

QALS — Executive Summary

One page, every answer

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QALS Project — Executive Summary

Date: 2026-09-06 • **Prepared by:** qalcode autonomous deep-research session **Corpus:** 16 cloned IOTA-ecosystem repos (~550MB), live web research (all claims dated/linked in companion docs), 11 design documents.

The one-paragraph answer

IOTA in 2026 is two stories: a **failed token** (price \$0.041, rank #137, all-time-low last month, Shimmer staging network sunsetting 30 Sept 2026) wrapped around **excellent, free, Apache-2.0 infrastructure** — a Sui-derived Move + EVM object-ledger with provably-live DAG-BFT consensus (Starfish, Apr 2026), a mature identity/trust framework, and real-world trade deployments (TWIN in Kenya customs, ADAPT with AfCFTA/WEF). Our play: **fork their node, not their tokenomics**. Build **Qalnet** — qalarc's own private chain across the existing Tailscale fleet — with **QALS** (1M fixed supply, smallest unit "doof") as prepaid service credit, data-anchoring, compute tracking, agent identity, NFTs and an internal DEX; keep everything legally structured as prepaid services until a licensed exchange/stablecoin path is cleared.

Answers to each question asked

Question	Answer	Doc
How do we make our own coin/system off IOTA for data transfer?	Fork <code>iotaledger/iota</code> (Apache-2.0, Sui-lineage). Private chain "Qalnet", 4 validators on our own machines, data = anchor objects, integrity anchored to public IOTA.	<code>03_qals_architecture/</code>
Ternary systems review?	Fascinating history (Curl/Troika/Setun, MIT DCI feud), mathematically elegant, commercially dead — binary everywhere; keep a "trit" branding homage only.	<code>02_ternary_systems/</code>

Question	Answer	Doc
All IOTA app components?	Full component map of 17 repos incl. the node, SDKs, wallet, identity, Stronghold, wasp, streams, Firefly – with fork/drop verdicts.	01_iota_deep_research/IOTA_COMPONENT_MAP.md
Credit/token platform across all our apps?	qal_credit Move contracts: CreditAccount + Holds (pre-auth) + subscription streams + on-chain PriceTable; every app and AI agent gets a wallet whose spend caps are owner-set and loopd-enforced (optional, uncapped by default; on-chain cap code written + tested, activation on the cap-raise checklist).	04_credit_token_platform/
DeFi trading interface?	"Qalx": Phase A custom AMM (~1k lines Move) + dApp-kit UI; Phase B port DeepBook v3 (verified Apache-2.0) as CLOB "Qalbook"; treasury-seeded liquidity, burn-on-usage.	05_defi_trading/
Zip-style bank/exchange?	3-phase: closed-loop prepaid credit (no licence) → AUSTRAC DCE registration + qAUD stablecoin with partner → ACL credit (Zip-style instalments) / e-money path. Full cost/licensing reality check inside.	06_bank_exchange/
Can a tangle coin transfer & track compute?	Yes – compute becomes first-class objects: escrowed ComputeJob lifecycle, provider attestations, benchmark oracle, slashable stake, tradeable GPU-hour vouchers, receipt NFTs, AI-output provenance.	07_compute_marketplace/
NFT structures + our NFT projects?	IRC27 (legacy) → Move objects + Kiosk/TransferPolicy/Display + Gas Station gasless mints (current). Ship	08_nft_strategy/

Question	Answer	Doc
	compute-receipt NFTs first, Doofs PFP later.	
Digital identity + AI identity?	"Qal ID": DIDs for users AND agents, capability VCs, RFC 9421/Web Bot Auth for agent auth, on-chain revocation (~2s kill switch), SD-JWT selective disclosure, Hierarchies-based issuer governance.	09_identity_ai/
Current state + news of IOTA?	Rebased mainnet 5 May 2025 (Move L1, DPoS, coordinator gone); supply 1M but cap abolished (inflation); Starfish consensus Apr 2026; trade-infra pivot (TWIN/ADAPT/WEF/GLEIF); token at ATL. Shimmer sunsets 30 Sept 2026.	01_iota_deep_research/STATE_OF_IOTA_2026.md

— The five decisions that matter

1. **Private fork, not public token.** IOTA's decade proves public-token economics destroy good infrastructure. QALS = prepaid credit on a chain we run; sovereignty without speculation.
2. **Fixed 1M supply, no protocol inflation.** (IOTA abolished its cap — we won't. Validator rewards come from a finite allocation.)
3. **Move for value, EVM deferred.** Move VM from day one; the EVM surface is a separate IOTA stack (not in the base repo) — add later via the EVM-as-core-contract pattern if Solidity compatibility earns its keep.
4. **The AU\$1 backing is structural, not promised.** Two token classes: **B-QALS** issued only against AU\$1 in a segregated reserve (pre-endowed in the genesis issuer wallet; purchases transfer from it) (redeemable for AU\$1.00 of services value — services-only in this phase; the ~20% buy-side spread is the margin; burned when consumed — gift-card economics on-chain) and **G-QALS** (growth allocation under a revenue-funded ratchet

floor). Full design: `03_qals_architecture/QALS_BACKING_DESIGN.md`; pricing: `content/pricing.md`.

5. **Agents are first-class users.** DID + wallet + spend-cap + revocable credentials — owner-set ledger-enforced limits (loopd) beat prompt-engineered ones.
6. **Compliance gates the public surfaces.** Phase-1 B-QALS are non-transferable prepaid credit (no licence path required per doc 06 analysis); nothing publicly tradeable until the AUSTRAC/VASP path is executed.

— Costs & timeline (headline)

- **Weeks 1–4:** devnet on superlocal, fork renamed, QALS genesis, first DataAnchor from the agent hub. ~\$0 (labour only).
- **Months 2–3:** The Fleet validators + core contracts + hub metering live. ~\$50–100/mo cloud.
- **Months 4–6:** all apps integrated, compute settlement, ComputeReceipt NFTs, Qalx Phase A.
- **Month 6+:** AUSTRAC DCE + qAUD (per doc 06), Doofnet public testnet, DeepBook port if demand exists.

— The honest risk list (short version)

Regulatory reclassification of QALS (top risk — mitigated by prepaid framing + legal review before public sale); fork-maintenance burden (mitigated: our changes live in `qal_*` Move packages, core stays upstream); home-machine validators (mitigated: Starfish lag-tolerance + cloud validators); Move/Rust skill ramp (mitigated: IOTA workshops/docs are Sui-class, EVM fallback exists). Full table in doc 03 §7.

Index: 01 IOTA research • 02 ternary • 03 QALS architecture (+ AU\$1 backing design) • 04 credit platform • 05 DeFi (+ Qalx platform) • 06 bank/exchange • 07 compute • 08 NFTs • 09 identity/AI • 10 roadmap. Deliverables: `wiki/` (full site) • `dist/` (PDF suite) • `interactive/qals_explorer.html` (interactive diagrams) • `repos/` (16 cloned IOTA repos) • `data/` (GitHub org metadata) • `scripts/` (clone + build tooling — preserved generation code).