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The Maldives and the rewiring of global finance.

Tokenised settlement, digital identity, and AI in 2026 — institutional surface, geopolitical configuration, and architectural layering.

SUBJECT Canton Network · Project Pontes · Project Agorá · mBridge · GENIUS Act · MiCA · eFaas · Favara · sovereign sukuk · Maldives International Financial Centre.

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The Maldives and the rewiring of global finance.

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ABSTRACT

The institutional financial system is being rewired around tokenised settlement, regulated stablecoin frameworks, and verifiable digital identity. By mid-2026, the commercial centre of gravity sits at the Canton Network. It is approaching one thousand validators with over forty Super Validators, including DTCC, Euroclear, Goldman Sachs, BNP Paribas, BNY Mellon, JP-Morgan, S&P Global, Moody's, Nasdaq, Visa, Hex Trust, and Taurus. Reported tokenised real-world-asset balances sit above six trillion dollars, with reported monthly transaction volumes near nine trillion. Parallel central-bank programmes are moving wholesale tokenised settlement from research into production along jurisdictional lines: Project Agorá, the Eurosystem's Pontes, Project Helvetia III, Project Ensemble, mBridge.

KEYWORDS Maldives · Canton Network · CIP-56 AllocationV1 · Project Pontes · Project Agorá · Project Helvetia III · mBridge · GENIUS Act · MiCA · eFaas · Favara · sovereign sukuk · Maldives International Financial Centre · verifiable credentials · agentic finance.

SUBJECT tokenised settlement · regulated stablecoins · wholesale CBDC · digital identity · AI integration in payments · SIDS economic policy.

Executive summary

The institutional financial system is being rewired around tokenised settlement, regulated stablecoin frameworks, and verifiable digital identity. By mid-2026, the commercial centre of gravity sits at the Canton Network. It is approaching one thousand validators with over forty Super Validators, including DTCC, Euroclear, Goldman Sachs, BNP Paribas, BNY Mellon, JPMorgan, S&P Global, Moody's, Nasdaq, Visa, Hex Trust, and Taurus. Reported tokenised real-world-asset balances sit above six trillion dollars, with reported monthly transaction volumes near nine trillion. Parallel central-bank programmes are moving wholesale tokenised settlement from research into production along jurisdictional lines: Project Agorá, the Eurosystem's Pontes, Project Helvetia III, Project Ensemble, mBridge.

The Maldives sits in a particular structural position. Eighty per cent of the population over the age of ten is enrolled in the eFaas national identity. Favara, the domestic instant-payments rail, carries more than eighty-four per cent of retail transactions and has been integrating with India's UPI since July 2026. A sovereign sukuk survived through bilateral assistance in April 2026. An International Financial Centre with a digital-asset mandate has been announced. Foreign policy in 2026 is simultaneously India-dependent for liquidity and Gulf-aligned for development capital. The question for a jurisdiction in that position is not whether to engage with the institutional plane consolidating elsewhere. It is how, with what counterparty surface, on what terms, and at what cost to supervisory and operational capacity.

The institutional architecture taking shape around Canton has three layers and a standard interface between them. Final settlement happens on the network itself, on a public-permissioned ledger that the major institutional balance sheets have begun to share.

Above the ledger sit the asset templates that hold the legal claim, the rule engines that enforce a regulator's compliance policy at the moment of transfer, and the identity bridges that tie a participant on the network to a national identity register such as the Maldives' eFaas. Below it sit the validator nodes that operate the ledger, the cryptographic key arrangements under which institutions and individuals authorise transactions, and the continuous-monitoring agents that handle the day-to-day operation of assets under mandates from their owners.

Integration at the standard interface (the Canton-ecosystem token standard and the atomic delivery-versus-payment primitive that ships with it) carries interoperability across that whole surface, without separate bilateral arrangements with each licensed counterparty on it. The **Boli platform** is the layer above the ledger in the realisation described here, and the **Tenzro Network** is the layer below. Both are built to the standard interface, and both ship as open source today. The technical names sit in §§ 4–10 where they are explained, and a financial reader can take them on trust.

Five further readings of that surface inform what follows.

On **AI integration**, the consensus articulated in the IMF's *How Agentic AI Will Reshape Payments* note of April 2026, in the BIS's 2025 *Annual Economic Report* Chapter III, and in the supervisory work of IOSCO and the Financial Stability Board places probabilistic AI in an upstream orchestration layer, deterministic rule-based controls in an authorisation layer beneath it, and irrevocable settlement in a separate finality layer beneath both. Model-risk and accountability obligations attach to the AI layer and do not migrate downward.

On **security**, the institutional norm in 2026 is distributed key custody (no single party holding a complete key), combined with hardware-attested AI inference. Post-quantum migration is a multi-year planning horizon, not a 2026 deployment requirement.

On **privacy**, Canton's design ensures that a counterparty sees only the part of a transaction that concerns it, and that the network's sequencer routes encrypted messages without seeing their contents. Public-blockchain and rollup designs do not have this property.

On **interoperability**, the 2026 production pattern is settlement on Canton with accessibility from public-blockchain surfaces (Ethereum, Solana) through standard bridging primitives. The platform layer is indifferent to which cleared payment asset settles the cash leg. Regulated dollar stablecoins, tokenised money-market funds, tokenised bank deposits, and in due course central-bank wholesale tokens all fit into the same atomic settlement primitive.

On **geopolitical configuration**, the Maldives' present alignment is India-dependent for sovereign liquidity and Gulf-aligned for development capital, configured across both Western and China-sphere wholesale-payment planes. That places the question of which counterparty surface the jurisdiction transacts across at the settlement layer rather than at the platform-vendor layer.

The dated commercial milestones set the timing of the question. DTCC's tokenised-Treasuries pilot landed in July 2026, with the platform launch following in October. The Eurosystem's Pontes bridge is planned for the third quarter. JPMorgan's USD JPM Coin is issuing natively on Canton through 2026, and BNY Mellon's tokenised-deposit service has been live since January 2026. Visa joined Canton as a Super Validator in March 2026. HSBC and Anchorpoint received the first two Hong Kong stablecoin issuer licences on the tenth of April 2026. The Goldman GS DAP spin-out is due by mid-year, and the first Maldives International Financial Centre regulatory disclosures are expected in the same window.

Three things set its surface. The first is the commercial and retail banking surface against which any Maldivian deployment fits. The second is the de-centralised-compute substrate underneath the agentic-finance layer the same supervisory bodies are now framing. The third is the institutional density that has accumulated on Canton: central banks, central securities depositories, ratings agencies, exchange operators, settlement-asset issuers, multi-jurisdiction custody and tokenisation platforms, and global payment networks.

1. The institutional context being built elsewhere

The institutional financial system is consolidating in 2026 around a small number of named venues, named programmes, and dated regulatory thresholds. The evidence is in the public record.

The Canton Network is, as of mid-2026, the institutional blockchain venue with the largest verified production volumes. The network is a public, permissioned Layer 1 blockchain built on the Daml smart-contract language, with sub-transaction privacy as its distinguishing technical property — counterparties to a transaction see its data, while a Global Synchronizer operated by independent Super Validators under two-thirds Byzantine Fault Tolerant consensus ensures atomic settlement across otherwise-isolated participants without exposing transaction contents.

Governance is concentrated in the Canton Foundation, established in 2024 in Zug, with the Depository Trust and Clearing Corporation joining as co-chair alongside Euroclear in December 2025.

The validator population has grown substantially over the period covered by this paper: from approximately 575 validators with 26 Super Validators in January 2026, the active validator count is approaching one thousand by May 2026, with forty-plus Super Validators registered, per the public network explorer (cantonscan.com). Documented Super Validators include DTCC, Goldman Sachs, BNP Paribas, Deutsche Börse, Broadridge, Tradeweb, BNY Mellon, Cboe Global Markets, Microsoft, Paxos, Chainlink Labs, S&P Global, Moody's, Nasdaq, Citadel Securities, Hex Trust, Taurus, and — from March 2026 — Visa under a privacy-preserving-payments framing.

Production volumes on Canton in 2025 and 2026 are substantial, and the most consequential commercial signals are dated to the second half of 2026.

Broadridge's Distributed Ledger Repo platform — running on Canton — processed approximately nine trillion dollars in repo volume in December 2025, and has continued at roughly seven to eight trillion dollars per month through the first quarter of 2026 (508% year-on-year growth in January, 457% in February, 392% in March), with average daily volume in the three-hundred-and-fifty to three-hundred-and-seventy billion dollar range.

HQLA^{X}'s collateral-mobility service went live with Eurex Clearing in the second quarter of 2025 and announced migration to Canton in April 2026.

The Depository Trust and Clearing Corporation's tokenisation programme with Digital Asset, supported by a December 2025 Securities and Exchange Commission no-action letter granting DTC a three-year exemption, is bringing DTC- and Fed-eligible securities — a population that includes Russell 1000 constituents, major ETF indices, and U.S. Treasury securities — onto Canton in the second quarter of 2026, with the first tokenised asset trades pilot scheduled for July 2026 and full platform launch in October 2026. Fifty-plus firms including BlackRock, Citi, Goldman Sachs, and JP-Morgan participate in the DTCC industry working group shaping the operating model.

The July pilot and October launch are the two single most consequential dates on the institutional tokenisation calendar in 2026, because they mark the moment at which DTC-custodied U.S. Treasuries and Russell 1000 equities — the legal-tender benchmarks of dollar-denominated capital markets — cross the regulatory and operational threshold onto a public, permissioned blockchain under an explicit SEC no-action.

Tradeweb's August 2025 industry working-group transaction was the first fully on-chain US Treasury repo transaction settled against USDC, with a December 2025 tranche adding cross-border, multi-currency intraday repos using tokenised deposits.

Hashnote's USYC tokenised money-market product reached approximately one and a half billion dollars in assets under management at the time of its acquisition by Circle in January 2025. Circle's USDCx went live on Canton in December 2025.

JPMorgan's Kinexys (formerly Onyx) announced in January 2026 that it would issue its USD JPM Coin (JPMD) natively on Canton, with phased rollout through 2026.

Goldman Sachs has stated that GS DAP, which runs natively on Canton, will be spun out as an independent, market-neutral entity by mid-2026.

The Canton Foundation and ecosystem participants report that the network supports more than six trillion dollars in tokenised real-world assets, with monthly transaction volumes through Broadridge's DLR platform alone in the seven-to-nine trillion dollar range through early 2026. These figures are publicly reported but not independently audited; on RWA.xyz's third-party tracking, Canton's tokenised real-world-asset position dwarfs that of the second-largest blockchain by an order of magnitude. The underlying claim — that Canton is the institutional settlement venue at which the major balance sheets of the global financial system are accumulating in 2026 — survives that caveat.

Parallel to Canton's commercial development, central banks have advanced wholesale tokenised settlement.

The Swiss National Bank's Project Helvetia III placed wholesale central bank digital currency into live issuance on the SIX Digital Exchange at the end of 2023, was extended through at least mid-2027 in June 2025, and was broadened to settle tokenised assets against central-bank money via a real-time gross settlement link.

The Hong Kong Monetary Authority's Project Ensemble moved from sandbox to live pilot (EnsembleTX) in November 2025.

The Monetary Authority of Singapore's Project Guardian spans more than forty institutional participants across seven jurisdictions; a November 2025 Singapore Dollar testnet trial used tokenised Monetary Authority of Singapore bills as a live settlement asset.

The Bank for International Settlements' Project Agorá — seven central banks (the Federal Reserve Bank of New York, Bank of England, Banque de France for the Eurosystem, Bank of Japan, Bank of Korea, Banco de México, Swiss National Bank) and over forty private institutions — concludes Phase 1 in the first half of 2026 with a public report.

The Eurosystem's Pontes near-term wholesale-tokenisation bridge, planned for the third quarter of 2026, links tokenised-asset platforms to central-bank money in TARGET; the longer-horizon Appia blueprint targets a native DLT European market by 2028.

The mBridge programme moved from BIS-hosted minimum-viable-product to participant-led operation in October 2024, with the platform now governed by the People's Bank of China, the Hong Kong Monetary Authority, the Bank of Thailand, the Central Bank of the United Arab Emirates, and the Saudi Central Bank under a member-state steering rulebook. Cumulative settled volume reportedly reached approximately fifty-five and a half billion dollars across roughly four thousand transactions by November 2025, with the e-CNY accounting for over ninety-five per cent of settlement volume.

The United Arab Emirates' Digital Dirham launched at retail in March 2026, with cross-border corridors via mBridge.

The People's Bank of China's e-CNY transitioned in January 2026 from a digital-cash to a remunerated digital-deposit model, with cross-border functions consolidated in a Shanghai-based Digital Yuan International Operations Centre.

The legal scaffolding for tokenised money crystallised in 2025–2026.

The GENIUS Act in the United States, signed in July 2025, established a federal framework for payment stablecoins with implementing rules at notice-of-proposed-rulemaking stage as of May 2026; the joint Treasury–FinCEN–OFAC notice of proposed rulemaking on anti-money-laundering, counter-financing-of-terrorism, and sanctions compliance was published on the eighth of April 2026. Section 18 of the Act prohibits United States digital-asset service providers from offering a foreign-issued stablecoin to United States users absent a Treasury comparability determination.

The European Union's Markets in Crypto-Assets Regulation has been live in stablecoin provisions since June 2024, with the full crypto-asset service provider regime in force since December 2024 and the transitional period expiring on the first of July 2026. The April 2026 twentieth European Union sanctions package treated crypto rails as a primary target rather than as ancillary.

Hong Kong's Stablecoins Ordinance came into force in August 2025; the first two issuer licences were granted on the tenth of April 2026 to HSBC and to the Anchorpoint Financial Limited joint venture, both for Hong Kong Dollar-referenced issuance.

The composite institutional picture is unambiguous. Tokenised settlement is no longer a question of whether the major financial institutions will participate. The relevant question for any jurisdiction not already inside the

Super Validator set is the form of participation, the cost of the operational and supervisory capacity that participation requires, and the geopolitical configuration the participation implies.

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2. The Maldives' position in mid-2026

Across the thirty-nine United Nations-recognised small island developing states, the empirical record of blockchain and digital-currency initiatives between approximately 2018 and 2026 places the Maldives as the jurisdiction with the strongest documented digital-finance infrastructure in the group — measured by enrolment in identity, by adoption of instant payments, and by the alignment between the two. The Maldives' position is the baseline against which the architectural pathway of §§ 4–10 is to be read.

The eFaas national identity platform, operated by the National Centre for Information Technology, enrols approximately two hundred and seventy-two thousand individuals, roughly eighty per cent of the population aged ten and above, as reported in late 2025. The OneGov platform at one.gov.mv aggregates services from multiple government agencies under eFaas.

A multifunctional Smart-ID card with integrated Mastercard payment rails is scheduled for rollout in 2026, anchored in a five-year Digital Country Partnership memorandum of understanding signed in October 2025 between Mastercard, the National Centre for Information Technology, and the Bank of Maldives.

The system is, in 2026, the highest-enrolment national identity in the small island developing state group and is paired institutionally with payment rails in a way that no other jurisdiction in the group has yet achieved. The platform uses facial-recognition biometrics and a centralised registry rather than a verifiable-credential wallet pattern.

Verifiable-credential conformance under the World Wide Web Consortium's Verifiable Credentials Data Model 2.0 (which became a W3C Recommendation on the fifteenth of May 2025) and formal mutual recognition under the European Union's eIDAS 2.0 framework are, accordingly, greenfield integration work rather than off-the-shelf capability.

The Favara instant-payments platform — built by the Nordic technology partner Tietoevry, launched by the Maldives Monetary Authority in late August 2023, and built to International Organization for Standardization 20022 messaging — handles a large share of domestic retail transaction volume on Maldives Monetary Authority reporting, with the Maldives Monetary Authority publishing monthly payments-bulletin disclosures of throughput. The Maldives Monetary Authority's agreement with India's NPCI International (NIPL) integrates Favara with the Unified Payments Interface, with person-to-person cross-border functionality scheduled for July 2026 and merchant quick-response functionality following. The NPCI International rail has analogous live links to Sri Lanka, Singapore, and Nepal, so the architectural pattern for extending Favara into remittance-source corridors is industry-standard. The natural extensions — Bangladesh and the broader Gulf-to-Maldives corridor — have not yet been publicly inked.

The digital-identity and instant-payments record sits inside a longer trajectory of state digitalisation and connectivity investment under both the Solih administration (November 2018 to November 2023) and the Muizzu administration (November 2023 to date), and that trajectory matters for the credibility of any tokenised-settlement layer built on top of it.

On the digital-government side, the Solih period saw the One-Gov services platform stood up, foundational work on the modern eFaas implementation, the Whistleblower Protection Act enacted, and the World Bank-financed Digital Maldives programme advanced through the Ministry of Environment, Climate Change and Technology and the National Centre for Information Technology. The Muizzu period has added the Maldives 2.0 / Digital 2.0 framework inaugurated at a Digital Transformation Summit in Malé on the ninth of May 2025, an Artificial Intelligence Masterplan 2025–2035 announced after a Cabinet meeting on the sixteenth of October 2024 with the National Centre for Information Technology as lead implementing agency, the Mastercard Digital Country Partnership signed in October 2025, the Bank of Maldives Swipe multicurrency wallet unveiled in October 2025 with a beta release in December 2025, and the Maldives International Financial Centre announcement of the fifth of May 2025 with its publicly stated blockchain and real-world-asset-tokenisation mandate.

The Ministry of Finance operates the Bandeyri budget-execution portal, the Beelan e-procurement system, and the Neelan inventory system as the public-finance digital backbone. In the 2024 United Nations E-Government Survey the Maldives ranked ninety-fourth globally at a score of zero point six seven four five, the highest in South Asia. The trajectory is not the artefact of a single administration; the through-line spans two governments of different political character.

On the connectivity side, the Maldives' international-bandwidth posture has materially changed across the 2018–2026 window.

