

Meeting SEBI Authentication Requirements: 1Kosmos Guide

Explore how 1Kosmos delivers end-to-end compliance with SEBI's authentication framework through SIM binding, biometrics, and advanced session controls



This analysis is based on [SEBI's consultation paper](#) dated February 18, 2025. Final requirements may differ pending public consultation feedback.

The Securities and Exchange Board of India (SEBI) has proposed a revolutionary “One UCC-One Device-One SIM” authentication framework to secure India’s 185+ million demat accounts. This proposed regulation would require brokers to implement biometric login, device binding, QR-based multi-device access, and enhanced trading controls.

The Challenge: Implementing these complex authentication requirements across a massive scale while maintaining a seamless customer experience and avoiding service disruption.

The Solution: 1Kosmos provides a compliance-ready platform that meets all SEBI technical requirements, designed specifically for the scale and complexity of Indian retail trading.

Key advantages:

- **Regulatory certainty:** Direct mapping to all SEBI requirements with certified compliance standards
- **Proven scale:** Proven resilient platform handles millions of daily authentications
- **Reduced implementation risk:** Phased deployment methodology minimizes customer service disruption
- **ROI beyond compliance:** Significant reduction in fraud losses and password-related support costs

Healthcare Identity Verification: The Solution

SEBI’s proposed authentication framework addresses pervasive cybersecurity threats in India’s trading ecosystem, including unauthorized account access, SIM spoofing to divert OTPs, unauthorized account modifications, and erroneous share transfers. The consultation paper outlines a “One UCC-One Device-One SIM” framework requiring brokers to implement:

- **Hard binding of SIM cards** linking Unique Client Codes (UCC) to registered mobile devices and SIM cards
- **Biometric authentication** for primary device login with PIN alternatives



- **QR-based multi-device access** with proximity and time-sensitive controls for desktop and laptop trading
- **Enhanced trading controls** including session monitoring, temporary account locks, and transaction limits

How 1Kosmos Directly Addresses SEBI's Proposed Requirements

1Kosmos addresses the SEBI mandate to secure trading environments—specifically SIM binding and biometric authentication—through a suite of capabilities that map directly to the requirements detailed in SEBI's consultation paper.

1. SIM Binding: Device, SIM, and Account Hard Linking

SEBI Requirement: The hard binding of the SIM with a Unique Client Code (UCC) proves that the user is in possession of the registered mobile number, ensuring only authorized devices and numbers can access trading accounts. This is to prevent SIM swap fraud and unauthorized access.

1Kosmos offers advanced biometric authentication, including a unique capability of facial matching (LiveID), and device-native biometrics (TouchID/FaceID).

1Kosmos Solution: 1Kosmos enables SIM binding by detecting the SIM(s) in the device and validating the user's mobile number against the one registered with the institution (e.g., broker, bank, or employer). During registration, the user is prompted to verify their phone number via a one-click operation. The platform matches this to the number on record, binding the device, SIM, and account together. This directly addresses the need for a "One UCC-One Device-One SIM" authentication approach.

2. Biometric Authentication

SEBI Requirement: Mandatory biometric authentication on the primary SIM-bound device for login, with alternatives like PIN as a fallback.

1Kosmos Solution: 1Kosmos offers advanced biometric authentication, including a unique capability of facial matching (LiveID), and device-native biometrics (TouchID/FaceID). LiveID uses liveness detection and compares a live selfie to the registered biometric without storing any PII on a central server. This enables high assurance identity verification and resistance to spoofing, exceeding SEBI's requirement for robust biometric authentication on the primary device ensuring that it is a real and authorized person authenticating.



3. Multi-Device and Web Login Controls

SEBI Requirement: QR code-based, proximity- and time-sensitive authentication for logging in from additional devices (e.g., desktop, laptop), with strict session controls.

1Kosmos Solution: The platform supports QR code-based authentication for secondary devices, ensuring that new sessions are authorized from the primary SIM-bound device. Session management features allow users to monitor and revoke active sessions, aligning with SEBI's multi-device controls.

4. Fallback and Recovery Mechanisms

SEBI Requirement: Procedures for device/SIM change or loss, including KYC re-verification for continuity of access.

1Kosmos Solution: 1Kosmos supports secure account recovery and re-binding via identity proofing (using government-issued IDs or telco verification) and multi-factor authentication, ensuring compliance with fallback requirements.

5. Family Accounts and Authorization

SEBI Requirement: Allowing a single device/SIM to be linked to multiple UCCs for family accounts, with explicit authorization.

1Kosmos Solution: The platform's flexible identity management and consent-based linking support scenarios where one device/SIM is authorized for multiple related accounts, and permissions are managed through documented mandates.

6. Compliance, Privacy, and Security

SEBI Requirement: High standards for data protection, privacy, and regulatory compliance.

1Kosmos Solution: 1Kosmos is certified to FIDO2, NIST 800-63-3, ISO/IEC 30107-1, ISO/IEC 30107-3, SOC2, and ISO 27001 standards. User data is encrypted and stored on a private, permissioned ledger, accessible only by the user's private key, ensuring privacy by design and regulatory compliance for sensitive financial data.



