CKYC Smart Scan Solution (CSSS)

Issued by: Kerala State Cooperative Bank (KSCB)

In collaboration with: Kerala Startup Mission (KSUM)

Reference No: [KBIT/PMU/CKYC Smart Scan/083/2025-26]

Table of contents

1. Introduction

The Kerala State Cooperative Bank (KSCB), the apex cooperative bank of Kerala, invites proposals from eligible startups registered under Kerala Startup Mission (KSUM) for CKYC Smart Scan Solution (CSSS) to automate and secure the management of CKYC and Re-KYC documents, eliminating manual intervention in document validation. By ensuring strict adherence to regulatory standards, the system enhances customer onboarding efficiency, strengthens compliance, and mitigates operational risks.

2. Objectives

- Digitize and streamline CKYC Smart Scan Solution across KSCB offices
- Enable zero/minimal data entry
- Ensure compliance-by-design with RBI FREE-AI, CERSAI and DPDP Act
- Integrate with Finacle 10.2.25 CBS and allied solutions
- Deploy MCP orchestration, Agentic AI, and Generative AI modules
- Provide API sandbox and documentation

3. Scope of Work

3.1 Functional Scope

- **Document Masking**: Automatically redacts sensitive information (e.g., Aadhaar numbers, PAN, and other Officially Valid Documents) in line with CERSAI guidelines, safeguarding customer privacy and ensuring regulatory compliance.

- **Image Resolution & Quality Checks**: Validates uploaded images for clarity, resolution, and format, guaranteeing that all submissions meet CKYC standards and preventing rejections due to poor quality.

- **Integration with Core Banking Systems (CBS)**: Provides seamless connectivity with existing banking platforms, enabling **real-time updates, compliance reporting, and operational efficiency.**

- **Audit & Compliance Logs**: Maintains tamper-proof, immutable records of all document activities, ensuring transparency and readiness for regulatory audits and internal review

3.2 Technical Scope

- API-first, microservices-based architecture
- Integrations with CBS, CERSAI and Bank’s allied solutions
- MCP orchestration layer
- Agentic AI and Generative AI modules
- Secure data storage, encryption, and audit logging

3.3 Compliance Scope

- Must comply with RBI, FEE-AI Framework, CERSAI, and FIU guidelines.
- DPDP Act: Consent, Minimization, Erasure, Portability
- ISO 27001 and CERT-In cybersecurity controls

4. Deliverables

1. Data Capture & Validation

- Automated extraction of customer details: Name, address, PAN, Aadhaar, contact details, etc. from scanned forms/documents.
- Validation against CERSAI formats: Ensure compliance with the latest CKYC templates and reduce rejection rates.
- Error detection and correction: Built-in checks for missing fields, invalid formats, or mismatched data.

2. Image Management

- Scanning and digitization: High-quality capture of photos, proof of identity, and proof of address.
- Image compression and optimization: Maintain clarity while reducing file size for faster uploads.
- Automated image tagging: Correct mapping of images to customer records (photo, ID, address proof).

3. Integration & Workflow

- Seamless integration: Direct linkage with Core Banking System, Loan Origination System, and other platforms.
- Bulk upload capability: Automated batch uploads to CERSAI’s CKYC Registry.

- Exception handling workflow: Alerts for rejected or pending records with corrective action paths.

4. Compliance & Security

- Encryption and secure transmission: Protect sensitive customer data during upload.
- Audit trail and reporting: Track every record’s journey from scan to upload.
- Regulatory updates: Automatic adaptation to new CKYC/CERSAI guidelines.

5. Operational Efficiency

- Prefill onboarding forms: Use CKYC verified data to reduce manual entry.
- Duplicate detection: Identify existing CKYC records to avoid redundant uploads.
- MIS dashboards: Provide compliance status, rejection trends, and operational metrics.

6. Integration Capabilities

- APIs to connect with CBS, CRM, LOS, CERSAI etc.

7. Backup & Disaster Recovery

- Scheduled backups to prevent data loss.
- Redundancy and failover mechanisms.
- Ensures business continuity during outages.

