



Terms of Reference for Development of Business Requirements for the Datawarehousing Infrastructure at the Eastern Caribbean Central Bank

BACKGROUND

The ECCB is preparing business requirements for a new data warehouse, which includes a central repository for storing and managing data. In that regard, the ECCB is seeking the expertise of an individual consultant or team for the determination of the business requirements to support the design of a data warehouse solution that will meet the data storage, data development, and analytic needs of the various stakeholders within the bank.

ECCB's current statistical enterprise solution (SES) powered by SAS is a statistical system that supports web-based technology and covers the collection, processing, storage, and dissemination of data. The solution uses a secure web server as a central repository for data collected by the ECCB from financial institutions and government agencies in its eight member countries.

The solution has four functional areas:

- data upload/collection,
- data storage and processing,
- data retrieval and reporting, and
- security. System architecture design and data migration from the legacy systems were also incorporated in the solution. The new data warehouse is expected to incorporate the four functional areas. Details on the current system can be found [here](#).

PROJECT OVERVIEW

The objective of this project is to engage an individual consultant or team who will be responsible for identifying requirements for a data warehouse solution that aligns with ECCB's data needs and business goals. This will include designing a scalable and efficient data warehouse to centralize and optimize data storage and analytics capabilities.

SCOPE OF WORK

The individual consultant or team will be responsible for the following tasks:

- a. Conduct a comprehensive assessment of our organization's existing data infrastructure, data sources and requirements.
- b. Collaborate with stakeholders, including data providers, to gather requirements for the data warehouse, including data types, sources, frequency of updates, and assess requirements.
- c. Design a scalable and efficient data warehouse architecture that meets the identified functional and technical requirements, including:
 - (i) Functional requirements - data collection and integration, data analysis and statistical modelling, reporting and visualization, data security and access control, workflow automation, data access, and querying.
 - (ii) Technical requirements - software, hardware, infrastructure components, data storage solutions, data warehouse, performance expectations, scalability requirements, data governance, integration APIs, backup and disaster recovery.



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- d. Recommend appropriate data warehousing technologies and tools
- e. Recommend a data modelling and schema appropriate for the organization.
- f. Recommend a data integration and reporting solution for the organization.
- g. Provide documentation and knowledge transfer to ECCB staff.
- h. Provide technical guidance and expertise on best practices and future scalability.

DELIVERABLES

- The consultant/team will deliver the following:
- a. Comprehensive data warehouse design and architecture document, considering best practices and future scalability.
 - b. A scalable data warehouse architecture, where scalable refers to the design and infrastructure that can grow or expand seamlessly as the amount of data processed and stored increases. It includes, but is not limited to:
 - (i) Handle an increasing volume of data and user queries without a drop in performance.
 - (ii) The architecture is adaptable to changes in data requirements and workloads.
 - (iii) Allows for the addition of data sources, tables, or data processing capabilities without major disruptions.
 - (iv) Maintains good performance levels as the data and query complexity increase.
 - (v) Ensures that the data is accessible and the system remains operational even in the face of hardware failures or other disruptions.
 - (vi) Supports the integration of data from various sources including other systems within the ECCB.
 - c. Functional and technical requirements documentation based on stakeholder input.
 - d. Recommendations for data integration, Extract, Transform, and Load (ETL) processes, and reporting solutions.
 - e. Recommendation of at least three vendors for implementing a new data warehouse.

TIMELINE

The consultancy is expected to start in February 2024.

REPORTING AND COMMUNICATION

The Consultant will report to the chair of the Data Analytics Committee-Chief Director Policy and collaborate closely with key internal staff and members of that committee including, Director of Management Information Systems Department (MISD) and the Director of Research, Statistics and Data Analytics Department (RSDAD).



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REMUNERATION

Consultants/team, as part response to this TOR should include a financial proposal to include, professional fees and reimbursable expenses. The financial proposal will be evaluated along with the technical proposals.

QUALIFICATIONS

- The selection of the individual consultant or team will be based on the following criteria:
- a. Proven experience in business analytics, data engineering and data warehousing projects
 - b. At least 10 years proven experience in designing and implementing data warehouses/architectures
 - c. Minimum Education – Bachelor’s Degree in Computer Science or related field
 - d. Demonstrated ability to gather and document data requirements
 - e. Proficiency in designing scalable data warehousing solutions
 - f. Strong ETL and data integration skills
 - g. Expertise in SQL and database management and web interactions with database
 - h. Excellent problem-solving Strong oral and written communication skills
 - i. Ability to work independently and as part of a team
 - j. Proposed plan and methodology.

EVALUATION AND SELECTION

Evaluations will be based on qualifications, relevant experience, proposed approach, and cost-effectiveness.

HOW TO APPLY

Consultants interested should submit their proposals electronically to sec_cdp@eccb-centralbank.org by December 30th, 2023.

CONTACT INFORMATION

For inquiries or clarifications related to this ToR, please contact Dr. Leah Sahely at; leah.sahely@eccb-centralbank.org