

FCA AI Authorisation Platform (AI + Human Verified)

Product Requirements Document (PRD)

Includes: Modules, User Stories, Acceptance Criteria, Supabase SQL Schema, and Screen-by-Screen UI Blueprint

Output format: Markdown (MD) – suitable for PDF export

1. Product Overview

1.1 Product Vision

Build a **regulator-grade, AI-driven FCA application production platform** that automates the creation of complete FCA authorisation and registration application bundles, with **human verification, full auditability, and traceability to regulation.**

The platform converts unstructured founder input into: - FCA-ready application answers - Business plans and financial models - Policies and procedures mapped to regulation - Funds flow and process flow diagrams - A submission-ready FCA bundle pack - Post-submission FCA caseworker correspondence support

1.2 Target Customers

- UK & EU fintech founders
- Payment service providers
- Consumer credit firms
- Open Banking firms
- Mortgage & insurance intermediaries

1.3 Core Differentiator

Not advice. Not templates. A verifiable regulatory production system.

2. In-Scope FCA Licence Categories (Phase-based)

Phase 1 (MVP – revenue focus) - Small Payment Institution (SPI) - Small Electronic Money Institution (Small EMI)

Phase 2 - Authorised Payment Institution (API) - Electronic Money Institution (EMI) - Open Banking (AIS / PISP / RAISP)

Phase 3 (Enterprise / Premium) - Consumer Credit (incl. lenders) - Mortgages & Insurance - Credit Institution / Banking licence

3. System Architecture (High Level)

3.1 Frontend

- **Web:** Next.js (React) on Vercel
- **Mobile:** React Native (Expo) – iOS & Android

3.2 Backend

- **Supabase**
- PostgreSQL (system of record)
- Auth (MFA for internal users)
- Storage (documents, diagrams, bundles)
- Row Level Security (multi-tenant isolation)

3.3 AI Orchestration Layer

- Stateless worker service (FastAPI or Node)
 - Job-based agent execution
 - No long-term memory
 - All outputs stored only after validation
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4. Functional Modules

4.1 Client Intake & Fit-and-Proper Module

Purpose: Capture structured regulatory facts and risk indicators.

Key Features - Adaptive FCA-style questionnaire - Director/PSC/MLRO profiling - Risk-rated fit & proper assessment (no hard fail) - Evidence upload prompts

Outputs - Structured fact records - Risk flags + remediation tasks

4.2 Licence Detection & Scope Engine

Purpose: Determine correct FCA licence category and permissions.

Logic Inputs - Products offered - Funds flow - Customer type - Geographic scope

Outputs - Detected licence category - Required permissions - Document checklist - FCA form mapping

4.3 Regulatory Research Engine (Curated RKB)

Purpose: Provide authoritative regulatory grounding.

Sources (Curated) - FCA Handbook - Payment Services Regulations - Electronic Money Regulations - MLRs / JMLSG guidance - FCA perimeter guidance

Rules - No uncited regulatory claims - All outputs linked to stored sources

4.4 Business Plan & Financial Model Module

Outputs - FCA-grade business plan - 3–5 year financial projections - Sensitivity analysis - Risk and mitigation mapping

Validation Rules - Financial consistency checks - Assumption disclosure

4.5 Policies & Procedures Factory (Core Module)

Outputs - AML/CTF Framework - Risk Assessment - Compliance Monitoring Programme - Safeguarding (where applicable) - Governance & SMF oversight - Complaints handling - Outsourcing & resilience

Control Mapping Policy Section → Regulation → Control → Evidence → Process Step

4.6 Funds Flow & Process Flow Engine

Diagram Types - Funds flow (client → PSP → safeguarding → settlement) - End-to-end process flows

Implementation - Template-driven Mermaid / BPMN-style diagrams - Output as SVG + PNG - Versioned diagram source stored

4.7 FCA Application Pack Builder

Outputs - Field-by-field FCA form answers - Annex documents - Evidence index - Final submission bundle (ZIP/PDF)

4.8 FCA Caseworker Correspondence Module

Inputs - FCA emails / letters

Outputs - Draft responses - Evidence packs - Gap analysis

Rule - Human approval required before sending

5. User Roles

- Client Admin (Founder)
 - Client Contributor (MLRO, Finance)
 - Internal Reviewer
 - Super Admin
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6. User Stories & Acceptance Criteria (Samples)

US-01: Client Intake

As a founder
I want to describe my business once
So that the system generates all FCA documentation

Acceptance Criteria - Intake adapts based on answers - All responses stored as structured facts - Missing data flagged

US-02: Policy Generation

As a reviewer
I want policies mapped to regulation
So that FCA expectations are demonstrably met

Acceptance Criteria - Each policy section shows regulatory mapping - No uncited controls allowed - Version history preserved

7. Supabase Database Schema (Simplified SQL)

```
create table organisations (
    id uuid primary key,
    name text,
    licence_type text,
    created_at timestamp
);

create table applications (
    id uuid primary key,
    organisation_id uuid references organisations(id),
```

```

    status text,
    created_at timestamp
);

create table facts (
    id uuid primary key,
    application_id uuid,
    key text,
    value jsonb,
    confidence_score numeric
);

create table policies (
    id uuid primary key,
    application_id uuid,
    name text,
    content text,
    version integer,
    approved boolean
);

create table diagrams (
    id uuid primary key,
    application_id uuid,
    type text,
    source text,
    svg_url text
);

create table audit_log (
    id uuid primary key,
    entity text,
    entity_id uuid,
    action text,
    performed_by uuid,
    timestamp timestamp
);

```

8. UI Blueprint – Web & Mobile

8.1 Global Design System

- Dark-mode only
- Black canvas with gold glow accents
- Glassmorphism panels

- Subtle motion (pulse, shimmer, scan)
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8.2 Web Screens

1. Landing / Dashboard

2. Application status
3. Progress tracker
4. Risk flags

5. Intake Wizard

6. Sectioned FCA-style questions
7. Evidence upload inline

8. Document Factory

9. Policy list with status
10. Diagram preview

11. Reviewer Split Screen

12. Left: source
13. Right: generated output
14. Approve / edit / query

15. Bundle Pack Builder

16. Checklist view
17. Export controls

18. Correspondence Inbox

19. FCA queries
 20. Draft responses
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8.3 Mobile Screens

1. Login (MFA)
2. Application Overview
3. Intake Questions
4. Upload Evidence (camera / file)

5. Notifications (queries, approvals)

9. Non-Functional Requirements

- Multi-tenant isolation (RLS)
 - Immutable audit trail
 - Human-in-the-loop enforcement
 - Stateless AI processing
 - GDPR-aligned deletion workflows
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10. Success Metrics

- Time to submission pack
 - FCA follow-up cycles per application
 - Approval rate by licence type
 - Reviewer hours per client
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11. Commercial Notes (Internal)

- Start with SPI / Small EMI only
 - Sell as fixed-fee + platform access
 - Human verification remains premium moat
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End of Document