بسم الله الرحمن الرحيم

BANK OF MALDIVES

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11 ނޮވެम्बަރ 2023 ވަނަ ބުधަކުން (ނަންބަر BML/PD/OPN-BID/2023/073 - Supply and (installation of ERP system and other solutions to modernise and upgrade finance and operations އިއުލާންކުރެވުން 09 ނޮވެम्बަރ 2023 ވަން ދުވަހު ބޭންކުން ހަދަން ބެހެއްދެން ތަންފީˆ ކުރުން ހުށަހެޅުމަށް ވާހަކަދެއްކުން.

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ތަފުސީލް ހަމްކުރެވެން ބޭނު�ވާ:		• އީމެއިލް - openbidding@bml.com.mv • 3015386	

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Instruction to Bidders

This document includes information relevant to the procurement of goods and services, bidding procedure for bidders and guidelines to prepare the bids.

A. Introduction	
Scope of Bid	Bank of Maldives PLC invites sealed bids from eligible bidders to Supply and install an ERP system and other solutions to modernise and upgrade finance and operations. A local/ International competitive bidding will be conducted in accordance with Bank of Maldives PLC's bidding procedure and is open to all Bidders.
Procurement Reference and Name	BML/PD/OPN-BID/2023/073 Supply and installation of ERP system and other solutions to modernise and upgrade finance and operations
Eligible Bidders	This invitation is open to all interested with a formal intent to enter into an agreement. Each Bidder shall submit only one bid. A bidder who submits or participates in more than one bid will cause all the bid proposals for that particular procurement to be disqualified. Only following parties are eligible to submit proposal for this bid - Companies/Partnership - Sole Proprietors
B. Preparation of Bids	
Language	The language of the Bid is: English or Dhivehi
Documents Comprising the Bid	The Bidder shall submit the following completed documents with its Bid: Form 1 – Schedule of Requirement (not applicable) Form 2A – Bidder Information Sheet Form 2B – Bid Submission Form Form 2C - Price Schedule for Goods & Services
Bid Prices and Currency	The Bidders shall quote the items to be procured individually specifying the unit rates and prices in *Maldivian Rufiyaa (for locals) and in US Dollar (for international vendors).* Including all taxes (if applicable) at the time of current rate
Bid Validity	The bid shall remain valid for 30 days from the date of opening the bids.
D. Submission and Opening of Bids	
Bid Submission	Bidders shall submit their bids on the date of submission at the specified location and time indicated in this section.

Acceptance of Bids	BML shall not accept bids before or after the specified closing time.
Location, date and Time	**Bid Submission** is electronically via email: openbidding@bml.com.mv **The deadline for bid submission:** Date: 30th November 2023 Time: 14:00 hrs (Maldivian Standard Time)
Contact details for further information	**Please contact;** Procurement Department, Telephone: 3015386, 3015359 Email address: openbidding@bml.com.mv
Bid Opening	BML shall conduct the bid opening on the Date of Bid Submission. BML shall open the bids publicly immediately after the expiry of the limit for submission of the bids indicated in the tender documents.
E. Evaluation, and Comparison of Bids	
Confidentiality	Information relating to the examination, evaluation and comparison of Bids, and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful bidder is notified.
Documents Establishing the Qualifications of the Bidder	BML shall evaluate each Bid based on the evaluation criterion and methodologies specified in Evaluation and Qualification Criteria to determine the most acceptable bid. No other criteria or methodology will be permitted.
F. Award of Contract	
Award Criteria	BML shall award the Contract to the Bidder whose offer has been determined to be the most acceptable Bid and shall notify the successful Bidder, in writing, that its Bid has been accepted.
G. Appeals and complaints	
Regarding conduct of a bid	Bidders are allowed to file appeals and complaints regarding conduct of a bid, in writing, within 7 (seven) days of opening of the bid.
Regarding outcome of a bid (an award or decision to award)	Bidders are allowed to file appeals and complaints regarding outcome of a bid (an award or decision to award), in writing, within 7 (seven) days of awarding the contract.

Evaluation and Qualification Criteria

Table of Criteria

Evaluation Criteria:

Evaluation Criteria	Weightage %
1. Functional Fit, Technology & Scalability The proposed solution must fit the requirements set out in this RFP. Ability to integrate with other systems and scalability with the growing future business needs. The ERP system complies with banking industry practice and regulations. Simplicity of UI and UX, end user reporting tool and performance.	**30%**
2. Industry Experience, A proven track record of similar implementation of ERP and its integration experience in Banks or Financial industry. Evidence of being actively involved in ERP implementation business in the last five years.	**10%**
3. Technical Experience / Implementation partners experience References letters from currently servicing clients within the Banking industry. Qualifications, technical and professional experience of the technical personnels who would participate in the implementation. If a separate implementation partner is involved, their track record of the implementation partner and their references will be evaluated.	**10%**
4. Project Considerations and project timeline The plan should include the proposed approach and methodology of the implementation/migration plan. Project timeline should include plan for SIT, UAT, staff training, risk mitigation plan during the switch-over to the proposed solution.	**10%**
5. Price The licensing model, cloud/on-premises subscription, Professional Service Fees, Annual Maintenance Fees, and expected cost of data storage for a total period of 05 years.	**40%**

<u>Eligibility Criteria</u>

- The entity who is submitting proposal must be a registered legal entity and should have been in operation at least the last three financial years.
- The core of ERP system must fit for the changing requirement of Banks and FIs with ability of integrating with a third-party module.
- Either the entity or the implementation partner of the ERP must have relevant experience in implementing ERP system in Banking and financial institution.
- The solution should have Integration Capabilities with the key system used in the Bank and must provide API

Note: -

- Bids will be opened in the presence of the bidders and/or representatives of the bidders.
- Companies must submit a board resolution with details of the Representative/s attending to submit proposals on company's behalf.
- In case of new vendors, it is requested to apply for registration as a vendor with all related documents. (Vendor form available in BML website, download page)
- The Bank may reject any vendor to participate in a bid, provided the decision is communicated to the vendor on or before the opening of the bids.
- Bidders are Prohibited to submit offers under various names irrespective of whether it is from separate legal entities in case where the bidder directly or indirectly controls or is controlled by another vendor. A bidder who submits or participates in more than one bid will cause all the bid proposals for that particular procurement to be disqualified.
- Fine for late delivery will be charged per day and if the work/ item(s) are not completed within the agreed period, Bank has the right to cancel the contract.
- Penalty charge shall be imposed in respect of each item/service of non-compliance with the bid conditions.
- (If applicable) it shall remain your responsibility to ensure that your quotation/proposal reach the email on or before the deadline. Quotations/Proposals that are received after the deadline indicated above, for whatever reasons, shall not be considered for evaluation.
- Please note that we may purchase all the items, selected items, or none of the items, based on comparative offers from different vendors.
- Any actual or prospective bidder or contractor who is aggrieved in connection with the solicitation or award of a bid, contract or proposal, may appeal to the MD & CEO of BML. The appeal must be in writing and must list the pertinent facts giving rise to the appeal.

