

SuretyNow SRS v1.0

Oct 8, 2026 · @Aparajit Bhattacharya

1. Introduction

This SRS defines what SuretyNow (suretynow.com), Covernow's surety platform, shall do for its first release, so that engineering, QA, compliance and partner insurers can build and accept it against one baseline. It refines the product spec (v0.1) and the clickable prototype into testable requirements.

1.1 Purpose

The platform lets MSME contractors obtain surety bonds (bid, performance, advance-payment, retention) from IRDAI-registered insurers through Covernow Insurance Brokers. Covernow scores and packages each risk and routes it to an insurer. The insurer underwrites, issues the bond and holds the risk. SuretyNow is a trade name: it runs on its own domain and landing page, and every page, email and document names Covernow Insurance Brokers Private Limited as the broker, with its IRDAI registration number.

1.2 Scope

In scope: the public website at suretynow.com, contractor onboarding and consent, tender discovery, quote and application, automated scoring, the underwriting desk, routing to carriers and their pre-approved grids, an insurer console and API, premium collection into the insurer's account, bond issuance and delivery, public verification, invocation and expiry, the partner workspace, brokerage and partner payout accrual, administration, audit, notifications and MIS.

Out of scope: customs, court, judicial and excise bonds; any arrangement in which Covernow bears risk or binds cover outside insurer-approved rules; insurer-side claims settlement systems; bank guarantee issuance.

1.3 Definitions

Term	Meaning
Principal	The contractor whose obligation the bond secures
Beneficiary	The procuring entity (department, PSU, corporate buyer) that the bond protects
Surety	The insurer that issues the bond

Term	Meaning
Bid bond	Secures the bidder's commitment during bid validity; replaces EMD
Performance bond	Secures contract performance; typically 3–10% of contract value
EMD	Earnest money deposit required with a tender bid
Counter-indemnity	Contractor's undertaking to reimburse the insurer for any payout
Invocation	Beneficiary's demand for payment under a bond
Band	Risk grade A–D derived from the 100-point score
Pre-approved grid	Insurer-defined rules within which the insurer's own rules approve without manual review
Facility	A contractor's aggregate surety limit across all insurers
CMR	CIBIL MSME Rank, 1 (best) to 10
AA	Account Aggregator under the RBI framework
GWP	Gross written premium
Desk	Covernow's underwriting and placement team

1.4 References

1. Covernow Surety Product Spec v0.1 (7 Oct 2026)
2. Covernow Surety clickable prototype (7 Oct 2026)
3. Covernow_SRS_v1 (core embedded-distribution platform)
4. IRDAI surety insurance guidelines, as amended
5. IRDAI (Insurance Brokers) Regulations, as amended
6. Digital Personal Data Protection Act, 2023

1.5 Conventions

- Requirement IDs take the form **SUR-<module>-<nnn>**, e.g. SUR-QTE-004. IDs are never reused.
- "Shall" is mandatory, "should" is desirable, "may" is optional.

- Priority: **P0** is required for the first live bond (pilot), **P1** is required before Phase 2 (grid), and **P2** is for Phase 3 (scale).
- Each functional requirement carries an acceptance criterion (AC) that QA tests directly.
- Monetary values are in INR. Dates are in IST.

2. Overall description

SuretyNow is a separate customer-facing brand with its own website at suretynow.com, built as a new product line on the existing Covernow platform. It reuses Covernow's identity, ingestion, commission engine and hosting, and adds its own services for scoring, policy administration and verification.

2.1 Product perspective

- **Covernow's role:** registered broker. It distributes, scores and packages risk, and routes it to insurers. It never binds cover except where an insurer's own pre-approved rules approve it.
- **Insurer's role:** underwrites, issues the bond on its stationery with its signature, collects premium into its own account, and handles invocations and recovery.
- **Shared with the core platform:** user identity and roles, the partner ingestion pipeline (API, SFTP, Excel, portal), the commission and payout engine, document storage, the audit log and the AWS Mumbai hosting.

2.2 User classes

User class	Portal	Typical volume (Phase 3)	Technical skill	Key permissions
Contractor (MSME owner or accounts staff)	Contractor portal, mobile web	5,000+ accounts	Low to medium; mostly on phones	Own profile, applications, bonds, payments
Partner user (NBFC credit or sales staff)	Partner workspace	25 partners, 200+ users	Medium	Refer, view own referred contractors, view earnings

User class	Portal	Typical volume (Phase 3)	Technical skill	Key permissions
Desk underwriter	Ops console	5–10 users	High	Review, request documents, route, decline, override (with checker)
Desk supervisor	Ops console	1–2 users	High	Everything a desk underwriter can do, plus approve overrides, edit rules, manage carriers
Insurer underwriter	Insurer console or API	3+ insurers, 2–5 users each	High	Decide referrals for own carrier; view own book
Beneficiary officer	Public verification page	Unbounded, anonymous	Low	Verify a bond; lodge an invocation with authentication
Finance user	Ops console, finance view	2–3 users	Medium	Reconciliation, payouts, MIS
Platform admin	Admin console	1–2 users	High	Users, roles, configuration, audit export

2.3 Operating environment

- **Hosting:** AWS Mumbai (ap-south-1), with disaster recovery in AWS Hyderabad (ap-south-2), to meet the IRDAI requirement that data stays in India.
- **Clients:** the latest two versions of Chrome, Edge, Safari and Firefox. Android Chrome 10+ and iOS Safari 16+ at 360 px width and up.
- **Languages in the interface:** English at launch, then Hindi and Bengali (P1).
- **Integrations:** see section 7.

2.4 Design and implementation constraints

1. Premium shall never pass through a Covernow bank account.
2. Every automated approval shall come from a rule set that the insurer has signed off and versioned.
3. All personal and financial data shall be stored and processed in India.

4. The platform shall build on the stack in section 3.2. Introducing a new language or datastore needs CTO sign-off.
5. Bond wording shall be the insurer's filed wording; the platform only fills variables.

2.5 Assumptions and dependencies

- At least one insurer agrees to a surety programme with Covernow, with filed rates and a bond wording, before the pilot.
- That insurer exposes either an API or accepts console decisions as the system of record for issuance.
- Contractors consent to GST, bureau and bank-data pulls; without consent the platform cannot quote.
- Beneficiary departments accept insurance surety bonds in lieu of bank guarantees for the tenders targeted.
- GSP, bureau, AA, e-sign, payment gateway and messaging vendors are contracted by the pilot start.