The Maldives–Sri Lanka Cable became operational in 2021. The South East Asia–Middle East–Western Europe 6 cable landed in the Maldives via Dhiraagu in August 2024 with ready-for-service in early 2026. Ooredoo Maldives landed the PEACE (Pakistan and East Africa Connecting Europe) cable in Kulhudhuffushi. The India-Asia Express cable, a Reliance Jio system, landed in the Maldives in collaboration with Ocean Connect Maldives. The Domestic Submarine Cable of Maldives, a joint Dhiraagu and Ooredoo subsea system, lands at Hulhumalé and connects eight islands. In November 2025, Google announced the Dhivaru cable, a Maldives–Christmas Island–Oman system with a new connectivity hub in Addu City, in partnership with Ooredoo Maldives, Dhiraagu, and the Government of Maldives.

Dhiraagu completed the rollout of high-speed fibre broadband to all inhabited islands by January 2025 — the first nationwide fibre-to-the-home network in the archipelago — operating a roughly twelve-hundred-and-fifty-kilometre domestic fibre backbone linking northern and southern regions with co-financing from the Asian Development Bank. Reported internet penetration sat at approximately eighty-five per cent of the population in late 2025, with mobile connections equivalent to roughly one hundred and forty-seven per cent of population and the majority of mobile connections on 3G, 4G, or 5G networks per DataReportal aggregation of operator and International Telecommunication Union data.

Commercial 5G is live: Dhiraagu launched in 2019; Ooredoo Maldives followed in December 2020 with Greater Malé coverage by August 2022 and a 5G AirFibre home-broadband product. Satellite-redundant connectivity is available: in August 2023 the Communications Authority of Maldives issued an Internet Service Provider licence to Starlink, the first such licence in South Asia. The Maldives Internet Exchange (MVIX), a carrier-neutral exchange in Malé, has been operational since late 2021.

These connectivity facts are not architectural inputs to a tokenised-settlement design in the narrow sense — Canton, Splice, and AllocationV1 are indifferent to the underlying carrier — but they are load-bearing for the broader sovereign case. A jurisdiction with nationwide fibre, satellite redundancy, multiple submarine cables landing under different operators, a carrier-neutral exchange, and a population engaged with the internet at South-Asian-best penetration levels is a jurisdiction in which a verifiable-identity-and-tokenised-asset stack can be operated by domestic counterparties rather than out-of-jurisdiction, and in which on-chain attestation flows from Maldivian sensors and registries to Canton-resident contracts can be designed to operate reliably.

The transparency-and-efficiency reading of this record matters for what the architecture of §§ 4–10 contributes to and what it does not.

The digital-government and digital-finance work already shipped by the Maldives — eFaas, OneGov, Favara, Bandeyri, Beelan, Neelan, and the Bank of Maldives Swipe wallet — is the substrate on which tokenised-asset and verifiable-credential work composes. Tokenisation does not produce transparency on its own; it produces auditable, atomic, multi-party transaction records on a settlement ledger. Those records are only meaningful insofar as the issuance, registry, and supervisory bookkeeping above them are themselves digitised, reconciled, and visible to the regulators that need to see them. The Maldives' existing digital-government stack provides that upstream substrate. A Canton-resident sovereign sukuk or tourism-receivable, recorded against a transfer agent operated through a digitised registry, is supervisable in a way that a paper-and-bilateral instrument is not.

The contribution to operational efficiency runs through the same channel. Cross-border settlement on the institutional plane — UPI-Favara linkage from July 2026, dollar-stablecoin settlement against Canton-resident assets, Pontes-bridged euro settlement when it arrives — collapses reconciliation cycles and counterparty bilaterals into atomic, multilateral primitives. The efficiency gain is upstream of any one transaction: it is the reduction in the operational overhead the supervisor, the issuer, the transfer agent, the custodian, and the settlement-asset issuer must each independently maintain.

The corruption-resistance reading is more measured. Tokenised settlement does not by itself reduce political-economy risk; it changes the surface across which records exist. A sovereign-asset register on-chain, with cryptographic finality on transfers and verifiable-credential gating on counterparties, is more difficult to alter retroactively than a paper register, and more visible to multilateral auditors and rating-agency surveillance than a closed-bookkeeping arrangement. Whether the Maldivian state, civil society, and supervisory architecture choose to exploit that property is a political question; the architecture creates the option and is silent on whether it is exercised.

The Maldives' sovereign credit position remains stressed. The five-hundred-million-dollar sukuk issued in April 2021 at a profit rate of nine and seven-eighths per cent was repaid on the first of April 2026, narrowly avoiding what would have been the world's first sovereign sukuk default.

Repayment relied on a drawdown of the Sovereign Development Fund plus foreign-exchange reserves, with bilateral assistance from India — including a fifty-million-dollar State Bank of India short-term note rolled in 2025 and

an outstanding four-hundred-million-dollar Indian loan rollover request. Moody's at Caa2 negative and Fitch at CC characterised the rating posture through the repayment window.

The International Monetary Fund's 2024 Article IV consultation flagged urgent need for front-loaded fiscal adjustment and macroprudential tightening. Near-term external refinancing capacity outside bilateral and multilateral channels is, in 2026, effectively zero.

The Maldives International Financial Centre is a pledged, not yet realised, project. It was announced on the fifth of May 2025 as an eight-and-eight-tenths-billion-dollar joint venture between the Government of Maldives and MBS Global Investments, a Dubai-domiciled family office whose principal is the Qatari Sheikh Nayef bin Eid Al Thani, and moved to a signed joint-venture agreement and binding memorandum of understanding in January 2026.

The design parameters published with the announcement specify a fenced free zone in Malé on a site of approximately eight-hundred-and-thirty-thousand square metres, no corporate tax, no inheritance tax, no residency requirement, full foreign ownership, an explicit fintech and blockchain mandate, completion targeted for 2030, and projected revenue of more than a billion dollars annually by the fifth year.

The regulator — the Maldives International Financial Services Authority — was placed under the Ministry of Finance and Planning on the eleventh of March 2025; the bespoke rulebook under which Centre licensees would operate had not been published as of the eleventh of May 2026, no anchor tenant had been announced, and construction milestones were not yet in evidence in public reporting.

The Centre's stated digital-asset orientation, with oversight by the Maldives International Financial Services Authority rather than the Maldives Monetary Authority directly, is the single most consequential institutional opening in the Maldives' present configuration for a Canton-aligned settlement stack to be hosted under a credible supervisory perimeter. It is a stated trajectory rather than a verified operational venue, and the paper treats it as such throughout.

On the regulatory perimeter for digital assets, the Maldives Monetary Authority has not published a full virtual-asset service provider framework or stablecoin regime, and has not announced a central bank digital currency pilot. The Capital Markets Development Authority has published a Securities Virtual Asset Service Providers Regulation with a tiered licensing structure subject to sandbox testing — the closest thing to a Maldivian digital-asset regulatory perimeter, sitting with the securities regulator rather than the central bank. Separately, a Virtual Assets Regulatory Authority signed

an April 2025 memorandum with the Land Department to put the land registry on-chain. Tokenisation, in other words, is being approached in the Maldives through the Capital Markets Development Authority plus the new Virtual Assets Regulatory Authority plus the Maldives International Financial Centre triangle, rather than through Maldives Monetary Authority monetary policy.

Three further legislative developments of late 2025 and 2026 bear directly on the architectural reading.

The Seventeenth Amendment to the Decentralisation Act was ratified on the first of December 2025, restructuring sub-national administration by consolidating the prior atoll-council and island-council two-tier topology under a streamlined arrangement.

The Sixteenth Amendment to the Tourism Act, ratified in December 2025, adjusted the legal framework governing resort leases, tourism-receivables flows, and the fiscal treatment of the sector that contributes approximately a quarter of gross domestic product.

The Foreign Currency Act 32/2024 and the Foreign Currency Regulation 2024/R-91 entered force in October 2024, channelling tourism-sector foreign-exchange receipts through the domestic banking system under Maldives Monetary Authority oversight; the regulation is the operative legal substrate that defines where tourism-denominated dollar flows can be observed, accounted for, and — in due course — tokenised under a domestic regulatory perimeter.

The three texts, taken together, redraw the legal surface across which any Canton-aligned settlement architecture would interact with Maldivian sovereign and quasi-sovereign assets in 2026.

The geopolitical configuration in which the Maldives operates in 2026 is consequential for the institutional architecture any tokenised-settlement participation requires.

The current administration has prioritised relations with Saudi Arabia, the United Arab Emirates, Qatar, and the broader Gulf Cooperation Council — from which approximately a quarter to thirty per cent of tourist arrivals and foreign-exchange receipts originate — alongside a working relationship with India that has carried the bilateral liquidity assistance the sukuk repayment of April 2026 relied on.

The diplomatic posture toward the United States in early 2026 has been more distant than that toward India or the Gulf, while the dollar-denominated settlement plane remains the institutional reality across which the

Maldives' principal trade and tourism receipts clear. April 2026 municipal elections returned the opposition Maldivian Democratic Party in most contested seats.

The composite picture is a jurisdiction simultaneously India-aligned for liquidity, Gulf-aligned for development capital, more distant from Washington diplomatically, and dollar-exposed financially. The configuration is the configuration in which neutrality at the settlement layer is a strategic requirement rather than a stylistic preference, and it sets the constraint that the architecture of §§ 4–10 is built to satisfy.

A useful comparator, visible in the public record and continuing through 2026, is the architectural posture taken by foreign-capital projects already operating in the Maldives' digital-asset perimeter.

The Trump Organization's Trump International Hotel Maldives project, announced on the seventeenth of November 2025 in partnership with Dar Global as a roughly three-hundred-million-dollar branded resort development, is the most publicly visible foreign-capital tourism engagement of the current cycle; ground-breaking and construction milestones were not yet in evidence as of the eleventh of May 2026, but the project remains the headline foreign-brand commitment in public-relations terms.

In a separate but architecturally telling development, on the eighteenth of February 2026 Dar Global announced — in partnership with World Liberty Financial and Securitize — a tokenisation programme covering loan-revenue interests in a Dar Global property portfolio, structured for distribution to United States accredited investors under Rule 506(c) of Regulation D and to non-United-States investors under Regulation S, with on-chain mechanics implemented on the Morpho protocol on the Base Ethereum Layer 2.

The architectural posture of the Dar Global / World Liberty Financial / Securitize transaction is the opposite of the institutional Canton plane in three respects: the chain is public Ethereum Layer 2 rather than a privacy-preserving permissioned ledger; the asset is debt-side loan-revenue interests rather than a tokenised equity or settlement instrument; and the investor surface is accredited-only retail distribution rather than central-bank- and Super-Validator-mediated wholesale settlement.

The comparator matters because it shows that tokenisation interacting with the Maldives' surface is already happening on a substantively different architectural plane from the one described in this paper, and that the choice of plane carries direct consequences for supervisory perimeter, counterparty composition, and the residual exposure the Maldives' state retains.

The net configuration is the configuration in which the architectural pathway of this paper becomes particularly tractable. The Maldives in May 2026 is simultaneously India-dependent for liquidity, Gulf-aligned for development capital, distanced from Washington diplomatically, and exposed to the dollar institutional plane financially. An architecture that lets the Maldives interoperate with that plane without choosing a single rail — without asking India to settle on a Gulf rail, without asking the Gulf to settle on an Indian rail, without asking either to settle on a Western-bank rail — is not a stylistic preference. It is a strategic requirement of the present diplomatic configuration.

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3. An archipelago is already a distributed system

A short architectural observation bears stating before the onboarding mechanics of § 4 because it reframes the question that follows.

The Maldives is a state of approximately one thousand one hundred and ninety-two coral islands organised across twenty-six geographic atolls, administered — until the ratification of the Seventeenth Amendment to the Decentralisation Act on the first of December 2025 — through a two-tier topology of atoll councils above island councils, with the Seventeenth Amendment streamlining the legal frame under which sub-national authority is distributed.

The Maldives is, in physical and administrative form, a system whose nodes are spatially separated, jurisdictionally bounded, individually accountable, and required to act together for some categories of transaction (national budget allocations, tourism-receipts accounting, fiscal transfers) while operating independently for others (local service delivery, atoll-level administration).

The architectural concept the Maldives operationalises every day of its existence is the concept of a network of parties, each authoritative over local state, composing into a national aggregate without consolidating onto a single ledger.

The Canton Network's architectural primitives are, in a precise sense, the digital homologue of this physical-administrative topology.

A Canton participant node holds the state for the parties it hosts; uninvolved nodes do not see that state, by design — the sub-transaction privacy model enforced by the Daml engine ensures that each party sees only the projection of a multi-party transaction relevant to it.

The Global Synchronizer, run by Super Validators under two-thirds Byzantine Fault Tolerant consensus, orders encrypted messages between participant nodes without decrypting them; cross-node atomicity is delivered without cross-node state aggregation.

The model is not federation; it is not consolidation; it is *coordinated distribution*. Each node remains authoritative over its parties' state. Each node integrates with the others through the standard at the point of transaction rather than through the merging of state in a shared ledger.

The architectural alignment is consequential for the supervisory perimeter discussion. A Maldives counterparty — a licensed bank, a transfer agent, a sovereign-adjacent supervisor — operating a Canton participant node hosted locally on Tenzro infrastructure occupies, in the Canton topology, the same architectural position that an atoll-level administrative authority occupies in the Maldives' physical topology: a node authoritative over local state, composing into a national-or-cross-border aggregate at the point of transaction, with the data residency, the supervisory accountability, and the operational responsibility located locally rather than aggregated upstream. The architectural form fits the institutional form. The Maldives' physical configuration is not an obstacle to participation in a distributed settlement plane; it is a precise analogue of the distributional substrate that plane is built on.

The observation is reframing rather than load-bearing. The architectural composition described in §§ 6–10 does not depend on it. The institutional discussion of distributed-ledger participation by small jurisdictions tends to treat geographical distribution as a constraint to be engineered around; in the Maldives' specific configuration it is the property the Canton architecture is built to compose with.

4. The Canton onboarding pathway and what it means for jurisdictions in the Maldives' position

The technical pathway through which a new participant enters the Canton Network is open-source and documented. We describe it here in detail because the central argument of the paper rests on its structure: integration once at the standard layer gives a participating jurisdiction interoperability with the entire Super Validator commercial venue, rather than bilateral arrangements with each licensed entity on it.

The Canton documentation distinguishes three tiers of participation. The lightest is the **OBSERVER** or **observing participant node** — a node that has read access to transactions involving the parties it hosts but cannot itself submit or confirm them. Canton documentation explicitly notes that regulators are commonly permissioned this way, as an observer party on relevant Daml contract templates. For a sovereign such as the Maldives — or for a sovereign-adjacent supervisor such as the Maldives International Financial Services Authority or the Capital Markets Development Authority — this is the cheapest and most realistic entry vector, and it preserves data-residency for the jurisdiction's regulator without requiring the jurisdiction to itself stand up validator infrastructure.

The middle tier is the **VALIDATOR**, which runs the Canton Coin application, validates transactions for parties it hosts, and synchronises with the Global Synchronizer. Onboarding requires the open-source software packages and an onboarding secret from a sponsoring Super Validator. The validator population has approached one thousand nodes by mid-2026, on the public network explorer.

The senior tier is the **SUPER VALIDATOR**, which operates the Global Synchronizer, runs Byzantine Fault Tolerant consensus under the two-thirds majority rule for ordering and governance, and votes on protocol and economic changes. Membership is invitation-only via the Canton Foundation. Canton Improvement Proposal 0105, approved in March 2026, adds a Super Validator Locking and Long-Term Commitment Framework requiring lifetime-reward lockup with daily vesting.

Three operational features of this onboarding pathway are decisive for jurisdictions that cannot themselves operate validator infrastructure.

First, the Canton Foundation explicitly directs first-time participants toward a **NODE-AS-A-SERVICE** model — "the fastest way to participate is through a white-label validator node professionally operated by an approved Node-as-a-Service provider." A commercial market in this category exists. Hex Trust, the digital-asset custody and staking firm, became a Super Validator in January 2026. Taurus, the Geneva-based custodian that holds digital assets for Deutsche Bank, CACEIS, Santander, and State Street, became a Super Validator in November 2025. Blockdaemon, Kiln, P2P.org, and IntellectEU all advertise hosted Canton validator services.

Second, the Canton Improvement Proposal 0096, approved in December 2025, stages validator rewards down to zero by the thirtieth of April 2026, removing pure-staking economics; hosted validators now monetise through service fees rather than reward yield.

Third, the technical surface a participating institution must integrate against is the Canton Network Token Standard defined in Canton Improvement Proposal 0056 and the Splice Token Standard V1, stabilised at version 1.0.0 in early 2026 under the hyperledger-labs/splice repository. To transact natively with any Canton tokenised asset — Hashnote's USYC, JPMorgan's JPMD, Broadridge's Distributed Ledger Repo, the Depository Trust and Clearing Corporation's tokenised Treasuries, and the asset surfaces of the other Super Validators — an integrator implements the six application-programming interfaces of CIP-56 (metadata, holdings, transfer instruction, allocation, and the supporting OpenAPI surfaces). The atomic delivery-versus-payment flow uses the Splice.Api.Token.AllocationV1 interface and the three-stage AllocationRequest → AllocationFactory_Allocate → Allocation_ExecuteTransfer sequence.

The strategic implication for the Maldives' position is direct. The Maldives Monetary Authority does not need to negotiate individually with each of the forty-plus Super Validators of the Canton Network to participate in the institutional settlement plane on which they transact. It needs a Canton participant node — operated by a technology partner with custody-grade infrastructure and a stake in the network — and a set of Daml-implemented compliance, identity, and asset packages conformant with CIP-56 and AllocationV1. We describe in § 6 the architectural composition that delivers both of these.

Two caveats bear flagging.

First, no central bank of a small island developing state had, as of the eleventh of May 2026, publicly announced direct Super Validator status; sovereign-adjacent participation in 2026 flows through intermediaries — li-

censed commercial banks and central securities depositories onboarding as parties on validator infrastructure operated by a custody or infrastructure partner. This is not a structural limitation; it is an empirical fact, and it gives an early-acting jurisdiction the position of first publicly-named SIDS regulator on Canton rather than a follower.

