

## **PUBLIC DOCUMENT**

## **REQUEST FOR PROPOSAL**

### **Project Name:**

RFP.TDT.2025.0006

Provision of Professional Services, Cloud Hosting Subscription for the Implementation, Operations Support and Maintenance Service of AI Agents for Transformation of IBF Training Programme Accreditation

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### **The Institute of Banking & Finance**

10 Shenton Way  
#13-07/08 MAS Building  
Singapore 079117  
Tel: 62208566  
Fax: 62244947  
Email: [procurement@ibf.org.sg](mailto:procurement@ibf.org.sg)

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## 1. INTRODUCTION

- 1.1 The Institute of Banking and Finance (“IBF”) is issuing this Request for Proposal (“RFP”) to identify qualified and experience entity(ies) (hereinafter referred to as the “Vendor”) to submit proposals for Provision of Professional Services, Cloud Hosting Subscription for the Implementation, Operations Support and Maintenance of AI Agents for Transformation of IBF Training Programme Accreditation. The AI Agents shall automate and enhance the programme review process and significantly improve efficiency, accuracy and responsiveness in managing programme accreditation applications submitted by the Training Providers via the Skills Future Singapore’s (SSG) Training Partners Gateway (TPG) system.

## 2. BACKGROUND

- 2.1 IBF was established in 1974 as a not-for-profit industry association to foster and develop the professional competencies of the financial industry. IBF represents the interests of over 200-member financial institutions including banks, insurance companies, securities brokerages, and asset management firms. In partnership with the financial industry, government agencies, training providers and the trade unions, IBF is committed to equip practitioners with capabilities to support the growth of Singapore’s financial industry.
- 2.2 IBF serves as the national accreditation and certification agency for financial industry competency in Singapore under the IBF Standards, which was developed in partnership with the industry. The IBF Standards set out the functional skills required for job roles in the financial industry, guiding IBF’s accreditation of structured skills training programmes. Individuals who complete the IBF-accredited skills training programmes and meet the relevant criteria may apply for IBF Certification.
- 2.3 Since 2018, IBF has been the appointed programme manager for the administration of career conversion programmes for the financial. As programme manager, IBF will partner financial institutions to re-skill employees for expanded/redesigned roles, and opportunities in growth areas.
- 2.4 IBF is appointed by the National Jobs Council since Oct 2020 as the Jobs Development Partner (JDP) for financial services sector. As JDP, IBF boost opportunities for Singaporeans to access jobs, traineeships, and training in the financial services sector.
- 2.5 IBF also provides personalised career advisory services to locals exploring a new role in, or career switch into/within the financial industry, under IBF Careers Connect.
- 2.6 IBF’s main stakeholders/customers can be classified into three main groups, financial services professionals/ job seekers, financial institutions, and training providers for the financial sector.
- 2.7 The Standards, Accreditation and Certification (SAC) business division in IBF currently manages a Training Programme Accreditation process that involves detailed programme content and document reviews to ensure alignment / compliance to the accreditation criteria for organisation, course, trainer, assessor and course developers, document verification, manual data processing and evidence-based decision making. This process requires significant human effort in document handling, data extraction,

completeness checks, content screening, and assessment on criteria alignment. The implementation of AI Agents is envisioned to transform this workflow into a more automated, intelligent and efficient operation.

### 3. PURPOSE AND OBJECTIVE

- 3.1 The primary objective of implementing AI Agents for IBF Training Programme Accreditation is to improve the efficiency and **reduce the turnaround time from the application to the approval/rejection process. Reduction of internal processing component is to be supported by increased automation, reduced queue times, increased review accuracy and higher first-pass completion rates.** The current turnaround time from the application process to the approval/rejection process is approximately 4-6 months, and the project aims to achieve a turnaround time of **within 2 months.**
- 3.2 This project seeks to leverage on AI Agents **to automate and streamline the existing processes and improve the overall operational efficiency and management of application data.**

### 4. IBF TRAINING PROGRAMME ACCREDITATION PROCESS AND CURRENT CHALLENGES

#### 4.1 CURRENT PROCESS (SIMPLIFIED)

- a) Training Provider (“**TP**”) submits programme accreditation application via SSG’s Training Partner Gateway (TPG) system;
- b) Processing Officer (“**PO**”) downloads documents from TPG and transfers the documents to IBF system environment for review and archival;
- c) **PO** manually classifies files, checks for completeness and coherence of the supporting documents, evaluates evidence against accreditation criteria, scans for prohibitive words and verifies source references, etc. PO also verifies information submitted by the TPs, like adult educator’s (trainer/assessor/course developer) qualifications and experiences, Industry Transformation Maps (“ITM”) references, alignment of Technical Skills Competencies (TSCs) and job roles;
- d) **PO** conducts clarification over email (Summary of Clarification (SOC)), and where necessary, downloads revised supporting documents from TPG for follow up review;
- e) **PO** documents the verification using internal reviewer checklists (STS Review Checklist / FTS Review Checklist), which is also used for communication with the **AO** and maintaining audit trails;
- f) **AO** approves/rejects the application via email after the review and clarifications carried out by the PO. The PO will then update the final decision in TPG before the AO approved the PO’s recommendation in TPG.

For a more detailed explanation of the **current processes**, pls refer to the user stories, user journey in **Appendix 1** and for the proposed **to-be processes**, pls refer to the detailed scope of requirements in **Appendix 2.**

#### 4.2 CURRENT PAIN POINTS

- a) **Long Turnaround Time:** The process currently takes 4-6 months.
- b) **Manual Data Preprocessing:** IBF officers manually download, rename, and categorize application forms and supporting documents from the SSG-TPG system. Supporting documents could be saved under non-intuitive file names and can be in various formats like PDF, Word, Powerpoint, Excel, image files and non-structured forms.
- c) **Manual Document Checks:** Officers manually check for completeness and coherence of submitted documents.
- d) **Manual Content Screening and Assessment:** Officers manually screen contents, enter information onto reviewer checklists, and provide qualitative assessments (human judgment). This includes checking for prohibitive words, verify source references, missing/misleading information, or unacceptable languages, and emailing TPs for clarification.
- e) **Manual Data Extraction and Pre-filling:** Information from PDF application forms needs to be manually reviewed and filled up in the internal reviewer checklists. For the enhanced workflow, this data has to be translated into a structured format like Excel for record-keeping and downstream processes.
- g) **Manual Verification of Qualifications and Content Alignment:** This involves checking CVs of assigned Adult Educators against requirements, verifying ITM choices against the Skills Framework for Financial Services, assessing course title suitability, assessing course content relevance and financial sector industry / role contextualization, and checking the alignment of TSCs against the skills framework.
- h) **Manual Clarification Over Email:** Officers manually craft a list of items (SOC) to be clarified based on the checks conducted from (b) to (g) and send it to TPs for follow up.
- i) **Follow Up Review:** After TP responds to the SOC, officers repeat (b) to (g) to ensure the application and supporting documents are fit for approval.

## 5 PROJECT SPECIFICATIONS AND REQUIREMENTS

### 5.1 TARGET USERS

- a) The current IBF Training Programme Accreditation process involves various stakeholders including TPs, and IBF's Processing Officers (POs) and Approving Officers (AOs). The AI Agents shall be primarily designed to support the POs and AOs and shall facilitate communication with the TPs by automatically crafting emails to request missing documents or to seek clarification on application details.
- b) There is total of 8 POs and 4 AOs supporting the IBF Training Programme Accreditation. Each PO on average takes about 24 hours to process each course application.

### 5.2 TRANSACTION VOLUME AND VELOCITY

- a) SAC receives approximately 800 course applications per year from the TPs.
- b) Each application carries more than 10 documents and might come in different file formats such as Word, Excel, Powerpoint, pdf and even image files.
- c) Each document file size is approximately 1MB and has an average of 3,000 words.