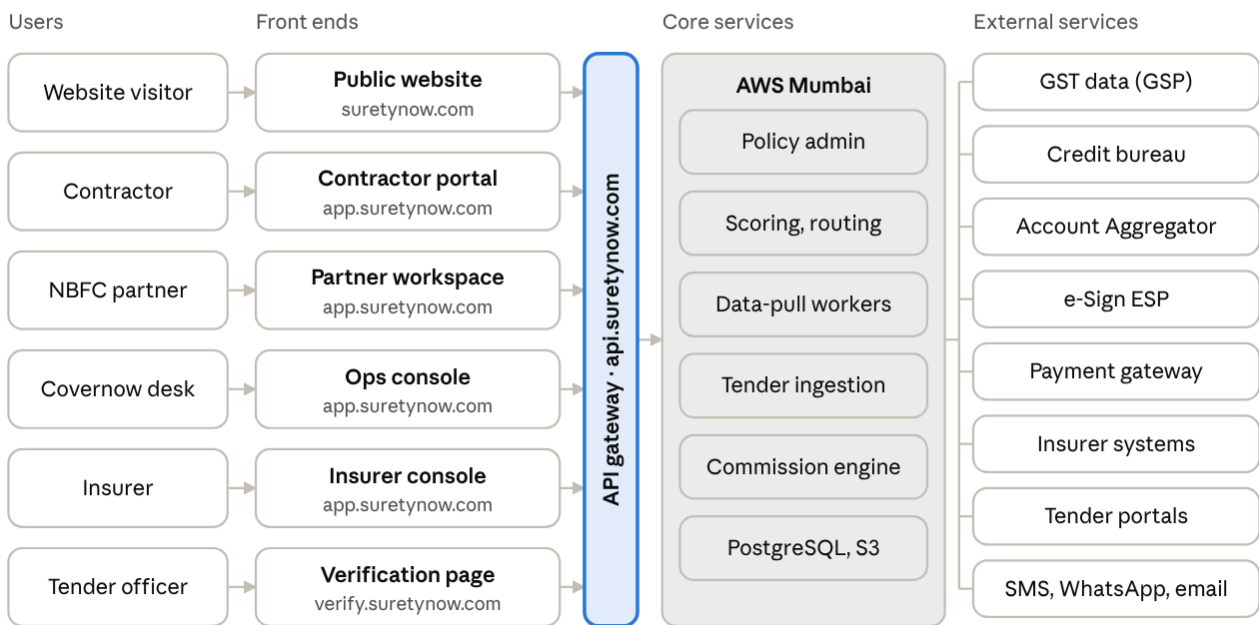
3. Architecture and technology stack

3.1 System context

Six user types reach SuretyNow through three hosts; all of them call one API gateway, which is the only way into the core services in AWS Mumbai. The core services talk to eight groups of external services through integration adapters.

Every request enters through one gateway into the Mumbai core

SuretyNow system context: users, hosts, core services and integrations



system context · 6 users, 3 hosts, 1 gateway, 8 external services

3.2 Technology stack

SuretyNow uses Covernow's existing stack: Kotlin for the core, TypeScript for everything web-facing, PostgreSQL as the system of record, all on AWS Mumbai. No other language or datastore is introduced. Versions are baselines; pin the latest stable patch of each at sprint 0.

3.2.1 Languages

Language	Used for	Why
Kotlin 2.x on Java 21 LTS	Policy admin, scoring and routing engine, commission engine, data-pull workers	Matches the core Covernow services; strong typing for money and rules
TypeScript 5.x on Node.js 22 LTS	API gateway, tender ingestion workers, all web front ends including suretynow.com	One language across browser and edge services
SQL (PostgreSQL dialect)	Schema, migrations, reporting views	System of record
HCL (Terraform)	Infrastructure as code	Reproducible environments in ap-south-1 and ap-south-2

Language	Used for	Why
JSON (versioned schemas)	Scoring rules, rate tables, insurer grids	Rules held as signed-off data, not code

3.2.2 Components and frameworks

Component	Domain	Language	Framework
Public website and landing page	suretynow.com	TypeScript	Next.js 15 (React 19), static generation with server-rendered pages for SEO
Contractor, partner, ops and insurer portals	app.suretynow.com	TypeScript	React 19, Vite, served as a single-page app
Bond verification page	verify.suretynow.com	TypeScript	Next.js page, server-rendered, no login
API gateway (partner, insurer, website, verification APIs)	api.suretynow.com	TypeScript	NestJS on Fastify
Surety policy-admin service	internal	Kotlin	Spring Boot 3.x
Scoring and routing engine	internal	Kotlin	Spring Boot 3.x, in-house rule evaluator over JSON decision tables
Data-pull and document workers	internal	Kotlin	Spring Boot 3.x consumers
Tender ingestion workers	internal	TypeScript	Node.js with Playwright for portals without feeds
Commission and payout engine	internal	Kotlin	Existing Covernow service, extended with surety product lines

3.2.3 Infrastructure and platform software

Software	Purpose	Notes
AWS ap-south-1 (Mumbai), DR in ap-south-2 (Hyderabad)	Hosting	Data stays in India
Amazon ECS on Fargate	Containers for all services	Smaller ops load than Kubernetes for a lean team; move to EKS only if service count passes ~20
Amazon RDS for PostgreSQL 16, Multi-AZ	System of record	Point-in-time recovery 35 days
Amazon ElastiCache for Redis	Sessions, OTP, rate limits, quote cache	
Amazon SQS and SNS	Async events and work queues	Start here for the pilot; move to Amazon MSK (Kafka) when event replay or volume needs it
Amazon S3 with Object Lock	Bonds, counter-indemnities, demand letters, consent artefacts	Write-once storage for signed documents
Amazon CloudFront, AWS WAF, Route 53	CDN, firewall, DNS for suretynow.com and subdomains	
AWS KMS, Secrets Manager	Encryption keys and credentials	
Keycloak (self-hosted)	Identity, roles, MFA, OTP login for all portals	One realm per portal type; SSO for desk and insurer users
Amazon SES	Transactional email from suretynow.com	SPF, DKIM and DMARC configured
Terraform, GitHub Actions	Infrastructure and CI/CD	Separate dev, UAT and prod accounts
OpenTelemetry, Grafana (Amazon Managed Grafana), CloudWatch, Sentry	Traces, metrics, logs, error tracking	

3.2.4 Libraries and plugins

Area	Library or plugin	Purpose
Kotlin build	Gradle with Kotlin DSL; plugins: <code>org.jetbrains.kotlin.jvm</code> , <code>kotlin-spring</code> , <code>org.springframework.boot</code> , <code>io.spring.dependency-management</code> , <code>org.flywaydb.flyway</code> , <code>com.google.cloud.tools.jib</code> , <code>io.gitlab.arturbosch.detekt</code> , <code>org.jlleitschuh.gradle.ktlint</code> , <code>org.owasp.dependencycheck</code>	Build, migrations, container images, static analysis, lint, vulnerability checks
Kotlin runtime	Spring Web, Spring Security (OAuth2 resource server), Spring Data JDBC or jOOQ, Spring Cloud AWS (SQS), Resilience4j, Micrometer, Jackson Kotlin module	APIs, auth, data access, messaging, retries and circuit breakers, metrics
Rules and money	In-house evaluator over JSON decision tables, <code>networknt/json-schema-validator</code> , <code>java.math.BigDecimal</code> for all money	Signed-off, versioned rule sets; no floating-point money
Documents	Thymeleaf templates, OpenHTMLtoPDF, Apache PDFBox with Bouncy Castle, ZXing	Bond and form PDFs, digital signature embedding, QR codes
Kotlin tests	JUnit 5, Kotest, MockK, Testcontainers (PostgreSQL, LocalStack), Pact JVM	Unit, integration and insurer API contract tests
TypeScript gateway	NestJS, Fastify, Zod, <code>@nestjs/swagger</code> (OpenAPI 3.1), <code>jose</code> , <code>@aws-sdk/client-sqs</code> , Pino	API, validation, docs, JWT, queues, logs
Portals	React Router, TanStack Query, React Hook Form with Zod, Mantine UI, i18next, Recharts, date-fns	Routing, data fetching, forms, components, Hindi and Bengali, MIS charts
Website (suretynow.com)	Next.js, MDX for content pages, <code>next-sitemap</code> , <code>next-seo</code> , Cloudflare Turnstile, Google Tag Manager with GA4, Microsoft Clarity, a DPDP-compliant cookie consent banner	Landing and content pages, SEO, bot protection on forms, analytics with consent

Area	Library or plugin	Purpose
Front-end build and quality	pnpm, Vite, ESLint, Prettier, Vitest, Testing Library, Playwright, Lighthouse CI	Build, lint, unit and end-to-end tests, performance budgets
Load and security testing	k6, OWASP ZAP, Trivy, SonarQube	Load tests, DAST, container scans, code quality gate

3.2.5 Third-party services

Vendors are shortlisted at sprint 0; candidates listed are examples, not commitments.