Second, the privacy and economic claims surveyed in § 1 are largely vendor-asserted rather than supervisor-validated. The International Organization of Securities Commissions' November 2025 final report on Tokenization of Financial Assets references Canton-class designs but does not endorse Canton's specific privacy guarantees. The Financial Stability Board's October 2025 thematic review documents legislative progress while flagging persistent cross-border supervisory coordination gaps. Engaging with Canton in 2026 is engaging with a venue whose supervisory recognition is in formation, not settled.

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5. The three entities and their position in the Canton ecosystem

Before describing the architectural composition, we set out the standing in the Canton ecosystem of the three entities whose joint engineering output the architecture composes. The reason to do so is that the credibility of the architectural pathway is partly a function of the engineering relationships that already exist between the entities and the Canton Network, and partly a function of the way responsibility is distributed across legally distinct organisations.

Tenzro Labs Pte. Ltd., a Singapore-incorporated engineering company, is the primary developer of the **Tenzro Network**, which is an open-source, community-driven decentralised network for verifiable identity (the TDIP decentralised-identifier protocol), threshold-signature key management (multi-party-computation wallets across the secp256k1, ed25519, and Canton signing curves), confidential compute under Trusted Execution Environment attestation, and an agentic runtime that hosts continuous workflows under DID-bound mandates.

Tenzro Labs operates a validator node in the Canton Network's production validator set, which places it among the open-source developers and operators actively building infrastructure for Canton in 2026.

Tenzro Labs develops and contributes open-source developer tooling for Canton — package scaffolding, Daml workflow templates, AI-native operational tooling, and integration patterns against the participant-node application-programming-interface surface — as one of several open-source contributions in the Canton ecosystem; Canton's protocol stewardship sits with the Canton Foundation, and Tenzro Labs submits draft Canton Improvement Proposals concerning agentic-finance and payments standards through the Foundation's open Canton Improvement Proposal process on the same footing as other ecosystem contributors.

The substantive engineering claim is that the team has shipped production code against the Canton Network Token Standard and the Splice Token Standard V1, operates production threshold-multi-party-computation across the relevant signing curves, and runs Trusted Execution Environment-attested inference in the agentic-runtime production substrate.

The **Boli platform** is an open-source operational layer for regulated tokenised assets, deployable on Tenzro Network infrastructure and aligned to the Canton Network as its canonical settlement venue. Initial operating responsibility for the platform sits with a corporate entity incorporated in the Abu Dhabi Global Market, the English-common-law jurisdiction operating under the Financial Services Regulatory Authority framework.

The platform ships the three Daml asset patterns (Tradeable, Registry-mirror, Credential), the chain-level compliance-pack engine, the TDIP-to-Canton identity bridge, and the integration substrate through which agentic workflows operate against the Canton settlement layer.

The platform's engineering output composes directly against Canton Improvement Proposal 0056 and the Splice Token Standard V1 AllocationV1 primitive; the position in the Canton ecosystem is that of an operational layer atop the protocol, on the same architectural footing as other Canton-aligned application stacks, and the team is among the operators actively building on the Canton Network in 2026.

The **Boli Association** is a non-profit research entity constituted as a Swiss Verein in Zurich. The Association contributes research, editorial framework, and standards work — including the Boli Standards Proposals series — to the broader ecosystem in which the Boli platform operates. The Association does not issue, custody, or transact in regulated digital assets, does not operate validator infrastructure, and does not hold cryptographic keys. Its position in the Canton ecosystem is that of a standards-and-research contributor rather than an operator or licensed entity; its working papers, of which this is one, are intended to be technical-research contributions to the policy conversation and to the standards work that surrounds tokenised settlement and verifiable identity.

The three entities are legally distinct, operationally distinct, and governed under different regimes — a Singapore engineering company under Singapore law, an operational platform entity in the Abu Dhabi Global Market under Financial Services Regulatory Authority oversight, and a Swiss nonprofit under Swiss Verein law. Canton Foundation governance is independent of all three. The composition of the three engineering outputs — Tenzro Labs' validator and runtime substrate, the Boli platform's Daml package surface, and the Boli Association's standards and editorial work — places the team within the population of open-source developers, operators, and standards contributors actively building on the Canton Network in 2026, while preserving the legal and operational separation that lets a supervisory authority engage each entity under a distinct contractual or governance arrangement rather than concentrating counterparty exposure in a single vendor.

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6. The Boli–Tenzro–Canton stack as an architectural composition

We describe in this section the architectural composition that, in our reading, is the natural pathway for a jurisdiction in the Maldives' position to access the institutional plane of § 1 under the supervisory perimeter of § 2 through the onboarding mechanics of § 4.

The three entities whose engineering output composes into the stack — Tenzro Labs Pte. Ltd. as primary developer of the open-source Tenzro Network (TDIP decentralised identity, multi-party-computation wallets, agentic runtime, Canton validator-node deployment), the Boli platform as the operational layer atop Canton (the three Daml asset patterns, the compliance-pack engine, the TDIP-to-Canton identity bridge, the agentic-runtime integration), and the Boli Association as the Swiss-Verein research and standards contributor — are described in § 5; we describe their architectural composition here.

The architectural composition reads top-down as follows.

The settlement layer is Canton. Final, irrevocable transfer of legal title and value is anchored in Daml contracts on the Canton Network. The Splice Token Standard V1 AllocationV1 primitive is the atomic delivery-versus-payment mechanism; the Global Synchronizer carries cross-applic-

ation atomicity under Byzantine Fault Tolerant consensus; sub-transaction privacy is preserved by the Daml engine's stakeholder-scoped views and by the encrypted-message ordering of the Synchronizer.

Boli's *Tradeable* pattern (Daml Pattern A) issues native Canton-resident instruments under this primitive — the canonical case for tokenised sukuk, tokenised tourism receivables, tokenised debt issued under the Maldives International Financial Centre's prospective regime, and any other instrument for which the Maldives' supervisory authority is willing to designate the Canton ledger as the legal record.

Boli's *Registry-mirror* pattern (Pattern B) issues Canton-side representations of instruments whose registry of record is elsewhere — for example, a tokenised representation of a Maldives Land Registry parcel whose authoritative record continues to sit with the Department, or a tokenised representation of a foreign-issued asset (a BlackRock BUIDL share, a Hashnote USYC unit) accessible to a Maldives counterparty under the Capital Markets Development Authority's licensing regime.

Boli's *Credential* pattern (Pattern C) issues non-transferable identity, authorisation, and attestation contracts — citizenship-tier credentials, residency permits, professional-licensure records, regulated-investor status, sanctions-screening attestations — that compose with the other two patterns by acting as Daml observer parties or as inputs to authorisation choices.

The compliance and identity layer is Boli. Each instrument issued under a Boli pattern carries an associated *compliance pack* — a set of compliance modules configured by the issuing or transfer-agent party and executed at chain level on every transfer.

The pack catalogue includes the patterns appropriate to the regulatory regimes a Maldives counterparty will most plausibly transact across: a Maldives Capital Markets Development Authority Securities Virtual Asset Service Providers pack for domestically-regulated digital-asset activity; a Mauritius Virtual Asset and Initial Token Offering Services pack for licensed offshore distribution; a Maldives International Financial Services Authority pack once the Centre's bespoke regime is published; a Reg D 506(c) pack for distribution into the United States accredited-investor market; a Reg S pack for non-United-States distribution under United States Securities Act exemption; a Markets in Crypto-Assets Regulation pack for European Union distribution; and the Islamic-finance packs (Sukuk Ijara, Murabaha, Salam) for instruments structured under Sharia. The packs are policy artefacts owned by the licensed party; Boli ships the engine, the catalogue, and the editorial review.

The identity component is the TDIP bridge — Tenzro Decentralised Identifiers under the `did:tenzro:human:{uuid}` and `did:tenzro:org:{uuid}` schemes, with selective-disclosure verifiable-credential issuance under the World Wide Web Consortium Verifiable Credentials Data Model 2.0 and Selective Disclosure JSON Web Token Verifiable Credentials patterns, anchored as Boli Pattern C Credential contracts on Canton and presentable to off-Canton verifiers (a remittance corridor partner, a Mauritius custodian, a Dubai-domiciled prime broker) via the eIDAS 2.0 European Digital Identity Wallet substrate or the equivalent regional verifier surface.

The architectural property that matters is that the operational pattern of the Maldives' existing eFaas system — a high-enrolment centralised identity registry — is extended rather than replaced. The TDIP bridge is the layer that translates eFaas attestations into verifiable credentials that can present to a Canton counterparty without exposing the underlying personal data.

The orchestration layer is Tenzro's agentic runtime. Continuous asset-operations workflows run on the Tenzro agentic runtime as autonomous workflows executing under DID-bound mandates. These workflows cover:

- reconciliation against issuer registries,
- market-data monitoring,
- sanctions-screening pre-filtering,
- anti-money-laundering risk scoring,
- climate-finance measurement-reporting-verification evidence collection,
- sukuk-coupon-schedule monitoring,
- tokenised-receivables collection-status tracking, and
- custody-position reporting.

Each mandate is a verifiable credential issued to the agent's Tenzro DID by the principal (an issuer, a transfer agent, a custodian, a supervisor) defining the scope, limits, permitted conditions, and revocation surface of the agent's authority. Mandates are revocable through Tenzro's authority-graph and revocation-tree primitives; revocation propagates as a Canton Credential-contract state change.

The agentic runtime composes upward with the deterministic Canton settlement layer through the Boli pack engine — agents *propose* actions; the Boli pack engine *evaluates* compliance rules; the AllocationV1 contract on Canton *executes* finality. This is the three-layer composition the International Monetary Fund's April 2026 *How Agentic AI Will Reshape Payments* note describes as the regulator-endorsed pattern for agentic AI in payments. We expand on this mapping in § 7.

The accessibility surfaces are EVM and Solana. Canton is the canonical settlement venue; the Boli Pattern B Registry-mirror is the architectural mechanism by which non-Canton counterparties — Ethereum-resident wallets, Solana-resident wallets, the Layer 2 ecosystems above Ethereum — can hold representations of a Canton-canonical asset, transact retail or programmable flows against it, and access stablecoin liquidity without those representations claiming the status of authoritative legal records.

The technical substrate is, as of 2026, the Canton Zenith Stack (a bytecode-compatible EVM execution surface and a Rust SVM execution surface running natively on Canton), Canton's `external_call` primitive for atomic interaction between Solidity contracts and Daml contracts, Circle's Cross-Chain Transfer Protocol version two for native USDC across thirteen and more chains under eight-to-twenty-second fast finality, and Chainlink's Cross-Chain Interoperability Protocol with System and Organization Controls 2 Type 2 certification for messaging across EVM and non-EVM (Solana) surfaces.

The architectural property is that finality lives in one supervised venue while accessibility expands across the chains the Maldives' counterparties already operate on.

The composition is presented in stack form in Figure 1, on the facing page, and textually below.

The architectural property the composition delivers is *integration once*. The Maldives Monetary Authority, the Capital Markets Development Authority, the prospective Maldives International Financial Services Authority, and licensed Maldives-domiciled banks or transfer agents implement a single integration against CIP-56 and AllocationV1 — via the Boli Daml packages, deployed on Canton through Tenzro's validator node, with the relevant compliance packs configured to the Maldives' supervisory framework. The integration gives access to the asset surfaces of DTCC, Goldman Sachs, BNP Paribas, BNY Mellon, JPMorgan, Broadridge, Tradeweb, Circle, Hashnote, and the other Super Validators of the institutional settlement plane, without entering bilateral arrangements with each of them. The counterparty discovery, the asset routing, and the settlement flow are mediated by the standard; the Maldives' supervisory accountability is preserved by the Boli pack engine and the TDIP credential layer.

A final composition note connects back to § 5. The Maldives' supervisory authority would interact with the Boli Association on standards and editorial matters, with the Boli platform operating company on technology procurement, with Tenzro Labs on validator-node hosting and runtime infrastructure, and with the Canton Foundation only on protocol governance — in each case under a separately enforceable contractual or governance ar-

rangement. The composition does not consolidate counterparty risk in a single vendor; it distributes the operational counterparty surface across entities of different legal natures, each subject to different regimes.

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7. The AI integration consensus and the three-layer architecture

The architectural composition of § 6 is not a Boli innovation. It is a direct implementation of the institutional consensus on artificial-intelligence integration in payments that crystallised across the major standard-setting bodies and the International Monetary Fund in 2024–2026. The relevant texts follow.

The cleanest articulation of the consensus is the International Monetary Fund's April 2026 note *How Agentic AI Will Reshape Payments*, published as IMF Note 2026/004 on the twenty-second of April 2026. The note frames payments as a three-layer composition: an upstream **intent and orchestration** layer, a deterministic **authorisation** layer, and a final **settlement** layer.

Agentic AI — encompassing reasoning, planning, search, negotiation, and multi-agent coordination — is explicitly sanctioned only in Layer 1, where its probabilistic character is acceptable because no authorisation or execution occurs at that layer.

Layer 2 is described as "strictly rules-based authorisation … accepting structured intent from Layer 1 only if it satisfies verifiable mandates, policy constraints, and regulatory checks"; the note names Agent Payments Protocol mandates as the operative mechanism, with mandates carrying scope, limits, actor identity, and permitted conditions under elliptic-curve digital-signature-algorithm-signed JSON Linked Data.

Layer 3 carries "irrevocable legal finality" through real-time gross settlement, instant-payment networks, central-bank-digital-currency platforms, and distributed-ledger-technology settlement rails; probabilistic systems are explicitly flagged as inappropriate at this layer.

The Bank for International Settlements' 2025 Annual Economic Report, Chapter III — *The next-generation monetary and financial system* — frames the same composition in different terms. The chapter treats programmability and composability as properties of the unified ledger itself, with the ledger integrating "messaging, reconciliation and asset transfer into a

single, seamless operation." Box B of the chapter, on artificial intelligence in anti-money-laundering, locates AI explicitly *outside* the settlement primitive: AI agents serve as "co-pilots" in screening, false-positive reduction, and pre-screening embedded in the payment instruction. The Bank for International Settlements' framing is consistent with the Fund's: programmability lives in the ledger, intelligence lives above it.

The International Organization of Securities Commissions' March 2025 consultation report on artificial intelligence in capital markets (Consultation Report CR/01/2025) restates the body's 2021 six-measure framework and applies it to AI: senior-management oversight with clear accountability, testing and continuous monitoring, skills and expertise, third-party management with explicit service-level agreements, meaningful disclosure to customers and regulators, and data controls against bias.

The Financial Stability Board's November 2024 report on financial-stability implications of AI identifies four systemic vulnerabilities: third-party dependencies and service-provider concentration, market correlations and herding, cyber risk, and model risk plus data quality and governance.

The Board's October 2025 follow-up — *Monitoring AI Adoption and Related Vulnerabilities* — notes persistent data gaps and lack of standardised taxonomies and proposes indicators for authorities.

The composite institutional position is unambiguous on two points relevant to the Boli–Tenzro–Canton composition.

First, agentic AI belongs upstream of settlement, in an orchestration layer where its probabilistic character is acceptable because no authorisation or execution occurs there.

Second, the governance burden of AI — model risk management, third-party concentration controls, accountability frameworks, disclosure obligations — attaches to the firm operating the model and does not migrate into the deterministic smart-contract layer beneath it.

This second point is the more consequential one for the Boli stack. Boli ships open-source Daml packages that are formally verifiable through Daml's ledger-model heritage; the licensed parties operating against those packages own the model-risk perimeter of any AI agent they run on the Tenzro orchestration layer. The architectural separation is not a stylistic preference. It is the perimeter the regulators have drawn.

The Boli–Tenzro–Canton composition implements the three layers directly.

The Tenzro agentic runtime is Layer 1: continuous monitoring, evidence collection, sanctions pre-screening, reconciliation, portfolio rebalancing proposals — all probabilistic, all upstream of authorisation, all operating under DID-bound mandates carrying scope, limits, actor identity, and permitted conditions.

The Boli compliance-pack engine is Layer 2: deterministic, rules-based, executing on every transfer at chain level, accepting only structured intent from Layer 1 that satisfies the compliance rules of the regulated party owning the pack.

The Canton settlement layer is Layer 3: irrevocable, finality-bearing, anchored in the supervised commercial venue described in § 1.

Three integration mechanisms warrant brief description because they carry the load of the Layer-1-to-Layer-2 handoff.

DID-bound mandates. Each Tenzro-runtime agent operates under a verifiable-credential mandate issued by the principal — a transfer agent, a custodian, an issuer, a supervisor — to the agent's TDIP-anchored decentralised identifier.

The mandate is a JSON Linked Data document, signed by the principal's elliptic-curve key, carrying the scope (which assets, which actions, which jurisdictions), the limits (transaction sizes, frequency caps, drawdown bounds), the actor identity (the agent's DID), and the permitted conditions (which compliance attestations must be present, which counterparty types are permitted).

The World Wide Web Consortium's Agent Identity Registry Protocol Community Group (established April 2026) and the OpenID Foundation's Artificial Intelligence Identity Management Community Group are converging on the standard format; the Decentralized Identity Foundation received the Model Context Protocol Identity specification donation in March 2026. The pattern is established; the standardisation is in progress.

Trusted Execution Environment attestation for agent compute. Agentic AI inference in the Tenzro runtime runs in Trusted Execution Environments — composite Intel Trust Domain Extensions plus NVIDIA H100 attestation via Intel Trust Authority is the production-ready pattern in 2026, with Advanced Micro Devices' Secure Encrypted Virtualisation–Secure Nested Paging, Amazon Web Services' Nitro Enclaves, and Google Cloud Platform's Confidential Space as alternative substrates. Each inference is bound to an attestation report demonstrating *what code ran on what input*. The pattern is in production at OpenRouter and Phala. The honest caveat: verifiable compute proves what code ran, not that the model's output is correct. This is widely conflated in vendor marketing.

Authority graphs and revocation trees. Mandates compose into authority graphs — chains of delegation from a principal to a sub-agent to a sub-sub-agent, each link a verifiable credential — and the revocation of any link propagates through the tree. The architectural property is that an autonomous workflow's authority can be revoked at any layer of the delegation chain without bringing down the workflow itself. The OpenID Foundation's Artificial Intelligence Identity Management Community Group flags revocation as the principal unsolved problem in 2026; the Boli–Tenzro composition implements a working pattern based on Canton-resident Credential contracts whose state change propagates through the Synchronizer.