Form 1 - Schedule of Requirement

(Not Applicable)

Form 1 A

List of Goods and Related Services

Lot No. : [if applicable]				
Lot Name : [if applicable]				
Item No.	**Name of Goods or Related Services**	**Description**	**Unit of Measurement**	**Quantity**

Lot No. : [if applicable]				
Lot Name : [if applicable]				
Item No.	**Name of Goods or Related Services**	**Description**	**Unit of Measurement**	**Quantity**

Lot No. : [if applicable]				
Lot Name : [if applicable]				
Item No.	**Name of Goods or Related Services**	**Description**	**Unit of Measurement**	**Quantity**

Form 1 B

Delivery and Completion Schedule

The date or period for delivery to be specified below;

Item No.	Description of Goods or Related Services	Date or Period for Delivery	Location	Required Arrival Date of Goods or Completion Date for Related Services
1.	Supply and installation of ERP system and other solutions to modernise and upgrade finance and operations			

Form 1 C
Requirement

Please refer to the attached RFP

Form 2 – Bidding Forms

Table of Forms

A- Bidders Information Form.

B- Bid Submission Form.

C- Price Schedule for Goods and Services.

Form 2A

Bidder Information Sheet

Date: _____

Invitation for Bid No.: *BML/PD/OPN-BID/2023/073*

Legal Name of Bidder	
Bidder's Authorised Representative Information	**Name:** **Address:** **Telephone/Fax Numbers:** **Email Address:**
List of bid documents to be submitted: as per vendor registration application form. In case of new vendors, it is requested to apply for registration as vendor with all related documents. Any changes/update to the information provided in the registration form, shall be submitted to Bank of Maldives along with revised documents.	

Form 2B

Bid Submission Form

Date: _____
Invitation for Bid No.: *BML/PD/OPN-BID/2023/073*

To: BANK OF MALDIVES PLC.

I/We, the undersigned, declare that:

(a) I/We offer to supply in conformity with the Bidding Document and in accordance with the delivery schedule specified in the Schedule of Supply, the following Goods and Related Services: _____ _____;

(b) The total price of my/our Bid, is: _____ _____;

(c) My/Our Bid shall be valid for a period of 30 days from the date of bid opening in accordance with the Bidding Document, and it shall remain binding upon me/us and may be accepted at any time before the expiration of that period;

(d) I/We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Document;

(e) I/We understand that this Bid, together with your written acceptance thereof included in your notification of award shall constitute a binding contract between us,

(f) I/We declare that all the information provided in connection with this bid is true and all documents are true copies of genuine and valid originals.

(g) I/We confirm that I/we (including owners/ beneficial owners and/or shareholders / partners of the bidder) have not in any way been associated, in the preparation of this Bid, with an employee of Bank of Maldives PLC.

(h) I/We confirm that I/we (including owners/ beneficial owners and/or shareholders / partners of the bidder) are not employee(s) or immediate family member(s) of employee(s) or Board of Director(s) of Bank of Maldives PLC (Immediate family members are defined as children, spouses and parents).

(i) I/We confirm that I/we have carefully read, understood and agree to all the terms and conditions of the Bidding Documents.

(j) I/We understand that you are not bound to accept the lowest or any Bid you may receive.

Name _____
In the capacity of _____
Signed _____
Duly authorized to sign the Bid for and on behalf of _____
Office / Company Seal (if applicable) _____
Date _____

If a bid is awarded on the basis of false information provided, the Bank has the right to disqualify the bidder. In review of this, Bank will be considering the past performance of the bidder in future bids of this nature.

Form 2C

Price Schedule of Service

Name of Bidder _____
Procurement Reference and Name_____
TIN no: _____

#	Description	Total price (MVR/USD) (including 8% GST if applicable)	Duration
1.	Supply and installation of ERP system and other solutions to modernise and upgrade finance and operations		

Note

- Please submit a quotation/proposal/BOQ with the detail specification given in the information sheet.
- In addition, please include following details in the quotation/proposal:
  - Detail specification of the quoted product
  - Breakdown of the price (if applicable)
  - Price inclusive of all taxes applicable
  - MIRA Tax clearance report shall be submitted with the bid documents.
  - Vendors should quote price in MVR (for locals) USD (for international vendors)
  - Delivery duration in calendar days (if not fixed in the request)
  - Payment Terms
  - Quotation validity period
- Proposal with multiple options (other than specified above) WILL NOT be accepted.
- Days will be counted starting from the date issuing the Purchase order/Site handover.
- Fine for late delivery/completion will be charged per day and if the work/ item(s) are not completed within the agreed period, Bank has the right to cancel the contract.
- All duties, taxes, and other levies payable, shall be included in the rates and prices and the total Bid Price submitted by the bidder.
- If the service is subject to tax under Section 55 of the Income Tax Act, price inclusive of Withholding tax (WHT).
- No Advance Payment

REQUEST FOR PROPOSAL (RFP)

Supply and installation of ERP system and other solutions to modernise and upgrade finance and operations.

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1. Introduction

Bank of Maldives (BML) is the largest bank and leading financial institution in Maldives with its presence in every island. Our business is built on a clear and compelling strategy focused on 3 strategic pillars of Customer Service, Support for Business and Financial Inclusion and our strategic foundations are People Excellence and Robust Risk Management.

At Bank of Maldives, we have a team of over 1,000 employees, out of which 99% are locals with almost one third employed in the islands. Our organizational structure is functional with 14 individual Divisions that manage different functions of the Bank.

The Bank of Maldives PLC currently operates 35 branches, with four located in and around the capital city of Male', and the rest spread throughout the country's atolls. The bank offers a range of banking services, including Retail Banking, Corporate Banking, SME Banking, Islamic Banking, and Card Activity (Issuing and Acquiring). The bank provides both Conventional and Islamic banking services.

All in all, we therefore perform a pivotal and critical role, an engine of growth for the local economy. Our aim is to be a partner for success for our customers, to actively participate in community development and to create long term value for our shareholders.

Presently, Bank of Maldives is seeking to upgrade the current ERP system to modernize and upgrade the finance and operations; to automate and integrate different business processes related to the automation of financial reporting, regulatory reporting, budgeting and forecasting, procurement and inventory management, and to integrate the HRM system. In addition to this we are looking for solution for the automation of IFRS 9, Basel Standards and Fud transfer pricing.

BML hereby invite only qualified firms with relevant experience in implementing ERP system in Banking and financial institution to submit a proposal as set out within this document.

Qualified firms may submit proposals either as combined solution or as a separate component-based solution based on the requirements stipulated in this RFP.

2. Objectives

As part of our plan to upgrade ERP system, the Bank seeks to:

- Acquire and implement an ERP Systems that is suitable for the finance & banking industry.
- Acquire and implement an ERP system that is well-established and already implemented and used by banks or similar scale of operations as BML.
- Automate IFRS 9, IFRS 16 as part of the ERP or integrate with ERP as separate modules.
- Streamline business processes: to automate and integrate different reporting processes, including regulatory reporting, management accounting, inventory, procurement, and HRM (optional), to reduce manual process, minimize duplication of work, and improve overall efficiency.
- Enhance data management: to provide a centralized database that is accessible by key business departments of the Bank to improve accessibility, with data accuracy, and consistency.
- Provide real-time data insights and analytics: to make informed decisions by providing a comprehensive view of business and branch operations, the financial position of business segments and Branch profitability.
- Facilitate and increase collaboration and communication of financial positions and profitability across different departments and teams, which can improve overall productivity, optimize resource utilization and help to achieve organizational goals.
- Establish an enhanced reporting model whereby management information/dashboards are readily available to enable timely business decisions.
- Accommodate the bank's growth for new markets and changing business needs. Additionally, it should be flexible enough to adapt to evolving banking regulations and market dynamics.