Service	Candidates	Priority
GST data (GSP)	Licensed GST Suvidha Providers with an OTP-consent API	P0
Commercial bureau	TransUnion CIBIL (CMR and commercial report)	P0
e-Sign	Aadhaar e-sign through a licensed ESP, e.g. Protean (NSDL) or eMudhra	P0
Payment gateway	The insurer's own gateway, or Razorpay, PayU or Cashfree with settlement to the insurer	P0
SMS	A DLT-registered SMS provider	P0
WhatsApp	WhatsApp Business Platform through Meta Cloud API or a BSP such as Gupshup	P1
Account Aggregator	An FIU-licensed TSP, or via the partner NBFC	P1
KYC and MCA data	CKYC, MCA21 company data via a licensed provider	P1
Document OCR	Amazon Textract for demand letters and uploaded financials	P2

3.2.6 Team tooling

Need	Software
IDEs	IntelliJ IDEA (Kotlin), VS Code (TypeScript)

Need	Software
Source control and CI	GitHub with GitHub Actions; branch protection and required reviews
Design	Figma, with a shared SuretyNow component library
API design and testing	OpenAPI specs in the repo, Postman or Bruno collections
Work tracking and docs	Jira for delivery, this SRS as the requirements baseline
Database	DBeaver or DataGrip, read-only on production through a bastion

4. Business rules

Business rules (BR) are held as versioned, signed-off configuration, not code. Values below are v1 defaults from the prototype; each insurer's underwriters calibrate them before go-live, and the platform shall apply whichever version is active on the application date.

4.1 Scoring

BR-001. Each application is scored out of 100 on six factors. Capacity is computed on the bond amount applied for; all other factors are computed on the contractor's latest financial snapshot.

Factor	Source	Max	Bands of points
Capacity: bond amount ÷ annual turnover	GST returns, last 12 months	25	≤2% → 25 · ≤5% → 20 · ≤10% → 12 · above → 4
Bureau rank	CIBIL CMR	25	CMR 1-3 → 25 · 4-5 → 18 · 6-7 → 10 · 8-10 → 0
Completion record: contracts closed ÷ contracts won	Tender history, declarations	15	≥95% → 15 · ≥85% → 10 · below → 5
GST filing regularity: returns filed on time, last 12 months	GSTN	15	100% → 15 · ≥90% → 12 · ≥75% → 6 · below → 0
Years in business	GST or MCA registration date	10	≥10 → 10 · ≥5 → 7 · ≥3 → 4 · below → 1

Factor	Source	Max	Bands of points
Surety utilisation: outstanding bonds and BGs ÷ band-A limit	Bureau, declarations, platform	10	<50% → 10 · <80% → 6 · above → 2

BR-002. A missing data source scores zero for its factor and flags the application for desk review; it never blocks a quote.

BR-003. Knock-outs override the score and send the application to the desk: a CMR of 9 or 10, an invoked bond or BG in the last 36 months, an insolvency filing, or a sanctions or debarment match.

4.2 Bands, rates, collateral and limits

BR-004. The score maps to a band, and the band sets the default terms.

Band	Score	Bid	Performance	Advance payment	Retention	Collateral (FD lien)	Aggregate limit
A	75–100	0.60%	1.00%	1.20%	0.80%	Nil	25% of turnover
B	60–74	0.90%	1.50%	1.70%	1.20%	10% of bond	15% of turnover
C	45–59	1.40%	2.20%	2.50%	1.80%	25% of bond	8% of turnover
D	0–44	Not placed	Not placed	Not placed	Not placed	—	—

Rates are per annum and shall never fall outside the insurer's filed rates.

BR-005. Premium is computed as below, rounded up to the nearest rupee, with a minimum of ₹2,500. GST at 18% is added on top.

$$\text{Premium} = \max\left(2500, \left\lceil \text{Bond amount} \times \text{Rate} \times \frac{\text{Tenure in months}}{12} \right\rceil\right)$$

BR-006. Tenure for a bid bond is the bid validity plus a 45-day claim period, rounded up to whole months. For other bond types it is the contract period plus the claim period stated in the tender.

BR-007. On "I won this tender", a performance bond application is pre-filled at 5% of contract value for 24 months, editable by the contractor to match the award letter.

BR-008. A new application is accepted only if the contractor's outstanding surety plus the new amount stays within the aggregate limit. Otherwise it goes to the desk with an "over limit" flag.

4.3 Routing and pre-approved grids

BR-009. Routing order: (1) keep carriers whose appetite covers the band, bond type, ticket size and geography; (2) pick the lowest filed rate; (3) break ties on median turnaround over the last 30 days; (4) on decline, move to the next eligible carrier.

BR-010. An application is approved instantly only if it falls inside the routed carrier's active grid on band, bond type, amount ceiling and contractor exposure ceiling, and no knock-out applies. Pilot grid for the first carrier: band A bid bonds up to ₹50 lakh.

BR-011. Instant approvals per carrier per day stop at a cap set by the carrier. Above the cap, applications queue for the desk.

4.4 Remuneration

BR-012. Brokerage accrues when the bond is issued and premium is confirmed by the insurer, at the rate in that insurer's agreement (prototype assumption: 15% of premium).

BR-013. The partner referral share is a percentage of brokerage received (prototype assumption: 40%). It is payable monthly in arrears, subject to compliance confirmation (see section 10).

BR-014. If a bond is cancelled with a premium refund, the brokerage and partner share on it reverse in the next payout cycle.

5. Functional requirements

Requirements are grouped by module. Each row is testable on its own; the acceptance criterion (AC) is what QA signs off.

5.1 Public website and landing page (WEB)

suretynow.com is the brand's front door. It explains the product to four audiences, shows indicative pricing without asking for data, captures leads, and hands off to the app for anything that needs a login. A new user class applies: the **website visitor**, who is anonymous until they submit a form.

Site map (P0): Home · Bid bonds · Performance bonds · Advance-payment and retention bonds · For contractors · For lending partners · For insurers · For tender officers (verify a bond) · How it works · Premium calculator · FAQ · About and licence · Contact · Privacy policy · Terms of use · Grievance redressal · Disclaimer.

ID	Requirement	Priority	Acceptance criterion
SUR-WEB-001	The site shall be served at suretynow.com over HTTPS, with www redirecting to the apex domain, and the subdomains app., verify. and api. reserved for the platform.	P0	All four hosts resolve with valid certificates; http and www redirect with a 301.
SUR-WEB-002	The home page shall state the offer in its first screen (bid bonds in place of EMD, priced in minutes), with "Get a bond" and "Verify a bond" as the two primary actions.	P0	Both actions are visible without scrolling at 360 px and 1440 px widths.
SUR-WEB-003	Each bond-type page shall explain what the bond secures, typical amount and tenure, documents needed, and an indicative rate range from the active rate table (BR-004).	P0	Rate ranges on the page match the active rate table version.
SUR-WEB-004	A premium calculator shall take bond type, amount and tenure and show an indicative premium range across bands A-C using BR-005, with no personal data collected.	P0	For ₹18 lakh, bid, 6 months, it shows ₹5,400 to ₹12,600 plus GST.
SUR-WEB-005	A quick eligibility check shall ask turnover range, years in business and bond amount and say "likely eligible", "needs review" or "not likely", without a bureau or GST pull.	P1	Outcomes match a published decision table; no external call is made.
SUR-WEB-006	"Get a bond" shall open sign-up on app.suretynow.com, carrying UTM parameters and any partner referral code.	P0	The contractor record stores source, medium, campaign and referral code.
SUR-WEB-007	Lead forms (contractor callback, partner enquiry, insurer enquiry) shall verify the mobile number by OTP, block bots with Turnstile, and create a lead in the platform within 5 seconds.	P0	Submitted leads appear in the ops console lead list with source page.

