

# QRB — Executive Summary

A plain-English overview of the Quantum Resilience Blockchain

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## Version Notice

Document: QRB Executive Summary

Version: 1.0

Date: 29 Aug 2025

Status: Initial public release

This summary is a non-technical companion to the QRB Whitepaper. It focuses on what QRB does and why it matters, without deep cryptography. For complete details, refer to the full whitepaper.

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## 1. What Problem Does QRB Solve?

Most blockchains use cryptography that powerful future quantum computers could break. That puts private keys, smart contracts, cross-chain bridges, and NFT ownership at risk. Even today, attackers can record data and decrypt it later once quantum capabilities mature (the “harvest-now, decrypt-later” threat).

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## 2. What Is QRB?

QRB (Quantum Resilience Blockchain) is a next-generation Layer-1 designed to remain secure even in a quantum era. It replaces vulnerable algorithms with quantum-safe standards and provides a full path for people and projects to migrate from existing chains.

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### 3. How QRB Works (In Plain Language)

- **Secure building blocks**

QRB uses post-quantum digital signatures and proofs to protect transactions, contracts, and messages.

- **A safe way to move over**

The QuantumBridge lets users and apps move tokens and NFTs from Ethereum/BSC/Polygon into QRB with tamper-proof proofs and governance-controlled safety nets.

- **Governance that can't be forged**

Voting and upgrades rely on quantum-safe signatures and time-locks so proposals can't be hijacked by forged keys.

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### 4. Who Benefits (and How)

Audience	Pain Today	QRB Benefit
Holders & Treasuries	Long-term key risk; future theft via forged signatures	Long-term, quantum-safe asset protection
NFT Creators & Collectors	Provenance theft; irreversible mistakes	Tamper-proof ownership, optional recovery
DeFi Users	Bridge/DEX exploits; cross-chain risk	Quantum-hardened bridges; safer liquidity
Builders	Complex crypto; migration uncertainty	SDKs, templates, wallet support; clear migration

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## 5. Migration in Three Steps

- 1) On the legacy chain: burn or escrow your asset and submit your QRB address.
- 2) Validators verify the proof and provenance.
- 3) On QRB: your asset is minted 1:1 as a quantum-native token or NFT with full lineage.

Safety nets include validator quorums, multi-party (MPC) fallback, and governance-controlled time-locks.

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## 6. Tokens at a Glance (QBT → PQ-QBT)

- QBT lives on Ethereum/BSC/Polygon for early access and governance previews.
  - At mainnet, QBT can be burned 1:1 to mint PQ-QBT on QRB.
  - PQ-QBT is used for governance, staking, and network utilities on QRB.
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## 7. Roadmap Highlights

- Testnet Alpha: Q1 2026 – Validator testnet, governance simulation, bridge prototype.
  - Testnet Beta: Q3 2026 – IBC integration, ZK-compatibility tests, NFT/altcoin migration rehearsals.
  - Mainnet Launch: Q1 2027 – 1:1 PQ-QBT redemption, PQ-governance, PQ-20 templates and SDKs.
  - Post-Mainnet Hardening (2027): ZK rollups, threshold crypto, audits, and bridge deprecation of legacy paths.
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## 8. Security at a Glance

- Cryptography: quantum-safe signatures and proofs across the stack.
  - Bridges: validator quorums, MPC fallback, time-locks, and replay protection.
  - Validators: fair randomness via verifiable delay functions (VDFs); slashing and rotation.
  - Governance: signed ballots, stateless design, multi-phase proposals, emergency rollback under quorum.
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## 9. Quick FAQs

Do I need a new wallet? – You'll use a QRB-compatible wallet (or MetaMask Snap) to sign with quantum-safe keys.

Are my NFTs safe? – Yes. Metadata and provenance are anchored; optional recovery exists for edge cases.

Will DeFi work? – Yes. DEXs/bridges are built on quantum-safe infrastructure and IBC interoperability.

Is this financial advice? – No. See the disclaimer for details.

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## 10. Where to Learn More

- Full Whitepaper: QRB Whitepaper v1.0
  - Developer Docs & SDKs: Coming with Testnet Alpha
  - Contact: info@<your-domain> • security@<your-domain>
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## Disclaimer (Short Form)

This summary is for information only and is not investment, legal, tax, or accounting advice. Timelines and features are forward-looking and may change. Cross-chain activity involves technical and market risk. Always review the full whitepaper and current documentation.