### 5.3 FUNCTIONAL REQUIREMENTS

The AI Agents for IBF Course Accreditation are expected to deliver the following core capabilities and functionalities:

- a) **Level 1 screening and sanity check:**
  - (i) **Automate data preprocessing:** The AI Agent shall remove manual steps where IBF officers download application forms and supporting documents from the SSG-Training Partner Gateway (TPG) and email them to the IBF staff addresses for processing. The process shall be fully automated with zero manual handling of downloaded files.
  - (ii) **Automate file categorisation and renaming:** The AI Agent shall automatically categorise and rename application documents based on their contents, handling variations in file naming conventions used by TPs (e.g., “Lesson Plan” labelled as “Course Outline” or “Course Prospectus”). The system shall:
    - (1) Correctly classify at least 95% of documents into the appropriate categories.
    - (2) Process multiple file formats, including PDF, Word, Excel, PowerPoint, and image files.
  - (iii) **Automate document completeness and coherence checks:** The AI Agent shall check each submission against the application document checklist and verify that information in the documents is coherent and consistent with the data declared in the application form.
  - (iv) **Automate content integrity screening:** The AI Agent shall:
    - (1) Check for completeness of required information.
    - (2) Identify prohibited words or content.
    - (3) Verify authenticity and credibility of cited sources.
    - (4) Flag missing, misleading, or unacceptable information.
  - (v) **Automate email notifications:** The AI Agent shall detect missing or contradictory information and generate a first-draft email to the TP, including:
    - (1) Requests for missing documents.
    - (2) Notifications of contradictory, misleading, or non-credible content.
    - (3) Plagiarism violations based on external reference checks.
    - (4) Draft emails shall be available for human review before sending.
  - (vi) **Structured data conversion and pre-filling:** The AI Agent shall:
    - (1) Extract application form data (including PDF formats) into a structured dataset for record-keeping in Excel.
    - (2) Autofill the internal reviewer checklist using relevant extracted content.
    - (3) Generate a summarised version of all documents.
    - (4) Auto-tagging of extracted content to support Level 2 checks.
- b) **Level 2 screening and qualitative assessment:**
  - (i) **Automate Adult Educator (AE) CV verification:** The AI Agent shall automatically verify CVs of AEs assigned to the programme, ensuring that:
    - (1) Assigned AEs on TPG have the required supporting documents.
    - (2) Supporting documents are consistent with the AE’s assigned role(s).
    - (3) AEs meet IBF’s requirements based on CVs, mapped against relevant funding schemes and
    - (4) A complete list of all applications previously assigned to the AE is available.
  - (ii) **Automate ITM and Skills Framework verification:** The AI Agent shall verify that the selected Industry Transformation Map (ITM) (e.g., Cluster: Modern Services; Sector: Financial Services; Sub-sector: Financial Services) in the application form is

accurately referenced and exists within the Skills Framework for Financial Services (FS SFw).

(iii) **TSC and job role alignment:** The AI Agent shall:

- (1) Validate that the Technical Skills Competency (TSC) specified in the application exists in the FS SFw.
- (2) Confirm alignment between the TSC and the selected job role.
- (3) Verify that the course content aligns with the TSCs linked to the job role.

*Example:* Where Risk Managers have Trade Finance Management in their Skills Maps, and the course content aligns to Trade Finance Management, the mapping of the course to Risk Managers is valid.

(iv) **Automate course content suitability assessment:** The AI Agent shall assess whether:

- (1) course title accurately reflects the course coverage.
- (2) training content is relevant and contextualised to the Financial Services sector.
- (3) The content is relevant to the identified job role(s).

(v) **Knowledge and Abilities alignment:** Based on the TSC(s) declared by the TP, the AI Agent shall:

- (1) Identify content in the training and assessment materials that aligns with the Knowledge and Abilities statements of the specified TSC(s).
- (2) Provide reasoning for the mapping, supported by explicit evidence references.
- (3) Assess the degree of alignment of the courseware.

(vi) **Skills Competency Checklist verification:** The AI Agent shall be able to:

- (1) Use the mapping table (“Skills Competency Checklist”) submitted by the TP to verify mapping
- (2) Provide justification for validity or invalidity, with references to explicit evidence in the courseware.

(vii) **Gap analysis and reporting:** Following mapping and alignment evaluation, the AI Agent shall generate a gap analysis document detailing issues for TP follow-up.

(viii) **Questions generation:** The AI Agent shall generate relevant, contextual questions based on the submission of the application documents for the purpose of assisting the PO to query the TP with the set of questions.

c) **Continuous Review and Improvement:**

- i) **Presentation:** The AI Agent shall present the accreditation review outcomes specified in 5.3(a) and (b) in a user-friendly format for review by POs and AOs.
- ii) **Correction:** The AI Agent shall provide an avenue for the PO/AO to counter-propose review outcomes, and the AI Agent shall make the corresponding amendments to the email to TP and/or internal review checklist, where applicable.
- iii) **Performance Tracking:** The AI Agent shall keep a log of activities, including the interaction between the AI Agent and PO/AO specified in 5.3(c)(ii), which shall be used to review or enhance the performance of the system.
- iv) **Audit Trail:** The log of activities shall be downloadable in csv format that facilitates further data analysis or auditing.

## 5.4 NON-FUNCTIONAL REQUIREMENTS

a) **AI Agents & Large Language Models (LLMs):**

- (i) The AI Agents in the platform shall leverage on world-renowned LLMs in the market that possess advanced reasoning capabilities and should have auto-switch capability between the LLMs that is tailored for the different scenarios or processes to yield the best outcome.



- (ii) Vendor shall justify their choice of foundational/base LLMs, considering factors such as accuracy, ability to fine-tune/customize, privacy, latency, inference efficiency, and SOC2/Enterprise SLAs. The approach to model optimization for cost and latency should be detailed.
- (iii) Vendor shall detail the use of model training and adaptation techniques such as Retrieval Augmented Generation (RAG), Fine-tuning, Zero-Shot Learning, and Few-Shot Learning.
- (iv) Vendor shall detail the implementation of memory systems for the AI Agents, distinguishing between short-term (instruction/conversation context) and long-term (knowledge base, vector database) memory, and potentially incorporating knowledge graphs for episodic memory and finite state machines for procedural memory.
- (v) The LLMs shall support multi-modality.

**b) Cloud Hosting & Data Residency:**

- (i) The proposed license or service model must include cloud hosting services.
- (ii) PDPA Compliant: The solution must ensure personal data does not leave Singapore and is data-resident in Singapore.
- (iii) For LLMs or other components not physically residing in Singapore, the vendor must provide the exact geographical location (with physical address) and share the reason for selection.
- (iv) The AI Agents and their associated data will eventually need to be hosted/transited over to IBF cloud (AWS) at a later phase and Vendor will need to account for this effort and costing in their proposal.
- (v) Vendor shall detail the proposed deployment infrastructure that is fully cloud-based with a clear strategy for managing any base LLM models API usage fees and optimizing inference costs. The strategies for load balancing, performance optimization (caching, async processing), monitoring, and health checks are required.
- (vi) Vendor shall provide the development environment, including necessary tools and dependencies (e.g., Python, language model providers, vector databases for memory).

**c) Integration Capabilities:**

- (i) Vendor shall describe how tools (internal and external APIs, databases, web services, application services) will be integrated to extend the AI Agents capabilities:
  - Ability to download application forms and supporting documents from the SSG-TPG system (GSIB machine).
  - Ability to do web search for sussing out data and information outside of IBF's intranet.
  - Ability to interact with IBF machines or data pipelines for ingestion and processing activities.
  - Ability to integrate with Outlook Mail for automated email communications to TPs.

**d) User Experience (UI/UX):**

- (i) The UI/UX and prompt design and tuning for the AI Agents must be user-friendly, intuitive, and easy-to-navigate.



e) **Scalability:** The AI Agents architecture must be scalable to handle increasing volumes of applications and adapt to future demands, dynamically expanding or contracting capacity with workload.

f) **Vendor and Product Performance:**

- (i) The vendor is responsible for the accuracy and performance of the AI Agents.
- (ii) The solution must demonstrate high precision and contextual relevance in its outputs.
- (iii) Response times should be optimized, aiming for rapid processing to meet the reduced TAT goal. This includes strategies for low-latency inference.
- (iv) The solution must demonstrably contribute to achieving the target (TAT) turnaround time of within 2 months for the accreditation process.

g) **Best-of-breed traditional Machine Learning (ML) and Large Language Models (LLMs) or Small Language Models:**

- (i) The AI Agents can leverage on best of breed traditional MLs and LLMs/SMLs for the solution design, implementation and maintenance, where Vendor find it suitable and effective to employ for optimum gains.
- (ii) The data models shall be regularly updated with new fresh data, files and information.
- (iii) By analysing the data, the AI Agents shall learn to adapt, respond and act effectively over time.

## 5.5 SECURITY AND COMPLIANCE REQUIREMENTS

- a) **PDPA Compliance:** Strict adherence to Singapore's Personal Data Protection Act (PDPA) is mandatory. This includes ensuring personal data does not leave Singapore and is data-resident in Singapore and implementing necessary safeguards to protect confidential data at all costs within the hosting environment.
- b) **Data Protection:** Implement robust measures against memory poisoning, tool misuse, and privilege escalation. There must be strong encryption for the files uploaded and other information from the TPs.
- c) **LLM Masking:** Implement LLM Masking to mask/hide sensitive Personally Identifiable PII like NRIC/FIN No./Passport No. and Personal Name, etc. before sending text to LLM models, and then reintroduces the original data afterward for backward reference. This will prevent PII from being exposed to 3<sup>rd</sup> party services LLM services and minimise the chance of data breaches or unauthorised access to sensitive information. This will also ensure privacy, security and compliance with data protection laws like PDPA, GDPR, HIPAA and CCPA.
- d) **Input Validation and Sanitization:** Implement rigorous input validation and sanitization to prevent malicious injections.
- e) **Access Control:** Implement fine-grained access controls, including role-based access control (RBAC) and dedicated service accounts with minimal permissions. Ensure authentication and authorization mechanisms are in place for communication among agentic and procedural systems.