ID	Requirement	Priority	Acceptance criterion
SUR-WEB-008	Partner landing links of the form suretynow.com/p/<code> shall attribute every resulting lead and application to that partner.	P1	A test application via a partner link shows that partner on the application.
SUR-WEB-009	Every page footer shall show Covernow Insurance Brokers Private Limited, IRDAI registration number 1143, broker category, licence validity, CIN, registered office, principal officer, grievance contact, and "Insurance is the subject matter of solicitation".	P0	Compliance checklist passes on every page template.
SUR-WEB-010	Insurer names or logos shall appear only after written approval from that insurer, recorded with the approval date.	P0	Admin console shows an approval record for every insurer shown on the site.
SUR-WEB-011	Analytics and marketing tags shall load only after the visitor accepts cookies; the choice shall be stored and changeable.	P0	No analytics request is sent before consent, verified by a network log.
SUR-WEB-012	Pages shall be server-rendered or statically generated, with titles, meta descriptions, sitemap.xml, robots.txt, canonical URLs and schema.org FAQPage and Organization markup.	P0	Lighthouse SEO score is 95 or more on all templates.
SUR-WEB-013	Pages shall load fast on Indian mobile networks: LCP under 2.5 s and CLS under 0.1 on a mid-range Android phone over 4G.	P0	Lighthouse CI budgets pass on every deploy.
SUR-WEB-014	The site shall meet WCAG 2.1 AA.	P1	Automated axe checks pass, plus a manual keyboard and screen-reader pass on key pages.

ID	Requirement	Priority	Acceptance criterion
SUR- WEB-015	Marketing staff shall be able to edit page copy, FAQs and articles without a code release (MDX in the repo with preview deploys at P0; a headless CMS at P2).	P0	A copy change goes live through a reviewed pull request in under 15 minutes.
SUR- WEB-016	Every advertisement or page that solicits business shall carry an internal approval reference, as required by IRDAI's advertisement rules.	P0	Each published page version links to its approval record.
SUR- WEB-017	The site shall be available in Hindi and Bengali alongside English, with a language switch on every page.	P1	All P0 pages render in all three languages.
SUR- WEB-018	A WhatsApp click-to-chat button and a request-a-callback option shall be available on every page.	P1	Both open a chat or create a callback lead.

5.2 Onboarding, consent and KYC (ONB)

ID	Requirement	Priority	Acceptance criterion
SUR- ONB-001	A contractor shall sign up with mobile OTP, then enter GSTIN; the platform shall fetch legal name, constitution, address and registration date from GSTN and pre-fill the profile.	P0	A valid GSTIN pre-fills four fields; an invalid or cancelled GSTIN is rejected with the reason.
SUR- ONB-002	The platform shall verify PAN against the GSTIN and, for companies and LLPs, CIN or LLPIN against MCA data.	P0	A PAN that does not match the GSTIN blocks submission with a clear message.

ID	Requirement	Priority	Acceptance criterion
SUR-ONB-003	The platform shall capture a separate consent for each data pull (GST, bureau, bank via AA), stating purpose, data items, retention period and revocation route, and store it with timestamp, IP, device and consent text version.	P0	Each pull in the logs links to a consent record; a pull without one is impossible in tests.
SUR-ONB-004	A contractor shall be able to view and revoke each consent; revocation stops future pulls and is confirmed in writing.	P0	After revocation, the next scheduled pull is skipped and logged.
SUR-ONB-005	The platform shall pull GST returns for the last 12 months and compute turnover and filing regularity (BR-001) within 2 minutes of consent.	P0	Snapshot shows turnover and filing % for a test GSTIN.
SUR-ONB-006	The platform shall pull the commercial bureau report and store CMR, existing credit facilities, and bank guarantees outstanding.	P0	CMR appears on the profile and in the risk file.
SUR-ONB-007	The platform shall accept bank statements via Account Aggregator, or as uploaded PDFs as a fallback, and extract monthly inflows and bounces.	P1	Twelve months of inflows display for a test account.
SUR-ONB-008	The contractor shall declare past contracts (won, completed, invoked) with optional work-completion certificates; declarations are marked as self-declared in the risk file.	P0	Declared and verified figures are labelled separately.
SUR-ONB-009	The platform shall run KYC on the entity and its directors or partners (CKYC lookup, sanctions and debarment lists).	P0	A test name on a sanctions list raises knock-out BR-003.

ID	Requirement	Priority	Acceptance criterion
SUR-ONB-010	Before the first bond, the contractor shall e-sign a master counter-indemnity in the routed insurer's format; directors' personal guarantees shall be captured where the insurer's grid requires them.	P0	The signed PDF is stored with its e-sign audit trail and hash; issuance is blocked without it.
SUR-ONB-011	The platform shall refresh GST and bureau data monthly while the contractor has a live bond or an open application, and recompute the facility limit.	P1	A changed turnover in a test feed updates the limit the next day.
SUR-ONB-012	A contractor account shall support multiple users (owner, accounts staff) with roles; only the owner can sign and pay.	P1	An accounts-staff user cannot see the e-sign or pay buttons.
SUR-ONB-013	A contractor referred by a partner shall arrive with partner-shared data pre-loaded once they accept the consent link (SUR-PTN-002).	P0	No data pulled by the partner is asked for again.

5.3 Tender discovery (TND)

ID	Requirement	Priority	Acceptance criterion
SUR-TND-001	The platform shall let a contractor or the desk add a tender manually (portal, tender ID, beneficiary, title, EMD, contract value, closing date, bid validity) with the tender document attached.	P0	A manually added tender can be used in an application.

ID	Requirement	Priority	Acceptance criterion
SUR-TND-002	The platform shall ingest open tenders daily from GeM, CPPP, NHA and the pilot states' e-procurement portals, using published feeds where they exist and browser automation only where the portal's terms allow it.	P1	Ingestion logs show a daily run per source with counts and failures.
SUR-TND-003	The platform shall de-duplicate tenders across sources by portal and tender ID and keep corrigenda as versions.	P1	A corrigendum updates closing date without creating a second tender.
SUR-TND-004	Each tender shall carry the beneficiary's bond-format status (accepted, pending, not accepted) from the beneficiary register (SUR-DSK-008).	P0	The status shows on the tender card and quote.
SUR-TND-005	The platform shall match tenders to contractors by work category, state and available limit and show them in the contractor portal.	P2	A contractor sees only tenders in their categories and states.
SUR-TND-006	The platform shall alert a contractor 72 hours and 24 hours before the closing date of a tender with an unfinished application.	P1	Test alerts fire at both points by SMS and email.

5.4 Application and quote (QTE)

ID	Requirement	Priority	Acceptance criterion
SUR-QTE-001	Starting from a tender, the platform shall pre-fill bond type, amount (EMD for bid bonds), tenure (BR-006) and beneficiary.	P0	Values match the tender and BR-006 for five test tenders.