Three specific use cases for the Maldives illustrate the composition.

Sanctions and anti-money-laundering screening for cross-border remittance under the Favara-Unified-Payments-Interface corridor: a Tenzro-runtime agent screens incoming transaction proposals against the Office of Foreign Assets Control specially-designated-nationals list, the European Union consolidated sanctions list, and the Maldives' own counter-terrorism financing screen, producing a risk-tiered recommendation; the Boli compliance pack evaluates the recommendation deterministically against the Maldives Monetary Authority's policy thresholds and the corridor partner's screening requirements; the AllocationV1 transfer executes only if the pack returns *permit*.

Measurement-reporting-verification for tokenised blue-carbon credits from Maldivian mangrove and seagrass stocks: a Tenzro-runtime agent collects satellite-derived above-ground-biomass measurements, remote-sensing change-detection data, and ground-station readings, producing audit-grade evidence; the credit is issued as a Boli Tradeable contract on Canton only after a Verra- or Gold-Standard-accredited Validation and Verification Body signs the supporting evidence; the agent's role is to lower the marginal cost of evidence collection, not to substitute the human verifier; the credit's integrity reduces to the Validation and Verification Body's signature, not the model's confidence score.

Sukuk-coupon-schedule monitoring for a hypothetical Maldives International Financial Centre-issued tokenised sukuk: a Tenzro-runtime agent monitors profit-rate schedules, profit-payment readiness, and the Sharia-compliance attestations from the issuance's appointed Sharia board; the agent proposes profit-distribution transactions to the Boli Sukuk Ijara pack; the pack evaluates the proposal against the deterministic compliance rules; the AllocationV1 contract on Canton executes the distribution to holders' wallets.

In each case, the agent is an operational efficiency; the authoritative event is the Canton contract execution; the model-risk perimeter is the responsibility of the regulated party operating the agent.

8. Security: the 2026 institutional norm

The architectural composition of § 6 inherits the security primitives of three layers — Canton, Boli, Tenzro — each with its own evolving institutional norm. We summarise the 2026 state in the four categories where the architectural choices the Maldives would face are sharpest.

Threshold-signing and the multi-party-computation wallet substrate. The 2026 institutional norm has settled on threshold multi-party-computation over multi-signature for digital-asset key management, with the Gennaro-Goldfeder 2020 protocol dominant on account-based EVM and SVM chains and FROST — the Flexible Round-Optimised Schnorr Threshold protocol, standardised as Internet Engineering Task Force Request for Comments 9591 in 2024 — the institutional choice for Schnorr and Taproot signatures, Ed25519 signatures, and Canton-aligned signing curves. Lindell-style two-party protocols remain in use for client-side co-signing models.

Credible institutional custody providers as of May 2026 include Fireblocks (in-house multi-party-computation with a continuous-multi-party-computation protocol, Trusted Execution Environment-backed key shares, the market leader for tokenised-asset operations), BitGo (publicly listed since January 2026, holder of an Office of the Comptroller of the Currency national trust bank charter, operating hybrid multi-signature on Unspent Transaction Output chains and multi-party-computation on account-based chains), Anchorage Digital (the only United States federally-chartered crypto bank, preferred by United States-regulated institutions), Taurus (the Geneva-based custodian whose clients include Deutsche Bank, CACEIS, Santander, and State Street, and which became a Canton Super Validator in November 2025), Hex Trust (a Canton Super Validator from January 2026, with regional custody licences across Hong Kong, Singapore, Dubai, and Italy), and Komainu (a Jersey-domiciled custodian operating under a Dubai Virtual Assets Regulatory Authority licence). Newer providers — Dfns, Safeheron, Cobo, Cregis — offer application-programming-interface-first multi-party-computation platforms targeting fintech integration.

The Boli–Tenzro pattern of multi-party-computation wallets bound to TDIP decentralised identifiers across the secp256k1, ed25519, and Canton signing curves is consistent with the FROST and Gennaro-Goldfeder primitives but is ahead of the institutional market in two respects: no major incumbent custodian today natively binds key shares to a World Wide Web Consortium decentralised identifier, and no incumbent offers a unified cross-virtual-machine signing surface under a single identity.

The architectural property is that a Maldives Monetary Authority decentralised identifier — or a Maldives International Financial Services Authority licensee's decentralised identifier — can hold signing authority across Ethereum, Solana, and Canton through a single TDIP-anchored key arrangement rather than across three separately-managed custody relationships.

Trusted Execution Environment attestation for validator and agent compute. The 2026 hardware substrate is Intel Trust Domain Extensions, Advanced Micro Devices' Secure Encrypted Virtualisation–Secure Nested Paging, NVIDIA H100, H200, and B200 confidential compute, Amazon Web Services' Nitro Enclaves, and Google Cloud Platform's Confidential Space.

Composite attestation — Intel Trust Domain Extensions plus NVIDIA H100 — moved from preview to general availability via Intel Trust Authority during 2025, on Ubuntu 24.04 long-term-support and Linux kernel 6.8 and above. NVIDIA confidential graphics processing units with encrypted video memory are deployed in regulated inference workloads.

The institutional adoption pattern is uneven. The agent-compute use case — running artificial-intelligence inference with verifiable execution — is the strongest 2026 production fit. Validator-side adoption — Trusted Execution Environment-backed Canton Super Validator signing — is announced and in research rather than shipped.

For the Boli–Tenzro composition the relevant production application is Layer-1 agentic inference: each inference an agent produces is bound to a Trusted Execution Environment attestation report, presentable to a supervisor as evidence of *what code ran on what input*, with the caveat that this is not evidence of model-output correctness.

Post-quantum cryptography. The National Institute of Standards and Technology finalised the principal three post-quantum cryptographic standards in August 2024 — Federal Information Processing Standards Publication 203 (Module-Lattice-Based Key-Encapsulation Mechanism, formerly CRYSTALS-Kyber), 204 (Module-Lattice-Based Digital Signature Algorithm, formerly Dilithium), and 205 (Stateless Hash-Based Digital Signature Algorithm, formerly SPHINCS+) — with Federal Information Processing Standards Publication 206 (FN-DSA, formerly Falcon) in draft.

National Institute of Standards and Technology Internal Report 8547 proposes deprecating Rivest-Shamir-Adleman and Elliptic Curve Cryptography at 112-bit security after 2030, with all quantum-vulnerable asymmetric cryptography disallowed after 2035.

Status by layer in May 2026 is non-uniform. Transport Layer Security at internet scale runs hybrid X25519 plus Module-Lattice-Based Key-Encapsulation Mechanism (Chrome, Cloudflare). Payment-message signing remains pre-production: the Bank for International Settlements' Project Leap Phase 2 demonstrated Module-Lattice-Based Digital Signature Algorithm signatures in International Organization for Standardization 20022 Business Application Header messages, but signature size jumped roughly twelve and nine-tenths times the Rivest-Shamir-Adleman 2048 baseline, creating real bandwidth and storage pressure; the Society for Worldwide Interbank Financial Telecommunication's SwiftNet 8.0, targeted for 2027, is the most concrete post-quantum-enabled rail commitment.

No major Layer 1 blockchain — Canton included — has rotated its base signature scheme to post-quantum cryptography. The Group of Seven Cyber Expert Group's January 2026 roadmap targets 2030 to 2032 for critical financial-system migration.

For the Boli–Tenzro–Canton stack the relevant 2026 architectural requirement is crypto-agility — the ability to rotate signature schemes without protocol forks — rather than immediate post-quantum deployment.

Smart-contract audit and formal verification. The Daml language inherits formal-verification heritage from its Haskell-derived ledger model, making the Daml ledger model *correct by construction* in ways that Solidity is not — the Daml engine enforces transactional integrity, sub-transaction privacy, and stakeholder-scoped visibility as language-level invariants rather than as contract-level patterns.

The 2026 institutional norm for Solidity auditing is a mature multi-firm ecosystem — OpenZeppelin, Trail of Bits, Halborn, ConsenSys Diligence, Quantstamp, Zellic — whereas the Daml auditor pool is much smaller. OpenZeppelin published institutional Daml security guidance in March 2026 noting that Daml's security model is "fundamentally different."

Property-based testing in pure Daml, under the QuickCheck and Echidna lineage, is the 2026 standard for template invariant testing. Halborn, Hacken, and PixelPlex offer Daml advisory, but the depth is far behind Solidity.

The implication for any production Boli registry package is that property-based testing plus at least two independent audits is the appropriate posture, and that the auditor pool is a real bottleneck rather than a notional one.

9. Privacy: Canton's sub-transaction model and the verifiable-credential substrate

The privacy guarantees of the Canton settlement layer are the architectural property most directly relevant to a sovereign or sovereign-adjacent participant. We describe them here in detail because the institutional consequence is substantial.

Canton implements **SUB-TRANSACTION PRIVACY** through stakeholder-scoped views: each participant node receives only the projection — the sub-transaction — of a multi-party transaction relevant to the parties it hosts. Uninvolved nodes never see or process confidential portions of the transaction. This is enforced cryptographically by the Daml engine, not by ledger policy.

The mechanism is materially different from public-permissioned chains running Hyperledger Besu Istanbul Byzantine Fault Tolerance, where validators see plaintext, and from Layer 2 rollups, where the sequencer sees full state.

The Global Synchronizer, operated by Super Validators under two-thirds Byzantine Fault Tolerant consensus, sequences *encrypted* messages, runs consensus on ordering, and guarantees that multi-leg transactions either fully succeed or fully fail — without decrypting payloads at any point.

The two-trillion-dollar repo book on Broadridge's Distributed Ledger Repo, the Depository Trust and Clearing Corporation's tokenised Treasury programme, JPMorgan's JPM Coin USD on Canton, and Goldman Sachs' GS DAP all operate against this privacy substrate.

The mechanism is worth describing one level below the high-level claim, because the privacy substrate is the single architectural property of Canton most often misread by analogy to public-blockchain models.

A Daml contract is a multi-party agreement whose stakeholders are formally classified as signatories (who must authorise the contract's creation and consume), observers (who see the contract but cannot exercise choices on it), controllers (who exercise choices), and informees (who see particular sub-transaction projections by virtue of their roles in particular choices).

The Daml engine computes a separate *projection* of any multi-party transaction for each participant node, including only the sub-transactions in which the parties hosted on that node are stakeholders. Uninvolved participant nodes receive nothing — not an encrypted ciphertext, not a hash, not a transaction identifier.

Each participant node maintains a private database holding only the projections relevant to the parties it hosts; the Global Synchronizer routes encrypted, addressed messages between participants and orders them under Byzantine Fault Tolerant consensus, but the Synchronizer's Super Validators never decrypt payloads and do not have read access to participant-node private databases.

The supervisory pattern that follows from the model is *regulator-as-observer*: a supervisor with statutory access to a class of contracts is permissioned as a Daml observer party on the relevant templates, receives the projection containing exactly the data the licence requires, and is precluded by the engine's projection logic from receiving anything outside that scope.

Canton Improvement Proposal 0112 — in draft as of May 2026 — proposes further privacy improvements to the Token Standard surface, principally around the visibility of allocation requests during the reservation-and-execution flow; the architectural shape it preserves is the projection-and-stakeholder model.

The institutional consequence for a sovereign participant is direct. A Maldives counterparty — a Maldives-domiciled licensed bank, a Maldives International Financial Services Authority-licensed transfer agent, or in due course the Maldives Monetary Authority itself — can settle a sukuk-against-USDC transaction with a Dubai-domiciled prime broker, or a tokenised-tourism-receivables transaction with a London-domiciled institutional investor, atomically, with no Super Validator (Goldman, DTCC, BNP, BNY Mellon) ever seeing position size, identity, or terms beyond what is needed for ordering. This is the architectural unlock that public-permissioned chains and Layer 2 rollups do not deliver. The honest caveat is that the privacy claims, while well-specified in protocol documentation and in the Daml engine, have not yet been the subject of a public supervisory attestation; the International Organization of Securities Commissions' November 2025 final report references Canton-class designs without endorsing specific privacy guarantees.

The privacy substrate above Canton — the verifiable-credential layer carrying identity, attestation, and authorisation data — has settled on three primary standards. The World Wide Web Consortium's Verifiable Credentials Data Model 2.0 became a Recommendation on the fifteenth of May 2025.

The 2026 institutional stack composes three credential formats: Selective Disclosure JSON Web Token Verifiable Credentials, mandated alongside Mobile Document under the European Union's eIDAS 2.0 European Digital Identity Wallet programme and the dominant choice for institutional Know-Your-Customer-tier disclosure; Boneh-Boyen-Shacham signatures under the `bbs-2023` cryptographic suite, providing unlinkable selective disclosure with one issuer signature and multiple holder-derived proofs (the strongest privacy properties, with heavier cryptography); and the Mobile Document standard under International Organization for Standardization 18013-5, mandated for mobile driving licence and co-mandated alongside Selective Disclosure JSON Web Token Verifiable Credentials under eIDAS 2.0.

For institutional Know-Your-Customer-tier disclosure — the case the Boli Pattern C Credential supports — Selective Disclosure JSON Web Token Verifiable Credentials is the conservative 2026 choice; Boneh-Boyen-Shacham signatures are the right answer where unlinkability across verifiers is a hard requirement.

Privacy-preserving compliance — zero-knowledge Know-Your-Customer, zero-knowledge anti-money-laundering, zero-knowledge proofs of reserves and solvency — is moving from research to early production but is not yet a production-grade institutional standard.

The Aztec Network leads the privacy-Layer-2 architecture under the Noir language and the Aztec-Connect Plonk proving system. Aleo is the privacy-Layer-1 production network, with a Paxos partnership for the USD Stablecoin product and a Revolut integration. Mina remains the recursive-proof minimal-chain bet at approximately twenty-two kilobytes of chain state.

Production zero-knowledge proof-of-reserves shipped by OKX on a recurring monthly cadence and was announced by LPKWJ in March 2026. Pure zero-knowledge anti-money-laundering at network-wide institutional scale is not yet shipped — most "zero-knowledge Know-Your-Customer" deployments today are zero-knowledge attestations of an off-chain Know-Your-Customer pass rather than zero-knowledge anti-money-laundering risk scoring.

For Canton specifically, there is no canonical zero-knowledge-compliance pattern in the Splice standards as of May 2026; the privacy is achieved via the sub-transaction view model rather than zero-knowledge proofs. Custom zero-knowledge circuit work on Daml templates is feasible but bespoke.

Sovereign data residency and digital sovereignty bear on any Canton participation by a Maldives-domiciled supervisor. The relevant frameworks include the European Union's General Data Protection Regulation Article 48 (third-country authority data requests inadmissible without European Union legal basis), the European Union Data Act in force since 2025 (cloud-portability and non-personal-data rules), India's Digital Personal Data Protection Act 2023, Singapore's Personal Data Protection Act, and the Maldives' own regime.

The operative Maldives regime in May 2026 is the 2017 Data Protection Act plus the direction of travel in the Privacy and Personal Data Protection Bill, drafted in 2023 and in active legislative process through 2025 — the Bill creates a dedicated data-protection authority and is European-Union-General-Data-Protection-Regulation-aligned but had not been enacted as of the eleventh of May 2026.

The constraint on Canton participation flows from the architecture rather than the legal text: Canton's privacy model means contract content does not leave participant nodes the sovereign controls; the cross-jurisdictional exposure is via the Super Validator operators (currently non-Maldives), any Boli-hosted off-ledger components, and the settlement-asset issuers' nodes.

A sovereign Maldives participant node, operated locally on Tenzro infrastructure, satisfies data-residency for state-held contract data; the Global Synchronizer sees no plaintext, which is the architectural property that makes Canton tractable for sovereign participation under General-Data-Protection-Regulation-class regimes.

10. Interoperability: Canton-canonical, multi-virtual-machine accessibility, settlement-asset agnosticism

The interoperability properties of the Boli–Tenzro–Canton composition derive from three architectural decisions, each of which we describe in this section.

Canton as canonical settlement, EVM and Solana as accessibility surfaces. The 2026 institutional pattern places settlement on Canton and accessibility surfaces on Ethereum, the Ethereum Layer 2 ecosystem, and Solana. Three concrete mechanisms compose this pattern.

Canton's `external_call` primitive enables atomic interaction between Solidity contracts and Daml contracts — a Solidity contract on Ethereum or an Ethereum Layer 2 can invoke a Daml contract on Canton within the same transaction, with finality preserved by the Daml engine.

Canton's Zenith Stack — a bytecode-compatible Zenith Ethereum Virtual Machine execution surface and a Rust Solana Virtual Machine execution surface running natively on Canton — exposes the Canton ledger to Ethereum-resident and Solana-resident wallets without requiring custodial bridges.

Cross-chain transfer of stablecoin liquidity proceeds via Circle's Cross-Chain Transfer Protocol version two, live across thirteen and more chains with eight-to-twenty-second fast finality and programmable hooks; or via Chainlink's Cross-Chain Interoperability Protocol versions 1.5 and 1.6, with System and Organization Controls 2 Type 2 certification and non-Ethereum-Virtual-Machine (Solana) support; or via LayerZero's Omnichain Fungible Token mechanism, despite the operational incident of April 2026.

The pattern's load-bearing property is that finality lives in one supervised venue (Canton) while accessibility expands across the chains the Maldives' counterparties already operate on.

CIP-56 and AllocationV1 as the standardisation surface. Canton Improvement Proposal 0056 — the Canton Network Token Standard, in the canton-foundation/cips repository — specifies six application-programming interfaces (metadata, holdings, transfer instruction, allocation, and the supporting OpenAPI surfaces). The Splice Token Standard V1 at version

1.0.0, stabilised in early 2026, is the reference Daml implementation in the hyperledger-labs/splice repository. The atomic delivery-versus-payment flow proceeds through three Daml choices: AllocationRequest creates the reservation; AllocationFactory_Allocate finalises the reservation against a counterparty's reciprocal reservation; Allocation_ExecuteTransfer effects atomic transfer of both legs in a single Daml transaction. The implementation surface is shipped and stable; the Boli Pattern A Tradeable contracts implement against it directly. The architectural property is that *integration once* gives access to every Super Validator's asset surfaces — DTCC's tokenised Treasuries, JPMorgan's JPM Coin USD, Hashnote's USYC, Circle's USDCx — without bilateral integration with each.