- f) **Rate Limiting**: Implement rate limiting to prevent misuse or large volume attacks.
- g) **Zero-Trust Architecture**: Adhere to zero-trust principles, verifying every request, applying least privilege access, continuous monitoring, and dynamic access control.
- h) **Prompt Engineering for Security**: Design system prompts to resist manipulation and ensure agents adhere to their allowed capabilities.
- i) **Continuous Monitoring and Logging**: Implement comprehensive monitoring and logging for auditability and proactive issue detection. This might entail integration with IBF's SIEM (Proficio) if Vendor proposed a specific Cloud tenancy for IBF.
- j) **Incident Response**: Outline a plan for detecting, containing, investigating, recovering from, and learning from security incidents.
- k) **Ethical AI Safeguards**: Integrate ethical considerations to prevent biases, promote fairness, and ensure accountability. Human-in-the-loop oversight is a critical safeguard and to also prevent hallucination.

## 5.6 GOVERNANCE AND OVERSIGHT

- a) **Transparency**: Vendor shall be transparent about the AI Agents' tools, technology, frameworks, capabilities and constraints. Vendor shall disclose the mechanism of the AI Agents' workings and the data they are trained on while protecting IBF's intellectual property.
- b) **Accountability**: Vendor shall be accountable for the development and operation of the AI Agents and take steps to ensure that the AI Agents are used in a safe and responsible manner.
- c) **Alignment with Values**: The AI Agents shall be governed by a set of well-defined values that promote safety, fairness, transparency and accountability. These values will be aligned with the principles of artificial intelligence ethics and responsible development. Vendor shall also take reference and use AI Verify's evaluation toolkits and governance testing framework, <https://aiverifyfoundation.sg/#>, and present their findings to IBF, where applicable.
- d) **Human Oversight**: The AI Agents shall be subject to human oversight to ensure they are used appropriately and in accordance with the values and guidelines as set out in para 5.6c.
- e) **Data Security**: Vendor shall implement appropriate security measures to protect user data from unauthorised access, disclosure, alteration, or destruction. The system shall allow secured deletion of user data and related application information by IBF.
- f) **Privacy**: Vendor shall respect user privacy and comply with all applicable data privacy laws and regulations. Users will have control over their data and how it is used.
- g) **Misuse Prevention**: Vendor shall take steps to prevent the AI Agents from being used for malicious purposes, such as spreading misinformation or propaganda.

- h) **Vulnerability Management**: Vendor shall have a process in place to identify, assess, and address vulnerabilities in AI Agents.
- i) **Incident Response**: Vendor shall have a plan in place to respond to security incidents involving the AI Agents.
- j) **Continuous Improvement**: Vendor shall be committed to continuously improving the governance and security of the AI Agents and regularly review and update guidelines as necessary.
- k) **Bias and Fairness**: Vendor shall take steps to mitigate bias in the AI Agents' evaluation and responses.
- l) **Explainability**: Vendor shall ensure AI Agents' cognitive thinking and reasoning capabilities are easily understandable e.g. demonstrating Chain of Thought, or Tree of Thought.
- m) The platform shall be protected against all known security vulnerabilities inclusive of OWASP (Open Web Application Security Project) Top 10 web application security risks. System and Organization Controls Report (preferably SOC 2 Type 2 certification) and Outsourced Service Provider Audit Report (OSPAR) will have to be attached together with this submission.
- n) Vulnerability and Penetration testing (VAPT) conducted at least once a year with vulnerabilities remediated within reasonable timeframe and report to be submitted to IBF. For avoidance of doubt, VAPT report have to be submitted and accepted by IBF that all vulnerabilities are remediated prior to go-live of the system.
- i) All data transmissions such as data-in-use, data-in-transit and data-at-rest shall be encrypted.

## 5.7 CHANGE MANAGEMENT

- a) Identify all relevant stakeholders impacted by the AI Agents implementation, including but not limited to:
  - (i) Staff (potential users e.g. Standards and Accreditation division)
  - (ii) Management (sponsors for the project)
  - (iii) IT department (responsible for integration and maintenance)
- b) Vendor shall educate IBF users (POs and AOs) about the AI Agents' capabilities and limitations.
- c) Vendor shall develop and execute comprehensive change management strategies and plans to ensure successful adoption of the AI Agents amongst users within IBF.
- d) Vendor shall plan and coordinate communication efforts targeted at the different user profiles or roles to ensure users are sufficiently aware of the AI Agents' purpose,

functionalities and benefits and build their desire towards supporting the change for the better. Vendor shall engage the different stakeholders including management to understand their concerns towards the change and ensure decentralised change messaging is coherent throughout.

- e) Vendor shall have a good grasp of the change impact within the business domain and ensure that domain owners are adequately informed of scenarios where high change impact or risks are present so that appropriate risk mitigation measures can be taken.
- f) Vendor shall work and collaborate with IBF-hired change management practitioner(s), if necessary, to ensure alignment with IBF's overall master change strategy.
- g) Vendor shall monitor the progress of change initiatives, evaluate their effectiveness, and report on outcomes to IBF management and make adjustments as needed. Vendor shall seek and identify leading best practices for change management.
- h) Vendor shall design and conduct training sessions for users to familiarise them with the AI Agents and support users in transiting into the new system / features.
- i) Vendor shall develop a knowledge base with FAQs and troubleshooting guides for both users and support staff.

## **5.8 USER GUIDE**

- a) The vendor shall provide a comprehensive user guide for the AI Agents designed for internal users, written in clear and concise language understandable by a general audience with no specific technical knowledge.
- b) The user guide should be readily available and accessible through a dedicated "Help" or "FAQ" section. Additionally, a downloadable version of the user guide should be offered in various formats (e.g., PDF, HTML) on the platform where the AI Agents are deployed and hosted.

## **5.9 CLIENT ENVIRONMENT MIGRATION**

- a) When the AI Agents are to be migrated to IBF cloud environment, Vendor shall work with IBF in the planning and execution, and to ensure that appropriate security measures and governance processes are in place. This may include collaboration on data security practices, user access controls, and incident response protocols. All IBF data will be migrated over with proper testing and acceptance, and data measures to completely remove data from vendor's cloud will take place at no additional cost to IBF with formal certification as evidence that all IBF and user data are securely wiped out.
- b) The Vendor shall work with IBF and its appointed IT system vendor(s) to ensure seamless transition between the platform and the respective system(s) and all migrated data are to be fully verified with report submitted to IBF for acceptance.

## **5.10 SYSTEM INTEGRATION**

- a) The platform shall allow easy insert/configure hyperlink(s) to existing IBF intranet portal or any other websites that IBF deemed necessary.

## **5.11 OTHER CONSIDERATIONS**

- a) The User Interface (UI/UX) of the end-user/developer workbench or integrated developer environment (IDE) and prompt design and tuning must be user-friendly, intuitive, and easy-to-navigate for IBF officers. No-code or low-code platform is highly preferred.

## **6. SCOPE OF WORK**

The scope of service required shall include:

### **6.1 REQUIREMENTS GATHERING**

- a) To ensure the AI Agents effectively meets the needs of its target audience and IBF's objectives, a thorough business user requirement gathering process will be conducted. This process will involve engaging with various stakeholders to gather their input and expectations. Stakeholders include but not limited to:
  - (i) IBF Management
  - (ii) IBF related business units e.g. Standards, Accreditation & Certification (SAC) team
- b) A combination of physical and virtual interviews will be conducted with IBF staff and target users to gather the information needs, features and desired functionalities. Usability study and testing will be conducted to allow evaluation and improvement of the AI Agents' user interface and overall experience.
- c) Expected outcomes:
  - (i) A clear understanding of user needs and expectations for the AI Agents.
  - (ii) A comprehensive list of requirements and functionalities for the AI Agents.
  - (iii) User-centric design principles incorporated into the AI Agents development process.
  - (iv) Measurable success metrics to evaluate and track the AI Agents' performance, accuracy and precision, and user satisfaction.
- d) Following the business user requirement gathering process (Agile project methodology to be adopted), the collected information will be analysed and used to:
  - (i) Develop a detailed project scope document outlining the AI Agents' functionalities and features.
  - (ii) Prioritise requirements based on user needs and IBF's objectives.

- (iii) Establish clear communication channels for ongoing user feedback and continuous improvement of the AI Agents.