ID	Requirement	Priority	Acceptance criterion
SUR-QTE-002	The contractor shall be able to change bond type, amount and tenure; the quote shall recompute on each change.	P0	A changed amount updates premium within 1 second.
SUR-QTE-003	The platform shall return an indicative quote showing premium, GST, total payable, rate, collateral, band and routing outcome (instant approval, insurer review, or manual placement).	P0	The quote matches BR-004, BR-005 and BR-010 for a test matrix of 30 cases.
SUR-QTE-004	The quote shall be returned within 60 seconds of submission when the contractor's data is already on file, and within 5 seconds for re-quotes.	P0	95th percentile meets both targets in load tests.
SUR-QTE-005	When the beneficiary's bond format is not accepted, the quote shall warn the contractor and open a task for the beneficiary desk.	P0	Task appears in the ops console for a test tender with pending status.
SUR-QTE-006	A band-D result shall not show a price; it shall explain that the bond cannot be placed now and offer to reduce the amount or add collateral.	P0	No premium is displayed for a band-D test case.
SUR-QTE-007	On submit, the platform shall record the application with the rule-set version, data snapshot IDs, quote and routing result, all immutable.	P0	Re-running the stored inputs against the stored rule version reproduces the quote exactly.
SUR-QTE-008	If the application falls inside the routed carrier's grid (BR-010), it shall move to "Approved, pay to issue" without manual review.	P0	A band-A bid bond of ₹18 lakh is approved instantly in the pilot configuration.
SUR-QTE-009	A quote shall be valid for 7 days or until the tender closes, whichever is earlier.	P0	An expired quote cannot be paid and offers a re-quote.

ID	Requirement	Priority	Acceptance criterion
SUR-QTE-010	From an issued bid bond, "I won this tender" shall create a pre-filled performance bond application (BR-007) and ask for the award letter.	P1	The new application links to the bid bond and tender.
SUR-QTE-011	A contractor shall be able to save a draft application and return to it.	P1	A draft survives sign-out and appears under "Your bonds".

5.5 Underwriting desk (DSK)

ID	Requirement	Priority	Acceptance criterion
SUR-DSK-001	The ops console shall list all applications with filters on status, band, bond type, carrier, partner, age and tender closing date, sorted by closing date by default.	P0	Filters combine; the default sort puts the nearest deadline first.
SUR-DSK-002	For each application, the platform shall build a risk file: factor scores with their source values, knock-outs, data-source snapshots, KYC results, tender details, the contractor's facility and the proposed terms.	P0	Every number in the risk file links to its source snapshot.
SUR-DSK-003	A desk underwriter shall be able to send the risk file to the routed carrier, choose another eligible carrier, request documents, or decline with a reason code.	P0	Each action changes status per section 6 and notifies the contractor and partner.
SUR-DSK-004	Document requests shall name each document and a due date; the contractor uploads in the portal and the application returns to the desk queue.	P0	Uploaded documents appear in the risk file with timestamps.

ID	Requirement	Priority	Acceptance criterion
SUR-DSK-005	An underwriter may override the score, band or proposed terms with a written reason; the override takes effect only after a supervisor approves it (maker-checker).	P1	An override by one user cannot be approved by the same user.
SUR-DSK-006	The console shall show each contractor's facility: aggregate limit, outstanding bonds by insurer, bank guarantees from the bureau, and headroom.	P1	Headroom equals limit minus outstanding for test data.
SUR-DSK-007	The console shall flag applications whose tender closes within 48 hours and that have no decision.	P0	Flag appears and an alert goes to the supervisor.
SUR-DSK-008	The console shall maintain a beneficiary register: department, portal, contact, bond-format status, accepted wording reference, and the history of acceptance requests.	P0	Changing a status updates all open tenders for that beneficiary.
SUR-DSK-009	The console shall list website leads and partner referrals with owner, status and next action.	P0	A lead from SUR-WEB-007 appears with its source page.

5.6 Carrier management and routing (CAR)

ID	Requirement	Priority	Acceptance criterion
SUR-CAR-001	The platform shall hold, per carrier: appetite (bands, bond types, ticket range, states, excluded sectors), filed rates per band and type, bond wording templates, counter-indemnity template, and turnaround commitments.	P0	A supervisor can view and edit each field; edits are versioned.

ID	Requirement	Priority	Acceptance criterion
SUR-CAR-002	Each carrier's pre-approved grid shall be stored as a versioned rule set with effective dates and the insurer's sign-off (name, date, document).	P0	An unsigned grid version cannot be activated.
SUR-CAR-003	Routing shall follow BR-009 and record every carrier considered and why it was or was not chosen.	P0	The routing log for a test case lists all three carriers with reasons.
SUR-CAR-004	Instant approvals shall follow BR-010 and BR-011; the platform shall stop instant approvals for a carrier the moment its daily cap or treaty capacity is reached.	P0	The 11th instant approval under a cap of 10 is queued for the desk.
SUR-CAR-005	On a carrier decline, the platform shall offer the next eligible carrier to the desk with the risk file already re-addressed.	P0	One click sends the file to the next carrier.
SUR-CAR-006	The platform shall track each carrier's exposure by band, bond type, contractor and beneficiary against the limits the carrier sets, and warn at 80% use.	P1	A warning fires when a test carrier crosses 80% of a contractor limit.
SUR-CAR-007	Rate tables and grids shall be importable from a signed CSV and exportable for the insurer's review.	P1	Round-trip import and export leaves the rule set unchanged.

5.7 Insurer console and API (INS)

ID	Requirement	Priority	Acceptance criterion
SUR-INS-001	Insurer users shall see only their own carrier's referrals, book and invocations.	P0	A user of carrier 1 gets a 403 on any carrier 2 record.

ID	Requirement	Priority	Acceptance criterion
SUR-INS-002	The referral inbox shall show each risk file in full and allow approve on proposed terms, approve with changed terms (rate, collateral, conditions), or decline with a reason code.	P0	Each decision is time-stamped, attributed and visible to the desk at once.
SUR-INS-003	The same decisions shall be available through a signed REST API and webhook, with the console as fallback.	P1	Pact contract tests pass for the pilot insurer's API.
SUR-INS-004	The console shall show the carrier's appetite, active grid version, today's instant approvals against its cap, and exposure by band.	P0	Figures match the platform database for test data.
SUR-INS-005	The insurer shall be able to pause instant approvals for its carrier at any time, effective immediately.	P0	After pausing, a grid-eligible application goes to insurer review.

5.8 Issuance and payments (ISS)

ID	Requirement	Priority	Acceptance criterion
SUR-ISS-001	Once approved, the contractor shall pay premium plus GST through a payment gateway that settles directly to the insurer's collection account.	P0	Gateway settlement reports show the insurer as payee; no Covernow account appears in the flow.
SUR-ISS-002	Where collateral applies, the platform shall record the FD lien (bank, FD number, amount, lien letter) and block issuance until the insurer confirms the lien.	P1	Issuance stays blocked in tests until confirmation.

ID	Requirement	Priority	Acceptance criterion
SUR-ISS-003	On payment confirmation, the platform shall obtain the insurer's policy and bond number (by API, or entered by the insurer in the console) and generate the bond PDF from the insurer's filed wording.	P0	The PDF carries the insurer's wording, both numbers, a QR code and the insurer's digital signature.
SUR-ISS-004	The platform shall store each issued bond in write-once storage with a SHA-256 hash recorded against the bond.	P0	Altering the stored PDF makes verification fail.
SUR-ISS-005	The bond shall be delivered to the contractor (portal, email, WhatsApp) and to the beneficiary's registered email where known, within 15 minutes of payment.	P0	Delivery events are logged for all channels.
SUR-ISS-006	The platform shall issue a GST-compliant premium receipt on the insurer's behalf where the insurer's API provides it, or link to the insurer's receipt.	P0	The contractor can download the receipt from the bond page.
SUR-ISS-007	An unpaid approval shall expire with the quote (SUR-QTE-009); a failed payment shall be retryable without a new application.	P0	A failed test payment can be retried and succeeds.
SUR-ISS-008	The platform shall handle amendments (amount, validity extension) as endorsements with an additional premium computed under BR-005.	P1	An extension of a bid bond by 30 days produces an endorsement and an additional premium.