8. Scalability & Performance

- Handles large volumes of documents daily.
- Optimized for speed and reliability.
- Cloud or on-premise deployment options.

Additional:

- Technical documentation
- User manuals and training materials
- SLA-backed support and maintenance plan

5. Eligibility Criteria

- Registered startup under Kerala Startup Mission KSUM
- Demonstrated experience in fintech/regtech, API integration, or AI/ML
- Prior PoC, pilot, or hackathon experience in financial services preferred

- If the proposed solution has not yet been implemented, a POC with the Bank is required.

Team with expertise in:

API aggregation and orchestration

AI/ML and NLP

Cybersecurity and compliance

UX design for rural/low-literacy users

6. Evaluation Criteria (QCBS 70:30)

Bids are evaluated using QCBS –Quality and Cost Based evaluation method where Quality will be having highest priority and Cost will be the next priority.

STAGE 1: TECHNICAL BIDS EVALUATION [e.g.]

Bidder details	Technical Marks Obtained	Technical Score (TS*)
Bidder1	92 (T1)	(92/92) * 100 = 100
Bidder2	85	(85 / 92) * 100 = 92.39
Bidder3	55	Not applicable
Bidder4	75	(75 / 92) * 100 = 81.52

*Technical score is calculated as TS = (Technical Mark obtained by the bidder / Highest Technical Mark amongst bidders) * 100

The bidders who score 70 marks or above in the technical evaluation will be qualified for Financial Bid evaluation.

STAGE 2: FINAL BID EVALUATION [e.g.]

Bidder details	Financial Bid Amount discovered
Bidder1	1,30,000
Bidder2	1,20,000
Bidder4	1,00,000

Note: The associated infrastructure costs will also be added for the calculation of the Total Project Cost.

STAGE 3: CONVERSION OF FINANCIAL BID AMOUNT TO SCORE [eg]

Bidder Details	Financial Bid Amount discovered	Financial Score (LFB/F*100)
Bidder1	1,30,000	(100000/130000)*100=76.92
Bidder2	1,20,000	(100000/120000)*100= 83.33
Bidder4	1,00,000 (L1)	(100000/100000)*100 =100

LFB = Lowest Financial Bid from Financial Bid, F = Quoted Amount in Financial Bid

Consolidated Technical & Financial Score (e.g.)

Bidder Details	Technical Score	Financial Score
Bidder 1	100	76.92
Bidder 2	92.39	83.33
Bidder 4	81.52	100

STAGE 4: COMBINED TECHNICAL AND FINANCIAL SCORE (CTFS)

70:30 weightage for Technical and Financial Score will be used to arrive the Combined Technical and Financial Score (CTFS)

Bidder Details	Applying weights for the Technical Score & Financial Score	CTFS	Rank of the Bidder
Bidder1	100*(70/100) + 76.92*(30/100)= 93.076	93.076	1
Bidder2	92.39*(70/100) + 83.33*(30/100) = 89.672	89.672	2
Bidder4	81.52*(70/100) + 100*(30/100)= 87.064	87.064	3

7. Implementation Timeline

Sl.No	**Milestone**	**Timeline – days**
1	Issuance of Purchase Order	T
2	Signing of the agreement, Finalise and signing of implementation Project plan	
3	Finalisation of SRS and integration requirements	
4	Successful completion of Customization, integration Configuration and pre-delivery testing	
5	Delivery of Functional and non-functional test results Successful completion of UAT. Delivery of Training and Training materials	
7	Go-live preparation Finalise support process.	
8	Go-live	T + 30 days

8. Proposal Submission Guidelines

- Submit technical and financial proposals when asked for Kerala Startup Mission and for which separate links shall be provided.

9. Terms & Conditions

- KSCB reserves the right to accept/reject proposals
- Data privacy and DPDP compliance are mandatory
- SLAs must define uptime, response times, and support levels
- Selected vendor must sign a Non-Disclosure Agreement (NDA)

10. Projected Branch / Office Expansion

	No of Branches & Offices
Current Scenario	850

The solution proposed by the bidder should be scalable to handle the load for projections. The resource (CPU/ memory / utilization) at given projection should not go beyond 70% there should not be any single point of failure in the entire software solution. The entire solution should be configured in high availability mode both at DC and DR with inbuilt redundancy.