## 6.2 SOLUTION DESIGN AND ARCHITECTURE

- a) **Agent Architecture Design:** To illustrate the complete AI Agent architecture, clearly identifying the Language Model, Tools & APIs, and Instructions components and how they interact.
- b) **Multi-Agent Strategy:** If proposing a multi-agent system, clearly define the roles of each AI Agent, their communication protocols (e.g., A2A, MCP), and the orchestration mechanism (e.g., Manager-Agent, Decentralized).
- c) **LLM Integration:** Specify the LLM(s) intended for use, along with justification based on performance, cost, and compliance. Describe strategies for prompt/context engineering, few-shot learning, and RAG implementation.
- d) **Tool Ecosystem:** Enumerate all external tools, APIs, and databases that will be integrated, detailing their purpose and how the agent will interact with them. This includes plans for web search, file search, and email notifications.
- e) **Memory Management Strategy:** Explain how different types of memory (conversational, semantic, episodic, procedural) will be managed, including the use of vector databases, knowledge graphs, or other mechanisms.
- f) **Data Flow and Processing:** Describe the end-to-end data flow, from ingestion of application documents to the generation of assessment recommendations and reports. Highlight data processing and feature engineering tools.
- g) **Development and Deployment Pipeline:** Outline the CI/CD pipeline, testing methodologies (e.g., unit testing, integration testing, eval-driven testing), and performance optimization techniques.
- h) **Sustainability and Future-Proofing:** Describe how the solution will remain adaptable to evolving AI technologies and regulatory landscapes.

## 6.3 IMPLEMENTATION

- a) Design, train, and validate the AI Agents using robust industry metrics for all AI Agents, such as contextual accuracy and precision.
- b) Develop and implement contextual/prompt engineering, and fine-tuning techniques for accuracy and precision.

## 6.4 DELIVERABLES

- a) Fully functional AI Agents for IBF staff use by the end of the 2 months from the date of award of project.
- b) Well-designed user interface and anonymised training data, if applicable.

- c) Administrative dashboard for monitoring and managing AI Agents performance, including data security logs.
- d) Documentation of the AI Agents architecture, deployment procedures, and user guidelines.
- e) Documentation outlining the migration process from the vendor's cloud to IBF cloud which will take place at a later date.

## **6.5 ONGOING SUPPORT**

- a) The vendor will propose a fixed cost for the development phase.
- b) A subscription model will cover hosting, model access, and ongoing maintenance for the AI Agents.

## **6.6 TIMELINE**

- a) Non-negotiable launch date for the AI Agents for Accreditation: by end of the 2<sup>nd</sup> month from the date of award of project (2 months). The overall project timeline is 6 months with the remaining 4 months for pilot run. If successful, the project will move to production phase for another 12 months.

## **6.7 VENDOR RESPONSIBILITIES**

- a) Develop, deploy, and maintain the AI Agents as per the specified functional and technical requirements.
- b) Ensure the accuracy, reliability, and performance of the AI agent.
- c) Adhere strictly to all data residency, security, and PDPA compliance requirements.
- d) Provide ongoing support and maintenance for the AI Agents.
- e) Provide all necessary licenses, hosting, and integration components.
- f) Provide comprehensive documentation, training, and ongoing technical support throughout the contract period.

## **6.8 PLATFORM CONFIGURATION, SIT and UAT**

- a) Vendor shall set up the platform for User Acceptance Testing (UAT) or System Integration Testing (SIT) based on the above approved requirements. UAT briefing shall be conducted to IBF users and test scripts shall be accepted by IBF users prior to commencement of UAT. Test scripts shall be provided by the Vendor.
- b) Vendor shall cater for adjustments based on UAT/SIT. Where required, perform data migration or establish data pipeline and the implementation of relevant APIs / HTTPS links from IBF's systems or processes.



- c) Vendor shall present proposed platform configuration and functionalities, and system integration for both PROD and UAT environments.
- d) Vendor shall provide testing, deployment, and cutover plans based on implementation strategy and adhere to IBF guidelines and policies to seek review and approval.

## **6.9 DEPLOYMENT AND TRAINING FOR STAFF**

- a) Upon successful UAT and acceptance by IBF, vendor shall deploy IBF's requirements in PROD upon seeking necessary approval(s). During PROD deployment, vendor shall ensure the site is operational and accessible to all IBF staff and its partners.
- b) Vendor shall provide training to IBF staff on the usage of the AI Agents. The training shall also include a presentation to IBF management and staff.
- c) Vendor shall provide user guide on the usage of the platform and change communications plan and management.

## **6.10 CONTRACT DURATION**

- a) The initial contract period is SIX (6) calendar months (hereinafter referred to as the "Initial Contract Period") with a provision to extend for another TWELVE (12) months on the condition that the outcome of the first SIX (6) months pilot run is successful (pls refer to Para 20 for the Exit Clause).
- b) Vendor shall provide quotes for service support charged on an annual basis or equivalent man hours.
- c) Vendor shall provide quotes for change request on platform configurations charged on equivalent man hours.

## **7. SYSTEM REQUIREMENTS**

### **7.1 ESTIMATE VOLUME OF TRANSACTIONS WITH THE AI AGENTS**

- a) The estimated number of transactions/applications to be catered for the AI Agents estimated based on mean return rate of applications to Training Provider of 2, is as follows:
  - (i) Low Range: less than 15 transactions per week
  - (ii) Mid-Range: 30 transactions per week
  - (iii) High Range: 45+ transactions per week
- b) It is crucial to note that this is just an estimate. The actual transaction volume may be higher or lower.

### **7.2 SECURITY MEASURES**

- a) Vendor shall submit a report to IBF with satisfactory results and accepted by IBF before the launch of the platform, and thereafter on a yearly basis:
  - To provide the latest report on the Vulnerability Assessment and Penetration Testing (VAPT) performed by an independent CREST-certified party conducted on the platform; and
  - To diligently rectify any identified security gaps that comes to IBF's attention.
- b) Vendor shall ensure the platform hosting services meet all industry security requirements.
- c) Vendor shall ensure the data security fulfils PDPA requirements.
- d) Vendor shall provide SOC 2 compliance of their hosting environment, especially Type 2 reporting, demonstrating a dedication to data protection.

### 7.3 DATA GOVERNANCE

- a) IBF shall have full ownership of all transacted data, documents and reference materials on the platform, and any data used throughout the project. All data disclosure to third parties, data retention and disposal by Vendor shall be subjected to IBF's approval and compliance.
- b) Vendor shall ensure that the data is protected against loss, corruption, unauthorised access, use, amendments etc. and only authorised staff has access to the data in both UAT and PROD environments. All data migration must be approved by IBF.
- c) Vendor shall comply with all its obligations under the PDPA at its own cost.
- d) The Vendor shall only process, use or disclose IBF's Training Providers' Personal Data:
  - strictly for the purposes [of fulfilling its obligations and providing the services required] under this Agreement;
  - with IBF's prior written consent; or
  - when required by law or an order of court but shall notify IBF as soon as practicable before complying with such law or order of court at its own costs.
- e) The Vendor shall not transfer IBF's Training Providers' Personal Data to a place outside Singapore without IBF's prior written consent. [If IBF provides consent, the Vendor shall provide a written undertaking to IBF that the Training Providers' Personal Data transferred outside Singapore will be protected at a standard that is comparable to that under the PDPA. If the Vendor transfers the Training Providers' Personal Data to any third party overseas, the Vendor shall procure the same written undertaking from such third party].
- f) The Vendor shall protect IBF's Training Providers' Personal Data in the Vendor's control or possession by making reasonable security arrangements (including, where appropriate, physical, administrative, procedural and information & communications technology measures) to prevent:

- unauthorised or accidental access, collection, use, disclosure, copying, modification, disposal or destruction of the Training Providers' Personal Data, or other similar risks; and
  - the loss of any storage medium or device on which personal data is stored.
- g) The Vendor shall only permit its authorised personnel to access IBF's Training Providers' Personal Data on a need-to-know basis and access logs shall be furnished to IBF upon request.
- h) The Vendor shall provide IBF with access to the Training Providers' Personal Data that the Vendor has in its possession or control, as soon as practicable upon IBF's written request.
- i) Where IBF provides its Training Providers' Personal Data to the Vendor, IBF shall make reasonable effort to ensure that the Training Providers' Personal Data is accurate and complete before providing the same to the Vendor. The Vendor shall put in place adequate measures to ensure that the Training Providers' Personal Data in its possession or control remain or is otherwise accurate and complete. In any case, the Vendor shall take steps to correct any errors in the Training Providers' Personal Data, as soon as practicable upon the IBF's written request.
- j) The Vendor shall not retain IBF's Training Providers' Personal Data (or any documents or records containing the Training Providers' Personal Data, electronic or otherwise) for any period of time longer than is necessary to serve the purposes of this RFP.
- k) The Vendor shall also facilitate IBF to comply with the obligation in Clause 7.3j to review and maintaining of the Training Provider's Personal Data database.
- l) The Vendor shall, upon the request of IBF:
- return to IBF, all of the Training Providers' Personal Data; or
  - delete all the Training Providers' Personal Data in its possession,
- and after returning or deleting all of the Training Providers' Personal Data, provide IBF with written confirmation that it no longer possesses any of the Training Providers' Personal Data. Where applicable, the Vendor shall also instruct all third parties to whom it has disclosed the Training Providers' Personal Data for the purposes of this Contract to return to the Vendor or delete the Training Providers' Personal Data.
- m) The Vendor shall immediately notify IBF with established communication channels e.g. email, phone calls, messaging apps without undue delay when the Vendor becomes aware of a breach of any of its obligations in Clauses [7.3d to 7.3l] or believe that a data breach has occurred in relation to personal data that the Vendor is processing on behalf of and for the purposes of another organisation.
- n) Vendor shall sign the Non-Disclosure and Undertaking Agreement (NDA) not to access, use, share, divulge or retain data unless this is required by the Vendor's staff in discharging their duties during their employment. The NDA is binding even if the staff has resigned or is transferred to another project team or after the termination or expiry of the Contract. Non-compliance could result in legal action being taken against the Vendor by IBF and/or referred to relevant authorities.