Complete SEBI Compliance Mapping

Use Case	SEBI Requirement Description	1Kosmos Solution
Passwordless mobile login	"A log-in into the primary SIM bound device shall take place through a bio-metric authentication for authorizing the login attempt directly without password."	Users authenticate via biometric methods (FaceID, TouchID) using the 1Kosmos Mobile app to access the trading platform without needing passwords. 1Kosmos LiveID utilizes liveness detection during facial recognition to verify physical presence, preventing spoofing attacks.
Hard SIM-device binding	"A mobile device possessing the registered mobile number (SIM) and device IMEI number shall be linked to the Unique Client Code (UCC) of the clients."	1Kosmos app cryptographically binds each UCC to a verified mobile device and SIM using secure device registration and validation.
Primary & secondary device support	"In addition to primary device, client will have an option to register one more SIM and device with the UCC which would become as secondary SIM bound device."	1Kosmos supports registration of both primary and optional secondary SIM-bound devices per UCC, with proximity-based activation controls.
Proximity-based device control	"Both these SIM bound devices (i.e. primary and secondary) will be active provided that both are within 100-meter proximity. However, trading can be done through any one of the device at any given point in time."	1Kosmos enforces geolocation-based proximity controls and ensures only one active trading session between registered devices at any time.
QR-based desktop access	"A QR code based, proximity sensitive and time sensitive, authentication shall be done in the trading application for authorizing web based login into other devices including desktop and laptop."	QR-based cross-device login via 1Kosmos's secure mobile-to-desktop authentication with time-limited and proximity-bound QR codes.



Use Case	SEBI Requirement Description	1Kosmos Solution
Session monitoring & revocation	"Primary/secondary SIM bound device shall also have the facility to monitor and revoke any sessions authorized by it including the sessions running on other devices such as desktop or laptop."	Users can view all active sessions and revoke access to desktop/laptop sessions directly through the 1Kosmos mobile app.
Temporary account locking	"A facility for temporarily placing a lock on the trading account for a certain duration to disable the trades."	Users can initiate temporary account locks via the mobile app, SDK, or API; all session tokens and trading authorization are immediately revoked.
Device re-registration with KYC	"Client can revoke the existing SIM/device and re-perform KYC (either through IPV or virtual IPV) to link a new SIM/device."	When devices are lost/changed, users complete identity re-verification through in-person verification (IPV) or virtual IPV to securely register new SIM/device combinations.
Family UCC management	"In order to facilitate ease of trading for family members, a mobile device/SIM can be linked to multiple UCCs of family members (including HUF's UCC)."	1Kosmos app supports multiple UCC management on a single device with explicit consent workflows and secure identity switching between family accounts.
Call & trade authentication	"The orders received through call and trade facility shall be authenticated through OTP based mechanism unless call is received from registered mobile number."	Integration supports OTP delivery to registered mobile numbers for call and trade authentication when calls originate from unregistered numbers.



Platform Differentiators

1. Regulatory Compliance by Design

- **FIDO2, NIST 800-63-3, ISO/IEC 30107-1/3 certified** with Level 2 Presentation Attack Detection (PAD-2)
- **SOC2 Type II and ISO 27001** compliant with over 421 security controls
- **FedRAMP High authorized** for protecting critical infrastructure by US Government agencies
- **Privacy by design with W3C DID** standards and distributed identity architecture
- **1Kosmos LiveID** uses liveness detection with certified presentation attack detection, comparing live selfie to registered biometric template

2. Indian Market Optimization

- **Multi-language support** for regional trading platforms
- **Low-bandwidth optimization** for rural connectivity challenges
- **Basic phone fallback** through secure IVRS integration for users without smartphones
- **API-driven coexistence models** to integrate with legacy systems without system-wide disruptions

3. Enterprise-Grade Scalability

- **99.999% uptime SLA** with global redundancy and continuous monitoring
- **Millions of daily authentications** across existing deployments worldwide
- **APIs & federated authentication support for major trading platforms**, including integration capabilities for legacy Java systems, SSO portals, and Active Directory

4. India Market Commitment

- **Dedicated India team and office** providing local market expertise and support
- **Growing experience** with Indian financial institutions and regulatory requirements
- **Partnership approach** focused on learning market nuances and building long-term relationships
- **Commitment to pilot programs** allowing brokers to validate solutions before full-scale deployment



Ready to begin your SEBI authentication implementation?

Contact 1Kosmos for a detailed technical consultation and customized deployment roadmap for your specific trading platform and customer base.

For more information, visit www.1kosmos.com

About 1Kosmos

1Kosmos enables remote identity verification and passwordless multi-factor authentication for workers, customers and residents to securely transact with digital services. By unifying identity proofing, credential verification and strong authentication, the 1Kosmos platform prevents identity impersonation, account takeover and fraud while delivering frictionless user experiences and preserving the privacy of users' personal information. 1Kosmos performs millions of authentications daily for government agencies and some of the largest banks, telecommunications, higher education, and healthcare organizations in the world.

