



Invitation for Expression of Interest for Implementing an Advanced Data Analytics System Comprising Artificial Intelligence and Machine Learning Solutions at the Bank of Mauritius

1. The Bank of Mauritius, (the “Bank”), is established under the Bank of Mauritius Act as the central bank of the Republic of Mauritius. The Bank is also the regulatory and supervisory authority for financial institutions, comprising:
 - a) banks, non-bank deposit taking institutions and cash dealers licensed under the Banking Act 2004; and
 - b) payment service providers and payment system operators licensed or authorized under the National Payment Systems Act.
2. The Bank intends to implement an Advanced Data Analytics System comprising Artificial Intelligence (AI) tools and Machine Learning (ML) tools to enhance its supervisory and other central banking processes.
3. The Bank hereby invites “Expression of Interest” (EOI) from interested firms (“applicants”) with appropriate experience and resources, including human resources and technological capabilities to provide a solution for a new advanced data analytics system comprising AI and ML tools to enhance its supervisory and other central banking processes (the “Project”). The Project shall comprise the supply, installation, implementation, customisation, testing, training, and support services. The Broad Scope of Work is set out at **Annexure A**.
4. EOI shall be considered from suitably qualified applicants with a minimum of 3 years’ experience and with a proven track record in projects of a similar nature.
5. Applicants may send questions or seek clarifications regarding this invitation for EOI exercise, if any, by email to the Chairperson of the Tender Committee at tender.committee@bom.mu at latest by **22 January 2024 at 16:00 hrs (Mauritius time)**. Responses to clarifications/queries sought shall be posted in the Procurement section of the Bank’s website (<https://www.bom.mu>) at latest by **05 February 2024**.
6. Applicants should submit their EOI in standard PDF format with all pages therein numbered and in serial order.
7. The EOI should be accompanied by a cover letter signed by a senior executive duly authorised by the applicant to bind the latter to the details submitted in the EOI. The applicant should provide its details and particulars of the Project as per **Annexure B**.
8. In case an applicant will enter into a joint venture or sub-contracting agreement with a third party for the Project, the details on the third party should be provided as per **Annexure B**. A copy of the joint venture and sub-contracting agreement or a firm undertaking to enter into the joint venture/sub-contracting agreement should be provided if the applicant is selected.
9. The applicant must also provide the Bank with a written undertaking that none of its shareholder(s)/ director(s) / beneficial owner(s) have been involved or alleged to have been



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involved in any case of bribery, corrupt or fraudulent practices, money laundering, financial crime and/or otherwise debarred from participating in any public procurement.

10. The applicant may provide details of similar projects executed as per **Annexure C**. The applicant may provide details of other services which it may offer for the Advanced Data Analytics System.
11. As a part of this EOI, the applicant shall submit a comprehensive approach/methodology paper on how it proposes to implement the proposed solution and how the latter will fulfil the objectives and requirements, as listed above and in **Annexure A** in an efficient, scalable and cost-effective manner along with the requirements to set up the same.
12. Any interlineations, erases or overwriting in an applicant's EOI shall be valid only if the person(s) signing the cover letter authenticates them.
13. Applicants must send their EOI together with the relevant information, by email clearly indicating ***"Expression of Interest – Advanced Data Analytics System"*** addressed to the Chairperson of the Tender Committee, at tender.committee@bom.mu at latest by **29 February 2024 at 16:00 hrs (Mauritius time)**.
14. The EOI should be encrypted before being submitted by email. The encryption procedures are detailed below. The Pretty Good Privacy ("PGP") tool shall be used for encryption. For that purpose, a cryptographic public key shall be made available to all applicants on the Bank's website. Failure to comply with the above submission formats may entail rejection of the EOI.

Encryption procedures:
 - a. Download PGPTool (or equivalent) from <https://pgptool.github.io/>
 - b. Download the public key from the Bank's website at <https://www.bom.mu>
 - c. Click on Import to import the key and select the public key downloaded above.
 - d. Click Encrypt File.
 - e. Select the file and choose the public key and then proceed to encrypt file.
15. By participating in this invitation for EOI exercise, the applicant confirms that it agrees to comply with all the Terms and Conditions set out in this invitation for EOI document.
16. To the extent that the Bank is bound by a statutory duty of confidentiality, the Bank is required to maintain the confidentiality of any information which an applicant will share in respect of the present EOI exercise. Hence, the Bank shall not entertain any request for signature of a non-disclosure agreement with any applicant in respect of the present EOI exercise.
17. The Bank shall not be liable to any claim for refund, reimbursement of any costs incurred to the applicant.
18. The Bank reserves the right to accept or reject any EOI and to annul the current exercise and reject all EOI without thereby incurring any liability to any applicant or any obligation to inform applicants of the grounds of its action.



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19. The Bank will shortlist the applicants who fulfil the eligibility criteria, have systems as per the requirement of the Bank and are agreeing to abide by the terms and conditions of the Bank. The Bank's decision in this regard shall be final.
20. The Bank may issue an RFP to shortlisted applicants for an invitation to submit their bids for the next process of procurement. However, no contractual obligation whatsoever shall arise from this EOI and any successful shortlisting of applicants shall not, in any manner, be construed as a contract for the proposed Project.
21. Applicants will be advised of the shortlisting of their EOIs or otherwise, in writing. However, applicants will not be provided with information regarding comparative position of their EOIs with that of the other applicants. Nothing contained in this EOI shall impair the Bank's right to issue 'Open Tender' on the proposed Project.