3. Key Requirement and scope of Work

- Supply of an end-to-end ERP System that strengthen the financial operation, financial reporting and regulatory reporting of the Bank.
- The ERP should have robust financial management capabilities, accounts payable and receivable, cash management, budgeting, and financial reporting.
- The ERP should support a GL system that support multi company set up, branch set up, multi-currency set-up and able to adopt with the reporting requirements as per banking regulations and accounting standards.
- The ERP should have built-in reporting and analytics capabilities, allowing to gain insights into various aspects of the financial positions, financial performance, segment performance and branch performance.
- The ERP should support customizable dashboards, data visualization, and ad-hoc reporting and the solution should be a 'pull system' for the users to generate reports and data for analytics.
- The ERP should be able to integrate with the bank's core banking system (Temenos T-24) is crucial for seamless data flow and transaction processing. The ERP should be able to exchange data with the core banking system, ensuring accurate and up-to-date information across all systems.
- The ERP should be able to migrate the existing system data with the current ERP.
- The ERP should be able to integrate with other systems used by the bank, such as Card Systems, HRM System, CRM systems, and data warehouses. Integration should be seamless to ensure smooth data flow and process automation.
- Solution proposed to be outside the main ERP system should be flexible solution which allows for a high degree of integration with the ERP with high degree of parameterization by the users.
- The ERP should be able to handle increasing transaction volumes and support multiple branches and locations.
- Ensure all users are provided with adequate training on the new solution, aware of key functionalities and equipped with the proper skills and knowledge to use the functionalities.

4. Sizing/End-User count

Sizing Information

Department	Count of Users
Finance Division	20
Procurement Department	17
Human Resource Department	5
Administration	5
Fixed Asset & Inventory	5
Business	84
Others (Maximum – User per Branch)	74
Total	**210**

5. Background and Vendor Proposal Requirement

Vendors should submit proposal providing a brief background of the company. In addition, the following must be covered in the proposal:

- Overview/ scope and Company profile
- List of three Banks of comparable size that have been contracted for similar installations (i.e the same version of solution that is being proposed). We will only contact references if necessary and only once prior approval has been sought. For each reference, the following information should be provided:
  - Bank name
  - Bank address
  - Contact name
  - Contact e-mail address and number

6. Implementation Proposal requirement

Vendors shall submit proposal for the proposed implementation of their solution. Proposals should include product overview, demonstration, and all functionality as specified in the detailed requirements of this RFP.

The following areas must be covered in the proposal:

- Scope of Work
- Implementation Plan and Schedule
- Implementation Approach and methodology
- Data migration plan from current ERP (Microsoft Dynamics AX 2012 R3) to new ERP system
- Implementation experience of the partners
- Implementation partners detailed CVs
- Methodology for demonstration (virtual or physical demonstration of the actual system walkthrough)

7. Commercial proposal requirement

Cost proposals are required to be separate with the breakdown of proposed modules and bidders must specify the following fees for each of the requirements:

- The licensing model, monthly or annual subscription or license fees
- Implementation Fees (as fixed cost-plus, onsite travel-related expenses, any other expenses)
- Annual Service/Maintenance & Support Fees
- Any other fees or charges (with details)
- Sub Total for each component
- Grand Total

Bank of Maldives will not be liable for any costs associated with preparation of proposals.

8. Eligibility Criteria

- The entity who is submitting proposal must be a registered legal entity and should have been in operation at least the last three financial years.
- The proposed ERP system should have a product life cycle of minimum 10 years
- The ERP system must fit for the requirement of Banks and FIs with ability of integrating with a third-party module, where necessary.
- Either the entity or the implementation partner of the ERP must have relevant experience in implementing ERP system in Banking and financial institution.
- The solution should have Integration Capabilities with the key systems used in the Bank and must provide API

9. Evaluation Criteria

The proposals will be evaluated based on the company's capability to undertake the project. BML may, at its discretion, request interviews, presentations, and meetings with the vendors to further clarify and discuss the proposals received.
Proposals will be evaluated based on the following criteria:

Evaluation Criteria	Weightage %
1. Functional Fit, Technology & Scalability The proposed solution must fit the requirements set out in this RFP. Ability to integrate with other systems and scalability with the future business needs. The ERP system complies with banking industry practice and regulations. Simplicity of UI and UX, end user reporting tool and performance.	**30%**
2. Industry Experience, A proven track record of similar implementation of ERP and its integration experience in Banks or Financial industry. Evidence of being actively involved in ERP implementation business in the last five years.	**10%**
3. Technical Experience / Implementation partners experience References letters from currently servicing clients within the Banking industry. Qualifications, technical and professional experience of the technical personnels who would participate in the implementation. If a separate implementation partner is involved, their track record of the implementation partner and their references will be evaluated.	**10%**
4. Project Considerations and project timeline The plan should include the proposed approach and methodology of the implementation/migration plan. Project timeline should include plan for SIT, UAT, staff training, risk mitigation plan during the switch-over to the proposed solution.	**10%**
5. Price The Implementation and migration fee, licensing model, cloud/on-premises subscription, Professional Service Fees, Annual Maintenance Fees, and expected cost of data storage for a total period of 05 years.	**40%**

10. Project duration

All components of the project are expected to be completed within 6 to 9 months after awarding the project unless agreed to by both parties based on the circumstances.

11. Conflict of interest

All conflict of interests arising through the course of procurement activities will be treated as per Bank's Conflict of Interest Policy and Procedure.

12. Confidentiality and accuracy of information

All staff of the Procurement Department, members serving on procurement-related committees and/or attending procurement related meetings, other personnel involved in any way with the procurement process must treat all information and commercial data on bids as confidential.

All Information received will be treated as confidential information by the Bank. Non-Disclosure Agreements will be signed accordingly.

13. Right to Reject Proposals

The Bank reserves the right to reject any or all proposals received in response to this RFP. Proposals that do not meet the specified requirements, are incomplete, or fail to comply with the conditions outlined in this RFP may be rejected without further consideration. The Bank also reserves the right to reject proposals for any reason deemed to be in the best interest of the Bank, including but not limited to budgetary constraints, changes in project scope, or any other factors that may arise during the evaluation process. The decision of the Bank to accept or reject a proposal shall be final and not subject to dispute or appeal.

14. Submission of proposal

Electronic copies of proposals must be received latest by **14:00 hrs (Maldives Local Time) of 09th November 2023.** Any proposal received after this date and time may be returned or not considered. Proposals should be submitted electronically to the Email: openbidding@bml.com.mv

Any clarifications regarding the project can be submitted to openbidding@bml.com.mv on or before **14:00 hrs (Maldives Local Time) of 18th October 2023.** Responses will be shared via email and published on Bank of Maldives website on **24th October 2023 before 16:00 hrs (Maldives local time).**

Further negotiations will be held with shortlisted vendors. Additionally, shortlisted vendors may be requested to undertake the following:

Detailed demonstrations and product walkthroughs to highlight the functionality of proposed solution and expected benefits.

Arrange site visits to Banks with similar installations so that BML can independently verify their experience.

