

**Bank of Zambia**

**INVITATION FOR EXPRESSIONS OF INTEREST**

**REFERENCE NO. : BOZ/EOI/04/2022**

**TENDER TITLE : TENDER FOR THE PROVISION OF CONSULTANCY SERVICES FOR THE DESIGN AND SUPERVISION OF THE IMPLEMENTATION OF A DATA WAREHOUSE SOLUTION WITH SUPERVISORY TECHNOLOGY CAPABILITIES**

1. **INTRODUCTION**

The Bank of Zambia in its 2022 Capital Expenditure Budget made a provision towards the cost of Establishing a Data Warehouse and is hereby calling for Expressions of Interest for provision of consultancy services for the Establishment of a Data Warehouse solution with supervisory technology capabilities at Bank of Zambia.

1. **BACKGROUND**

The Bank of Zambia is the Central Bank of the Republic of Zambia. Its mission is to achieve and maintain price and financial system stability to foster sustainable economic development. To achieve this objective, the Bank of Zambia relies on various data sources for policy formulation and implementation.

In its strategic plan for the period 2020-2023, the Bank of Zambia (Bank) has set out strategic objectives two of which are the need to “enhance data collection, management and application”, and “strengthen micro prudential regulations and supervision”. Under these objectives, two of the key activities are to “establish a Data Warehouse (DW) for efficient storage, retrieval and analysis of data, and implement Supervisory Technology (SupTech) to digitize reporting and regulatory processes to foster more efficient and proactive monitoring of risks and compliance in the financial sector”.

Currently, the Bank collects data from various data sources and mostly stores it in Microsoft Excel. Some of the data collected is posted on the Bank’s website. Further, storage of official data at the Bank of Zambia is decentralized through several platforms, software and Departmental data repositories. This presents an inefficient and ineffective utilization of data and remains a security challenge. To resolve these challenges, the Bank has embarked on a project to establish an Electronic Data Warehouse (DW) with Supervisory Technology (SupTech) capabilities. This Project intends to resolve the above-mentioned challenges by integrating data with different structures (heterogeneous sources) from different sources into one repository.

The DW Project with SupTech capabilities involves the creation of a consolidated DW supported by an appropriate software for efficient storage, retrieval and analysis of data. The Bank wishes to engage two firms, a consultant to provide consultancy services on the establishment of a DW with SupTech capabilities, and a vendor to supply and implement the DW solution with SupTech capabilities. Arising from the Project Management Plan (PMP), the role of the consultant is to guide the execution and operationalization of the consolidated DW with SupTech capabilities*.*

To this effect, the Bank has drawn up Terms of Reference (TOR) for the engagement of a consultant to support its efforts in establishing the DW with SupTech capabilities and setting up a framework for operationalizing the DW solution with SupTech capabilities. It should be noted that these TOR are not for the vendor to supply and implement the DW solution with SupTech capabilities.

1. **PURPOSE**

The purpose of the Project is to establish a secure consolidated Bank-wide Data Warehouse with Supervisory Technology capabilities to facilitate efficient work processes, research activities, improve statistical information services, regulatory and supervisory activities as well as data management to support the achievement of price and financial system stability objective. The Data Warehouse with Supervisory Technology capabilities is expected to be the main repository, which will include the following features:

1. Provide for the collection and capture of real-time granular data by all departments in the Bank from regulated institutions and other stakeholders by pulling data directly from the institutions’ systems using technologies such as Application Programming Interfaces (API), Web Services and/or proprietary technologies such as Automated Data Flow (ADF) technology. Whichever the technology choice, the Data Warehouse (DW) with Supervisory Technology (SupTech) capabilities will require a straight-through reporting process (STP) without any manual handling of data inflight. The Data Warehouse with Supervisory Technology capabilities implementation seeks to ultimately achieve a state of complete automation for submission of reports for institutions and other stakeholders from their core systems;
2. Provide a full Electronic DW with SupTech capabilities solution to store both internal and external data at the BoZ;
3. Provision of a module for on-site examination, licensing of regulated entities, and capturing of survey data for all the departments;
4. Provide advanced Business Intelligence (BI) and data analytical tools that enables reporting of granular data, and modelling and forecasting to meet the needs of different Departments at the BoZ. The analytical capabilities among others include market surveillance, misconduct detection, micro prudential, and macro prudential supervision;
5. Provide Machine Learning capabilities for repeatable process, Business Intelligence and Drag ‘n Drop Data Visualisation;
6. Provide a full relational database design for the enterprise business, full integration to a relational database design and develop a data migration strategy;
7. Develop a Data Management Strategy across the enterprise;
8. Provide a tool and strategy for Data quality management, data validation and verification to ensure that the data submitted by reporting institutions is complete, accurate and up-to-date;
9. Provide encryption capabilities to secure the data both, in flight and at rest, from third party manipulation;
10. Ability to integrate with current systems and data sources;
11. Provide multiple access controls that allow classification of data and visualizations for access by different user groups both for internal and external stakeholders;
12. Provide a web-based interface system which is compatible with any web browser;
13. Provide desired reports and dashboards in any format to conduct a wide range of analysis;
14. Usage of Artificial Intelligence to analyse collected data;
15. Provide advanced data analytical tools and enable reporting of granular data to meet the needs of different Departments in the Bank;
16. Collect survey data using an advanced survey tool that provides for the design and administration of surveys for data collected from selected respondents;
17. Provide for presentation of DW data on multiple devices and through APIs; and
18. Any other relevant DW and SupTech features in line with best practices.
19. **EXPECTED DELIVERABLES**