Bank of Mauritius
28 December 2023



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Annexure A: Broad Scope of Work

1. The Bank currently collects structured and unstructured data from financial institutions and also has access to information from other sources, with different levels of granularity, frequency and quality.
2. The Bank expects the solution provider to undertake the following tasks, among others:

a) Existing Data Evaluation

Conduct an evaluation of the existing data being collected from financial institutions and available from other sources and propose a user-friendly software solution that can be used for creation of relevant time series and panel data for the implementation of Advanced Data Analytics tools including ML and AI tools. The software solution should enable the Bank to assess availability, accuracy and completeness of the data, identify relationships between the data elements and include interactive visualisation.

b) Model Use Cases

Develop advanced data analytics, AI and ML models for supervisory, regulatory, and economic analysis purposes. An indicative list of specific use cases is provided below:

- Forecasting and identifying early warning indicators/signs of stress;
- Identifying and analysing contagion risks;
- Stress Testing and Scenario Analysis;
- Sectoral sensitivity to risks from market fluctuations;
- Sentiment and Trend Analysis;
- Network Analysis;
- Automated Data Quality Monitoring;
- Examination of policies, procedures and other documents of regulated entities;
- Natural language processing tool to search documents available through various sources and return positive match with internal records/ other specified sources;
- Identification of connected transactions.

The applicant shall propose additional/alternative use cases for the Bank and develop models based on the requirements of the Bank. The applicant shall propose a user-friendly software solution for the use of the proposed models.

c) Model Documentation

The applicant should provide detailed documentation of the models proposed, including model architecture, training and validation methods, feature selection, and any other relevant details. This documentation should be clear, concise, and understandable to non-technical stakeholders.

d) Model Performance Metrics

The applicant should provide relevant performance metrics for the proposed models.



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e) Model Explainability

The applicant should provide documentation and details on how the proposed models can be explained and interpreted. This includes providing clear and detailed explanations of how the models make predictions, as well as any factors that may influence those predictions.

f) Model Maintenance and Updates

The applicant should provide details on how the models being proposed will be maintained and updated over time. This includes providing details on how data will be collected and used to train the models, as well as how the models will be updated and retrained as new data becomes available.

g) Data Security and Privacy

The applicant should provide details on how data used by the models will be secured and protected, as well as how privacy concerns will be addressed. The standards being adhered to should also be specified. This should include information on encryption, access controls, and other security measures.

h) Reporting and auditing

The applicant should provide details on the reporting and auditing capabilities for the models proposed, including how data will be collected, stored and protected from unauthorized access.

i) Hardware and Infrastructure

The applicant should clearly indicate if the solution being proposed is a cloud-based or on-premise deployment. The applicant should provide details on the hardware and infrastructure required to run their proposed technology stack. This should include specifications for the servers, storage and networking equipment needed to support the technology.

j) Operating System and Software

The applicant should provide details on the operating system and software required to run their proposed technology stack. This should include information on the specific software packages, libraries and frameworks needed to support the machine learning models proposed.

k) Data Storage and Processing

The applicant should provide details on how data will be stored and processed within their proposed technology stack. This should include information on the specific data storage technologies and database management systems used, as well as details on how data will be analyzed and processed.

l) Integration with Existing Systems

The applicant should provide details on how their proposed technology stack will integrate with existing systems and workflows within the Bank. This should include information on how data will be transferred between systems and how the models will be integrated into existing workflows and data sources.



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Annexure B: Applicant/Third Party & Project Details

1.	Name of Applicant/Third Party*:	
2.	Date of Incorporation and / or commencement of business:	
3.	Country of incorporation:	
4.	Certificate of incorporation and details of shareholders and directors.	
5.	Details of beneficial owners:	
6.	Brief description of the Applicant/Third Party* including details of its main line of business:	
7.	Particulars of Company Website URL: Address: Phone Number (Landline): Mobile Number: Fax Number: Email Address:	
8.	Particulars of the Authorised Signatory of the Applicant/Third Party* Name: Designation: Address: Phone Number (Landline): Mobile Number: Fax Number: Email Address:	
9.	Geographical Spread of client:	City/Province/Country/Global
10.	Applicant/Third Party's* role in the project (Project Management / Design/ Set up / Maintenance / Testing):	
11.	Indicative cost mechanism/price structure for the below components: <ul style="list-style-type: none"> • Model Design • Hardware Infrastructure • Software implementation • 5-year support plan Applicant to provide indicative costings for 10 models, 15 models, 20 models and 25 models separately.	
12.	<i>Support charges and recurrence frequency (if any):</i>	



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13. <i>Licence fee, recurrence frequency and type of licence (if any):</i>	
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*Please delete as appropriate

Name: _____

Signature of Authorised Official: _____

Company seal:

Date: _____

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**Annexure C: Details of similar projects executed by the applicant
(where applicable)**

1.	Project name:	
2.	Entity Name & Address:	
3.	Country of incorporation:	
4.	Client Contact Person <ul style="list-style-type: none">• Name:• Designation:• Phone Number:• Fax Number:• Mobile Number:• Email Id:	
5.	<ul style="list-style-type: none">• Project Value in USD:	
6.	<ul style="list-style-type: none">• Sector:	
7.	Project schedule <ul style="list-style-type: none">• Start Date:• End Date (as per PO):• End date (actual):	
8.	Composition of implementation team (bidder, subcontractors / system integrators)	
9.	Detailed Scope of Project (including details on models developed and use cases)	
10.	Applicant's role in the project (Project Management / Design/ Set up / Maintenance / Testing)	
11.	Overall client satisfaction	Excellent/Good/Satisfactory/Below Average

Name: _____

Signature of Authorised Official: _____

Company seal:

Date: _____

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