15. Direct Contact Information & Clarification

Name	Job Title	Email
Mohamed Haneef	Head of Procurement	haneef@bml.com.mv

Any clarifications regarding the project can be submitted electronically to openbidding@bml.com.mv on or before **14:00 hrs (Maldives Local Time) of 18th October 2023.** Responses will be shared via email and published on Bank of Maldives website on **24th October 2023 before 16:00 hrs (Maldives local time).**

16. Annexure – Core modules and other requirements

The core features of the potential ERP should at least consist of the core modules and functionalities of an ERP solution used by Banks or FIS for financial reporting and financial management. The proposal can be submitted as an end-to-ends solution or as component based solutions where technically feasible and adopted by Banks and financial institutions.

16.1 GL and Financial Management Module

The General Ledger (GL) Set Up should provide the structure and dimensions for recording, classifying, and organizing financial transactions of the Bank.

Chart of Accounts & GL Set Up	The Chart of Accounts (COA) structure module should be able to define and categorizes accounts into various groups, such as assets, liabilities, equity, revenues, and expenses to bring consistency and standardization in financial reporting. • The GL and account structure should create various hierarchical level and define chart of accounts at group level, segment level, and branch level as well should accommodate all functions to BML conventional and BML Islamic. • The GL system should be able to execute reports at consolidated basis, as business segments and at individuals branch level.
Financial Reporting and Regulatory Reporting	The system should be able set up subsidiaries, business units, and should enable the aggregation of financial data from different entities to produce consolidated financial statements. • The ERP systems should provide parametrization for financial statements including income statement, balance sheets, and cash flow statements. • The GL system should enable financial reporting and regulatory reporting requirements of the Bank. • The structure should enable define requirements for set up reports for, business operations, and specific needs or as per schedules for regulatory reporting needs. • These templates should be flexible to adapt and customize to meet any expected to change in reporting requirement of the Bank
Accounts Payable Module	The AP module should enable track of customer invoices, and efficient management of outstanding payments and receivables. The AP module integrates with the core-banking module with complete End-to-end Accounts Payable function (complete three-way P2P function). • Invoice matching, direct invoice, and payment processing through various payment methods (fund transfer, card payments, cheque payments etc.). • Capability to set up a schedule for prepayments and amortization for accrual-based accounting. • Periodic payment (scheduled payment) proposal runs / Recurring payment runs and register. • Payment request initiation from business units and automated approval workflow (integration to Microsoft Teams, Outlook). • Maker-checker process, duplicate payment checks and bank account reconciliation.

	• Cost allocation / apportionment to business units during purchase order invoicing. • Invoice and Payment registers (daily, weekly, monthly & yearly). • Vendor balance reports and vendor transactions history.
Expense Management Module	The expense Management module should streamline and automate the process of managing expenses, reducing paperwork, improving policy compliance, and ensuring accurate and timely payment of supplier invoice and other reimbursement. • Should enhance control and visibility over expenses, facilitates financial reporting, and supports cost management efforts. • Should enhance Expense monitoring and analysis (entity, segment, business unit, item group and item wise). • Actual expense, budgeted, variance and forecasted expense reports (entity, segment, business unit, item group and item wise). • Cost allocation/apportionment to business units

16.2 Fixed asset Management

The fixed Asset Management module should enable to manage and track the Bank's fixed assets throughout their lifecycle. The Fixed Asset Management module should be as per IFRS 16 and include the following features and functions.

Fixed Asset Register	The module should maintain a central asset register with the information about each fixed asset. This includes details such as asset description, acquisition date, cost, depreciation method, useful life, location, and other relevant attributes. The module should enable requests from user departments to the Fixed Assets management unit to submit Purchase Requisitions for Fixed Assets. It should also facilitate Fixed Asset acquisitions (automatic and manual acquisitions), revaluation, disposals and splitting of Assets as well as the recording and tracking of these asset acquisitions. It should capture information related to asset purchases, such as supplier/vendor details, purchase order numbers, invoice amounts, and payment terms.
Depreciation Calculation	Fixed Asset Management module should automate the calculation of depreciation for each asset as per the Banks accounting policies and applicable regulations. The module calculates depreciation expenses over the asset's useful life and updates the asset's book value accordingly.
Capital Allowance	The module must also provide automatic Capital Allowance set-up and computation for assets as per the applicable CA rates in the Income Tax Regulation.
Asset Disposal	The module should facilitate the disposal of fixed assets. It should record asset sales or transfers, capturing relevant information such as disposal dates, sale proceeds, and any gains or losses realized from the transaction. Fixed Asset Management module should provide tools for tracking and auditing assets. This can be Assets Code or barcode or RFID integration, to facilitate all assets to be labelled and scanned for accurate tracking and inventory management.

	The module should also facilitate having a similar coding mechanism for non-capital inventory that is maintained out of FA module due to accounting policy and capitalization threshold.
Asset Tracking and Auditing	Fixed Asset Management module should provide tools for tracking and auditing assets. This can be Assets Code or barcode or RFID integration, to facilitate all assets to be labelled and scanned for accurate tracking and inventory management. The module should also facilitate having a similar coding mechanism for non-capital inventory that is maintained out of FA module due to accounting policy and capitalization threshold
Maintenance and Repairs	The module should provide functions for Service Order and Service Request Management as well as Work order Scheduling & execution. logs of maintenance tasks, tracking service and history. It should be able to track maintenance/warranty contracts as well as record costs associated with repairs and monitoring asset performance.
Reporting and Analytics	The module should offer reporting and analytics capabilities for fixed asset data. It should be able to generate periodic reports/statements on asset valuation, depreciation, maintenance costs, asset utilization, and other key metrics.

16.3 Lease Management

Lease Accounting should have functionality in complying with the lease accounting requirements as per IFRS16. The Lease Accounting module should include the following features and functions:

Lease Data Management	The module should be able manage lease-related data to enable the storage and retrieval of lease contracts, lease terms, lease commencement dates, lease payments, and other lease-specific information.
Lease Calculation and Accounting	The module should be able to calculate the right-of-use asset and lease liability. It should enable present value calculations, incorporates variable lease payments, and handles the initial and subsequent measurement of lease assets and liabilities and thereby should generate the necessary accounting entries automatically to record and maintain lease balances and to supports the appropriate recognition of interest expense and reduction of lease liabilities over time.
Lease Payment Management	The module should be able to track and manages lease payments, including both fixed and variable components and generate payment schedules.
Lease Disclosure Reporting	The module should generate disclosure reports and statements as per IFRS 16. It should provide comprehensive lease accounting reports, including balance sheet impact, lease expense breakdowns, lease commitments.
Lease Modification and Reassessment	The module should accommodate changes to lease contracts, such as lease term modifications, lease renewals, and changes in lease payments.
Integration with Financial Systems	The module should be a module of the ERP that is fully integrated with the GL and financial systems

16.4 Inventory Management Module

The inventory journals should enable posting of physical inventory transactions of various types, such as the posting of issues and receipts, inventory movements and the reconciliation of physical inventory. The Inventory module should include the following features and functions.