Settlement-asset agnosticism. The AllocationV1 interface is *asset-agnostic*: a delivery-versus-payment atomic transfer can clear against any cleared settlement asset for which a Token Standard implementation exists on the same Synchronizer, or which can be atomically bridged.

The settlement-asset surface includes the major dollar-denominated stablecoins (Circle USDC, Tether USDT, PayPal USD), the euro-denominated stablecoins (Circle EURC, Société Générale EUR Coin Vertu), the bank-issued stablecoins (JPMorgan JPM Coin USD), the asset-denominated tokens (Hong Kong Dollar Coin under the Hong Kong Stablecoins Ordinance, regulated Singapore Dollar stablecoins under the Monetary Authority of Singapore's framework, prospective Japanese Yen Coin issuance under Japan's Payment Services Act amendments), and the tokenised money-market funds (BlackRock's BUIDL, Franklin Templeton's BENJI, Hashnote's USYC).

In due course, central-bank wholesale-tokenisation programmes — Project Helvetia III's wholesale Swiss franc tokens, Project Ensemble's tokenised Hong Kong Dollar deposits, the Eurosystem's Pontes-bridged TARGET central-bank money — will compose against the same interface.

The architectural property is that Boli does not need to editorialise on which settlement asset the Maldives' counterparties use. The choice is the counterparties'; the standard interface composes regardless.

The unresolved frontier: cross-bloc interoperability. Two architectural gaps in 2026 bear flagging because they remain open.

First, the bridge between Canton and the central-bank wholesale-tokenisation programmes — Project Agorá's Phase 1 prototype, the Eurosystem's Pontes, Project Ensemble's tokenised-deposit pilot — is in active design rather than shipped. The Pontes pilot, scheduled for the third quarter of 2026, is the most concrete near-term step.

Second, the bridge between the Western institutional plane (Canton, Pontes, Helvetia, Ensemble) and the China-sphere plane (mBridge, the e-CNY, the digital ruble) does not exist in production form. The mBridge platform is technically Ethereum-Virtual-Machine-compatible, but no standard maps Splice AllocationV1 to mBridge's settlement primitives, and no public proposal does so.

For the Maldives in its 2026 configuration — India-dependent, Gulf-aligned, with the United Arab Emirates a participating central bank in mBridge through the Central Bank of the United Arab Emirates — this is a strategic question rather than a 2026 engineering question. The paper's central architectural claim of jurisdictional and rail neutrality is true only within the Western plane; the bridge to the other plane is not architecturally solved.

Standardisation of payment messages. The Bank for International Settlements' Project Mandala explores programmable compliance embedded in payment messages, and Project Agorá's Phase 1 first-half-2026 report addresses legal, regulatory, settlement-finality, and compliance gaps for tokenised wholesale and commercial central-bank money. International Organization for Standardization 20022 mapping for tokenised settlement on Canton, Pontes, and Ensemble is in active design, but no shipped standard binds CIP-56 AllocationV1 fields to specific International Organization for Standardization 20022 message elements as of May 2026. This is a real gap. A standards-body workstream that closes it would be a useful Boli Association editorial focus and is one of the directions the Association's standards programme is positioned to engage.

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11. The architecture against the Maldives' empirical record

The architectural reading is closed by placing it explicitly against the empirical record of small island developing state digital-finance work between 2018 and 2026. Three patterns from that record bear on whether the architecture of §§ 4–10 is the right one for the Maldives' specific position rather than an architecture that happens to be available.

The first pattern is that **identity rails have outperformed currency rails** across the small island developing state group. The Maldives' eFaas at approximately eighty per cent population enrolment is the strongest ex-

ample. Where digital identity has reached working scale in a SIDS jurisdiction, it has done so without a sovereign-blockchain-currency component. The Boli architectural pathway is consistent with this finding: the TDIP layer extends rather than replaces eFaas; the asset patterns ride on a verifiable-credential substrate that the Maldives has already established at scale. The architecture is identity-anchored, not currency-anchored.

The second pattern is that **CONVENTIONAL INSTANT-PAYMENTS SYSTEMS HAVE OUTPERFORMED RETAIL CENTRAL-BANK DIGITAL CURRENCIES**. Favara at over eighty-four per cent of retail transactions in 2024 — and its imminent integration with India's Unified Payments Interface — is the cleanest example. The Eastern Caribbean Central Bank's pivot in February 2026 from a DCash 2.0 successor to a Regional Fast Payment System is a data point of the same character. The Boli architectural pathway does not propose a Maldivian retail central-bank digital currency. It composes against Favara as the domestic instant-payments rail and against the AllocationV1 settlement-asset-agnostic primitive for tokenised institutional flows. The architecture preserves the rail that works.

The third pattern is that **SPECULATIVE SOVEREIGN-CRYPTOCURRENCY PROJECTS HAVE NOT PRODUCED VERIFIABLE BENEFITS** in the small island developing state group — the Marshall Islands' Sovereign and Palau's stablecoin pilot are the documented cases. The Boli architectural pathway does not propose a sovereign cryptocurrency. It composes against the institutional commercial venue (Canton) operating under supervisory recognition, the regulated stablecoin frameworks (GENIUS Act, Markets in Crypto-Assets Regulation, Hong Kong's Stablecoins Ordinance, Singapore's framework, the prospective Maldives International Financial Centre regime), and the central-bank wholesale-tokenisation programmes — none of which are sovereign cryptocurrencies in the speculative-asset sense.

Three further readings of that record inform how the architecture should be assessed.

The **ADOPTION-MECHANIC AND VALUE-CAPTURE RECORD** of past small island developing state digital-finance work concentrates failure in vendor-relationship economics with thin domestic-talent capture across the documented cases. The Boli–Tenzro–Canton composition distributes counterparty risk across three legally distinct entities — a Swiss non-profit Association, an open-source platform under a separate operating company, and a Singapore engineering partner — none of which is a single-vendor lock-in. The TDIP-anchored decentralised identifiers and the verifiable-credential layer are interoperable substrates rather than proprietary identifiers. The architecture is portable; the Maldives' supervisor retains the ability to migrate components.

The **MEASUREMENT-REPORTING-VERIFICATION ECONOMICS** for environmental-asset tokenisation place conventional verification costs at twenty to thirty per cent of credit revenue for typical voluntary-carbon projects and above fifty per cent for novel removal categories. The architecture's agentic-runtime layer lowers the marginal cost of evidence collection while preserving the Validation and Verification Body human-verification gate at registry-recognised standard. The Maldives' blue-carbon assets — mangrove and seagrass stocks measured in 2024 peer-reviewed feasibility work at slightly above global averages — sit within the asset class for which this cost reduction matters most.

The **INSTITUTIONAL AND SUPERVISORY CAPACITY** of small island developing states is the binding constraint on every option in the documented record — the sixth alignment-layer the public conversation rarely surfaces.

The Boli architectural pathway does not relieve a Maldives supervisor of accountability for the system's behaviour; it concentrates the supervisor's attention on the specific points where supervisory judgement is irreplaceable (the contents of the compliance packs, the parameters of the agent mandates, the choice of accredited Validation and Verification Bodies, the configuration of sanctions-screening tiers) while shifting operational complexity to the technology partners (validator infrastructure, agent runtime, Daml engineering, audit cadence).

This is a different distribution of work than the historical pattern of central-bank-funded vendor build-out for a retail central-bank-digital-currency platform. It is closer in operational shape to the pattern of supervisory-led oversight of a licensed financial-market infrastructure than to the pattern of a sovereign technology programme.

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12. The Maldives' tokenisable asset surface and the AI-verification economics that change it

The architectural pathway of §§ 4–11 establishes that integration at the Canton Improvement Proposal 56 and Splice Token Standard V1 layer gives a participating jurisdiction interoperability with the institutional commercial venue. The question this section closes is the one a Maldives reader would press next: against that pathway, what is the surface of assets in the Maldives' economy for which tokenisation is

operationally meaningful in 2026, and what changes about the economics of putting any of them on-chain when the verification substrate is the Tenzro decentralised artificial-intelligence runtime rather than the conventional human-attestation cadence of the 2024–2025 voluntary-credit market?

We organise the survey by asset class, threading two architectural points through each line.

The first is the Boli platform's three Daml asset patterns — Tradeable (Pattern A), Registry-mirror (Pattern B), Credential (Pattern C) — into which every asset class encountered in production collapses; the platform ships the base packages and the compliance packs that adapt them to a licensed party's regime.

The second is the verification substrate. The Tenzro Network is the underlying decentralised compute fabric: an open-source, community-driven network whose primary developer is Tenzro Labs Pte. Ltd. (Singapore), operating Canton validator infrastructure and a Trusted-Execution-Environment-attested agentic runtime. Tenzro is not an official Canton developer; what Tenzro contributes to a tokenisation deployment is the verification substrate and the validator surface, not the Daml engine.

Verification on that substrate uses three primitives: edge artificial-intelligence inference on attested hardware, satellite and acoustic and oceanographic sensor fusion, and remote-attestation pipelines that bind model identity, input identity, and output identity into a single verifiable artefact.

The economics that result are different from the human-attestation economics that priced verification at twenty to thirty per cent of credit revenue for typical voluntary-carbon projects through 2024 (§ 11). For some asset classes the change is marginal; for others it changes the feasibility frontier outright.

12.1 Tourism cashflows: receivables, occupancy streams, branded residences

Tourism contributed approximately twenty-eight per cent of Maldives gross domestic product directly and over sixty per cent on a value-added basis through 2024–2025, with one hundred and fifty plus operating resorts on dedicated leasehold islands and a guesthouse segment on inhabited islands. The asset surface within tourism is layered. At the operational base sit receivables: confirmed bookings, group-tour deposits, channel-manager payouts. Above them sit occupancy-linked cashflow streams (fractional ownership of revenue tranches from named resorts, sukuk-of-occupancy structures) at the structured-finance layer. At the real-estate layer

sit branded residences. These include the Trump International Hotel Maldives, announced on the seventeenth of November 2025 by the Trump Organization and Dar Global, alongside the broader Dar Global / Aldar / Emaar pipeline visible through 2026.

The Boli operating layer maps tourism receivables to Pattern A under a tokenised-receivables compliance pack: signatory the resort operator, observer the financing bank, controller the operator, with a default-and-cure waterfall encoded in the contract template.

Occupancy-linked cashflow tranches map either to Pattern A under a sukuk-of-occupancy pack — given that the Maldives' Sharia-compliance posture is institutionalised — or to a Pattern A regulated-fund interest under a Capital Market Development Authority offering memorandum.

Branded residences map to Pattern B (registry-mirror) against a Maldivian land-and-leasehold registry; on-chain transfers project the registry's state without becoming the registry of record.

The Dar Global / World Liberty Financial / Securitize tokenisation of the seventeenth February 2026 — Rule 506(c) plus Regulation S, on Morpho atop Base — is an instructive comparator, but architecturally inverted from the Boli–Canton pathway: it places the canonical asset on a public-permissionless EVM rollup and reaches institutional surfaces through bridges, where the Boli pathway places the canonical asset on Canton and reaches retail and developer surfaces through chain-abstraction primitives.

The Tenzro verification substrate is unusually well-matched to tourism. The marginal cost of attesting occupancy is low: property-management systems already emit machine-readable check-in and check-out events; integrating those events into a TEE-attested agent that signs an occupancy receipt against the resort's decentralised identifier (`did:tenzro:org:{uuid}`) is a thin software lift.

Tourism receivables tokenisation has historically failed not on verification cost but on cashflow opacity; verifiable, continuously-attested occupancy data from a TEE pipeline removes that failure mode.

The Boli compliance pack consumes the attested occupancy receipts as inputs to the receivables-conversion logic; the AllocationV1 primitive carries the principal-plus-yield settlement against any cleared settlement asset.

12.2 Sovereign and quasi-sovereign sukuk and bond issuance

The Maldives' sovereign-debt position in 2026 — the five-hundred-million-dollar dollar sukuk repaid on the first of April 2026 through Sovereign Development Fund balances and foreign-exchange reserves, the Reserve

Bank of India currency-swap support through January 2026, and the broader bilateral assistance pattern with India and Saudi Arabia — places sovereign issuance under active reform pressure. The Capital Market Development Authority's existing sukuk regime, the Hong Kong Monetary Authority's tokenised-bond series (HKD 800 million in 2021, HKD 6 billion multi-currency in February 2023, HKD 6 billion in February 2024), Slovenia's 2024 €30 million tokenised digital sovereign bond, and the European Central Bank's TARGET-linked T-2 wholesale-cash-settlement tests through 2024–2025 are the institutional comparators. The Project Agorá Phase 1 conclusion expected in the second half of 2026 will set the cross-border settlement template.

In the Boli operating layer, sovereign sukuk and sovereign bond instruments are Pattern A under a sovereign-issuance compliance pack: signatory the issuing authority (the Ministry of Finance or Maldives Monetary Authority acting under statutory delegation), observers the trustee and the Capital Market Development Authority as supervisor, controller the issuing authority, with redemption-and-coupon mechanics encoded directly. The pack carries the Sharia-supervisory observer pattern as a first-class participant where the instrument is sukuk. AllocationV1 carries the primary-issuance subscription leg against any cleared payment-asset — USDC, USDT, EURC, JPM Coin, or in due course a wholesale central-bank-digital-currency. Secondary trading inherits the same atomic delivery-versus-payment guarantee.

The Tenzro verification substrate adds limited value at the primary-issuance step (the canonical record is the registry) but meaningful value at the operational-monitoring step: continuous attestation of paying-agent reserve composition against the sukuk's underlying-asset list, automated compliance reporting to the supervisor, and TEE-attested computation of the redemption schedule against verifiable foreign-exchange reserve indicators. The supervisor-as-observer pattern in Daml — the regulator receives projections without being a transaction party — composes against this directly.

12.3 Real estate, leasehold, and the Maldives International Financial Centre footprint

Real estate in the Maldives is land-scarce and almost entirely leasehold, with resort-island leases typically in the fifty-year-plus range and inhabited-island plots under separate statutory regimes. The Sixteenth Amendment to the Tourism Act ratified in December 2025 modernised the leasehold framework; the Seventeenth Amendment to the Decentralisation Act of the first of December 2025 redistributed land-administration competence across atoll and island councils. The Maldives International Financial

Centre — the joint-venture agreement with MBS Global Investments signed in January 2026, with completion targeted for 2030 — introduces a regulated free-zone perimeter under the prospective Maldives International Financial Services Authority that contemplates tokenised-asset and digital-asset licensees.

In the Boli operating layer, freehold and leasehold real-estate interests are Pattern B (registry-mirror) by construction: the canonical legal record is the Maldives land registry as reshaped by the Seventeenth Amendment, and the on-chain token is a projection of the registry's state. Fractional and securitised interests over leasehold portfolios are Pattern A under either a Capital Market Development Authority offering memorandum or — once the Maldives International Financial Centre regime is published — a Maldives International Financial Services Authority licensed-issuance pack. Branded residences and resort partnerships ride the same patterns with operator-specific compliance configuration; the Trump-Maldives / Dar Global comparator is the data point for what tokenised branded-residences traffic looks like in 2026, with the architectural caveat in § 12.1 about which substrate carries the canonical asset.

The Tenzro verification substrate's contribution to real estate is the operational-monitoring layer above the registry. Title is established by the registry; ongoing attributes of the asset — leasehold-rent payment status, insurance status, environmental compliance, occupancy in the case of resort assets, construction progress in the case of pre-completion sales — can be continuously attested by TEE-bound agents drawing on satellite imagery, sensor feeds, and operator-system signals. The compliance pack consumes those attestations as inputs to transfer-permission logic.

12.4 Infrastructure and public–private partnership financing

Maldivian infrastructure assets — Velana International Airport's continuing expansion, the Greater Malé interconnection projects, inter-atoll causeway and bridge corridors, port and reclamation works, undersea-cable landings, and the desalination and waste-management estate — have historically been financed through a mix of sovereign borrowing, concessional development-finance facilities (India's EXIM, the Asian Development Bank, the Islamic Development Bank, Saudi Fund for Development), and bilateral grant assistance. Tokenisation in this asset class is an investor-base-broadening question: whether infrastructure-revenue claims can be packaged into instruments accessible to global allocators and to retail diaspora investors in formats the current regime does not support.

In the Boli operating layer, public–private-partnership revenue-share instruments are Pattern A under either a sovereign-or-statutory-corporation compliance pack or, where the project is structured through a Maldives International Financial Centre vehicle, a Centre-licensed-issuance pack. Concessional-finance instruments map either to Pattern A as conventional debt instruments or, where blended-finance structures stack outcomes-linked tranches, to a Pattern A instrument with a Pattern C credential as the outcome-attestation gate. Diaspora bonds — a class with historical precedent in Indian and Israeli sovereign borrowing and explicit interest from a number of small-island developing-state ministries — fit Pattern A with a Pattern C credential gating eligibility to verified diaspora citizens through the eFaas-anchored decentralised-identifier extension.

The Tenzro verification substrate carries the outcome-attestation function for blended-finance and outcomes-linked instruments. The class of measurements that determine tranche-coupon adjustments — passenger throughput, container moves, generation output, distribution losses, water-quality metrics, school-enrolment or health-outcome indicators in the social-infrastructure case — is increasingly machinable; attesting them through TEE-bound agents removes the historical bottleneck of multi-year third-party impact-audit cycles. The compliance pack reads the attested outcome and adjusts the coupon vector accordingly within a single Canton transaction.

12.5 Blue carbon, coral, biodiversity, and the green-finance asset surface

The asset class for which the AI-verification economics change the feasibility frontier most sharply is environmental finance, and the Maldives' environmental endowment is among the world's most distinctive: an exclusive economic zone of approximately nine-hundred-thousand square kilometres, the seventh-largest coral-reef system globally, mangrove and seagrass blue-carbon stocks measured in 2024 peer-reviewed work at slightly above global per-hectare averages, and an oceanic biodiversity surface that includes commercially managed pelagic stocks and reef ecosystems of biodiversity-credit relevance under the frameworks Verra introduced in 2025–2026.

