KRWT — A Won-Denominated Stablecoin for a Bank-Issued, Compliance-First Era

Abstract

KRWT is a Korean won (KRW)-denominated stablecoin designed to operate under a **bank-issuer, full-reserve** model with native Travel-Rule messaging and public attestations. This whitepaper explains **why KRWT should exist now**, the **policy and market gaps it closes**, and the **architecture, controls, and operating plan** that make it safe, useful, and regulator-friendly from day one.

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1) Executive Summary

- **Problem:** Korea's cross-border money flows, B2B trade payouts, and crypto settlement rely heavily on USD rails and domestic banking cut-off times. The result is higher spreads, slower settlement, and policy exposure.

- **Opportunity:** A **won-based, bank-issued stablecoin** provides 24/7, programmable, and auditable KRW settlement for approved use cases (remittances, B2B trade, institutional hedging), aligning with Korea's market-modernization and consumer-protection agenda.

- **Approach:** Launch KRWT with a **Korean bank as legal issuer/custodian**, full-reserve structure (eligible for central-bank deposit variants), native Travel-Rule integration, public proof-of-reserves (PoR), and measured distribution via licensed remitters, PSPs, and institutional VASPs.

- **Impact:** Lower FX and operational costs for corridors and merchants; on-chain, KRW-denominated liquidity for institutions; reduced dependence on USD stablecoins; improved transparency and policy alignment.

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2) Policy & Market Context (Why Now)

Monetary sovereignty & consumer protection. Korea's legislative and supervisory focus has shifted from *whether* to have won-stablecoins to *how* to do them safely (issuer requirements, reserves, disclosures, insurance, Travel-Rule). KRWT's bank-first design fits that trajectory while providing practical benefits:

- 24/7 **on-chain FX** and settlement aligned with Korea's extended/around-the-clock FX ambitions.

- **Transparency & control:** native Travel-Rule, audit-ready disclosures, deny/allow-lists, and redemption waterfalls to mitigate run risk.

- **Reduced USD dependence** in crypto settlement and cross-border payouts; a compliant KRW rail that complements policy goals.

Market signals. Bank-anchored KRW stablecoin pilots and Korea–Japan stablecoin remittance trials demonstrate readiness for **institutional-grade, bank-supervised issuance**. Global exchanges now list **local-currency** stablecoins (SGD, AUD), expanding non-USD liquidity and setting a clear distribution path once KRW rules finalize. KRWT is built to slot into this new normal.

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3) Design Principles

1. **Bank-issued, full-reserve:** A regulated Korean bank is the legal issuer/custodian. 1:1 reserves held in segregated accounts; eligible to migrate to **central-bank deposit** models if mandated.

2. **Compliance-by-design:** Whitelisted mint/redeem tiers (banks/remitters/PSPs; institutions; retail via partners). Native Travel-Rule messaging between VASPs. On-chain deny/allow-lists.

3. **Transparency:** Daily on-chain supply snapshots; monthly PoR attestations; reconciliation dashboards; corridor statistics (volume, counterparties, settlement times) shared with supervisors.

4. **Interoperability with guardrails:** Primary issuance on one global L2 and one Korea-adjacent chain. Cross-chain portability via audited messaging (e.g., OFT-style pattern). Minimal native issuance venues to simplify attestations.

5. **Resilience:** Multi-region ops, hardware-backed key management, tested incident response, and defined RTO/RPO service-level objectives.

4) Architecture Overview

4.1 Roles

- **Issuer Bank:** Legal issuer; holds fiat reserves; executes mint/redeem on instruction; maintains KYC records for Tier-A clients (remitters/PSPs/VASPs).

- **KRWT Operator (Tech & Liquidity):** Provides smart contracts, oracles/PoR integrations, deny/allow-lists, and liquidity programs; publishes attestations and analytics.

- **Distribution Partners:** Licensed remitters, PSPs, OTC/MM desks, and compliant VASPs.

4.2 Mint/Redeem Flow (Tier-A)

1. Partner wires KRW to Issuer Bank reserve account or holds earmarked balances.

2. Issuer calls `mint()` to partner's whitelisted address; Travel-Rule envelope generated and logged.

3. For redemption, partner requests `redeem()`; tokens burned; KRW paid out by Issuer Bank.

4.3 Token Controls

- **Deny/Allow-lists** at the token level;

- **Pause/Block** functions under strict governance;

- **Travel-Rule hooks** emitting/ingesting metadata between VASPs;

- **Circuit breakers** (per-address/day caps; corridor throttles) to contain incidents.

4.4 Proof-of-Reserves (PoR)

- **Daily**: On-chain supply snapshot + oracle-fed reserve balance hash; delta alerts.

- **Monthly**: Independent attestation (licensed auditor).

- **Quarterly**: Full reconciliation report (supply vs reserves; corridor breakdowns; incidents, if any).

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5) Compliance Model

Tiered onboarding

- **Tier A (Banks/Remitters/PSPs/VASPs):** Full KYC/AML; unlimited limits; direct mint/redeem with Issuer Bank.

- **Tier B (Institutions/OTC):** Enhanced due diligence; mint/redeem through licensed VASP or bank channel.

- **Tier C (Retail via Partners):** Strict per-transaction/day caps; partners hold KYC; no direct mint/redeem with issuer.

Travel-Rule native

- Support the dominant Korea-facing messaging networks and global interop. Embed Travel-Rule payloads in transfer workflows; refuse non-compliant VASP transfers by default.