So, the bidder has to calculate the data growth based on the standard assumption in the industry. This is applicable for all other services which are presently in use and that might get included in future.

11. Infrastructure (Hardware/Network)

The Bidder must include all hardware and network infrastructure components necessary to implement and maintain the solution for the full contract period, with details provided in the Technical Proposal.

Kerala Bank may provision these components through its DC/DR facilities or an alternate environment; otherwise, the Bidder shall provision them via a Meity-empanelled cloud solution.

12. Facility Management Services

The FM support - with minimum One L2 resources should be deployed at Bank's premises, for supporting the solution primarily for 10 hours (viz. 9 am to 7 pm) or as decided by the Bank. However in case of exigency the Bidder shall provide and maintain requisite skilled resources for extended hours as required.

13. Integrity Pact

The Integrity Pact shall be executed by the Bidder, duly stamped and signed on each page, and witnessed by two individuals.

14. Escrow / Similar arrangements

The bidder shall be required to establish and execute an Escrow or equivalent arrangement to ensure that the complete source code, along with all related customization details, is securely deposited with a designated third-party location.

15.Confidentiality

The bidder, by participating in the bidding process, shall regard all document details as strictly confidential. The bidder must undertake that they shall hold in trust any information received by them under the contract /agreement, and the strictest of confidence shall be maintained in respect of such information.

16. Performance & security audit

This is an important step that ensures accuracy, availability and security of the data. Bank will identify a suitable audit firm to conduct performance & security audit in compliance with the norms set by regulator for which the selected bidder should furnish all necessary information and support in the form prescribed by the audit firm. The selected bidder has to rectify all the performance and security audit comments to the satisfaction of the Bank without any additional cost.

17. Penalty

The successful bidder must strictly adhere to the delivery periods and timelines in the implementation schedule. Failure to meet these delivery dates, unless it is due to reasons entirely attributable to the Bank, may constitute a material breach of the bidder’s performance. As a deterrent for delays during implementation, Bank may levy penalties for delays attributable to the successful bidder.

18. Contract Period

5 years.

19. Annexures

Annexure I - Functional requirements

The form has to be filled in all respects. If any raw is left blank it will be categorized as “Not Possible” for evaluation purpose.

Sl #	Description	Readily Available (RA)	Customisable (CA)	Not Available (NA)
1	The solution should be device independent and work seamlessly on devices such as desktops, laptops, mobiles, tablets etc.			
2	The solution should be available in multiple languages i.e. should have Unicode support.			
3	The solution should be fully web- based with preferably no client component installation required on the user's work station.			
4	The solution should be platform Independent. It should support commonly used open source and proprietary platforms (OS, DB, Web Server, App Server, monitoring platforms etc)			
5	The solution should be secure with complete access and role management features.			
6	The solution must not, by its own architecture or design, impose any practical limit on the number of files/ documents that can be created/ handled at any point			
7	The solution should be compatible with technologies and communication platform running within in KSCB.			
8	The system must offer full application security and information on all security events must be recorded on an audit trail.			
9	The solution should be able to be accessed remotely, via VPN or Internet			
10	High-quality image capture: Scans customer KYC forms, photos, and supporting documents with clarity.			
11	OCR/ICR extraction: Automatically reads and extracts text from scanned forms.			
12	Image compression: Optimizes file sizes while maintaining compliance-ready quality.			
13	Template-based validation: Ensures data matches CERSAI CKYC XML schema and format.			
14	Error detection: Flags missing fields, incorrect formats, or mismatched entries.			
15	Regulatory updates: Adapts automatically to new CKYC/CERSAI guidelines.			