#### 7.4 AVAILABILITY

The platform shall be available on a twenty-four (24) hours per day, seven (7) days per week, three hundred and sixty-five (365) days per year basis (24 X 7 X 365) except for scheduled routine system maintenance or downtime in which IBF is to be notified at least one (1) week in advance to inform users.

The support hours for the platform are from Singapore Time 9.00 am to 6.00 pm from Mondays to Fridays (excluding public holidays in Singapore).

#### 7.5 SERVICE LEVEL AGREEMENT

The following Service Level Agreement shall be adhered to at all times with off-site Support that provides post-incident reports for Critical and High severity types:

Severity Type	Description	Response Time (hrs)	Resolution Time (hrs)
Critical	System is inoperable. There is a major system component failure that will incur operation/security risks if the system continues to operate.	4	48
High	System operations degraded. A minor component is inoperable but will not incur any operation/security risks if the system continues to operate.	8	96
Medium	Medium impact on system operations.	16	192
Low	No to low impact on system operations	32	384

#### 7.6 TECHNICAL AND USER SUPPORT REQUIREMENTS

Vendor shall provide technical and user support (preferably local based) via phone and email/ticket hotline support for the platform conforming to all IBF business hours (Monday to Friday, 9am to 6pm Singapore time). For all issues reported by the users or by IBF, Vendor shall adhere to response time as prescribed by IBF. An issue or incident is deemed resolved when the reporting party is notified and satisfied with the resolution steps taken by the Vendor.

#### 7.7 HOSTING, BACK-UP AND DISASTER RECOVERY

- a) Vendor shall provide a platform where data is hosted only in Singapore and shall ensure high availability with redundancy. The platform shall have robust access controls to ensure that unauthorised personnel cannot access IBF data. All access shall be logged and recorded to be kept for at least one (1) year and provided to IBF upon request.
- b) The platform shall have in place rigorous processes and mechanisms to manage operational disruptions.
- c) The Vendor shall ensure that the platform has data backup and recovery procedures that are sufficiently robust. Where the platform failure results in a probable loss or damage of the data, the Vendor shall be responsible for the recovery of any lost data from the last back-up, the restoration and repair of any damaged data and the correction of any erroneous data to the extent possible, within twenty-four (24) hours from the point which the platform failure occurs.
- d) The platform shall have optimal performance and speed to minimise operational impact to users.
- e) The platform hosting and off-site backup shall as much adhere to IBF security requirements, and the Vendor shall ensure that the data resides in Singapore only.

## 8. PROJECT DELIVERABLES & SCHEDULE

- 8.1 The Vendor shall complete the project deliverables based on the stipulated phased implementation timeline unless otherwise instructed by IBF:

Project Deliverables – Accreditation AI Agents (to be deployed by the end of the 1st 2 months from the date of award of project)	Timeline
<b>Stage 1 – Gathering of User Requirements</b>	
<ol style="list-style-type: none"> <li>1. User requirements gathering</li> <li>2. Develop a detailed project scope document outlining the AI Agents' functionalities and features.</li> <li>3. Prioritize requirements based on user needs and IBF's objectives.</li> <li>4. Gather user feedback that provides impetus to the continuous improvement of the AI Agents.</li> </ol>	2 weeks
<b>Stage 2 – Set-up, Design, Development, SIT and UAT</b>	
<ol style="list-style-type: none"> <li>1. Set-up of secured Cloud hosting environment and services</li> <li>2. Design, develop and orchestrate the AI Agents by building the user interface, data pipeline, frameworks, tools use and integration, knowledge base, retrieval and memory management, etc.</li> <li>3. Evaluation, logging and fine-tuning</li> <li>4. Conduct SIT</li> <li>5. Conduct UAT</li> </ol>	4 weeks

6. Monitoring and governance 7. Presentation(s) and demonstration(s) of proposed solution to IBF management and team leads for endorsement	
<b>Stage 3 – VAPT and Remediation</b>	
1. Conduct VAPT and Remediation	1 week
<b>Stage 4 – Production Deployment</b>	
1. Production deployment of the AI Agents	1 week
<b>Stage 5 – Staff Training and User Guide</b>	
1. Preparation and confirmation of User Guide 2. User training 3. Change communications plan	3 days

## 9. EVALUATION CRITERIA

9.1 The following are the criteria used for the evaluation of all proposals received by IBF for this RFP and its weightage (%):

S/N	Evaluation Criteria	Weightage
1	Quality of Proposal and Solution Presentation	70%
	• Ability to provide a proposal that fulfils IBF's project objectives and scope of services	15%
	• Product features and functionalities, data security, access controls and integration capabilities	15%
	• Ability to meet project timeline	20%
	• Vendor's experience and track record	10%
	• Solution presentation (based on any given use case)	10%
3	Price Competitiveness	30%

9.2 IBF may evaluate based on the proposals submitted by Vendors and any other information provided by Vendors at the request of IBF, pursuant to the proposal submission.

9.3 As part of the evaluation process, shortlisted Vendors will be required to make a presentation of the proposal to IBF.

9.4 In the event that IBF seeks clarification upon any aspect of the proposal, the Vendor shall provide full and comprehensive responses within three (3) working days of notification.

## 10. BRIEFING

10.1 Companies that are interested to bid for this project will be invited to attend a mandatory briefing session. Please email [procurement@ibf.org.sg](mailto:procurement@ibf.org.sg) to indicate interest **no later than 8 Oct 2025, 12PM**. The interested Vendor may submit a list of questions for clarification during the briefing.

10.2 The briefing session will be held on **10 Oct 2025 from 11AM-12PM** via web conferencing and meeting details will be sent upon receipt of interest. Vendors shall indicate the number of people attending the briefing, their names, designations and contact details to receive the web conferencing invite.

## 11. SUBMISSION DETAILS

11.1 All Vendors are required to complete the attached form “Provision of Professional Services, Cloud Hosting Subscription for the Implementation, Operations Support and Maintenance Service of AI Agents for Transformation of IBF Training Programme Accreditation” in Annex A.

11.2 One (1) soft copy submission (PDF format) of the proposal shall reach IBF **no later than 24 Oct, 2025, 5PM**, Singapore time. All proposals must be clearly marked as “**Proposal – AI Agents for Transformation of IBF Training Programme Accreditation**” (RFP.TDT.2025.0006)” and addressed to:

**The Institute of Banking & Finance**

10 Shenton Way

#13-07/08 MAS Building

Singapore 079117

Email: [procurement@ibf.org.sg](mailto:procurement@ibf.org.sg)

11.3 The IBF reserves the right not to accept late submissions.

11.4 Proposed fees:

- i. Provide quotations for fees using the ‘**Proposal Template**’ under **Annex A**.
- ii. Fees quoted shall be in Singapore Dollars only and exclude GST. All fees quoted shall be final.

11.5 The IBF reserves the right to cancel, or modify in any form, this RFP for any reason, without any liability to IBF.

11.6 All proposals submitted will remain confidential.

## 12. SECURITY CLEARANCE

12.1 The Vendor shall subject all their personnel who will be involved in the performance of the Services to security clearance by IBF before commencing their work. IBF reserves the right to reject any of the Vendor’s personnel and the Vendor is responsible for finding replacements immediately and at the Vendor’s own expense.

12.2 The Vendor shall observe the secure usage and handling of all IBF’s information. All the



Vendor's personnel shall sign an Undertaking to Safeguard Official Information to protect IBF's information against unauthorised disclosures by the Vendor's personnel during their work. The Vendor shall ensure that all its personnel and subcontractors are informed that failure to comply with the undertaking would be a criminal offence.

- 12.3 All the Vendor's personnel shall fully comply with any written instructions from IBF regarding security matters.

### 13. EXPENSES

- 13.1 The Vendor shall bear all out-of-pocket expenses incurred.
- 13.2 The Vendor shall explore and leverage any applicable government or industry funding grants to support the delivery of this project. IBF welcomes proposals that incorporate such funding, provided that all obligations, deliverables, and timelines under this RFP are fully met. Any reliance on external funding must be clearly disclosed in the proposal or bid, including details of the funding source, status of the application, and any conditions attached.
- 13.3 Withholding tax or taxes of any nature, if any, shall be borne by the successful Vendor.