Reporting cadence

- Monthly reserve attestations + corridor stats; quarterly comprehensive reports; immediate SAR/STR escalation paths; real-time supervisory access to dashboards where permitted.

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6) Primary Use Cases (Reason & Rationale)

1. **Outbound Remittances (KR→SEA/CN/JP)**

   - **Reason:** Reduce fees and delays; enable T+0 settlement that domestic banking hours cannot match.

○ **Mechanism:** KRW→KRWT→on-chain→local partner redeem; Travel-Rule compliant end-to-end.

2. **Cross-Border B2B Settlement (KR merchants → CN/JP suppliers)**

   ○ **Reason:** Compress spread/float and eliminate weekend/holiday frictions; programmable escrow.

   ○ **Mechanism:** PSP-led payouts in KRWT with guaranteed redemption at the other end.

3. **Institutional On-Chain FX & Hedging**

   ○ **Reason:** Market makers and funds need KRW exposure without domestic banking friction; 24/7 liquidity for hedging basis and settlement.

   ○ **Mechanism:** Deep KRWT/USDC and KRWT/JPY pools + RFQ; OTC redemption windows.

4. **Tourist Wallets & Duty-Free (Closed Loop) — Pilot**

   ○ **Reason:** Prepaid KRW experience for visitors with automatic VAT-refund and low FX friction.

   ○ **Mechanism:** Top-up in USD/USDC/JPY; merchant settles in KRW via bank partner; closed-loop acceptance.

5. **Fan Economy & Ticketing (Offshore/Member-Only) — Pilot**

   ○ **Reason:** Programmable royalties, anti-scalping ticketing, and instant settlement for global fandoms.

   ○ **Mechanism:** KYC-gated NFT access + KRWT payments; strict geofencing where needed.

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7) Liquidity & Market-Making (Safety as a Feature)

● **Venues:** One global L2 (liquidity & integrations) + one Korea-adjacent chain (ecosystem alignment).

- **Instruments:** CLMM pools (KRWT/USDC; KRWT/JPY) plus RFQ desks with firm quotes.

- **Service Levels:** Publish 1% depth targets and **RFQ SLOs** (e.g., ≤30 bps up to $250k; ≤100 bps up to $500k pool-only).

- **Transparency:** Public depth/volume dashboards; incident reporting; maker program disclosures.

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8) Governance & Controls

- **Issuer Council:** Issuer Bank + Operator risk/compliance + independent observer. Meets monthly; reviews controls, incidents, attestations.

- **Change Management:** Two-man rule for contract upgrades; public change logs; emergency pause with post-mortems.

- **Treasury Policy:** Define eligible reserve assets (sight deposits only unless regulations allow otherwise). No rehypothecation; no leverage.

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9) Security & Resilience

- **Key Management:** HSM-backed multisig with geo-distribution; role-based access; periodic key ceremonies.

- **Monitoring:** On-chain anomaly detection (velocity caps, cluster analysis); oracle heartbeat checks; PoR delta alarms.

- **DR/BCP:** Hot-standby infra in separate regions; tested RTO/RPO; quarterly failover drills; tabletop exercises with the Issuer Bank.

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10) Roadmap (First 12 Months)

Phase 0 (Month 0–3)

- Finalize Issuer Bank agreement; spin up reserve accounts.

- Integrate Travel-Rule networks; launch SDK for remitters/PSPs.

- Seed initial liquidity; publish depth SLOs and first attestation.

Phase 1 (Month 3–9)

- Go-live on two remittance corridors and one B2B settlement pilot.

- Expand OTC/MM network; add KRWT/JPY pair.

- Quarterly reconciliation report and first external security review.

Phase 2 (Month 9–12)

- Add second issuance venue (if warranted); extend retail closed loops (tourist/duty-free).

- Prepare exchange distribution dossiers (liquidity, compliance, attestations).

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11) Metrics & Disclosures

- **Corridor GMV** (by lane), **avg effective fee** vs bank rails, **T+0 share**.

- **Liquidity KPIs:** 1% depth, slippage at $100k/$500k, RFQ fill rates, uptime.

- **Transparency:** Attestation latency, reserve deviation, reconciliation incidents.

- **Compliance:** Travel-Rule match rate, SAR/STR count, on-time regulator reports.

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12) Why KRWT vs. Alternatives

- **Versus USD stablecoins:** KRWT prices goods and hedges in the home currency; reduces FX step-risk and aligns with domestic policy and disclosures.

- **Versus bank account wires:** 24/7 settlement; programmable workflows; lower operational overhead; composable with on-chain liquidity.

- **Versus CBDC pilots:** Private, bank-issued KRWT can operate today within existing law/licensing; CBDC timelines are uncertain.

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13) Legal & Risk Disclosures

KRWT is intended for **whitelisted, KYC/AML-compliant** participants and approved retail flows via licensed partners. It is **not** a deposit, investment product, or interest-bearing instrument. Redemption is subject to issuer terms and applicable sanctions/AML screening. All forward-looking statements are subject to policy, market, and operational risks, including but not limited to regulatory changes, FX volatility, and technology incidents.

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14) Appendix — Glossary (Abbrev.)

CLMM: Concentrated Liquidity Market Maker.
PoR: Proof of Reserves; cryptographic and/or attested evidence that token supply equals reserves.
Travel-Rule: FATF guideline requiring originator/beneficiary information exchange for VASP-to-VASP transfers.
VASP: Virtual Asset Service Provider (exchanges, custodians, etc.).