Inventory Journal	• Creation of stock/ non-stock items with details of unit, warehouse, item group, GL account etc. • Product allocation to GL, cost allocation, quantity, item transfer, locations, inventory item tracking. • Inventory management through different techniques (EOQ, ABC analysis etc) • Low stock alert to prevent stockouts and speed up the order process. • Should have budget control for Inventory purchase requisitions. • Inventory should be automatically updated with Purchase order progress. • GL to reflect the inventory movement once invoiced. • Enable input/approval based on hierarchy and workflow. • Process delivery note/other relevant documents to be generated with order progress.
Stock requests	• System should allow user requests for stock items • Relevant journal entries should be raised automatically when stock item is issued

16.5 Budgeting and Forecasting

Budget Planning	The Budgeting module must cater for both long term strategic planning and annual budget planning, preparation, budget control and reporting with the ability to support multiple scenarios and integration to the Income Statement and Balance Sheet. It should also set up budget planning processes in accordance with the Bank's policies, procedures, and requirements for budget preparation. The Budgeting module should include the following features and functions. • Balance Sheet Planning & Forecasting • Input budget plan for Operational Expenses and Capital Expenditure and Income targets by user departments based on departmental requirements (enable input/approval based on budget planning hierarchy and workflow) • Consolidate multiple budget plans from a lower level of the organization into a single parent budget plan at a higher level. Consolidated Operational and Capital expenditure to be extracted department/segment wise periodically. • Should enable input of budget plan to multiple scenarios by segments. • Should be integrated with other modules (previous budgets, actual expenditure, fixed assets, HR, Inventory etc) • Final budget TB to be generated for departments and business segments as well consolidated for the organization. • Should be easily customized to accommodate changing business needs and the diverse requirements between the segments.
Budgeting Management	• Should enable posting of original Budget, Transfers and Revisions and approvals for Budget postings based on departmental hierarchy. • Should include budget dimensions required to control the budgets to main account/business/item /item group level.

	• Should enable budget reservations at different stages of the procurement process for financial dimensions. • Historical data for operational and capital expenditure to be imported. • Reports regarding budget with expenses and reservations should be generated for Accounts, Business Units, Item Groups, and Items. • Budget transfers between conventional banking and Islamic banking. • Annual year end process - Capital Commitments should be transferred to following year with the budget.
Budget Reports	• Month-wise budget comparison reports with actual expenditure, amount reserved under Purchase Order and Requisitions to Main account level/Business level/Item level and Item group level. • Budget reports to include Purchase Requisition number, Purchase Order numbers, Invoice numbers and financial dimension as well as description. Budget errors to compute the total shortage for budget dimensions.

16.6 IFRS 9 Module – Early Warning & Automation Solution

The Bank requires the automation of early warning indicators and automate Expected Credit Loss (ECL) calculation. The IFRS 9 Automation Solution can be either a module of the total ERP solution or may propose the as separate component as a tailor-made software, robotic automation process, as open-source solution etc.

Expected Credit Loss (ECL)	The module should be parametrizable based on Bank's requirements from time to time such as below. • The module may provide early warning mapping system. • The module must automate the calculation of ECL as per IFRS 9 • The module should be able to parametrize loan products based on their sector/segment fields and pool based on homogeneous characteristics set by the Bank. • The module must have the capacity to handle at least 5 years of data to compute the Probability of Default (PD). • The module must compute the Exposure at Default (EAD). • The module should generate Loss Given Default (LGD) computation for closed contracts and virtually closed contracts. • The module should facilitate the Economic Factor Adjustment (EFA) - forward-looking information assessing the macroeconomic variables to produce a forward looking ECL. • The module should provide parameterization for credit conversion factor (CCF). • Ability feed data from other data sources if the solution is standalone solution independent from the main ERP solution. • Ability to integrate with the existing system of the Bank, if the solution is inbuilt with the ERP.
Data flow and Data Management	• User-friendly interface for inputting data and configuring models and generation of reports. • Robust data management and must have the capacity to handle large volumes of historical data, storage and retrieval of data. • Monitoring of key risk indicators including qualitative factors based on input. • Support role-based access control and provide appropriate levels of access and functionality based on user roles. • Support configurable workflows for credit risk assessments, ECL calculations, and approval processes.

Scenario Analysis and Sensitivity	• The module should have the capacity for Scenario analysis and sensitivity testing to assess the impact of different variables on credit losses. • Should be able to do back testing for macroeconomic factor analysis. • Should support creation and management of stress scenarios to evaluate the credit portfolios.
Reporting and Disclosures	• Enable comprehensive reporting and analysis of the results of scenario analysis and sensitivity testing. • The module should be able to tailor and generate reports for disclosures requirements related to Loans & ECL. • The module should facilitate configurable dashboards to generate ad-hoc reports as needed. • Documentation and audit trail for review.

16.7 Treasury Management Modules

This report should help to identify potential liquidity shortfalls or surpluses in different time horizons. The Treasury reports can be either a module of the total ERP solution or may propose the as separate component as a tailor-made software, robotic automation process, as open-source solution etc. The module should cover the following features and functions.

ALM and Liquidity Risk Reports	**<u>Maturity Gap Report / Structural liquidity statement</u>** • Should be able to generate the maturity gap report to analyze the timing and availability of cash flows from assets and liabilities. • This report must contain the loan repayments, repayment of borrowings and other contractual obligations in the respective time buckets based on the payment schedule specified for each loan or the specific instrument. • The repayment amounts should be allocated to the respective time buckets reflecting when the payments are due.
Repricing gap report	This report should be able to accurately reprice the interest rates of the rate sensitive assets and liabilities by comparing the timing of cash flows from interest-sensitive assets and liabilities to identify potential mismatches or imbalances in the institution's repricing position.
Cash Flow statement and Analysis	The module should generate the cash flow statement of the bank and project cash flow considering the following: • Behaviour pattern – ability to use user defined behavioural patterns to map instrument behavior – eg: behavior patterns of deposits. • Payment patterns – ability to determine cash flow based on the user defined payment pattern during specific payment events. • Repricing pattern – to be able to define interest rate adjustment over the life of the cashflow instrument. • Prepayments – to be able to define prepayment models in the system to model prepayment behavior of instruments.
Stress Testing Reports	The module should be able to generate liquidity and deposit stress testing reports by defining the interest rate shocks and scenarios for stress testing. It should also support multiple scenarios for liquidity gaps and ratios as well as must generate contingency funding plan report based on different scenarios

LCR & NSFR	The module should be able to generate the LCR and NSFR calculation reports daily.
Foreign currency exposure report	The module should be able to generate FX exposure report daily to analyze the net open position as well as must generate FX exposure forecast at least for the next six months, which will help to make funding related treasury decisions.

16.8 Fund Transfer Pricing (FTP)

The FTP system should be a reputed system used in other global banks. The FTP system can be either a module of the total ERP solution or may propose the as separate component as a tailor-made software, robotic automation process, as open-source solution etc. It should establish a clear and consistent methodology for allocating costs and revenues which involves defining transfer pricing rules, formulas, and allocation rules based on benchmarks. The system must also enable the following functions.