### 14. PAYMENT

- 14.1 The Vendor shall propose a detailed cost breakdown for each of the phases, and itemise costs for gathering requirements, solution design, development, implementation, licensing (LLMs, tools), infrastructure (hosting, compute, data storage/processing), ongoing maintenance, support and training.

- 14.2 The Vendor shall clearly state the proposed pricing model (e.g., one-time setup and base platform/subscription model or usage-based model), considering IBF's preference for subscription-based model:

**(i) Base Platform/Subscription Fee:**

- Access to the underlying AI Agent framework/platform (e.g., LangChain, Vertex AI Agents, CrewAI, Agno), including any standard features and managed services.
- Base allocation for computing resources and infrastructure hosting (e.g., AWS, Azure, GCP, or IBF Cloud transition).

**(ii) Usage-Based Component (Variable Cost):**

- **LLM API Usage Fees:** Charged per token processed, per query, or per model call for renowned LLMs used by the agent. This is often the most challenging cost to control and can surge significantly with increased adoption.
- **Data Processing & Storage:** Cost per GB for storing application data, supporting documents, and agent memory (short-term and long-term), and per transaction/operation for data processing. This includes vector database operations for RAG or memory management.
- **Tool Usage Fees:** Costs associated with calls to external APIs or specialized tools (e.g., for plagiarism checks, advanced data extraction services).

- 14.3 The Vendor shall provide an estimate of the Total Cost of Ownership (TCO) over an 18-month contract period.
- 14.4 Cost Optimization Strategies: Detail strategies to optimise AI infrastructure costs, such as leveraging on open-source models, optimizing inference efficiency, or model distillation.
- 14.5 The Vendor shall bear any unforeseen cost overrun for deployment of AI Agents in the process of implementation and maintenance and shall watch-out for the following key cost influencing factors:
- (i) **LLM Inference Costs:** The cost of calls to large language models can be substantial and unpredictable, especially with high volumes of complex queries or large input/output sizes. A simple prompt with a less capable model might seem cheap initially, but if it requires more subsequent interactions or human review due to errors, the overall cost can increase.
  - (ii) **Data Quality Issues:** If the input documents (application forms, supporting docs) are of **poor quality, inconsistent, or highly varied**, the AI Agent may struggle to extract accurate information, leading to higher processing costs, more human intervention for QA, or errors. This can significantly impact the "accuracy and performance" guarantee. The Vendor shall inform IBF prior of any such data quality issues and provide mitigation measures where needed.
  - (iii) **Performance Optimization:** Neglecting performance upfront leads to user frustration and more re-work.
  - (iv) **Security Incidents:** A single security breach or compliance failure can result in significant financial penalties, reputational damage for IBF and costs associated with remediation, auditing, and legal fees.
  - (v) **Vendor Lock-in:** Becoming overly reliant on a single proprietary AI platform or LLM provider can limit flexibility and bargaining power, potentially leading to higher costs in the long run as technologies evolve or pricing changes. The Vendor shall prioritize solutions that support open standards where possible.
  - (vi) **Model Drift:** The performance of AI models can degrade over time as real-world data changes or new patterns emerge. This "model drift" necessitates continuous monitoring and re-training, adding to ongoing operational costs.
- The Vendor shall clearly delineate fixed versus variable costs, providing transparency on how usage and performance will directly influence the monthly or annual bill. This enables IBF to better manage expectations and optimize usage to control costs.
- 14.6 Payment schedule to be as follows:
- a) 30% of implementation cost to be paid upon start of project. IBF will then determine whether the project has been implemented for acceptance of each payment milestone/phases i.e. remaining 70% upon implementation of pilot run by the 6<sup>th</sup> month.

- b) The following 1-year production implementation and transition to IBF Cloud depending on the successful outcome of the 6-months pilot run will be an option-to-exercise by IBF, whereby IBF shall work out the payment schedule with the appointed Vendor.

## **15. CONFIDENTIALITY**

- 15.1 The Vendor shall ensure the absolute confidentiality of the data and information provided by IBF or any other organisation identified by IBF for this project and shall not, under any circumstances, release or communicate through any means, in whole or in part, any information to any third parties. All correspondence and communication with all external parties, pertaining to matters relating to this project, shall be made only through IBF.
- 15.2 IBF may require an unsuccessful Vendor to return all materials that IBF provided during the period from the issue of this RFP to the acceptance of the successful proposal.
- 15.3 The Vendor shall submit, together with their proposals, an undertaking to safeguard the confidentiality of all information revealed to them.

## **16. INDEMNITY AGAINST A THIRD PARTY**

- 16.1 The Vendor shall indemnify and hold harmless IBF and its partners and employees from and against any foreseeable loss, expense, damage or liabilities (or actions that may be asserted by any third party) that may result from any third party, claims arising out of or in connection with the project and will reimburse IBF for all costs and expenses (including legal fees) reasonably incurred by IBF in connection with any such action or claim.
- 16.2 The Vendor shall indemnify IBF and its officers, employees and agents, against all actions, claims, demands, losses, damages, statutory penalties, expenses and cost (including legal costs on an indemnity basis), in respect of: the Vendor's breach of Clauses (7.3d to 7.3l); or any act, omission or negligence of the Vendor or its subcontractor that causes or results in IBF being in breach of the PDPA.

## **17. ACCEPTANCE AND NON-ACCEPTANCE OF PROPOSAL**

- 17.1 IBF shall be under no obligation to accept the lowest or any proposal received. It generally does not correspond with any Vendor regarding the reasons for non-acceptance of a proposal.
- 17.2 IBF reserves the right to award the contract in parts or in full.
- 17.3 The issue of a Letter of Acceptance by IBF accepting the proposal or part of the proposal submitted by a Vendor shall create a binding contract on the part of the Vendor to supply the specified deliverables in the proposal to IBF.

## **18. TERMINATION**

- 18.1 IBF shall, after giving 7 days written notice to the Vendor, have the right to suspend or terminate this Contract if IBF is affected by any state of war, act of god or other circumstances seriously disrupting public safety, peace or good order of the Republic of Singapore. Neither party shall be liable to the other by reason of such suspension nor shall termination save that IBF pay the Vendor the price of the Goods or Services that

have been performed and accepted by IBF. The Vendor shall refund the balance of any payments or deposits made after deducting any outstanding sums owing by IBF to the Supplier by reason of this Clause 18.

- 18.2. In addition to any other rights to terminate this Contract or any rights to cancel parts of the Services under this Contract, IBF shall have the unilateral right to terminate this Contract without assigning any reasons whatsoever by giving the Vendor 30 days' written notice. For the avoidance of doubt, the Vendor shall not be entitled to any compensation or damages whatsoever in relation to such a termination. The Vendor shall only be entitled to payment for any Services provided and accepted up to the end of the 30-day notice period.
- 18.3 The Vendor shall have all of IBF's data and information completely disposed of (after a back-up copy is provided to) if the data or information are stored on a cloud platform in the event of termination or breach of contract. The Vendor shall provide a formal notice in writing to IBF upon the completion of the data disposal or destruction.

## **19. DELAY IN PERFORMANCE**

- 19.1 If there is delay in the performance of the Services or the supply of Goods due to any acts of God, force majeure, riots and civil commotion, strikes, lock-outs or other causes or perils beyond the Vendor's control, then in any such case the Vendor shall, for the duration of any such circumstances, be relieved of the obligation to perform the Services or supply the Goods thereby affected. Any part of the Services or Goods that are not so affected shall continue to be performed in accordance with this Contract.
- 19.2 Subject to Sub-Clause 19.1, if the Vendor fails to complete the performance of Services or supply of Goods by the date(s) specified in this Contract, IBF shall have the right –
- i. to cancel all or any part of such Services or Goods from this Contract without compensation to the Vendor and to obtain the same (including similar or equivalent goods and services in the case where the exact goods and services are not available) from other sources and all increased costs incurred shall be deducted from any moneys due or to become due to the Vendor or shall be recoverable as damages; or
  - ii. to deduct any moneys due or to become due to the Vendor or require the Vendor to pay a sum calculated at the rate of 0.5% of the Contract Price for each day of delay (including Sundays and Public Holidays), as liquidated damages until the delayed Services or Goods are fully performed or supplied; up to a maximum amount of liquidated damages equivalent to 10% of the Contract Price.
- 19.3 For the avoidance of doubt, if IBF opts to impose liquidated damage under Sub-Clause 19.2(ii) and regardless of whether the maximum amount of liquidated damages has been reached, IBF shall still be entitled to exercise:
- i. its rights under Sub-Clause 19.2(i); provided that the liquidated damages already imposed shall be offset against any increased costs recoverable under Sub-Clause 19.2(i); and

ii. any rights to terminate this Contract; provided that the liquidated damages already imposed shall be offset against any increased costs recoverable under the clauses allowing for termination.

