



REPUBLIC OF GHANA/ MINISTRY OF FINANCE

GHANA DEVELOPMENT FINANCE PROJECT (P169742)

TERMS OF REFERENCE

DEVELOPMENT OF TECHNICAL SPECIFICATIONS OF THE MANAGEMENT INFORMATION SYSTEM FOR THE DEVELOPMENT BANK GHANA

REFERENCE NO. GH-GDFP-157525-CS-INDV

1. Background

The Ministry of Finance (MoF) has received financing from the World Bank towards the cost of the preparation of the Development Finance Project (the Project), which supports the establishment of the Development Bank, Ghana (DBG), including the design of its operational policies and procedures. The establishment of the DBG is being led by a Working Group, to be disbanded after the Board of the DBG is constituted.

The DBG will be a new wholesale development finance institution with the mandate to support economic transformation in Ghana by increasing the availability of credit, particularly for SMEs. It will focus on manufacturing, agriculture, and high-growth services, working with existing financial institutions – banks, specialized deposit-taking institutions, and non-bank financial institutions (jointly participating financial institutions [PFIs]). The DBG will provide lines of credit to PFIs. It is also expected to offer partial credit guarantees (PCGs) to PFIs to mitigate their risk of lending to certain borrowers and market segments (SMEs, women, and first time borrowers). Moreover, the DBG is expected to sponsor a digital financing platform which would offer factoring/reverse factoring, e-invoicing services, and other non-financial services to SMEs

The design features of the DBG are in line with international best practices and aim to ensure adequate corporate governance and oversight. The DBG has been registered as a limited liability company, with Ministry of Finance as its sole shareholder. Other shareholders are expected to join in due course. As a limited liability company, the DBG will be required to comply with transparency and disclosure requirements prescribed by the Companies Act 2019. The DBG will also be regulated and supervised by Bank of Ghana (BoG) under the new DFI Act passed by Parliament in August 2020. Therefore, the DBG will be subject to prudential standards similar to those that apply to commercial banks. Finally, the DBG will have independent Board and

professional senior management competitively recruited with the assistance of a credible search firm. In addition, members of the Board and senior management will subject to ‘fit and proper’ test by BoG. The selection of the inaugural Board and senior management is ongoing.

In an increasingly competitive and fast-paced environment, appropriate and easily accessible information provides critical support to development finance institutions (DFIs) in the decision-making process and day-to-day operations. In this regard, a framework to effectively and efficiently manage data and disseminate information throughout an organization provides a strong foundation for well-run DFIs.

Principally, such a framework should support a high level of assurance regarding data quality that would facilitate data mining, analysis and reporting by DFIs for the purposes of risk management and conduct of significant business activities. Management Information Systems and Procedures should interface and support budgeting modules, cost accounting, loan status reports with analysis of performing and nonperforming loans and aging data, etc.

Fundamentally, the framework ensures there are reliable and adequate management information systems that cover the full range of the DBG’s activities. The guiding principles to the technical requirements are underpinned by the six principles outlined.

The Data Management and MIS system will form an integral part of DBG operations providing the interrelation between PFI’s lodging funding applications to DBG, approvals, reporting, and monitoring on loans in an automated manner.

2. Objective

The objective of the assignment is to identify and develop technical specifications for the core banking applications, associated IT/data infrastructure, and management information systems for the DBG to operate efficiently.

3. Scope of work

3.1 Data Management Framework

The Consultant must deliver the Data Management Framework document to be discussed and signed-off by DBG executives. These will include sub-frameworks such as Data Governance, Data Architecture, Data Control and Data Security.

3.2 Data Centre Infrastructure Design

The DBG Data Centre Infrastructure must be based on a Hyper Converged Infrastructure which tightly integrates Compute, Network, Storage and Management into one unified platform. The Data Centre design must include High Availability and Resiliency for all components including physical location. The design should include security controls and considerations such as Data Backups and Replication, Next Generation Firewalls, Identity and Access Management, Intrusion Prevention Systems, Privileged Account Management etc.

3.3 Wide Area Network (WAN) / Remote Connectivity Design

DBG will require a highly available WAN and remote connectivity solution for interconnecting its various sites for sharing of Data and MIS applications. This will also support remote-working capabilities for the bank staff as required. The consultant will be required to deliver a WAN / Remote Connectivity design document which includes options for the most secure and cost-efficient solutions available.