5.9 Brokerage, payouts and reconciliation (FIN)

ID	Requirement	Priority	Acceptance criterion
SUR-FIN-001	The commission engine shall accrue brokerage on each issued bond per BR-012 and the partner share per BR-013, by insurer and partner.	P0	Accruals for a test month match a hand calculation.
SUR-FIN-002	The platform shall reconcile, per bond, premium paid by the contractor, premium confirmed by the insurer, and brokerage received from the insurer; any mismatch shall raise an exception.	P1	A test mismatch of ₹1 raises an exception.
SUR-FIN-003	Partner payouts shall be computed monthly, approved by a finance checker, and exported as a bank payment file; partners see statements in their workspace.	P0	The partner statement equals the approved payout.
SUR-FIN-004	Reversals on cancellation shall follow BR-014.	P1	A cancelled test bond reverses its brokerage in the next cycle.
SUR-FIN-005	Revenue shall be reported on a principal basis (gross brokerage as revenue, partner share as expense), consistent with Covernow's existing accounting.	P0	The finance export shows gross and partner share as separate lines.

5.10 Verification, invocation and expiry (VER)

ID	Requirement	Priority	Acceptance criterion
SUR-VER-001	verify.suretynow.com shall let anyone verify a bond by bond number, or by scanning its QR code, without logging in.	P0	A valid number shows the bond; an unknown number shows "Not found" with advice not to accept the document.

ID	Requirement	Priority	Acceptance criterion
SUR-VER-002	The result shall show principal, beneficiary, insurer, amount, validity, status (in force, expired, invoked, cancelled) and the hash check of the stored PDF.	P0	An expired test bond shows "Expired" with its end date.
SUR-VER-003	Verification shall be rate-limited per IP and shall not reveal any data beyond SUR-VER-002.	P0	60 requests per minute from one IP are throttled.
SUR-VER-004	A beneficiary officer shall be able to lodge an invocation after verifying an official email address by OTP, uploading the demand letter and stating the amount.	P0	The insurer and the desk are notified within 5 minutes.
SUR-VER-005	Invocations shall be tracked through lodged, under review, paid or rejected, and recovery from the contractor under the counter-indemnity; the bond status shall change to "Invoked".	P1	Each stage is time-stamped; status shows on verification.
SUR-VER-006	Before expiry the platform shall remind the contractor at 30 and 7 days; at expiry the bond moves to "Expired", the claim period runs, and the limit is released at the end of the claim period.	P1	The limit headroom rises on the claim-period end date.
SUR-VER-007	Where the beneficiary returns the original bond or issues a discharge, the desk shall record it and the insurer shall be able to close the bond early.	P1	A discharged bond shows "Closed" and releases the limit.

5.11 Partner workspace (PTN)

ID	Requirement	Priority	Acceptance criterion
SUR-PTN-001	A partner user shall refer a contractor with business name, GSTIN, city and mobile number.	P0	The referral appears in the partner list and in the ops console.

ID	Requirement	Priority	Acceptance criterion
SUR-PTN-002	The platform shall send the contractor an SMS consent link naming the partner and the data it will share; nothing is shared until accepted.	P0	Data from the partner loads only after acceptance in tests.
SUR-PTN-003	Partner users shall see their referred contractors, each application's status, bonds issued, premium placed and their referral earnings; they shall not see risk-file details or other partners' data.	P0	A partner user cannot open a risk file.
SUR-PTN-004	Partners shall be able to refer in bulk through the existing ingestion tiers (API, SFTP, Excel).	P2	A 500-row Excel upload creates 500 referrals with errors reported per row.
SUR-PTN-005	Anchor buyers (large EPCs or corporates) shall be able to invite their MSME vendors as a programme, with a programme dashboard.	P2	Vendors invited under a programme are tagged to it.

5.12 Administration, roles and audit (ADM)

ID	Requirement	Priority	Acceptance criterion
SUR-ADM-001	Access shall be role-based, with the roles in section 2.2, and least privilege by default.	P0	A permissions matrix test passes for every role.
SUR-ADM-002	Desk, insurer, finance and admin users shall use multi-factor authentication.	P0	Login without a second factor fails for these roles.
SUR-ADM-003	Every create, update, decision, override, export and login shall be written to an append-only audit log with user, time, IP, before and after values.	P0	The audit export for a test application shows every step.

ID	Requirement	Priority	Acceptance criterion
SUR-ADM-004	Rule sets, rate tables, grids, consent texts, bond templates and website legal pages shall be versioned with effective dates.	P0	Any past application shows which versions applied.

5.13 Notifications (NOT)

ID	Requirement	Priority	Acceptance criterion
SUR-NOT-001	The platform shall notify contractors and partners by SMS and email at each status change, and by WhatsApp where opted in.	P0 (WhatsApp P1)	Templates exist for every transition in section 6.
SUR-NOT-002	All SMS shall use DLT-registered templates, and all email shall be sent from suretynow.com with SPF, DKIM and DMARC passing.	P0	Test messages pass DLT and DMARC checks.
SUR-NOT-003	Users shall be able to choose channels, except for regulatory notices.	P1	Opting out of WhatsApp stops WhatsApp only.

5.14 Reporting and MIS (MIS)

ID	Requirement	Priority	Acceptance criterion
SUR-MIS-001	A management dashboard shall show applications, approvals, issuance, GWP, sum bonded, brokerage and partner share by day, month, insurer, partner, band and bond type.	P0	Totals reconcile to the finance export.

ID	Requirement	Priority	Acceptance criterion
SUR-MIS-002	The dashboard shall show the share of bonds approved inside a grid, median time from application to issue, and the conversion funnel from website visit to issued bond.	P1	Grid share matches a manual count for a test month.
SUR-MIS-003	The platform shall produce insurer bordereaux (monthly, per carrier) and the regulatory returns Covernow files as a broker for this line.	P1	Bordereau format is accepted by the pilot insurer.
SUR-MIS-004	The dashboard shall track invocations and loss ratio by band once the book has 12 months of history.	P2	Loss ratio by band displays for test data.

6. Application and bond state model

Applications and bonds each follow one state machine; any transition not listed here shall be rejected by the service and logged.

6.1 Application states

DRAFT → SCORED → DOCS_REQUESTED → WITH_INSURER → APPROVED → ISSUED (hands off to the bond), with DECLINED, EXPIRED and WITHDRAWN as end states.