The Verra VM0033 methodology covers tidal wetland and seagrass restoration; the SD VISta Nature Framework opened to project registration in January 2026; biodiversity-credit pilots under the International Advisory Panel on Biodiversity Credits are mapping voluntary-market mechanics through 2025–2026.

The institutional buyer pool — corporate net-zero compliance, sovereign net-zero accounting under Article 6 of the Paris Agreement, and the prospective ICVCM-aligned Core Carbon Principles market — exists.

The blocking constraint on this asset class through 2024–2025 was verification economics. Conventional measurement, reporting, and verification for blue-carbon projects requires field campaigns, sediment-core sampling, soil-organic-carbon laboratory analysis, allometric biomass measurement on transects, and human auditor reconciliation against the Verra methodology; documented per-project costs run from several hundred thousand dollars upward, and the per-credit overhead sits at twenty to thirty per cent of revenue for typical voluntary-carbon projects and above fifty per cent for novel removal categories.

For coral-reef finance the verification problem is harder still — coral cover, rugosity, bleaching state, and species composition vary at the scale of metres and the cadence of weeks.

For biodiversity credits the verification problem is structurally similar but across a wider attribute surface. For ecosystem-derived insurance the verification problem becomes the parametric trigger itself.

The 2024–2026 generation of artificial-intelligence-and-sensor verification stacks resets the cost frontier:

— **Satellite-derived blue-carbon stock**. Pachama and Sylvera operate satellite-plus-machine-learning pipelines that combine Landsat, Sentinel-2, PlanetScope, and Capella SAR imagery against ground-truth subsamples to produce above-ground-biomass and ecosystem-extent estimates at registry-recognised accuracies. The naturecode.ai pattern — TEE-attested edge inference, model identity bound to a decentralised identifier, output bound to an on-chain credential — is the productionised form of this for the voluntary-credit-issuance loop. The cost frontier is no longer dominated by field campaigns; the marginal cost of attesting additional hectares is software-and-sensor cost.

— **Acoustic and optical coral monitoring**. ReefCloud's coral-cover and ecological-state classification, in production with the Australian Institute of Marine Science and partner agencies, runs on submerged camera transects classified by trained image-recognition models. Reef-acoustic monitoring against sound-pressure-level baselines, in operation under the Nature Conservancy and Australian agencies, attests reef-soundscape recovery indicators. Both feed TEE-bound agents that produce signed attestations.

— **Fisheries and oceanic-stock monitoring**. Global Fishing Watch's automatic-identification-system aggregation produces vessel-by-vessel effort estimates; combined with electronic-monitoring camera systems on participating vessels, the verification surface for sustainably-managed-fishery credits and for blue-economy traceability tokens becomes machinable. The Maldives' pole-and-line tuna fishery — already certified under Marine Stewardship Council and Friend of the Sea standards — is one of the better-suited cases globally for fisheries-tokenisation pilots.

— **Parametric-insurance triggers**. The Caribbean Catastrophe Risk Insurance Facility, the Pacific Catastrophe Risk Insurance Company, and the African Risk Capacity operate parametric covers triggered by satellite-and-sensor-derived hazard indicators. The same verification substrate carries to climate-loss-and-damage instruments and to debt-for-nature-swap performance triggers, both of which are active in the small-island-developing-state group through 2026.

In the Boli operating layer, environmental credits are Pattern C (credential) where the underlying record is the registry's serialised-credit issuance and the on-chain artefact is the credential of issuance with a transfer-restriction logic encoded in the compliance pack. Where the structure stacks tradeable interests over a credit portfolio — a tokenised-blue-carbon-portfolio fund, a biodiversity-credit aggregator — the wrapping instrument is Pattern A. Parametric insurance, debt-for-nature swaps with performance triggers, and outcomes-linked sovereign finance map to Pattern A with a Pattern C credential as the trigger gate.

The Tenzro verification substrate's load-bearing contribution here is the closure of the verification-cost gap. A TEE-bound agent running an attested satellite-imagery model on an attested input produces a signed credit-attestation artefact whose verification trail is reproducible.

The Validation and Verification Body — the human accredited verifier under Verra's, Gold Standard's, or the prospective ICVCM-aligned regime — is not removed from the loop; the agent attestation lowers the marginal cost of evidence collection, and the human verifier signs off on the methodology compliance and on a representative subsample. The Boli compliance pack consumes the agent attestation and the human verifier's sign-off as joint inputs to the credit-issuance authorisation.

The architectural property the substrate preserves is that verifiable computation proves *that the claimed model ran on the claimed inputs and produced the claimed outputs*; it does not prove that the outputs are correct. The accreditation regime, the human verifier, and the registry continue to carry the correctness function.

What changes is the cadence at which evidence can be produced — from yearly under conventional audit to monthly or daily under a satellite-and-edge-inference pipeline — and the human auditor's role shifts from full periodic verification to spot-checking against the continuous attestation stream.

The per-evidence-event cost falls materially in the steady state; the year-one cost under the substrate is typically higher than the year-one cost under conventional audit, with payback into year three to five depending on the asset class. The economic case is therefore the unlocking of product types that the yearly-audit cadence cannot underwrite — parametric insurance against monthly biomass or coral-cover indicators, debt-for-nature performance triggers, outcomes-linked sovereign coupons — rather than headline year-one cost compression.

12.6 Working capital, trade finance, and small-and-medium-enterprise credit

The Maldives' small-and-medium-enterprise sector is concentrated in tourism-adjacent services, fisheries-and-aquaculture, retail and wholesale distribution, and construction. The access-to-finance constraint is well-documented; the Maldives Monetary Authority's financial-inclusion work and the Bank of Maldives' SME-lending programmes operate against it. Tokenised invoice-and-receivable finance is an architecturally well-matched intervention.

In the Boli operating layer, invoice-and-receivable instruments are Pattern A under a working-capital compliance pack: the signatory is the financing bank, the controller is the bank, observers include the underlying buyer where the structure is buyer-confirmed, and the lifecycle encodes confirmation, drawdown, repayment, and default-and-cure logic. The Tenzro verification substrate adds value through TEE-bound agent integration with seller and buyer enterprise-resource-planning systems: continuous attestation of invoice issuance, goods-receipt confirmation, and payment-status against the on-chain instrument removes the verification frictions that have historically constrained receivables-finance scale.

12.7 The Maldives International Financial Centre prospective pipeline

The Centre's stated mandate includes digital-asset and fintech licensing; the regulatory regime under which Centre licensees would operate is not yet published. The architectural pathway of this paper is consistent with the Centre adopting any of three postures: a tokenisation-issuance regime aligned with the Capital Market Development Authority's existing securities

framework; a Centre-specific regime modelled on the Abu Dhabi Global Market or Dubai International Financial Centre tokenisation regimes; or a regulated-stablecoin-and-payment-token regime aligned with the regional comparators (the UAE Securities and Commodities Authority, the Bahrain framework, the prospective Saudi framework). Each is architecturally accommodated by the Boli pattern library; each is operationally accommodated by the Tenzro verification substrate. The Centre is the single most consequential institutional opening in the Maldives' 2026 configuration for this asset surface (§ 11; restated in § 13).

12.8 What the substrate changes and what it does not

We close the section with three clarifications about what the Tenzro decentralised-artificial-intelligence-runtime verification substrate changes and what it does not.

It changes the **CADENCE OF EVIDENCE COLLECTION**, and therefore the products that the evidence can support, for asset classes whose underlying measurement is machinable — environmental credits being the largest single class, infrastructure-outcome monitoring being the second, operational-receivables attestation being the third.

The naive claim — that the verification-cost-as-share-of-revenue figure is immediately compressed by an order of magnitude — is the wrong reading of the 2025–2026 cost data. The correct reading is closer to the following.

Year-one cost under the substrate is typically *higher* than under conventional audit, because the baseline survey for accreditation is still required, the hardware and integration are capital expenditure, and the human verifier remains in the loop on a quarterly spot-audit cadence.

Year-two-onward operating cost is roughly comparable to or modestly below the conventional-audit operating cost for some classes (branded-residence occupancy attestation, fisheries-vessel monitoring at fleet scale, blue-carbon continuous monitoring) and modestly above for others (small-scale coral-reef and biodiversity-credit monitoring, where the field-equipment-and-operations overhead dominates).

The asset-class-specific re-cost we have run on the 2025–2026 cost data places payback against conventional verification at typically year three to year five.

The structural change is therefore not headline-cost compression in the first year; it is the shift from a yearly audit cadence to a continuous attestation cadence, which is the precondition for product types — daily-settlement tokenised receivables, parametric insurance on monthly biomass or

occupancy or catch indicators, debt-for-nature instruments with performance triggers, outcomes-linked infrastructure financing — that the yearly-audit cadence cannot underwrite.

For asset classes whose verification is legal-status rather than measurement — sovereign issuance, registry-mirrored real estate, regulated-fund interests — the substrate's contribution is monitoring rather than issuance, and the cost-compression line does not apply.

It does not change the **ACCREDITATION REGIME** under which verification carries legal weight. Verra, Gold Standard, the prospective ICVCM-aligned registries, the Capital Market Development Authority, the Maldives International Financial Services Authority, the Capital Markets Development Authority's Sharia-supervisory function — each continues to operate. The substrate accelerates evidence collection; it does not replace the accreditation hierarchy.

It does not change the **DIVISION OF LABOUR** the three-layer artificial-intelligence-integration consensus of § 7 establishes. Agentic verification runs in Layer 1; deterministic compliance-pack logic runs in Layer 2; settlement finality runs on Canton in Layer 3. The agent's output is an input to the contract, not a substitute for it. The model-risk, third-party-dependency, and accountability obligations identified by the International Organization of Securities Commissions and the Financial Stability Board (§ 7) attach to the Layer 1 substrate; they do not migrate into the smart-contract layer below it.

The asset surface of the Maldives is therefore broader than the institutional-debt-and-equity comparator class against which the SIDS digital-finance record is conventionally read. Tourism cashflows, sovereign sukuk, leasehold-and-real-estate, infrastructure outcomes, blue carbon, coral, biodiversity, fisheries, parametric insurance, debt-for-nature, working-capital — the surface accommodates the bulk of the Maldives' productive economy.

The Boli operating layer's three Daml patterns plus its compliance-pack catalogue accommodate each of those classes without bespoke chain-level engineering per class. The Tenzro decentralised-artificial-intelligence-runtime verification substrate, where the asset class is sensor-and-measurement-bound, closes the verification-cost gap that has constrained the environmental-asset and operational-outcome strands historically.

The pathway is the same pathway § 11 placed against the empirical record; the asset surface against which the pathway is meaningful is the surface this section has set out.

13. Commercial and retail banking adoption and the question of local interoperability

The sections so far have read the institutional consolidation, the architectural composition, and the tokenisable asset surface. The question this section closes is the one that follows next: how does an institutional tokenisation layer composed on Canton compose with the commercial and retail banking system that actual customers — depositors, merchants, fund subscribers, sovereign-bond holders, biodiversity-credit buyers — already use, and what is the production state of that composition in 2026? We close it because it is the single most asked question from a financial reader, and because the architectural pathway of §§ 4–10 is not complete without an answer.

13.1 The institutional banking state in mid-2026

Commercial banks have, through 2025–2026, crossed from sandbox pilots into production commitments on the institutional tokenisation venue. The dated commercial signals are clear.

JPMorgan's Kinexys announced in January 2026 that USD JPM Coin (JPMD) would issue natively on Canton with phased rollout through the year — a deposit token, not a stablecoin, available to institutional clients of the bank and intended as the cash leg for institutional tokenised-asset settlement.

BNY Mellon's tokenised deposit service went live in January 2026 with early adopters Intercontinental Exchange, Citadel Securities, DRW, and Circle, targeting tokenised collateral and margin payments.

Standard Chartered's tokenised deposit offering is live for institutional clients in Hong Kong and Singapore; Standard Chartered also leads the Anchorpoint Financial consortium that received the second Hong Kong Stablecoins Ordinance issuer licence on the tenth of April 2026.

HSBC received the first such licence on the same date for a Hong Kong Dollar-denominated stablecoin with a stated retail-product distribution path through HSBC HK Mobile Banking, PayMe, and the HSBC HK App; retail launch is scheduled for the second half of 2026.

Société Générale's FORGE has its EUR CoinVertible (EURCV) live since 2023 and Markets-in-Crypto-Assets-Regulation-compliant since the first of July 2024, deployed across Ethereum, Solana, the XRP Ledger, and Stellar as of March 2026, with retail accessibility through licensed European brokers and a lending-and-borrowing rail via the Bitpanda decentralised-finance wallet since October 2025.

DBS Token Services — the Singapore retail bank's tokenised-deposit programme — is live for institutional and corporate clients on the DBS Digital Exchange; DBS and Kinexys jointly announced a cross-bank tokenised-deposit interoperability framework in early 2026 (announced; not yet shipped).

Visa joined Canton as a Super Validator on the twenty-fifth of March 2026, the first major global payments network to do so, alongside Mastercard's ongoing development of the Multi-Token Network through 2025–2026 (live with integrations to JPMorgan Kinexys, Fiserv, Ondo Finance OUSG, Standard Chartered Hong Kong with Mox Bank and Libeara, and the September 2025 first live agentic card transaction). The architectural significance of Visa's Super Validator position is that the issuing-bank ecosystem Visa already aggregates — which includes Bank of Maldives — gains an indirect path to Canton settlement without bilateral integration work at each issuing bank.

The Depository Trust and Clearing Corporation's tokenisation programme — limited production trades in July 2026, full platform launch in October 2026, tokenising DTC-custodied United States Treasury securities through the ComposerX service — is the year's most consequential bank-facing signal.

Fifty-plus firms participate in the operating-model working group, including Bank of America, BlackRock, BNP Paribas, Citi, Goldman Sachs, HSBC, Franklin Templeton, Charles Schwab, Circle, Anchorage Digital, BitGo, BNY, Fireblocks, Broadridge, and FIS.

The retail consumer touchpoint, when it arrives, will be tokenised money-market and Treasury units distributed through brokers (Schwab, DriveWealth) and custodians, not direct retail account access into Canton.

The boundary between the customer-facing and the interbank-facing surfaces in mid-2026 is therefore sharp: the institutional tokenisation venue is real and growing; the customer-facing retail product remains either pre-launch (HSBC HKD) or routed through brokers and asset managers (Schwab, DBS Vickers, Franklin Templeton's BENJI fund, BlackRock's BUIDL distribution).

13.2 Tokenised bank deposits as a regulatory category

The 2025–2026 inflection was the crystallisation of tokenised commercial-bank deposits as a category distinct from payment stablecoins in policy text. The Financial Stability Board's October 2025 *Thematic Review of Crypto-Asset Frameworks*, the Bank for International Settlements Financial Stability Institute briefs, and the Basel Committee position together draw a clean line.

Tokenised deposits are bank liabilities under existing banking law — Basel framework, deposit insurance, lender-of-last-resort access — and remain bank deposits in failure.

Stablecoins under the GENIUS Act in the United States and Markets-in-Crypto-Assets Regulation in the European Union sit in a separate payment-instrument regime, treated as neither securities nor commodities nor deposits in the United States and explicitly out of scope of MiCA in the European Union for the bank-deposit case.

The distinction matters because it determines who can issue, who is liable, and how customer funds rank in failure.

The Bank for International Settlements Innovation Hub's Project Agorá — seven central banks (Bank of England, Banque de France for the Eurosystem, Bank of Japan, Bank of Korea, Banco de México, Swiss National Bank, Federal Reserve Bank of New York) and forty-plus private institutions coordinated by the Institute of International Finance — has its Phase 1 report expected in the first half of 2026 (not yet published as of the eleventh of May), studying tokenisation of wholesale central-bank money and commercial-bank deposits on a single programmable platform.

Project Pine — the Federal Reserve Bank of New York and Bank for International Settlements joint study on tokenised monetary-policy implementation — published its final report on the fourteenth of May 2025 and confirmed that central banks can implement monetary policy in a future state of widespread private tokenisation, while explicitly not endorsing such adoption.

The German tokenised-deposit trial run by Commerzbank, Deutsche Bank, DZ Bank, and others with corporate participants Airplus, BASF, Evonik, Mercedes-Benz, and Siemens completed in 2025 and shared results publicly.

The European multi-bank stablecoin consortium announced on the tenth of October 2025 (Deutsche Bank, BNP Paribas, ING, Commerzbank and others) reorganised as the Qivalis euro-stablecoin consortium in late 2025; BBVA joined in February 2026 and a Qivalis launch is announced for the second half of 2026.

In the Boli operating layer, a tokenised commercial bank deposit composes against the standard atomic delivery-versus-payment primitive as the cash leg of a settlement: the bank issues a deposit token under the asset template the bank's compliance team selects (a Pattern A tradeable under a tokenised-deposit-issuance compliance pack, in the Boli pattern-library terms of § 6); the asset leg is a separate Daml contract of any class; the compliance pack on each side gates the allocation. The architectural fit is clean and the slot is well-defined; the realisation a specific bank chooses — its own Daml application, the Boli operating layer, or a third-party provider — is implementation choice.

13.3 Retail-payment-rail interoperability with the tokenisation layer

The Bank for International Settlements' Project Nexus — the cross-border interconnect of domestic instant-payment systems — incorporated Nexus Global Payments in 2025 with founding central banks of India, Malaysia, the Philippines, Singapore, and Thailand. Phase 4 brings the Reserve Bank of India's Unified Payments Interface into the network; production go-live is announced for 2026 and not yet operational.

FedNow is live with approximately fifteen hundred United States financial institutions by the end of 2025; the transaction limit rose from one million to ten million dollars in November 2025; the United States Treasury's Digital Payout integration is live for federal disbursements.

The European Central Bank's TARGET Instant Payment Settlement is operational and being extended across currencies; the Eurosystem's Pontes near-term wholesale-tokenisation bridge — announced for the third quarter of 2026 — is the most production-ready central-bank bridge between an instant-payment rail and a tokenisation layer anywhere in the world as of May 2026, with Pontes operating as a dual-settlement model in which participants settle distributed-ledger-technology transactions either on the Eurosystem distributed-ledger-technology platform with central-bank cash tokens or on the second-generation Trans-European Automated Real-time Gross Settlement Express Transfer system with the cash leg settled after corresponding distributed-ledger-technology settlement completes.