16	Bulk upload capability: Enables batch submission of CKYC records to CERSAI.			
17	Exception handling: Provides alerts and workflows for rejected or pending records.			
18	Straight Through Processing (STP): Automates end-to-end CKYC submission without manual intervention.			
19	CBS/LOS connectivity: Links with Core Banking System and Loan Origination System.			
20	Legacy data migration: Facilitates smooth reporting of both old and new records.			
21	API-based integration: Ensures interoperability with HRMS, LMS, and other platforms.			
22	Data encryption: Protects sensitive customer information during transmission.			
23	Audit trail: Maintains logs of every action for compliance audits.			
24	Role-based access: Restricts system usage to authorized personnel.			
25	Duplicate detection: Identifies existing CKYC records to avoid redundancy.			
26	Prefill onboarding forms: Uses CKYC verified data to reduce manual entry.			
27	MIS dashboards: Provides compliance status, rejection trends, and operational insights			
These are indicative requirements. Final functionalities must be implemented by the vendor as determined in the detailed system study.				

Annexure II - Technical requirements

The form has to be filled in all respects. If any raw is left blank it will be categorized as “Not Possible” for evaluation purpose.

Sl #	Description	Readily Available (RA)	Customisable (CA)	Not Available (NA)
1	**High-resolution scanning**: Supports multiple formats (TIFF, JPEG, PDF).			
2	**Image compression algorithms**: Reduce file size while maintaining clarity for CKYC upload.			
3	**Auto-cropping & de-skewing**: Corrects tilted or misaligned scans.			
4	**Face detection & photo extraction**: Ensures CKYC-compliant photo dimensions.			
5	**Optical Character Recognition (OCR)**: Extracts text from printed KYC forms.			

6	**Intelligent Character Recognition (ICR)**: Reads handwritten entries.			
7	**Field mapping engine**: Maps extracted data to CKYC XML schema.			
8	**Multi-language support**: Handles regional language inputs for addresses/names.			
9	**Schema validation**: Ensures compliance with CKYC XML format.			
10	**Checksum & field-level validation**: Detects invalid PAN, Aadhaar, DOB formats.			
11	**Duplicate detection algorithms**: Identify existing CKYC records to avoid redundancy.			
12	**Automated error correction suggestions**: Reduces rejection rates.			
13	**API-based integration**: Connects with CBS, LOS, LMS, HRMS, and regulatory systems.			
14	**Bulk upload engine**: Handles batch submissions to CERSAI portal.			
15	**Web services connectivity**: Secure HTTPS/SFTP channels for CKYC uploads.			
16	**Plug-in architecture**: Allows easy updates when CKYC schema changes.			
17	**End-to-end encryption (AES/RSA)**: Protects sensitive customer data.			
18	**Role-based access control (RBAC)**: Restricts functionalities to authorized users.			
19	**Digital signature support**: For CKYC file authentication.			
20	**Audit trail logging**: Tracks every scan, edit, and upload.			
21	**Exception handling module**: Flags rejected records with corrective workflows.			
22	**MIS dashboards**: Compliance status, rejection trends, operational KPIs.			
23	**Automated alerts**: Notifications for pending uploads or schema mismatches.			
24	**Version control**: Maintains historical records of CKYC submissions.			
25	Ensure version upgrades/releases are provided free of cost during the contract period.			
26	Vendor responsible for notification and supervision of new releases.			

Annexure III – Details of Proposed Network components

Serial Number	Item Description	Make & Model	Version/Specification	Capacity such as number of ports/connections	No of License/users	Warranty Period	Support Details	Any other information

Annexure IV – Details of Proposed Hardware Infrastructure

Serial Number	Make & Model	Processor Type & clock speed	Number of cores per server	Total Memory per server	Hard Disk type& capacity etc. per server	RAID Particulars per server	Operating System per server	Redundant Network bandwidth per server	Redundant Power Supply (RPS)	Number of Physical servers	Other particulars such as HBA	whether deployed in VM /shared	Function / purpose

Annexure V - Declarations

- Eligibility Declaration
- Conflict of Interest Declaration
- NDA Acceptance
- Integrity Pact
- Details of Existing Installations