From	Event	To	Actor	Guard
DRAFT	Submit	SCORED	Contractor	Consents in place; tender not closed
SCORED	Grid match	APPROVED	System	BR-010 and BR-011 pass; carrier not paused
SCORED	Send risk file	WITH_INSURER	Desk underwriter	A carrier is eligible under BR-009

From	Event	To	Actor	Guard
SCORED	Request documents	DOCS_REQUESTED	Desk underwriter	At least one document named with a due date
DOCS_REQUESTED	All documents uploaded	SCORED	Contractor	Re-scored on upload
DOCS_REQUESTED	Due date passes	EXPIRED	System	No upload by the due date
SCORED	Decline	DECLINED	Desk underwriter	Reason code required
WITH_INSURER	Approve	APPROVED	Insurer	Terms recorded, possibly changed
WITH_INSURER	Decline	SCORED	Insurer	Reason code; desk offered the next carrier
APPROVED	Payment confirmed and bond number received	ISSUED	System	Counter-indemnity signed; collateral confirmed where required
APPROVED	Quote validity ends	EXPIRED	System	SUR-QTE-009
Any open state	Withdraw	WITHDRAWN	Contractor	Not yet paid

6.2 Bond states

From	Event	To	Actor	Guard
—	Issued	IN_FORCE	System	From application ISSUED

From	Event	To	Actor	Guard
IN_FORCE	Endorsement issued	IN_FORCE	Insurer	Additional premium paid
IN_FORCE	Invocation lodged	INVOKED	Beneficiary	Verified official email; demand letter attached
IN_FORCE	Validity end date passes	EXPIRED	System	Claim period starts
EXPIRED	Claim period ends	CLOSED	System	No invocation; limit released
EXPIRED	Invocation lodged within claim period	INVOKED	Beneficiary	Same as above
IN_FORCE	Discharge recorded	CLOSED	Desk, confirmed by insurer	Discharge letter or original bond returned
IN_FORCE	Cancellation	CANCELLED	Insurer	Beneficiary consent where the wording requires it; BR-014 applies
INVOKED	Claim paid or rejected	CLOSED	Insurer	Outcome and amount recorded; recovery tracked separately

7. External interface requirements

All external traffic passes through the API gateway at api.suretynow.com or the CDN; no core service is reachable from the internet.

7.1 User interfaces

Interface	Host	Users	Key requirements
Public website	suretynow.com	Visitors	Section 5.1; mobile-first, 360 px and up

Interface	Host	Users	Key requirements
Contractor portal	app.suretynow.com	Contractors	Mobile-first; a complete bid-bond application in under 10 taps after data is on file
Partner workspace	app.suretynow.com	Partner users	Desktop-first, responsive
Ops console	app.suretynow.com	Desk, finance, admin	Desktop-first; keyboard shortcuts for queue actions
Insurer console	app.suretynow.com	Insurer underwriters	Desktop-first
Verification page	verify.suretynow.com	Beneficiary officers, public	No login; loads in under 2 s on 4G

All interfaces share one SuretyNow design system, built in Figma and implemented as a component library, with light and dark themes and WCAG 2.1 AA contrast.

7.2 Platform APIs

REST over HTTPS with JSON, described in OpenAPI 3.1, versioned in the path (/v1).

Partner and insurer APIs use OAuth 2.0 client credentials with mutual TLS; webhooks are signed with HMAC-SHA256 and retried with exponential backoff for 24 hours.

Endpoint	Method	Caller	Purpose	Priority
/v1/quotes	POST	Contractor portal, partner API	Indicative quote for bond type, amount, tenure	P0
/v1/applications	POST, GET	Contractor portal, partner API	Create and read applications	P0
/v1/applications/{id}/documents	POST	Contractor portal	Upload requested documents	P0
/v1/referrals	POST	Partner API	Refer a contractor (single or batch)	P1
/v1/insurer/referrals	GET	Insurer API	List referrals awaiting decision	P1
/v1/insurer/referrals/{id}/decision	POST	Insurer API	Approve, approve with terms, decline	P1

Endpoint	Method	Caller	Purpose	Priority
<code>/v1/insurer/bonds/{id}/issuance</code>	POST	Insurer API	Post policy and bond numbers and the signed PDF	P1
<code>/v1/verify/{bondNumber}</code>	GET	Verification page, public	Bond status (fields in SUR-VER-002 only)	P0
<code>/v1/invocations</code>	POST	Verification page	Lodge an invocation	P0
<code>/v1/leads</code>	POST	Website	Create a lead from a form	P0
<code>/v1/rates/indicative</code>	GET	Website	Rate ranges for the calculator, public and cached	P0
Webhooks: <code>application.status_changed</code> , <code>bond.issued</code> , <code>bond.invoked</code> , <code>payout.settled</code>	POST	To partners and insurers	Event notifications	P1

7.3 Integration interfaces

System	Direction	Protocol	Data	Failure handling
GSP (GSTN)	Out, in	REST, OTP consent	Taxpayer details, GSTR-1 and GSTR-3B summaries	Retry 3 times; then mark factor missing (BR-002)
Commercial bureau	Out, in	REST or SFTP batch	CMR, facilities, BGs, defaults	Retry; desk can upload a report manually
Account Aggregator	Out, in	ReBIT AA APIs via TSP	Bank statements, 12 months	Fall back to PDF upload
e-Sign ESP	Out, in	ESP API, redirect flow	Signed counter-indemnity and proposal	Allow retry; block issuance until signed
Payment gateway	Out, in	Hosted checkout and webhooks	Payment status, settlement reports	Reconcile daily; manual review queue
Insurer systems	Both	REST and webhooks, or console	Decisions, policy and bond numbers, PDFs	Console fallback; SLA alerts

System	Direction	Protocol	Data	Failure handling
Tender portals	In	Feeds, or Playwright automation where permitted	Tender metadata and documents	Skip source and alert; manual entry
SMS, WhatsApp, email	Out	Provider APIs	Notifications	Fail over SMS provider; log delivery
Commission engine	Internal	Events on SQS	Bond issued, cancelled, brokerage received	Idempotent consumers with dead-letter queue

8. Data requirements

Fifteen entities in PostgreSQL. Money is stored as `NUMERIC(18,2)` in INR, identifiers as UUIDs, and timestamps as `TIMESTAMPZ`. Every table carries `created_at`, `created_by`, `updated_at` and `version`.

8.1 Entities

Entity	Key attributes	Relationships	Retention
Contractor	GSTIN (unique), PAN, CIN/LLPIN, legal name, constitution, state, work categories, source and referral code	Has users, consents, snapshots, applications, facility	Life of relationship + 10 years
ContractorUser	Mobile, email, role (owner, staff), MFA flag	Belongs to contractor	As contractor
Consent	Type (GST, bureau, AA, e-sign), purpose, data items, consent text version, granted and revoked at, IP, device, artefact ID	Belongs to contractor	10 years after expiry

Entity	Key attributes	Relationships	Retention
FinancialSnapshot	As-of date, turnover, GST filing %, CMR, facilities, BGs outstanding, bank inflows, raw payload pointer	Belongs to contractor; referenced by risk files	10 years
Facility	Band, aggregate limit, outstanding, headroom, computed at	Belongs to contractor	Current + history
Lead	Source page, UTM fields, referral code, name, mobile (verified), type, owner, status	May convert to contractor or partner	3 years if not converted
Partner	Name, type (NBFC, anchor buyer), referral share %, payout account, referral code	Has users, referrals, contractors	Life + 10 years
Tender	Source, portal tender ID, beneficiary, title, EMD, contract value, closing date, bid validity, version	Belongs to beneficiary	10 years
Beneficiary	Department, portal, official email domains, bond-format status, wording reference	Has tenders, bonds	Life of platform
Application	Type, amount, tenure, status, score, band, terms, rule-set version, routing log, quote validity	Contractor × tender; has risk file	10 years
RiskFile	Factor scores, knock-outs, snapshot IDs, desk notes, version (immutable once sent)	Belongs to application	10 years

Entity	Key attributes	Relationships	Retention
Carrier	Name, appetite, filed rates, grid versions with sign-off, caps, templates	Has decisions, bonds	Life of platform
Bond	Bond number, policy number, insurer, amount, valid from and to, claim period end, status, PDF pointer, SHA-256 hash	From one application; has endorsements, invocations	10 years after closure
Payment	Premium, GST, gateway reference, settled to insurer at, receipt pointer, collateral lien details	Belongs to bond	10 years
Invocation	Demand letter pointer, amount claimed, lodged by and at, status, amount paid, recovery status	Belongs to bond	10 years after closure

Brokerage and partner payouts live in the existing commission engine, keyed by bond ID.