## **20. EXIT CLAUSE**

20.1 The parties acknowledge that this is a pilot project designed to test new, emerging technologies and processes and as such may be discontinued by either party, their estate, authorized representatives and/or assigns prior to the end of the term(s) specified in Clause 6.10 provided thirty (30) days' notice is delivered to the other party in writing. Following delivery of notice, the parties will be free of all legal responsibilities under this contract beyond the notice period and shall have no claim for damages howsoever caused. For the avoidance of doubt, the Vendor shall not be entitled to any compensation or damages whatsoever in relation to such a project exit. The Vendor shall only be entitled to payment for any Services provided and accepted up to the end of the 30-day notice period.

## **21. SUB-CONTRACTING AND ASSIGNING**

21.1 The Contractor shall not sub-contract or assign the whole or any part of this Contract without the written consent of IBF. The Contractor shall be fully responsible for all acts or omissions of any sub-contractors or assignees and the acts or omissions of any such third parties shall be deemed to be the acts or omissions of the Contractor.

## **22. THIRD PARTY MANAGEMENT**

### **22.1 ONBOARDING**

a) The Vendor shall seek IBF's approval before sub-contracting/licensing any scope of work in this Contract to its Third Party Suppliers. The Vendor shall ensure that its Third Party Suppliers comply with IBF's policies, adhere to Singapore's PDPA or has comparable standards of data protection such as the UK GDPR and/or the EU GDPR especially if they are outside of Singapore. This applies to all the data collected/stored/processed by the Third Party Supplier. All costs and expenses relating to the engagement of its Third Party Suppliers shall be borne by the Vendor.

b) The Vendor shall provide and disclose details of its Third Party Suppliers (including any sub-contractors) involved in the delivery of the assigned work including collection, access, storage, usage, disclosure or disposal of data, when requested by IBF.

c) The Vendor shall provide IBF with visibility of the back-to-back agreements established between the Vendor and its Third Party Suppliers that IBF assesses to be critical for the delivery of the assigned work. This is to ensure that the provisions in the back-to-back agreements for the service levels, obligations and requirements are aligned to the requirements stipulated in this Contract.

### **22.2 DATA PROTECTION REQUIREMENTS AND PROCEDURES**

a) Data Masking

i) The Vendor shall mask/de-identify personal data that could potentially be used outside of Singapore by the Third Party Supplier.

b) Data Protection Trustmark Certification

i) The Vendor is highly recommended to be certified with the Data Protection Trustmark (“DPTM”) to demonstrate that the Vendor’s accountable data protection practices are in compliance with the Personal Data Protection Act.

ii) If the Vendor has DPTM, it shall submit evidence of such certification at the time of the tender submission.

iii) Where the Vendor is not able to furnish such evidence at the time of the tender submission, and is eventually awarded the Contract, the awarded Tenderer is encouraged to obtain the DPTM certification within a period to be determined by IBF.

## **23. GOVERNMENT REGULATIONS**

23.1 The Vendor shall, at its own costs, obtain and maintain all licenses, permits, authorizations or certifications required without any restrictions or qualifications whatsoever so as to enable the Vendor to fulfil all its obligations under the Contract.

## **24. NOTIFICATION OF UNSUCCESSFUL BID**

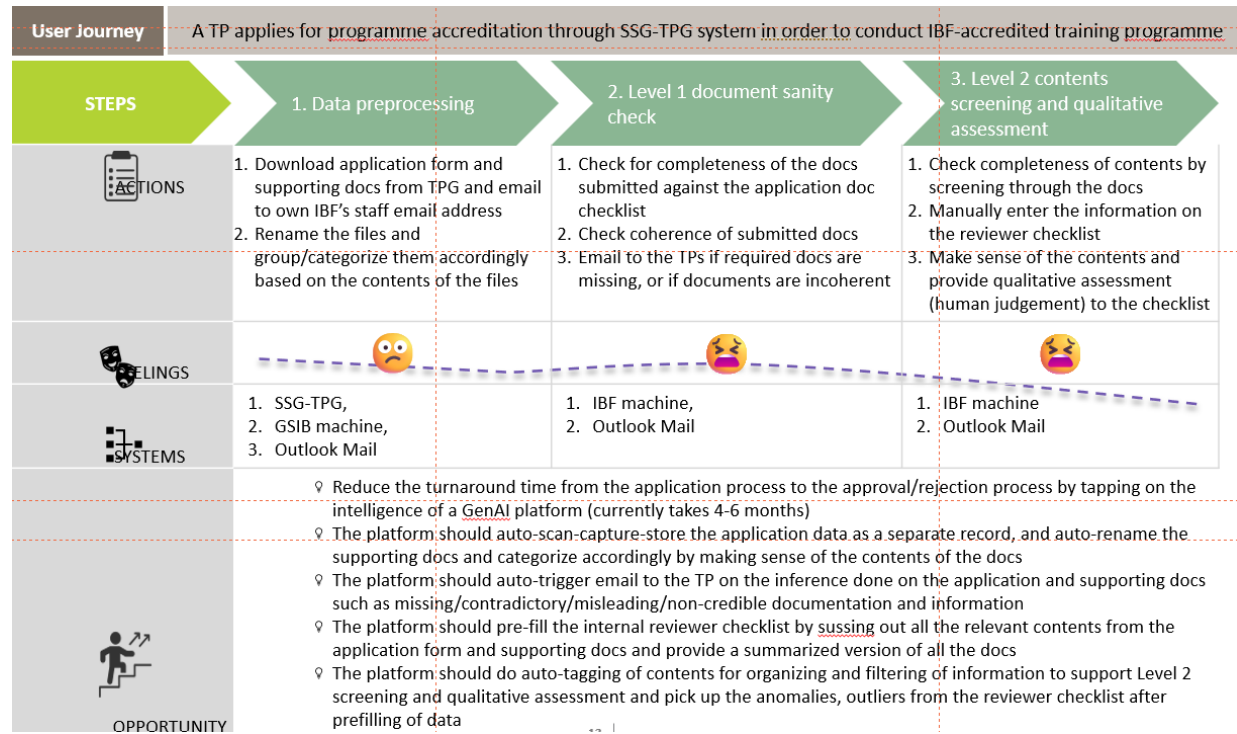
24.1 Notification will not be sent to unsuccessful Vendors by IBF.

## **25. ENQUIRIES**

25.1 All enquiries pertaining to this RFP may be addressed to:

<p>Gunalan Marimuthoo (Mr) Senior Manager, Digital Transformation</p> <p>Email: <a href="mailto:gunalan@ibf.org.sg">gunalan@ibf.org.sg</a></p>	<p>Alan Tan (Mr) Senior Manager, Digital Transformation</p> <p>Email: <a href="mailto:alan@ibf.org.sg">alan@ibf.org.sg</a></p>
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## APPENDIX 1 – USER JOURNEY AND STORIES



User Story	User Story Details	Discussion Points
User Story 1	IBF officer downloads the application form and supporting documents submitted by the Training Providers (TPs) from the SSG-Training Partner Gateway (TPG) in GSIB machine and self-attach and email the documents to IBF staff officer's email address for data pre-processing activity in IBF's working laptop	
User Story 2	<p>IBF officer sometimes has to manually rename the files based on the contents provided in the documents as TPs may use non-intuitive file names. For example, Lesson Plan could be labelled Course Outline by the TP, which other TPs may use to refer to Course Prospectus.</p> <p>Referencing naming conventions adopted by IBF and SSG, those are 3 documents that serve different purposes. Naming the files correctly reduces guess work, double work and reduces time to search for the relevant information.</p>	The supporting documents can be of any formats, primarily pdf, word, excel. TPG does not gatekeep the file formats.
User Story 3	IBF officer checks on the completeness of the documents submitted against the application document checklist and write back to the TP via email on the missing documents. The information found in the supporting documents are also evaluated for coherence.	



User Story	User Story Details	Discussion Points
User Story 4	IBF officer also checks on the completeness of the information provided within the documents, checks for any prohibitive words and whether the source references quoted within the documents are indeed authentic and credible, and for any missing/misleading information or unacceptable languages. TP will be emailed to raise these concerns.	
User Story 5	IBF officer eyeballs information from the application form which is in a pdf format and fill up the internal reviewer checklist. The officer wants to have the application form data translated into a structured data format so that it can be kept as a record in an Excel file, auto-prefill the checklist, and be used for downstream processes (data analysis, Level 2 checks by GenAI etc).	
User Story 6	IBF officer also checks for any deviation in the CVs attached for the adult educators who have been assigned for the programme: <ul style="list-style-type: none"> <li>- Assigned AEs on TPG accompanied by required supporting documents?</li> <li>- Supporting documents of AEs assigned on TPG?</li> <li>- Does AE meet requirements (based on CV, mapped against requirements for funding schemes and AE roles)</li> </ul> IBF officer emails TP for missing documentation/information.	