FTP	• System should be able to incorporate interest rate risk considering factors like maturity profile of assets and liabilities, interest rate sensitivity, and impact of changing market rates. • The system should be able to accurately capture the cost of funds for the bank covering deposits, interbank borrowings, wholesale funding, and capital adequacy requirements. • The FTP system should calculate and allocate net interest income considering interest rate risk, cost of funds, asset yields, funding costs, and the impact of various interest rate scenarios. • The FTP system also needs to consider non-interest income and expenses such as fee-based income, commissions, transactional costs, operational expenses, etc. • The FTP system needs to consider the cost of the capital and allocate it to different business units and products based on the risk profile, capital requirements and regulatory considerations. • The FTP system should generate regular reports and analysis to provide insights into the profitability of different business units and products.
Performance Management Module	The platform should be suitable for analytical needs of the bank's Business segments and Branch performance. • Capability to set up and configure multi-Dimensional and Business segment reporting. • Centralized Dimension Management • Segmentation Rules (Filters) • Fund Transfer Pricing and FTP Rate Management • Cost allocation / apportionment to business units during purchase order invoicing.

16.9 Procurement Functional Requirement

Purchase Requisition Management	▪ User-friendly interface for creating and managing purchase requisitions. ▪ Customizable fields to capture essential information, such as requester, department, delivery date, and item details. ▪ Automated validation and pre-approval checks against budget and purchasing policies. ▪ Configurable approval workflows with multiple levels of authorization and routing. ▪ Notification system to alert approvers about pending requisitions. ▪ Ability to track the status of requisitions and view the approval history. ▪ Integration with email or messaging platforms for notifications and reminders. ▪ Option to attach supporting documents or specifications to the requisitions. ▪ Ability to clone or duplicate requisitions for recurring or similar purchases. ▪ Search and filter functionality for easy retrieval of requisitions based on different criteria. ▪ Real-time visibility into requisition status for requesters and procurement team. ▪ Ability to generate reports and analytics on requisition volume, processing time, and approval bottlenecks. ▪ Audit trail functionality to maintain a record of changes made to requisitions.
Vendor Management	▪ Vendor database to store comprehensive information about suppliers, including contact details, addresses, and primary points of contact. ▪ Classification of vendors based on categories, such as goods, services, or strategic partnerships. ▪ Ability to track and manage vendor certifications, qualifications, and compliance documents. ▪ Evaluation and rating system to assess vendor performance based on criteria such as quality, delivery, and responsiveness. ▪ Supplier onboarding process to collect necessary documentation and information during the registration process. ▪ Contract management functionality to associate suppliers with specific contracts or agreements. ▪ Alerts and notifications for contract renewals, expirations, and key milestones. ▪ Vendor self-service portal (refer Vendor Portal). ▪ Integration with procurement processes, such as purchase requisitions and purchase orders, to ensure accurate supplier selection. ▪ Ability to generate reports on supplier metrics, such as spend, on-time delivery, and quality performance. ▪ Audit trail functionality to maintain a record of changes made to vendor database.

Purchase Order Management	▪ Customizable purchase order templates with pre-defined fields for capturing relevant information. ▪ Ability to select suppliers from centralized supplier database ▪ Auto-population of supplier information, including contact details and terms, into purchase orders. ▪ Tracking of purchase order status, including pending, in progress, delivered, and closed. ▪ Real-time visibility into the progress of purchase orders for stakeholders involved. ▪ Generation and allocation of unique purchase order numbers for easy reference and tracking. ▪ Customizable approval workflows for purchase orders, including multi-level authorization. ▪ Automated notifications to alert stakeholders about new purchase orders, changes, or updates. ▪ Ability to attach supporting documents, specifications, or contracts to purchase orders. ▪ Monitoring and management of changes to purchase orders, including revisions and amendments. ▪ Integration with financial module for budget checking, encumbrance, and commitment tracking. ▪ Three-way matching functionality to reconcile purchase orders, invoices, and goods receipts. ▪ Ability to generate and send purchase order confirmations to suppliers. ▪ Configurable delivery date and shipment tracking to ensure timely receipt of goods or services. ▪ Real-time notifications and alerts for order delays or changes in delivery schedules. ▪ Support for partial shipments and order cancellations. ▪ Reporting and analytics on purchase order metrics, such as order volume, lead time, and supplier performance. ▪ Integration with accounts payable for invoice reconciliation and payment processing. ▪ Audit trail functionality to maintain a record of changes made to purchase orders.
Contract Management	▪ Centralized repository for storing and managing procurement contracts. ▪ Ability to capture and maintain contract details, including contract parties, dates, terms, and conditions. ▪ Version control and tracking of contract revisions, amendments, and renewals. ▪ Alerts and notifications for contract milestones, expiration dates, and renewal. ▪ Integration with vendor management to associate contracts with specific vendors. ▪ Document management functionality for uploading and storing contract documents. ▪ Search and retrieval capabilities to quickly locate specific contracts or clauses. ▪ Contract approval workflows with configurable authorization levels. ▪ Reporting and analytics on contract status, performance, and expiration dates. ▪ Audit trail functionality to maintain a record of contract-related activities and changes.

Request for Proposal/Quotation Process	▪ Creation and management of RFQ/RFP documents electronically. ▪ Customizable templates for RFQ/RFP documents with predefined sections and requirements. ▪ Automated distribution of RFQ/RFP documents to selected suppliers via email or supplier portal. ▪ Tracking and recording of supplier responses and submissions. ▪ Ability to set deadlines and reminders for supplier submissions. ▪ Configurable evaluation criteria and scoring system for analyzing vendor responses. ▪ Automated notifications to inform suppliers about the RFQ/RFP outcome and next steps. ▪ Reporting and analytics on RFQ/RFP participation, vendor response analysis, and cost comparisons. ▪ Integration with procurement processes to facilitate seamless conversion of RFQ/RFP responses into purchase orders or contracts. ▪ Ability to store and retrieve historical RFQ/RFP data for future reference or benchmarking.
Reporting and Analytics	▪ Predefined and customizable reports for procurement activities, spend analysis, supplier performance, and savings achieved. ▪ Dashboard functionality for real-time monitoring and tracking of key procurement metrics. ▪ Integration with data visualization tools for creating visually appealing and interactive reports. ▪ Ability to generate reports based on various dimensions such as time, supplier, category, or department. ▪ Ad-hoc reporting capabilities to allow users to create custom reports as needed. ▪ Support for drill-down functionality to investigate and analyze data at a granular level. ▪ Comparative analysis to identify trends, patterns, and anomalies in procurement data. ▪ Automatic generation and scheduling of reports for regular distribution. ▪ Data export functionality in various formats (PDF, Excel, CSV) for further analysis or sharing. ▪ Key performance indicators (KPIs) and metrics tracking for measuring procurement performance. ▪ Interactive dashboards with visual representations of data through charts, graphs, and heatmaps. ▪ Role-based access control for controlling access to sensitive or confidential reports. ▪ Historical data storage and archiving for long-term trend analysis and historical comparisons.

16.10 Project Management Tool

Project Management	The Project Management module should facilitate the planning, execution, monitoring, and control of projects of the Bank with tools and features to help project managers and teams efficiently manage project activities, resources, timelines, and costs that is integrated with the Budget module. **Project Planning** The module should enable project managers to create project plans by defining project scope, objectives, tasks, and milestones. **Resource and Cost Management** The module should enable to the visibility of available resource, availability of budget allocated, and utilization and balance available. The module should allow for effective management of project costs by tracking project budgets, expenditures, and variances. **Time and Expense Tracking** The module should facilitate the tracking of project-related time and expenses. Team members can log their time spent on tasks and submit expense reports, which can be approved and integrated with the ERP's financial system. **Collaboration and Communication** The module should provide collaboration features that allow project teams to communicate, share documents, and collaborate on project-related tasks and discussions. **Project Monitoring and Reporting** The module should offer real-time monitoring and reporting capabilities to track project progress, milestones, and key performance indicators (KPIs). It should provide dashboards and reports that provide visibility into project status, resource utilization, budget vs. actuals, and other project metrics. **Integration with Financial Systems** The module should integrate with the ERP's financial systems, enabling seamless flow of project-related financial data.