When a customer in 2026 wants to pay for a tokenised asset from a retail bank account, the four production patterns are:

— The **LICENSED-VIRTUAL-ASSET-SERVICE-PROVIDER ON-AND-OFF-RAMP PATTERN** — dominant in 2024, still dominant in 2026. Bank to virtual-asset-service-provider to stablecoin or token. Highest friction; lowest atomicity. Coinbase, Kraken, Bitstamp, Bitpanda carry most of the volume.

— The **STABLECOIN-MINT-ON-DEPOSIT PATTERN** — the retail bank custodies fiat; the bank's licensed affiliate issues a stablecoin to the customer's wallet. Société Générale FORGE EUR CoinVertible is the running European exemplar. HSBC Hong Kong Dollar stablecoin, when launched in the second half of 2026, will be the first Asian retail-bank exemplar.

— The **TOKENISED-DEPOSIT PATTERN** — the bank-deposit balance is the wallet balance; transfers occur as on-chain tokenised-deposit movements that the bank simultaneously updates in its core banking system. Wholesale-only today; no retail product yet.

— The **INSTANT-PAYMENT-TO-TOKENISED-SETTLEMENT-BRIDGE PATTERN** — TARGET Instant Payment Settlement to the Eurosystem distributed-ledger-technology platform via Pontes (announced for the third quarter of 2026); FedNow to tokenised-Treasury settlement (discussed; not productionised). Atomic delivery-versus-payment via central-bank cash; emerging.

The Maldives-relevant signal is that the Maldives Monetary Authority's Favara-Unified-Payments-Interface integration, scheduled for July 2026 under the Mastercard partnership of October 2025, is instant-payment-system interconnect under the Nexus pattern. Phase one carries individual peer-to-peer transfers; phase two extends to merchant quick-response-code payments. Neither phase contemplates tokenised-asset settlement scope. The integration does not, by itself, bring tokenised institutional assets into local Maldivian retail rails.

13.4 The Maldives commercial and retail banking landscape

The Maldives Monetary Authority licences six commercial banks under the Maldives Monetary Act 1981: Bank of Maldives, State Bank of India (Maldives branch), Bank of Ceylon, Mauritius Commercial Bank, Habib Bank Limited, and the Maldives Islamic Bank. The Housing Development Finance Corporation Maldives is a specialised non-bank housing-finance institution, not a commercial bank. The Capital Markets Development Authority regulates securities markets separately.

Bank of Maldives is the dominant retail bank in the country. It launched its mobile banking application in 2015 — the first such product in the Maldives — and operates BML Pay (contactless and wallet-to-wallet) and the Swipe

multicurrency digital wallet (beta from December 2025). It is a Visa and Mastercard issuer; it has been a Favara participant since the system's launch.

In an October 2024 statement, Bank of Maldives publicly denied involvement in cryptocurrency exchange services after media speculation; the bank operates within the Maldives Monetary Authority's posture that no entity has been authorised to conduct financial transactions in virtual currencies.

As of May 2026 no Maldivian commercial bank — neither Bank of Maldives, nor the Maldives Islamic Bank, nor the State Bank of India Maldives branch, nor any other licensed institution — has touched tokenisation or digital-asset custody in production.

The Mastercard memorandum of understanding signed with the Government of the Maldives on the seventh of October 2025 established a Digital Country Partnership — Mastercard's first such partnership in the region — focused on digital identity, payments acceptance, and public-sector digitalisation. The partnership is not, by its own description, a tokenisation initiative. The Maldives Digital Partnership Programme launched in August 2025 (Bank of Maldives, the Ministry of Homeland Security and Technology, the National Centre for Information Technology, and Mastercard) and the December 2025 alliance between Bank of Maldives, Alipay+, and Visit Maldives sit in the same payments-acceptance frame. Reading any of these as tokenisation programmes would misread the documents.

The Maldives International Financial Centre, with its joint-venture agreement with MBS Global Investments of January 2026 and a stated digital-asset and fintech mandate, is the institutional opening within which a Maldivian regulated tokenisation venue would crystallise. The Centre's regime is not yet published; the Maldives International Financial Services Authority is in formation.

The architecture by which an actual Maldivian moves money today is therefore: a resort employee paid in Maldivian rufiyaa receives wages by Favara into a Bank of Maldives or Maldives Islamic Bank account, accesses balances through the bank's application, withdraws cash by automated teller machine, and pays merchants by card or quick-response code through BML Pay, Swipe, or — for inbound tourists — Alipay+.

A guesthouse operator receives card payments on a Bank of Maldives point-of-sale terminal, settles into a Bank of Maldives account, and pays suppliers by Favara.

A Funadhoo fisherman receives cash from the buyer, deposits at the local branch or post-office agent, and remits to family on other islands by Faavara.

United States dollars circulate heavily in tourism and are held as bank deposits; the rufiyaa is the local-spending currency.

There is no production-grade retail on-ramp to digital assets within the Maldives in May 2026; a Maldivian customer wanting a tokenised asset routes through correspondent banking to a licensed virtual-asset-service-provider in another jurisdiction.

13.5 Architectural patterns for local interoperability, with named realisations

Five patterns for connecting the institutional tokenisation layer to retail banking surfaces are deployed somewhere in the world in 2025–2026. Each maps onto an architectural slot a future Maldivian deployment would need to fill.

Pattern A — Tokenised deposits redeemable one-to-one against a retail bank customer account. In production today only at wholesale tier (Bank of New York Mellon, JPMorgan Kinexys, DBS Token Services). Retail extension not yet shipped; the DBS-Kinexys cross-bank framework is the most-advanced announcement.

Pattern B — Stablecoin-as-payment-rail with retail-bank custody. Société Générale FORGE EUR CoinVertible is the European exemplar (live since 2023). HSBC Hong Kong Dollar stablecoin is the imminent Asian retail-bank exemplar (licence April 2026; launch second half 2026). Qivalis euro stablecoin is the prospective European-multi-bank exemplar (announced for the second half of 2026).

Pattern Γ — Licensed virtual-asset-service-provider on-and-off-ramp. Still dominant in 2026. For the Maldives, the practical route today — routing through other jurisdictions.

Pattern Δ — Instant-payment-to-tokenised-settlement bridges. Eurosystem Pontes (announced for the third quarter of 2026) is the most mature. FedNow to tokenised Treasury is discussed.

Pattern E — Direct retail-bank participation as a Canton validator, or hosted access via a service provider. Visa's Super Validator position (March 2026) extends Canton access to Visa-issuing banks via Visa's relationship layer — a route that, by extension, includes Bank of Maldives as a Visa issuer.

In the Boli operating layer the slots are:

— Bank-issued know-your-customer credentials feed a compliance pack on the asset contract through the identity bridge described in § 6. A Maldivian deployment would map Bank of Maldives or Maldives Islamic Bank know-your-customer credentials through the bridge into Daml-verifiable form, which the compliance pack on a tokenised-asset contract consumes before atomic delivery-versus-payment commits.

— Bank-issued tokenised deposits compose against the atomic delivery-versus-payment primitive as the cash leg of a settlement. A Maldivian bank that issued a rufiyaa or dollar tokenised deposit would have its deposit token consumed by the same primitive that consumes JPMorgan's USD JPM Coin or Bank of New York Mellon's institutional deposit token, without modification at the platform layer.

— Hosted Canton validator access via a partner that already operates validator infrastructure — for jurisdictions and institutions for which directly running a validator is not the operationally appropriate posture. The Tenzro Network's Canton validator setup is one realisation of that hosted access; the alternative is access through a global Super Validator (Visa, Cboe, Bank of New York Mellon, Goldman Sachs) acting as a service provider.

None of these is a Maldivian deployment in production. They are the architectural patterns that a Maldivian deployment would compose against.

13.6 Agentic finance and the decentralised-compute marketplace

The agentic-finance layer surfaced in § 7 as the upstream orchestration layer in the three-layer architecture is, in 2025–2026, no longer a research category. The dated record across the four large protocol stewards is unambiguous.

Google's Agent Payments Protocol launched on the sixteenth of September 2025 with sixty-plus partners at announcement — American Express, Coinbase, Etsy, Intuit, Mastercard, PayPal, Salesforce, ServiceNow, Adyen, MetaMask, Revolut, Worldpay, Crossmint, Dell, JCB, UnionPay International, Lowe's Innovation Labs, PwC, 1Password, Shopee, Shopify, Cloudflare, Forter, and Mysten Labs among them — and was donated to the FIDO Alliance on the twenty-eighth of April 2026 alongside the version 0.2 release; the FIDO Alliance now hosts the working-group stewardship.

Mastercard contributed a complementary standard called Verifiable Intent (a tamper-proof log of user-authorised agent actions) to the same FIDO process in the same window.

The protocol's trust primitive is the cryptographically signed Mandate, expressed as a Verifiable Credential, with an Intent Mandate (pre-authorisation under budget, stock-keeping-unit, refundability, and time-to-live para-

meters) and a Cart Mandate (signed at the moment a specific cart is presented); the version 0.2 release added explicit Human-Not-Present flows.

The PayPal-and-Google-Cloud Conversational Commerce Agent of the twenty-seventh of October 2025 — the PayPal Agent communicating with merchant agents over the Agent-to-Agent protocol, with the Agent Payments Protocol layered on top of it and the Model Context Protocol — is the most-cited multi-merchant production deployment in the category.

Coinbase's x402 — the open Hypertext Transfer Protocol payment standard using the four-hundred-and-two Payment Required status code, with the client retrying under an X-Payment header carrying a signed payload typically denominated in USD Coin on Base, Solana, or BNB — has been live since May 2025.

By the first quarter of 2026 it had processed approximately one hundred and nineteen million transactions on Base and thirty-five million on Solana, with roughly six hundred million dollars in annualised payment volume; Cloudflare separately reports roughly one billion four-hundred-and-two responses per day across its network, a signal-of-presence rather than a settled-payment count. Independent analysis suggests filtered agent-driven economic throughput is materially smaller than the raw transaction figures imply.

The x402 Foundation was announced jointly by Cloudflare and Coinbase on the twenty-fifth of September 2025; the Solana Foundation joined under a Linux Foundation umbrella, and Stellar added support, in April 2026. Stripe, Cloudflare, Vercel, and Google have integrated x402; Stripe added it to PaymentIntents in the second half of 2025.

The Agent Payments Protocol composes x402 as an Agent-to-Agent extension for the stablecoin settlement leg; Coinbase and MetaMask are the named stablecoin-rail partners within the Agent Payments Protocol partner set.

The card-network position consolidated alongside.

Mastercard launched **Agent Pay** on the twenty-ninth of April 2025, introducing Mastercard Agentic Tokens — sixteen-digit, cryptographically secured tokens linked to original card credentials, with per-agent identification and configurable spending parameters — piloted with Citi and U.S. Bank in September 2025 and extended to all United States cardholders in November 2025. The first live agentic card transaction completed on the twenty-ninth of September 2025 against the PayOS card-native agentic-payments platform under a Mastercard Agentic Token. The Multi-Token Network — which supports tokenised bank deposits, regulated stablecoins

(FIUSD, PYUSD, and from the third of March 2026 SoFiUSD), central-bank digital currencies, and tokenised real-world assets — shares the tokenisation substrate of the agentic-token issuance.

Visa launched **Intelligent Commerce** earlier in 2025 and reported, on the eighteenth of December 2025, that the programme had completed hundreds of agent-initiated transactions in production environments; Asia-Pacific and European pilots were announced for early 2026 with one hundred-plus ecosystem partners, thirty-plus partners actively building in the Intelligent Commerce sandbox, and twenty-plus agents and agent-enablers integrating directly (Ant International, LG Uplus, Microsoft, Perplexity, Stripe, Tencent, Skyfire, Nekuda, PayOS, Ramp among the named integrators). Visa's **Trusted Agent Protocol** of October 2025 — an open framework letting merchants distinguish legitimate artificial-intelligence agents from malicious automated traffic, launched with ten-plus partners — sits on the merchant-side of the same architecture.

Visa joined Canton as a Super Validator on the twenty-fifth of March 2026 as the first major global payments company in the role and at the highest Super Validator weight in the network, which places the agentic-commerce position and the tokenised-settlement position inside a single corporate posture.

The architectural reading is that the four streams are stacking rather than competing. The Agent Payments Protocol and Verifiable Intent occupy the authorisation layer at the Fast Identity Online Alliance; x402 occupies the stablecoin-settlement leg; Mastercard's Agentic Tokens and Visa's tokenised agent credentials occupy the card-rail leg; the Decentralised Identity Foundation's Model Context Protocol Identity work and the World Wide Web Consortium's Agent Identity Registry Protocol Community Group occupy the agent-identity leg.

The four card-network and payment-platform actors that might in an earlier cycle have positioned competing closed standards have, in this cycle, positioned co-contributing pieces of a single multi-layer composition.

The four standards bodies that might in an earlier cycle have run independent processes have, in this cycle, coordinated stewardship through the Fast Identity Online Alliance, the Decentralised Identity Foundation, the World Wide Web Consortium Credentials Community Group, the OpenID Foundation Agent Identity Working Group, and the Internet Engineering Task Force Workload Identity in Multi-System Environments Working Group.

The IMF Note of the twenty-second of April 2026 reads the situation as a movement from Know-Your-Customer toward **KNOW-YOUR-AGENT** — mandated verifiable identities for financial bots linked to legal entities, with human-in-the-loop safeguards, real-time anomaly monitoring, and audit-grade activity logs as the standing supervisory requirements.

JPMorgan analyst notes through 2026 frame tokenisation as foundational to agentic commerce; the supervisory framings of the International Organization of Securities Commissions and the Financial Stability Board converge on the same composition.

Beneath the protocol record sits the supervisory frame. The International Monetary Fund's *How Agentic AI Will Reshape Payments* note set out the three-layer architecture (intent and orchestration, authorisation and control, settlement) and flagged the core tension between probabilistic agent behaviour and deterministic settlement infrastructure. The Cloud Security Alliance's *Securing the Agentic Control Plane* programme (March–April 2026), the Model Context Protocol Identity donation to the Decentralised Identity Foundation (March 2026), and the W3C Agent Identity Registry Protocol Community Group (April 2026) are the standards-body workstreams. The Financial Stability Board's *Monitoring AI Adoption and Related Vulnerabilities in the Financial Sector* of October 2025 and the International Organization of Securities Commissions' *Consultation Report on Artificial Intelligence in Capital Markets* of March 2025 are the standing supervisory references.

The Financial Stability Board has repeatedly named — in the November 2024 *Financial Stability Implications of Artificial Intelligence* and the October 2025 monitoring report — **third-party dependency** on a small number of artificial-intelligence service providers as a systemic concern for the financial sector.

The concentration of inference and model-hosting capacity in a handful of hyperscale cloud providers and frontier-model laboratories is the structural property the supervisory bodies have flagged.

The standard agentic-finance compositions described above sit on top of that concentrated provider set: when an agentic-payment platform calls a model, the call typically goes to one of a small number of hosted endpoints; when the compliance pack on a Canton contract evaluates an agent's mandate, the agent's underlying inference often ran inside a Trusted Execution Environment on a hyperscaler's hardware. The Trusted Execution Environment attestation closes the integrity question — proving the claimed code ran on the claimed inputs — but it does not close the concentration question.

The Tenzro Network is, by construction, the decentralised-compute response to that concern. It is an open-source compute marketplace in which agents discover and pay for inference, training, and general compute resources directly within the network, without routing through centralised provider intermediation.

The provider set is open: independent node operators and small-to-medium data centres operate as providers within the network on equal protocol footing with larger operators.

Trusted Execution Environment attestation (composite Intel Trust Domain Extensions plus NVIDIA H100 or H200 attestation; AMD Secure Encrypted Virtualisation with Secure Nested Paging; Amazon Web Services Nitro Enclaves; Google Cloud Confidential Space) is supported across the provider population; agents present signed mandates under their decentralised identifiers and pay for inference in cleared settlement assets at the protocol layer.

The economic structure dissolves the toll-collector position that the hyperscale-and-frontier-laboratory configuration concentrates. The supervisory structure dissolves the third-party-dependency concern that the Financial Stability Board has named.

A second property follows. Tenzro supports **AIR-GAPPED ARTIFICIAL-INTELLIGENCE MODEL DEPLOYMENT** on the same protocol surface — model and inference workload running inside a closed compute boundary, with no traffic leaving that boundary to a hyperscale provider, while the attestation pipeline still proves to a regulator or to an asset-contract compliance pack that the claimed code ran on the claimed input.

The composition has direct supervisory implications. A central bank running sanctions-screening or anti-money-laundering inference can do so without sending payloads to a foreign-jurisdiction hyperscaler; a sovereign issuer running model-assisted disclosure preparation can keep the disclosure inside a closed compute boundary until release; a Maldivian regulator can keep regulated-entity inference inside a Maldivian or trusted-jurisdiction compute footprint, with attested verifiability to the supervisor without data exfiltration.

The data-sovereignty objection that has slowed sovereign and bank-side artificial-intelligence adoption through 2024 and 2025 is, in this configuration, addressable rather than deferred.

The full agentic-finance pipeline that crystallises in 2026 is therefore the following composition: the agent runs inside a Trusted Execution Environment that produces a composite Intel Trust Domain Extensions plus NVIDIA attestation; the provider hosting the Trusted Execution Environment is one

of many independent node operators or data-centre operators within the Tenzro Network rather than a single hyperscale provider; the agent holds a decentralised identifier and a verifiable mandate from the customer (under Agent Payments Protocol or Model Context Protocol Identity); the agent forms intent and signs an intent message under that mandate; for settlement on Canton, the Boli compliance pack on the asset contract verifies the mandate signature, the mandate freshness, the counterparty eligibility, and (where required) the attestation evidence; the atomic delivery-versus-payment primitive executes the asset and cash transfers in a single Daml transaction.

Each component closes one of the open questions. Trusted Execution Environment attestation closes integrity. The decentralised provider set closes concentration. Air-gapped deployment closes the data-sovereignty objection. The compliance pack handles regulatory eligibility, and the atomic settlement primitive delivers finality.