The consultant shall provide the following deliverables:

1. Report detailing the steps to be taken to prepare the Bank for the introduction of the DW with SupTech capabilities. The report should address knowledge transfer mechanism to ensure the Bank takes ownership of the data solution after the system is operational;
2. Manual on standard data format, data dictionary and data exchange mechanisms between data providers/consumers and the Bank;
3. Data Management, Standards, Protocols and Policies;
4. Develop a capacity building strategy;
5. Develop a Request for Proposal for the engagement of a solution vendor for the DW with SupTech capabilities;
6. Prepare two detailed quality assurance reports on the audit done during the implementation of the project by the vendor; and
7. Post implementation review report on the installed DW with SupTech capabilities solution.
8. **ELIGIBITY QUALIFICATION**

**Applicants should provide the following information:**

1. State Company Name or joint venture name were applicable
2. State the principal place of business
3. Applicant’s legal status. Copy of Certificate of Incorporation or registration
4. State Joint Venture Summary detailing Joint Ventures arrangement if any
5. If a joint venture applicant to provide the following information for each partner:
6. Applicant’s legal status (Certificate of Incorporation),
7. State the principal place of business and the place of incorporation (for applicants who are corporations), or the place of registration and the nationality of the owners (for applicants who are partnerships or individually-owned firms,

Joint Venture Agreement. Attach the Joint Venture Agreement among all partners of the joint venture (and which is legally binding on all partners), which shows that (a) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms; (b) one of the partners will be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and (c) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge

* 1. **Relevant experience of the firm that best fit with proposed assignment**

Core area of expertise of the firm that fit with proposed assignment must be described.

Applicant to provide list of relevant experience related to this assignment conducted during the last five years. Summary of similar assignments executed successfully in the immediate past five years; focusing on brief descriptions of assignments and experience in similar projects. Consultant must supply the Bank with a list of companies for which the consultant has completed projects that are essentially equivalent to the Vendor’s proposal to the Bank:

* Project title;
* Implementing partners;
* project duration and brief;
* Name of company;
* Address;
* Contact person knowledgeable of their work; and
* Contact phone number and Email address.
  1. **Consultant Qualifications**

The applicant should provide proof that they meet the following requirements The applicant must indicate compliance by indicating either Yes or No.

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| --- | --- |
| **Criteria** | **Compliance ( Y/N)** |
| 1. The consulting firm must have set up a DW with SupTech capabilities in a central bank and two other similar assignments of the same scope. |  |
| 1. The Consulting Firm shall designate a qualified Lead Consultant who will be solely responsible for consulting services and project management activities associated with this engagement from inception to completion. The consultant must meet the following minimum requirements: 2. The lead consultant must have set up a DW with SupTech capabilities in a central bank. Served as an individual consultant and successfully completed a Data Warehouse and Business Intelligence Project with similar scope for an institution with comparable size and complexity within the last eight (8) years. At least three (3) years of experience in implementing large data management projects and ICT projects, maintenance of ICT systems and testing. 3. BSc in Electronic Engineering or Computer Science or its equivalent, MSc in Electronic Engineering or Computer Science will be added advantage; 4. Must provide references from at least two (2) customers with whom Consultant has implemented similar systems or are currently being implemented, including contact names, titles, email and phone numbers of referenced companies along with a description of the project. The systems previously implemented must currently be in operation or at installation phase. |  |
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| 1. The firm must provide audited financial statements for the past three (3) years. If the firm intends to go in joint venture both firms must provide audited financial statements for past three (3) years. |  |
| 1. Provide evidence (e.g. signed reference letters from past clients, contracts) of at least three (3) projects where the firm/entity, either individually as a corporate entity or as one of the major companies within an association, provided similar services i.e. implemented similar systems or are currently being implemented, with a description of the project. At least one system must be currently in operation. |  |

1. **TIME SCHEDULE**

The consultant shall be expected to complete the tasks within 150 working days broken down into the following milestones:

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| **No** | **Milestones** | **Time Allocation** |
|  | Consultancy work | 3 months |
|  | 1st Quality Assurance Report | 2 weeks |
|  | 2nd Quality Assurance Report | 2 weeks |
|  | Post Implementation Review Report | 1 month |

The project should preferably be broken into 3 phases, namely:

1. Research and Environment Definition
2. Project Implementation
3. Project Closure
4. **ELIGIBILITY AND SUBMISSION**
   1. This Expression of Interest is open to both Local and International Consultancy firms;
   2. Expressions of Interest clearly marked **“EXPRESSION OF INTEREST FOR CONSULTANCY SERVICES FOR THE DESIGN AND SUPERVISION OF THE IMPLEMENTATION OF A DATA WAREHOUSE SOLUTION WITH SUPERVISORY TECHNOLOGY CAPABILITIES – BOZ/EOI/03/2022”** must be uploaded on the e-GP system on or before Wednesday, 13th July 2022 **at 10:00hrs system time**. Expressions of Interest will be unlocked at **10:30hrs system time** in the presence of interested consultants or their representatives who choose to attend.

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