8.2 Data rules

- **DR-01.** Raw third-party payloads (GST, bureau, AA) are stored encrypted in S3 and referenced by snapshot; only derived fields sit in PostgreSQL.
- **DR-02.** PAN, Aadhaar-linked e-sign data, bank account numbers and mobile numbers are encrypted at field level with KMS keys; Aadhaar numbers are never stored.
- **DR-03.** Retention periods above are proposals pending compliance confirmation; on expiry, personal data is deleted or anonymised and the deletion logged.
- **DR-04.** A data principal's access, correction and erasure requests under the DPDP Act are handled within 30 days, except where retention is required by law or regulation.
- **DR-05.** Production data is never copied to lower environments; UAT uses synthetic data.

9. Non-functional requirements

Each target is measured in production monitoring, not only in test.

ID	Category	Requirement	Target	Priority
SUR-NFR-001	Performance	Indicative quote with data on file	p95 ≤ 60 s first quote; ≤ 5 s re-quote	P0
SUR-NFR-002	Performance	Portal page interactions and API reads	p95 ≤ 800 ms	P0
SUR-NFR-003	Performance	Verification lookup	p95 ≤ 500 ms server time	P0
SUR-NFR-004	Performance	Website Core Web Vitals on 4G mid-range Android	LCP < 2.5 s, INP < 200 ms, CLS < 0.1	P0
SUR-NFR-005	Capacity	Design load at Phase 3	5,000 contractors, 2,000 applications a day, 50 concurrent desk and insurer users, 20 quotes per second peak	P1
SUR-NFR-006	Availability	Contractor portal, verification page and website	99.5% monthly; 99.9% in the last 72 hours before major tender deadlines when flagged	P0
SUR-NFR-007	Availability	Ops and insurer consoles	99.5% in business hours (9:00–21:00 IST)	P0
SUR-NFR-008	Recovery	Disaster recovery to ap-south-2	RPO ≤ 15 min, RTO ≤ 4 h; tested twice a year	P1
SUR-NFR-009	Security	Encryption	TLS 1.2+ in transit; AES-256 at rest; field-level encryption per DR-02	P0
SUR-NFR-010	Security	Application security	OWASP ASVS Level 2; no open critical or high findings at release; annual third-party penetration test and before go-live	P0

ID	Category	Requirement	Target	Priority
SUR-NFR-011	Security	Secrets and keys	All secrets in Secrets Manager; keys rotated yearly; no secrets in code (scanned in CI)	P0
SUR-NFR-012	Security	Perimeter	WAF with OWASP rules and bot control on all public hosts; rate limits per IP and per client	P0
SUR-NFR-013	Security	Information security programme	Aligned with IRDAI's information and cyber security guidelines; CERT-In incident reporting within 6 hours	P0
SUR-NFR-014	Privacy	Consent and data minimisation	DPDP Act compliant; only data needed for underwriting is pulled; purpose stored with each consent	P0
SUR-NFR-015	Residency	Data location	All data, backups and logs in India	P0
SUR-NFR-016	Auditability	Reproducibility	Any past quote, routing decision or approval can be reproduced from stored inputs and versions	P0
SUR-NFR-017	Observability	Tracing and alerting	Distributed traces across services; alerts on error rate > 1%, queue age > 5 min, failed integrations	P0
SUR-NFR-018	Usability	Contractor flows	A first-time contractor completes onboarding and a bid-bond application in under 15 minutes in usability tests	P1

ID	Category	Requirement	Target	Priority
SUR-NFR-019	Accessibility	All interfaces	WCAG 2.1 AA	P1
SUR-NFR-020	Maintainability	Code quality	80% line coverage on scoring, routing, pricing and payout code; SonarQube quality gate must pass to merge	P0
SUR-NFR-021	Portability	Infrastructure	All infrastructure defined in Terraform; a new environment is created from scratch in under 1 day	P1

10. Compliance requirements

SuretyNow is a distribution and risk-packaging layer; each compliance obligation below maps to the requirements that enforce it.

Obligation	How the platform meets it	Requirement IDs	Owner
Broker does not bind cover	Instant approval only inside insurer-signed grids; insurer can pause at any time	SUR-CAR-002, SUR-CAR-004, SUR-INS-005	Compliance
Premium goes straight to the insurer	Gateway settles to the insurer's account	SUR-ISS-001	Finance
Disclosure of broker identity under a trade name	Licence details on every page, email and document	SUR-WEB-009, SUR-NOT-002	Compliance
Advertisement approval	Approval reference on every soliciting page	SUR-WEB-016, SUR-WEB-010	Compliance
Remuneration within regulatory limits	Brokerage per insurer agreement; partner share from brokerage	BR-012, BR-013, SUR-FIN-001	Compliance, Finance

Obligation	How the platform meets it	Requirement IDs	Owner
Surety product and wording	Insurer's filed wording only; platform fills variables	SUR-ISS-003, constraint 2.4(5)	Insurer, Compliance
Consent and personal data (DPDP Act)	Purpose-specific consents, revocation, data-principal requests	SUR-ONB-003, SUR-ONB-004, DR-04	Compliance
Data residency and cyber security	India-only hosting; IRDAI cyber security guidelines; CERT-In reporting	SUR-NFR-013, SUR-NFR-015	Tech head
Grievance redressal	Grievance page and contact on the website; complaints logged and tracked	SUR-WEB-009	Compliance
Records and audit	Append-only audit log; 10-year retention	SUR-ADM-003, section 8	Compliance

11. Release mapping, open issues and sign-off

11.1 Release mapping

The SRS holds 105 functional requirements and 21 non-functional requirements. Release 1 delivers every P0 item, Release 2 every P1 item, and Release 3 every P2 item, aligned with the pilot, grid and scale phases in the product spec.

Module	P0 (Release 1)	P1 (Release 2)	P2 (Release 3)	Total
WEB Public website	13	5	0	18
ONB Onboarding and consent	10	3	0	13
TND Tender discovery	2	3	1	6
QTE Application and quote	9	2	0	11
DSK Underwriting desk	7	2	0	9
CAR Carrier management	5	2	0	7

Module	P0 (Release 1)	P1 (Release 2)	P2 (Release 3)	Total
INS Insurer console and API	4	1	0	5
ISS Issuance and payments	6	2	0	8
FIN Brokerage and payouts	3	2	0	5
VER Verification and invocation	4	3	0	7
PTN Partner workspace	3	0	2	5
ADM Administration and audit	4	0	0	4
NOT Notifications	2	1	0	3
MIS Reporting	1	2	1	4
Total	73	28	4	105

11.2 Open issues

- ☐ Confirm that Covernow Insurance Brokers may trade as SuretyNow, and whether IRDAI needs to be informed of, or approve, the trade name and the separate website
- ☐ Secure the suretynow.com domain (and suretynow.in as a defensive registration), plus matching social handles
- ☐ Pilot insurer: filed rates, bond wording, counter-indemnity format, grid for the pilot, API or console
- ☐ Confirm brokerage rate and the partner referral share structure against current remuneration rules
- ☐ Confirm exposure caps under the current surety guidelines and the revised solvency requirement
- ☐ Bureau pull under Covernow's membership or via the partner NBFC
- ☐ Retention periods in section 8 confirmed by compliance
- ☐ First three beneficiary departments to clear the bond format with
- ☐ Tech head hire, or a build partner, to own delivery of Release 1

11.3 Sign-off

- ☐ Product: Aparajit
- ☐ Compliance and principal officer: Abhijit Bhaumik
- ☐ Distribution and partners: Rajarshi Guha
- ☐ Technology: tech head (to be appointed)
- ☐ Pilot insurer: underwriting lead