16.11 Procurement and Vendor Portal (Optional)

Vendor portal is an optional add-on to the ERP, potential vendors shall give clear breakdown of cost for this component as Bank may decide to go with standalone vendor portal and integrate or go ahead with ERP based in the technical and financial feasibility of the solution.

Landing Page	**Vendor Registration** • The landing page of the vendor portal should include a prominent link to the vendor registration page. • Vendors who are not yet registered with the bank should be able to easily access the vendor registration page and start the registration process. **FAQ and Guides Page** • The landing page of the vendor portal should include a link to an FAQ /Guides page that provides answers to common questions that vendors may have about the procurement process, vendor registration, user guides for the vendor portal, etc.

	Open Tenders • The landing page of the vendor portal should display a list of open tenders that are available for all vendors to view. • Vendors should be able to browse through the list of open tenders and view the details of each tender, including the tender description, scope of work, specifications, and documents. • Vendors should be able to download tender documents and submit queries related to the tender. **News and Announcements** • The landing page of the vendor portal should include a section for news and announcements related to procurement activities. • The bank can use this section to communicate updates on the procurement process, changes to compliance requirements, upcoming tenders, etc.
Vendor On-boarding	**Registration Page** • Vendors should be able to access the vendor registration page from the landing page of the vendor portal. • The registration page should include fields for basic information such as the vendor's name, address, contact information, and tax ID number. • The registration page should also include fields for the vendor's products or services, certifications, and references. • The registration page should include a section for the vendor to upload any relevant documents, such as business registrations and other relevant documents. Documents should be made mandatory based on type of applicant selected. **Approval Process** • Once a vendor submits a registration request, the bank's procurement team should review the vendor's application and documents. • The bank may require additional documentation or information before approving the vendor's registration. Bank staff should be able to request for this via the system. • Once the vendor is approved, they should receive a notification that they can log in to the vendor portal. **Training and Support** • The vendor portal should include user guides and resources that can help vendors navigate the registration process and understand the bank's requirements. **Creating vendors by Procurement Team** • There are cases here Bank may require vendor to be created by receiving a request on other channels such as email.
Features available for vendors	**Login and Dashboard** • Vendors should be able to login to the vendor portal using their registered email address and password. • Upon login, vendors should be directed to their personalized dashboard, which should display a summary of their current activities on the portal, including notifications of new tenders, RFQs or contract updates

	<u>Browse through published RFQs or Tenders</u> • Vendors should be able to browse through published RFQs or Tenders by category, location, status, or date. • Vendors should be able to view the details of each RFQ or Tender, including the tender description, scope of work, specifications, and documents. • Vendors should be able to download tender documents and submit queries related to the tender. **<u>Submit queries to RFQs</u>** • Vendors should be able to submit queries to the RFQs they are interested in bidding for. • Vendors should be able to view responses to queries submitted including responses to queries by other vendors. **<u>Profile Management</u>** • After logging in to the vendor portal, vendors should be able to manage their profiles and update their information, including contact information, company details, and product/service offerings. • Vendors should be able to upload or update their certificates, licenses, and other documents. • Vendors should be able to view their compliance status and any compliance-related actions required by the bank. **<u>Messaging System</u>** • The vendor portal should include a messaging system that enables vendors to communicate with the bank's procurement team. • Vendors should be able to submit questions or requests related to their registration, compliance requirements, or specific procurement opportunities. • Vendors should be able to view their message history and receive notifications of new messages. **<u>Request for changes in vendor registration</u>** • Vendors should be able to request changes to their registration details. • Vendors should be able to submit any relevant documents to support their request. **<u>Notifications</u>** • Vendors should be able to opt-out from receiving email notifications.
Open Tender	**<u>Tender Publication</u>** • The procurement team should be able to create a new tender from the procurement dashboard in the vendor portal. • The tender creation process should include fields for the tender title, description, and category. • The procurement team should be able to upload any relevant documents, such as tender specifications or bid forms. • The tender should be automatically published to the vendor portal and made visible to all.

	<u>Query Management</u> • Vendors should be able to submit queries related to the tender via the messaging system in the vendor portal. • The procurement team should receive notifications of new queries and be able to respond to them via the messaging system. • The procurement team should be able to publish responses to questions in a dedicated section of the tender page. **<u>Tender Notification</u>** • System should send a notification via email to all registered vendors, vendors should have option to opt-out from receiving notifications to email. **<u>Bid Submission</u>** • All registered vendors should be able to submit their bids through the vendor portal. • The bid submission process should include fields for the bid amount, delivery timeframe, and any other relevant information required by the tender. • Vendors should be able to upload any supporting documents, such as product specifications or references. • System should restrict view of the received bids to Procurement Team till the deadline of each tender.
Selective bidding	**<u>RFQ Publication</u>** • The procurement team should be able to create a new RFQ from the procurement dashboard in the vendor portal. • The RFQ creation process should include fields for the RFQ title, description, and category. • The procurement team should be able to select the specific vendors or categories of vendors who will receive the RFQ. • The procurement team should be able to upload any relevant documents, such as RFQ specifications or bid forms. • The RFQ should be automatically published to the vendor portal and made visible to the selected vendors. **<u>Query Management</u>** • Vendors should be able to submit queries related to the RFQ via the messaging system in the vendor portal. • The procurement team should receive notifications of new queries and be able to respond to them via the messaging system. • The procurement team should be able to publish responses to questions in a dedicated section of the RFQ page. **<u>Bid Submission</u>** • Selected vendors should be able to submit their bids through the vendor portal. • The bid/quote submission process should include fields for the bid amount, delivery timeframe, and any other relevant information required by the tender. • Vendors should be able to upload any supporting documents, such as product specifications or references. • System should restrict view of the received bids to Procurement Team till the deadline of each tender.

Direct Quote Request	**<u>RFQ Publication</u>** • The procurement team should be able to create a new RFQ from the procurement dashboard in the vendor portal. • The RFQ creation process should include fields for the RFQ title, description, and category. • The procurement team should be able to select the specific vendor who will receive the RFQ. • The procurement team should be able to upload any relevant documents, such as RFQ specifications or bid forms. • The RFQ should be automatically published to the vendor portal and made visible to the selected vendor. **<u>Query Management</u>** • Vendor should be able to submit queries related to the RFQ via the messaging system in the vendor portal. • The procurement team should receive notifications of new queries and be able to respond to them via the messaging system. • The procurement team should be able to publish responses to questions in a dedicated section of the RFQ page. **<u>Bid Submission</u>** • Selected vendor should be able to submit their bid/quote through the vendor portal. • The bid/quote submission process should include fields for the bid amount, delivery timeframe, and any other relevant information required by the tender. • Vendors should be able to upload any supporting documents, such as product specifications or references.
Reports and Analytics	**<u>Vendor Registration Reports</u>** • Total number of registered vendors • Vendor registration requests pending approval • Vendor registration requests approved/rejected • Vendor registration requests by category or type • Vendor registration requests by region or location **<u>Vendor Onboarding Reports</u>** • Total number of vendors onboarded • Vendors onboarded by category or type • Vendors onboarded by region or location • Vendors onboarded by onboarding stage **<u>Tenders and RFQ Reports</u>** • Total number of tenders and RFQs published • Tenders and RFQs published by category or type • Tenders and RFQs published by region or location • Number of vendor responses to each tender/RFQ • Tenders and RFQs awarded and rejected • Tenders and RFQs pending evaluation

