in system development business.
  - f. Experience in the following fields is a plus.
    - Fine tuning Large Language Model (LLM)
    - Previous experience in dealing with open source LLMs and hosting it locally.
  - g. Must be able to work with stakeholders from public sectors and academia.
  - h. Must be able to form and work as a qualified team of IT engineers and academic AI researcher(s).
  - i. Must perform roles described in Table 1 at the column of “Private IT company”.
  - j. Must have audited financial statement for the last one (1) year.
  - k. Must commit to the ethics of artificial intelligence (Jordan AI code of Ethics)

## **6 Requirements for academic AI researcher**

- a. Must be a researcher or a professor at a university or a research institute in Jordan in the field of AI.
- b. Minimum five (5) years’ experience as a researcher with three (3) years in the field of academic research of AI technology.
- c. Experiences in Arabic NLP (Natural Language Processing) and/or Arabic LLM research is a plus
- d. Must be able to work with stakeholders from public sectors and IT industry.
- e. Must be able to form and work as a qualified team with IT engineers of private company.
- f. Must perform roles described in Table 1 at the column of “Academic AI researcher”.
- g. Must commit to the ethics of artificial intelligence (Jordan AI code of Ethics)

## **7 Tasks of the Joint Team**

The Joint Team should perform following tasks:

- a. Review on MoDEE’s AI Strategy and Implementation Plan (2023-2027) and the Work Plan of JICA project (provided separately) to gain understanding of the background of the PoC program.
- b. Hold a kick-off meeting of the PoC consortium consisting of the Joint Team and representatives from target government organization (beneficiary of the PoC program) to discuss and confirm the content and schedule of the development of PoC solution.
- c. Participate in meetings related to the implementation of the PoC program with sub-committee of

- the AI Steering Committee as well as JICA project team members.
- d. Perform tasks of developing prototype LLM described in 2.
  - e. Report the progress of PoC program to AI Steering Committee on regular basis (bi-weekly).
  - f. Submit all deliverables mentioned in 2 including the developed LLM, Progress Reports, Scalability Risk Plan and Mitigation Strategies, and training materials for ASEZA staff.
  - g. At the end of the work, write a fully comprehensive completion report and submit the report to the AI Steering Committee.

## 8 Deliverables

The Joint Team should submit the following deliverables:

- a. All deliverables described in chapter 2 including the developed LLM prototype, Scalability Risk Plan and Mitigation Strategies, and training materials for ASEZA staff.
- b. Bi-weekly progress reports. During the test-run / evaluation period, the reports should contain the current performance (KPI) of the POC.
- c. Fully comprehensive completion report that includes the followings.
  - ① Summary of development activities with schedule
  - ② Summary of evaluation result (KPIs)
  - ③ Lessons learned and recommendations for areas to improve for possible full-scoped project in future.

## 9 Duration and Timeline

The duration of this PoC program is eight (8) months from the beginning of assignment. The expected timeline of PoC program is shown in the table below.

Table 2: Expected timeline of the PoC program

Activity	Month							
	1	2	3	4	5	6	7	8
1. Analyze available data for the PoC in ASEZA and from other sources								
2. Research and determine the base LLM								
3. Prepare for training dataset								
4. Train (Fine-tune existing) base LLM								
5. Staging a chat agent on ASEZA development environment for testing purpose								
6. Test the developed system and evaluate it (including public testing)								
7. Provide training to ASEZA staffs in charge								
8. Create final report and submit all deliverables								

Note: When the applicant makes quotation, the cost of remuneration for required human resources must be appropriately calculated by clearly and accurately estimate their efforts.

## **10 Confidentiality and Intellectual Property**

- a. Joint Team should respect the confidentiality of shared information and should agree on the handling of intellectual property rights as outlined in a separate agreement.
- b. Intellectual Property of the developed PoC solution should belong to the Joint Team. The beneficiary (ASEZA) should have the right to use the PoC solution for unlimited time.

## **11 Budget and Important Contract Conditions**

- a. Budget for the PoC program will be allocated, managed, and disbursed by JICA according to the JICA's procurement rule.
- b. The contract of this PoC program will be a sub-contract of JICA through JICA consultant team of Japan Development Service Co., Ltd.
- c. There will be no Jordanian government involving in the contract.
- d. The law that governs the contract will be the law of Japan.
- e. There will be no advance payment.

## **12 Gender consideration**

JICA has a global agenda and strategy for Gender Equality and Women's Empowerment. In this context, JICA plans to give additional appreciation to the female participants in the PoC when evaluating the proposal in tender process.