User Story	User Story Details	Discussion Points
User Story 7	IBF officer verifies in the application form on whether the choice of ITM (industry transformation map) that the course is referenced to the Cluster: Modern Services, Sector: Financial Services and Sub-sector: Financial Services is actually found in the Skills Framework for Financial Services.	
User Story 8	IBF officer assess the training contents to determine the suitability of the course title in the application form submitted by the TP is indeed appropriate and assess whether the training contents are relevant and contextualised.	
User Story 9	IBF officer has to pull out the skills mapping/competency checklist provided by the TP and check against the corresponding evidence (that comes in the form of slides) and establish/interpret the alignment. The IBF officer will also check the TSC (technical skills competency) submitted in the application form against the skills framework, whether it exists and aligned to the selected job role (User Story 10).	
User Story 10	IBF officer will also need to check the alignment of the job role to the TSC in the course contents because each job role has a skills map whereby it lists down all the TSCs that a person needs to have and sometimes TPs might fill up the job role wrongly .e.g. Risk Managers do not have Trade Finance Management in their Skills Maps.	

## **APPENDIX 2 – DETAILED SCOPE OF REQUIREMENTS**

The vendor shall be responsible for the end-to-end implementation of the AI Agents for the IBF Training Programme Accreditation, covering the following key areas:

**1.1 Core Functional Requirements (User Stories & Process Flow):** The AI Agents shall possess the following functional capabilities, directly addressing the current pain points and desired outcomes as articulated in the user stories:

### **1.1.1 Document Pre-processing and Management**

- **Auto-scan-capture-store application data as a separate record:** The AI Agent shall automatically process application forms and supporting documents, extracting and storing relevant data in a structured format (e.g., MS-Excel for downstream processes).
- **Auto-rename and categorize supporting documents:** Based on content analysis, the AI Agent shall intelligently rename and categorize supporting documents into a standardized naming convention, reducing manual guesswork and search time.
- **Detect missing documents and auto-trigger email to Training Provider (TP):** The AI Agent shall check for completeness of submitted documents against a predefined checklist and automatically generate and send draft emails to TPs requesting missing documents or information.

### **1.1.2 Content Screening and Qualitative Assessment**

- **Pre-fill internal reviewer checklist:** The AI Agent shall extract relevant content from application forms and supporting documents to pre-fill the internal reviewer checklists (both first round STS/FTS checklists and Level 2 screening).
- **Summarize documents:** The AI Agent shall provide a summarized version of all relevant documents to aid reviewers.
- **Auto-tagging for content organization and filtering:** The AI Agent shall automatically tag contents to support Level 2 screening and qualitative assessment, enabling efficient organization and filtering of information.
- **Identify anomalies and outliers:** The AI Agent shall pick up any anomalies and outliers from the pre-filled reviewer checklist.
- **Check for plagiarism:** The AI Agent shall check for any plagiarism against external source references.
- **Check for prohibitive/unacceptable content:** The AI Agent shall evaluate information within documents for any prohibitive words or unacceptable language.
- **Verify authenticity and credibility of source references:** The AI Agent shall assess whether quoted source references are authentic and credible.

- **Assess AE CVs and alignment with requirements:** The AI Agent shall check for deviations in CVs of assigned Adult Educators (AEs), verify supporting documents, and ensure AEs meet IBF's requirements (e.g., against funding schemes and AE roles).
- **Verify ITM alignment:** The AI Agent shall verify if the chosen Industry Transformation Map (ITM) reference in the application aligns with the Skills Framework for Financial Services.
- **Assess course suitability and contextualization:** The AI Agent shall determine the suitability of the course title and assess the relevance and contextualization of training contents.
- **Align skills mapping/competency checklist with evidence:** The AI Agent shall check the training and assessment materials against the skills mapping/competency checklist and interpret alignment.
- **Check job role to Technical Skills Competency (TSC) alignment:** The AI Agent shall verify the alignment of the job role to the TSC in the course contents against the skills map.

### 1.1.3 Communication and Feedback

- **Auto-trigger email on inference results:** The AI Agent shall automatically trigger emails to TPs regarding inference results, such as detection of missing, contradictory, misleading, or non-credible information.

**1.2 Agentic AI Core Capabilities** The proposed AI Agent system must embody the following core capabilities of Agentic AI:

- **Autonomous Decision-Making and Execution:** The AI Agent shall operate independently where deemed fit/feasible with minimal human intervention, taking actions to achieve specific goals (e.g., identifying missing documents, pre-filling checklists). Final decision making should always be bestowed on humans.
- **Perception and Environment Interaction:** The AI Agent must perceive and gather information from its environment (e.g., documents, external databases for plagiarism checks), process changes, and adapt its strategies accordingly.
- **Reasoning and Planning:** Leveraging Large Language Models (LLMs) as its "brain," the AI Agent shall understand context, reason through problems (e.g., coherence of documents, alignment checks), formulate plans, and identify next steps without constant explicit human instruction.
- **Action and Tool Use:** The AI Agent must be equipped with a "tools arsenal" to interact with the outside world beyond conversation. This includes tools for:
  - **Information Retrieval:** Web search (for plagiarism, external references), database queries (internal records, skills frameworks).
  - **Action Tools:** Email sending (to TPs).

- **Analysis Tools:** Data processing, calculations (for math errors, checklist scores).
- **File Search Tool:** To retrieve from document collections.
- **Learning and Adaptation (if applicable):** The AI Agents shall improve its performance based on experience and feedback loops, adjusting process flows, reshuffling task sequences, reassigning priorities, or flagging anomalies. This adaptability makes workflows smarter and intelligent. This will be supported by an **Eval-Driven System Design** approach.
- **Complex Task Decomposition and Orchestration:** The AI Agents shall be capable of decomposing complex tasks (e.g., full accreditation review) into simpler sub-tasks and orchestrating their execution autonomously. This is central to the AI Agent's cognitive architecture.
- **Memory Management and Context Sharing:** For long-running tasks, the AI Agents must maintain context over time and across extended transactions, storing both short-term instructions context and long-term knowledge, possibly utilizing vector databases, knowledge graphs. The AI Agents shall aim to manage semantic, episodic, procedural, and emotional memory.
- **Workflow Optimization:** Enhance workflows by integrating language understanding with reasoning, planning, and decision-making, accelerating execution, and bringing elasticity to operations.
- **Multi-Agent Communication and Collaboration:** The solution shall support multi-agent patterns, such as **Manager-Agent (Hierarchical)** where a central orchestrator delegates to specialists, or **Decentralized (Peer-to-Peer)** where AI Agents hand off tasks directly. This may utilize emerging protocols like A2A (Agent-to-Agent) and MCP (Model Context Protocol) for standardized communication and integration.

**1.3 Reference Architecture:** The proposed solution's architecture shall align with the foundational pillars of an AI Agent:

- **Language Model:**
  - The primary decision-maker for agent processes.
  - Initial development should **start with the most powerful model available (e.g., GPT-5)** as a baseline for complex reasoning tasks.
  - Optimization should then involve swapping smaller/cheaper models for subtasks while retaining powerful models for complex reasoning.
  - Models shall be capable of following instruction-based reasoning and logic frameworks such as ReAct, Chain-of-Thought (CoT), or Tree-of-Thoughts (ToT).
- **Tools & APIs:**

- The mechanism for the AI Agent to retrieve data and perform actions, interacting with the external world and internal systems.
- Integration with external systems (e.g., SSG-TPG, IBF Cloud, email services) via APIs.
- Vendor shall detail the tools they plan to integrate, categorized by their function (e.g., information retrieval, action, analysis, communication).
- Integration with **Data Stores** (e.g., vector databases) for Retrieval Augmented Generation (RAG) to provide dynamic and up-to-date information beyond the model's training data. This is crucial for reducing hallucinations.
- **Instructions:**
  - Guides the AI Agent's approach and behaviour.
  - Instructions must be **unambiguous and robust to surprises**, with detailed, step-by-step directives outperforming vague ones. This is critical for controlling agent autonomy and preventing uncontrolled sprawl.
  - Vendor shall demonstrate their approach to prompt/context engineering and instruction design to ensure reliable and predictable agent behavior.

**1.4 Multi-Agent Architecture and Orchestration** The system should ideally support a **multi-agent ecosystem**, enabling specialized AI agents to collaborate to solve complex problems and automate processes. The **Agentic AI Mesh** paradigm is highly encouraged, providing a composable, distributed, and vendor-agnostic architecture. Key principles include:

- **Composability:** Ability to plug in any AI Agent, tool, or LLM without system rework.
- **Distributed Intelligence:** Tasks decomposed and resolved by networks of cooperating AI Agents.
- **Vendor Neutrality:** Use of open standards (e.g., A2A Protocol, Model Context Protocol - MCP) preferred to avoid lock-in.

**Governed Autonomy:** AI Agent behaviour proactively controlled via embedded policies, permissions, and escalation mechanisms to ensure safe and transparent operation. This requires features such as agent and workflow discovery, AI asset registry, observability, authentication/authorization, evaluations, feedback management, incident response and rollback/back-up plan, and compliance/risk management.