	<u>Contract Management Reports</u> • Total number of contracts managed through the vendor portal • Contracts by category or type • Contracts by region or location • Contracts by vendor • Contract expiry dates • Contract renewal requests pending approval **<u>Performance Evaluation Reports</u>** • Vendor performance evaluations completed • Vendor performance evaluations pending completion • Vendor performance evaluations by category or type • Vendor performance evaluations by region or location • Vendor performance evaluations by period **<u>Analytics</u>** • Vendor portal usage analytics • Number of users accessing the vendor portal • User behaviour analytics **<u>Audit Trail</u>** • User activity log • Vendor registration and onboarding log • Bid/proposal submission log • Bid/proposal review and evaluation log • Contract management log • Communication log
Procurement Process	• End to End process: request-to-procure • Supplier Management • Review and Approval workflow • Inventory Management • Bidding and Evaluation Process • Procurement • PO Justification report • Item identification (capital/non-capital) • Reimbursement/Direct Invoicing • Custom PR/PO journal report • PO acknowledgement • Goods receipt acknowledgement • Vendor approval workflow • Threshold calculations • Supplier Categories • Automatic rejection/acceptance email generation • PR/PO report • RFQ advance find/select vendors based on supplier categories. • Vendor Relationships – Party tracking • RFQ/stock request line import from CSV

16.12 Interface, Integration and IT requirements

IT requirements	• Application type – Managed service (SAAS)
	• Event Logging
	System must be capable of capturing and logging relevant events or activities occurring within its environment(s). These events must include.
	  ○ User actions
	  ○ System events
	  ○ Error conditions
	  ○ Any other significant occurrences that need to be tracked and recorded.
	
	The system should handle errors and exceptions that may occur during event logging integration. It should provide appropriate error handling mechanisms, such as retries, logging of errors, and alerts, to ensure the robustness and reliability of the integration process.
	• Event Format and Structure
	The system should define a standardized format and structure for logged events to ensure consistency and interoperability. This format should include relevant information such as timestamp, event type, source, user ID, and any additional contextual data necessary for understanding the event.
	• Event Filtering and Selection
	The system should allow configurable event filtering and selection mechanisms to determine which events are sent to the integrated systems. This ensures that only relevant and necessary events are shared, optimizing performance, and minimizing unnecessary data transfer.
	• Integration Interfaces
	The system should provide integration interfaces or APIs to facilitate the communication and exchange of logged events with other systems. These interfaces should support commonly used protocols and formats, such as
	  ○ RESTful or SOAP API's
	  ○ Message queues.
	  ○ Publish/subscribe model.
	  ○ event stream model.
	• Security
	The system must implement multi-factor authentication (MFA) as a requirement for user authentication. MFA setup should support at least two independent factors, such as something.
	  ○ The user knows (password)
	  ○ The user possesses (security token, smart card)
	  ○ The user is (biometric data)
	• Environments
	A minimum requirement is to have separate Test/UAT and Production environments
	
	Vendor should configure the test/UAT environment to closely resemble the production environment, ensuring accurate simulation of real-world conditions. This includes replicating hardware, network configurations, software versions, and other relevant components.

	• Audit logging
	The following actions should be captured for all users within the application:
	  ○ View/read action logging.
	  ○ Create action logging.
	  ○ Edit/update action logging (should include new and old values).
	  ○ Delete action logging.
	  ○ User creation, update, and deletion.
	  ○ User login and logout
	  ○ Grant/revoke permissions or access roles
	  ○ Application start and stop
	  ○ System configuration changes
	• Event logging and Audit logging Performance
	The system should be able to handle a large volume of logged events and support scalable integration with external systems. Performance considerations, such as event batching, parallel processing, and efficient data transfer, will be taken into consideration during product evaluation.
	• AD Integration
	The system must integrate with Azure Active Directory (Azure AD) for user management. This integration should allow seamless synchronization of user accounts and attributes between the system and Azure AD. The following requirements should be met:
	  ○ User Authentication: The system should leverage Azure AD for user authentication, allowing users to authenticate using their Azure AD credentials. This ensures a single sign-on experience.
	  ○ User Deactivation: When a user account is deactivated or deleted in Azure AD, the system should promptly reflect this change and revoke the user's access and privileges within the system.
	  ○ User Profile Synchronization: The system should synchronize user profile attributes, such as name, email address, and other relevant details, between Azure AD and the system.
	  ○ Password Policies: The system should adhere to the password policies defined in Azure AD, such as complexity requirements, password expiration, and password lockout policies.
	  ○ Secure Communication: All communication between the system and Azure AD should be conducted over secure channels, utilizing appropriate encryption and authentication protocols to protect user data and ensure the confidentiality and integrity of the information exchanged.
	
	• Disaster Recovery Objective
	Recovery Point Objective (RPO): 1440 minutes (1 day)
	Recovery Time Objective (RTO): 360 minutes
	
	• Data Replication and Backup
	The system should implement regular and automated backups of critical data and configurations.
	Automated Backup frequency: 1440 minutes (1 day)

	• Disaster Recovery - Failover and High Availability The system should implement mechanisms for failover and high availability to ensure uninterrupted access to the ERP system during a disaster. This must involve deploying redundant instances of the ERP system in different regions and utilizing load balancing and auto-scaling capabilities. • Disaster Recovery – Testing System should be accessible for regular and ad-hoc disaster recovery testing. This testing will include simulated disaster scenarios and will test to ensure that RPO and RTO objectives are met. • Disaster Recovery - Data Integrity and Consistency The system must have appropriate mechanisms to ensure data integrity and consistency during the recovery process. This may involve using transaction logs, checksums, or other data verification techniques to validate the accuracy of restored data. • Disaster Recovery - Communication and Notification The system must have a well-defined communication and notification plan in place to inform stakeholders about the occurrence of a disaster, the status of recovery efforts, and any expected impact on system availability or performance. • Disaster Recovery -Security and Compliance The disaster recovery plan should address security considerations to protect sensitive data during the recovery process. • Performance Benchmarks The vendor should establish clear objectives for baseline performance testing to evaluate the system's behaviour and response under normal and under load conditions. Baseline Performance: Vendor should measure and record the system's performance metrics under normal or minimal load conditions. This includes response times, throughput, resource utilization, and other performance indicators. This performance baseline will serve as a reference for system behaviour in optimal conditions. Load Testing: Vendor should simulate and measure the system's performance under various load levels that reflect expected usage patterns and peak loads. This includes stress testing, load testing, and endurance testing to assess system performance, stability, and scalability. The loaded performance baseline provides insights into the system's behaviour and performance under realistic or challenging conditions. • Performance Test Reporting: The vendor should provide comprehensive test reports documenting the results of both unloaded and loaded performance testing. These reports should include detailed performance metrics, analysis findings, any identified issues or constraints, and recommendations for performance enhancements or optimizations.