3.4 Desktops and Workstations

DBG users will consume the applications and Management Information Systems using endpoints such as Laptops, Desktops, Terminals and Virtual Desktop Infrastructure (VDI). There must be a design which factors in the requirements for these endpoints, installed applications and their corresponding security such as Anti-Virus, Mobile Device Management and integration with an Active Directory solution.

3.5 Banking Software

DBG will require a banking software solution with features and modules that will enable it perform its duties and meets its obligations. The consultant will be required to assess and recommend a solution for this objective. The solution must allow PFIs to check transactions with the DBG Open Standards and APIs for interoperability with other financial institutions and 3rd Parties.

3.6 Data Analytics

DBG must harness the power of Data Analytics to be a Data-Driven organization where business decisions are made based on insights form Data Analytics. The Consultant is required to design and assist in the procurement of the components of a Data Lake and Analytics solution to meet this objective.

3.7 Information Security

The Information System for DBG must be fully compliant with the published Bank of Ghana Cyber Security Directives, which mandates a secure logical architecture, encryption, authentication, authorization and auditing. *Please refer to the link <https://www.bog.gov.gh/wp-content/uploads/2019/09/CYBER-AND-INFORMATION-SECURITY-DIRECTIVE.pdf> for the published directives.*

3.8 Request for Bids (RFB) Documentation and Evaluation

The Consultant must produce all RFB documentation write-up and play a critical role in the subsequent evaluation of received bids and selection of provider for all procurement activities related to the delivery of the Management Information System. Quality assurance for the delivery of implemented solutions will also be required

3.9 Prepare Financial Outlay/ budget based on specifications recommended for the core banking applications, associated IT/data infrastructure, and management information systems.

4.0 Deliverables, Timing, and Payment

The consultant shall prepare the following deliverables:

Deliverables	Timing	Payment (%)
Inception Report outlining design principles, workplan	Two weeks after signing contract	10% of fee after acceptance
Data Management Framework and Data Centre Infrastructure Design and preparation of Technical Requirement for Request for Bids (RFB) Documentation	<i>3 months after signing contract</i>	<i>35% of Fee after completion of RfB</i>
Wide Area Network (WAN) / Remote Connectivity Design/ Desktops and Workstations and preparation of Technical Requirement for Request for Bids (RFB) Documentation		
Banking Software and Data Analytics of preparation of Technical Requirement for Request for Bids (RFB) Documentation	5 months after signing contract	<i>35% of Fee after completion of RfB</i>
Information Security and preparation of Technical Requirement for Request for Bids (RFB) Documentation		
Supervision of Installation, providing Quality Assurance and Report on Implementation	8 months after delivery and installation and testing and sign off.	20% of fee after acceptance of final report

5.0 Project Team

The Consultant will work with a small team of IT Professional from Ministry of Finance /DBG Project and will report directly DBG's Interim Board and to the Project Director

6.0 Duration of Consultancy

The assignment is for a period of Eight (8) months

7.0 Location of the Assignment

The consultant will be based in Accra

8.0 Facilities to be Provided by Client

The Client will provide office space to the consultant

9.0 Required Qualification and Experience

- Minimum of a Bachelor Degree in Computer Science or in related field, and recognized relevant IT Industry certification.

- Proven track record with references to delivering at least three large scale and publicly known Digital Transformation Programs for Financial Institutions
- Experience in delivering published Request for Bids (RFB) write up for large projects with reference publications.
- Experience in the Governance, Risk, Compliance and Operational considerations and obligations of financial institutions.
- Minimum of 15 years' experience in IT industry, with hands on project implementation experience at executive level; with at least minimum of 10 years of experience in managing and implementing large scale MIS solutions.
- Experience in leading a Digital Transformation and IT / Data Centre projects in Ghana and internationally.
- Experience in Automation of IT processes and tooling as well as with Virtualization and Containerization solution.
- Experience in assisting Financial institutions achieve compliance with BoG Cyber Security Directives, ISO 27001 certification and PCI-DSS compliance.
- Experience in Data Governance, Data Analytics and Data Life-Cycle Management
- Experience in the Data Centre architecture, design and implementation of a national Wide Area Network (WAN), Firewalls, Routers, Switches, Network Admission Control (NAC), Intrusion Detection and Prevention (IDPS), Data Centre solution and software Defined Networking (SDN) including the automation of these components.