The architecture of agentic finance that the International Monetary Fund, the Bank for International Settlements, the International Organization of Securities Commissions, and the Financial Stability Board have collectively endorsed in 2025–2026 is realised on this composition without the concentration risks the same bodies have flagged.

For the Maldives, the practical reading is that agentic finance is not a long-horizon question — the institutional adoption is happening through 2026 — and that the architectural posture available to the jurisdiction is one in which the compute layer underneath the agent is decentralised by construction rather than dependent on a single foreign provider. The choice the jurisdiction makes about where its agentic-finance workloads run is, in this 2026 frame, a choice with the same character as the choice about which counterparty surface it transacts across at the settlement layer (§ 4).

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14. The institutional density on Canton and the operating-layer position

The surface of counterparties a sovereign jurisdiction needs to access when it tokenises sovereign or quasi-sovereign assets — central banks for the cash leg and the regulatory frame; ratings agencies for the credit rating that bond investors price against; index and market-

data providers for the benchmarks tokenised funds reference; insurance and reinsurance counterparties for the parametric and catastrophe cover that sovereign instruments often pair with; transfer agents and central securities depositories for the legal-record-of-ownership leg; exchange operators for secondary-market visibility; custodians for the operational holding of the asset; settlement-asset issuers for the cash leg of delivery-versus-payment; data and verification providers for oracle-grade pricing, net-asset-value, and proof-of-reserve — is in 2026 converging on a single venue.

The composition is empirical.

At the **CENTRAL-BANK TIER**, the Swiss National Bank's Project Helvetia III sits in live wholesale issuance on the SIX Digital Exchange and was extended to mid-2027 in June 2025; the European Central Bank's Pontes near-term tokenisation bridge is announced for the third quarter of 2026 with a longer-horizon Appia blueprint to 2028; the Hong Kong Monetary Authority's EnsembleTX moved from sandbox to live pilot in November 2025; the Bank for International Settlements' Project Agorá concludes Phase 1 in the first half of 2026; the Federal Reserve Bank of New York's Project Pine on tokenised monetary-policy implementation published its final report on the fourteenth of May 2025.

Canton sits at the centre of the institutional realisation that each of these wholesale-tokenisation programmes points toward.

At the **CENTRAL-SECURITIES-DEPOSITORY TIER**, the Depository Trust and Clearing Corporation joined the Canton Foundation as co-chair in December 2025 and announced the tokenisation of Depository-Trust-Company-custodied United States Treasury securities under a Securities and Exchange Commission no-action letter for limited production trades in July 2026 and platform launch in October 2026, with a fifty-plus-firm operating-model working group including Bank of America, BlackRock, Citi, Goldman Sachs, HSBC, Franklin Templeton, Charles Schwab, Circle, Anchorage Digital, BitGo, BNY Mellon, Broadridge, and FIS.

Broadridge's Distributed Ledger Repo platform — Canton-resident — processed an average daily volume of three hundred and eighty-five billion dollars in October 2025 and reported aggregate monthly tokenised United States Treasury repo volume in the four-to-six trillion dollar range through the first quarter of 2026.

At the **RATINGS, EXCHANGE, AND MARKET-DATA TIER**, Moody's, S&P Global, and Nasdaq are publicly disclosed Super Validators; Nasdaq's approval was effected through Canton's first programmatic governance pro-

posal (Canton Improvement Proposal 0097) in January 2026 with milestone-based weight; Cboe Global Markets is similarly within the Super Validator population.

Chainlink Labs joined as a Super Validator on the twenty-fourth of September 2025; Chainlink Data Streams, SmartData (Proof of Reserve, NAVLink), and the Cross-Chain Interoperability Protocol went live on Canton in February 2026 — the institutional-grade oracle, net-asset-value, and cross-chain settlement layer arriving on the same venue as the asset issuance.

At the **SETTLEMENT-ASSET TIER**, JPMorgan's Kinexys announced in January 2026 that its USD JPM Coin would issue natively on Canton through 2026; Bank of New York Mellon's tokenised-deposit service went live in January 2026 with Intercontinental Exchange, Citadel Securities, DRW, and Circle as early adopters.

Circle's USD-Coin-backed USDCx — issued through Circle's xReserve smart-contract construction and live on Canton from the fourth of December 2025 — brings the regulated dollar stablecoin onto the venue, with Circle's licence stack spanning the United States (post-GENIUS-Act federal stablecoin frame and the New York Department of Financial Services BitLicense), the European Union (Markets-in-Crypto-Assets electronic-money-institution authorisation across France's Autorité de Contrôle Prudentiel et de Résolution and the United Kingdom's Financial Conduct Authority), Singapore (Monetary Authority of Singapore Major Payment Institution licence), and the Abu Dhabi Global Market (Financial Services Regulatory Authority Financial Services Permission), and Circle now publicly traded on the New York Stock Exchange following its June 2025 initial public offering.

Circle's acquisition of Hashnote and the United States Yield Coin tokenised-money-market product in January 2025 brings the largest tokenised money-market fund — already Canton-resident — into the same corporate stack.

At the **CUSTODY AND TOKENISATION-PLATFORM TIER**, Taurus became a Super Validator on the twenty-fourth of November 2025 and serves Deutsche Bank, State Street, Santander, Crédit Agricole's CACEIS, and Credit Suisse as bank-custody clients under the Swiss Financial Market Supervisory Authority licence stack.

Hex Trust became a Super Validator on the twenty-ninth of January 2026 with licences in Hong Kong, the Dubai Virtual Assets Regulatory Authority, the Monetary Authority of Singapore, France, and Italy.

Paxos is positioned in the Super Validator population with the United States Office of the Comptroller of the Currency national-trust charter, the New York Department of Financial Services Limited Purpose Trust, the Monetary Authority of Singapore Major Payment Institution licence, and the Abu Dhabi Global Market Financial Services Regulatory Authority.

Anchorage Digital — holder of the United States Office of the Comptroller of the Currency federal trust charter, the only such crypto charter — sits in the Depository Trust and Clearing Corporation Canton working group.

BitGo, Fireblocks, and Standard Chartered's Zodia Custody participate in the Canton custody surface across jurisdictions; Standard Chartered's Libeara tokenisation infrastructure received its Monetary Authority of Singapore Capital Markets Services licence in March 2026 and has tokenised a Singapore-dollar money-market fund and tokenised gold for retail in Asia.

At the **PAYMENTS-NETWORK TIER**, Visa joined the Canton Network as a Super Validator on the twenty-fifth of March 2026 — the first major global payments company in the role and at the highest Super Validator weight in the network — under a privacy-preserving-payments framing that places the agentic-commerce position (Intelligent Commerce, the Trusted Agent Protocol, the December 2025 production-pilot disclosure) and the institutional-tokenised-settlement position inside a single corporate posture. Mastercard's Multi-Token Network, with its integrations to JPMorgan Kinexys, Fiserv, Ondo Finance OUSG, Standard Chartered Hong Kong with Mox Bank and Libeara, and its regulated-stablecoin support across FIUSD, PYUSD, and SoFiUSD, composes adjacent to the same venue.

The aggregate proposition is straightforward to read off the record. By May 2026 the institutional venue at which the major balance sheets, the regulator-recognised settlement assets, the rating and index and market-data infrastructure, the custody-and-tokenisation platforms carrying licences across the United States, the European Union, the United Arab Emirates, Switzerland, Hong Kong, Singapore, and the United Kingdom, the major card networks, and a population of forty-plus Super Validators have converged is Canton. The venue matters because of who has accumulated on it.

Comparable venues exist for adjacent purposes — Ripple's XRP Ledger occupies a genuine niche in cross-border payments, in the regulated dollar stablecoin RLUSD that reached approximately one and a half to two billion dollars in market capitalisation by mid-2026, in the post-Hidden-Road prime-brokerage stack now rated investment-grade, and in the institutional custody footprint Ripple inherited through the Metaco acquisition — and the public-blockchain Layer 2 surfaces hold tokenisation activity through

Securitize, Tokeny, Ondo, and the Dar-Global / World-Liberty-Financial / Securitize pattern visible in the Maldives' immediate adjacency since February 2026.

The empirical observation is not that other venues are absent. It is that the speed and scale at which central banks, central securities depositories, ratings agencies, exchange operators, settlement-asset issuers, multi-jurisdiction custody and tokenisation platforms, and global payment networks have accumulated on Canton through 2025 and 2026 is, in the dated record, without comparator.

The architectural reading that follows is the reading the paper has carried throughout. Once that institutional surface has accumulated on a single venue, the question for any participant — sovereign, supervisor, licensed counterparty, or technology integrator — is the form of the participation: what gets stood up, by whom, under which licence, at which layer of the stack.

The bank-licence-bearing population on Canton ships issuance; the central-securities-depository tier ships the legal-record-of-ownership leg; the central-bank tier ships the wholesale cash leg; the ratings and oracle tier ships the data and price feeds; the custody and platform tier ships the operational holding.

The asset-issuance ergonomics and the cross-platform interoperability of what is issued — the standard-interface layer through which an asset stood up by one licensed issuer reaches the population of platforms and applications at the venue — sit above the issuance leg and below the application leg.

That layer is the operating-layer position. The Boli Platform — open-source, contributed to by the Boli Association as a non-profit Swiss Verein, technologically interoperable with the Canton-resident population through the Canton Network Token Standard (Canton Improvement Proposal 0056) and the Splice Token Standard V1 atomic delivery-versus-payment primitive — is the realisation described in this paper.

The Daml-engineering and Canton-validator-operations capability the realisation rests on is the engineering depth of Tenzro Labs Pte. Ltd. (Singapore), which operates the Canton validator the Boli Platform is deployed on and ships the open-source Tenzro Network — the multi-virtual-machine runtime supporting Ethereum-Virtual-Machine, Solana-Virtual-Machine, and Daml execution under a single substrate; the decentralised compute marketplace described in § 13; the Tenzro Decentralised Identity Protocol; the agent-to-agent and Model-Context-Protocol surfaces; the cross-chain bridge surface to Chainlink's Cross-Chain Interoperability Protocol,

LayerZero, deBridge, and LI.FI across sixty-plus chains; the Rust and TypeScript software-development-kit surfaces; and the command-line developer-tooling.

A jurisdiction at the institutional-tokenisation threshold interoperates with the venue at which the institutional density of 2026 has accumulated. The venue is Canton. The standard-interface layer through which one accesses the population at the venue is the operating-layer position. The Boli Platform on Canton, with Tenzro's runtime underneath, is one realisation of that position — open source today, technologically interoperable with the venue through the standard interfaces, and architecturally aligned with the three-layer separation the supervisory bodies have collectively endorsed for agentic finance. The institutional-density observation underneath the architectural reading is invariant to the realisation a jurisdiction selects.

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15. The risk posture and the asymmetry of the pathway

This section sets out what is uncertain about the institutional environment around the architectural pathway, and how the pathway fits with that uncertainty. The architectural pathway is built so that the residual question it leaves with the Maldivian state is one of pace and posture, not of architectural irreversibility. Five surfaces tend to come up when a risk-averse institutional reader presses on the pathway:

— Canton's supervisory recognition trajectory,
— the geopolitical configuration the Maldives operates within,
— the talent-and-execution capacity the pathway requires,
— the Maldives International Financial Centre's supervisory perimeter, and
— the standards work that closes the remaining architectural gaps.

Each of the subsections below takes one surface and sets out the property of the architecture that bears on the risk posture.

A preliminary observation bears stating. The conservative posture in the Maldives' present configuration is not the do-nothing posture. The do-nothing posture is the posture in which tokenisation interacting with the Maldives' surface continues to happen on a substantively different architectural plane from the one this paper describes — public-permissionless Ethereum Layer 2 distribution under Rule 506(c) and Regulation S, in the

form already running through the Dar Global, World Liberty Financial, and Securitize transaction of the eighteenth of February 2026 (§ 2). Doing nothing concedes the architectural ground to that pathway, and to whichever pathways follow it, on a plane the Maldivian state has no supervisory grip on. The conservative posture is the posture that establishes the supervisory perimeter and the participation surface within which subsequent decisions are taken.

15.1 The supervisory recognition trajectory of Canton

The first surface concerns Canton's supervisory standing. The institutional consolidation around Canton through 2026 and 2027 is in motion — the Depository Trust and Clearing Corporation's tokenised Treasury programme moves to pilot in July 2026 and platform launch in October, the Eurosystem's Pontes bridge is scheduled for the third quarter, JPMorgan's USD JPM Coin is rolling out natively on Canton through 2026, the Goldman GS DAP spin-out is planned for mid-year, and Visa joined as a Super Validator at the highest validator weight in March 2026 (§ 1).

The International Organization of Securities Commissions, the Financial Stability Board, the Bank for International Settlements, and the major central banks treat Canton in 2026 as a venue under active observation rather than as a recognised system. The trajectory is plausibly toward formal recognition; the timeline is not within Boli's or Tenzro's control.

The architectural property that bears on the risk posture is that the pathway is built on shipped, open-source code today rather than on dated commitments. The Daml SDK is stable at 3.4.10; the Splice Token Standard V1 was stabilised at version 1.0.0 in early 2026 under the hyperledger-labs/splice repository; Canton Improvement Proposal 0056 is in production on the network; the Boli platform's three Daml asset patterns and compliance-pack engine ship today; the Tenzro Network's validator stack and Trusted Execution Environment-attested runtime are in production; cantonscan.com publicly verifies the validator population approaching one thousand nodes with forty-plus Super Validators. The dated commitments of 2026 and 2027 widen the institutional density on a venue the Maldives can already access; they do not change the venue's existence.

The participation tier that matches an observation-rather-than-recognition posture is built into Canton's onboarding pathway. The observer-tier participation set out in § 4 — a Maldives International Financial Services Authority or Capital Markets Development Authority or Maldives Monetary Authority observer party permissioned onto relevant Daml templates through a transfer agent's or a licensed bank's participant node — is the cheapest and most realistic entry vector. It preserves data residency, preserves the

supervisor's read access to transactions involving the parties it cares about, and requires no Maldivian-operated validator infrastructure. The observer posture is the posture the Canton documentation explicitly directs supervisors toward in 2026; it is the posture that matches the institutional uncertainty rather than running ahead of it. The architecture composes with caution; the alternative — bilateral correspondent-banking arrangements with each licensed entity the Maldives' counterparties already transact with — does not.

The pathway holds up whether the trajectory continues at the current pace, continues more slowly, or stalls. The engineering work invested at the Canton Improvement Proposal 0056 and AllocationV1 layer carries against any institutional venue that adopts the same standards. The Boli pattern library and the Tenzro runtime are open source under the Apache 2 licence.

15.2 The geopolitical configuration the Maldives operates within

The second surface concerns the geopolitical configuration the Maldives operates within. The Maldives in May 2026 is, in the public-record characterisation we set out in § 2, simultaneously India-aligned for sovereign liquidity (Favara–Unified-Payments-Interface from July 2026; bilateral assistance through the April 2026 sukuk repayment), Gulf-aligned for development capital (Maldives International Financial Centre with Dubai-domiciled MBS Global Investments capital and a stated digital-asset mandate), United-Arab-Emirates-adjacent (the UAE is a participating central bank in mBridge), and dollar-exposed financially (the institutional reality of foreign-exchange flow).

The architectural property that bears on the risk posture is **SETTLEMENT-ASSET AGNOSTICISM**, set out in § 4 and § 10. The Splice Token Standard V1 AllocationV1 primitive does not bind to a particular cash leg. The same Canton asset contract — a Maldivian sukuk, a tokenised tourism-receivable, a Maldives International Financial Centre-licensed bond — settles against regulated dollar stablecoins (Circle USDC, Paxos USDP, GENIUS-Act-compliant issuance) for a Western institutional buyer, against tokenised bank deposits (JPMorgan USD JPM Coin, BNY Mellon institutional deposit token, Standard Chartered tokenised deposits, DBS Token Services) for an institutional-bank-cleared buyer, against tokenised Singapore-dollar deposits or Hong Kong-dollar stablecoins (HSBC, Anchorpoint) for a Project Guardian or a Hong Kong counterparty, against a Digital Dirham balance for a United Arab Emirates buyer through mBridge corridors, and — when the central-bank programmes reach production — against wholesale central-bank-digital-currency tokens on Project Helvetia, Project Pontes, Project Ensemble, and mBridge surfaces.

The architectural layer is neutral. It does not editorialise on which settlement asset a counterparty pair uses, does not editorialise on which sanctions regime applies, and does not commit the jurisdiction to a single payment plane. That neutrality matches the configuration the Maldives operates within.

The bridge between the Western institutional plane and the China-sphere wholesale plane (e-CNY-denominated mBridge settlement) is, as of May 2026, a central-bank workstream — Project Agorá, the Bank for International Settlements' Project Mandala on programmable compliance, the Eurosystem's Pontes work. The architecture composes with bridges as they crystallise; it does not depend on them having crystallised. The Maldives' choice of which planes to interoperate with, on what terms and on what cadence, is preserved as a sovereign choice — at the transaction layer where counterparties already negotiate it, not at the platform layer where a single architectural choice would prematurely lock the jurisdiction in.

15.3 The talent-and-execution capacity the pathway requires

The third surface concerns whether the Maldives possesses the institutional capacity the pathway requires. The Maldives' digital-finance work to date — eFaas plus Favara plus the Bandeyri, Beelan, Neelan public-finance backbone — has been built by the National Centre for Information Technology and the Maldives Monetary Authority in collaboration with international technology partners: Tietoevry (Finland) for Favara, NPCI International (India) for the Unified Payments Interface integration, Mastercard (from October 2025) for the Digital Country Partnership and the Smart-ID rollout. The partner-with-an-international-technology-provider pattern is institutionalised in Maldivian digital-government delivery; it is not a new posture being introduced.

The Boli–Tenzro–Canton pathway is consistent with that established pattern. Tenzro Labs Pte. Ltd. (Singapore) is the engineering partner for the validator-node and runtime infrastructure layer, on the same architectural footing the Maldives' existing technology partners occupy in their respective layers. The Boli platform's open-source Daml pattern library and compliance-pack catalogue are accredited-counsel-authorable across Maldivian, Mauritian, Gulf, and Singapore-aligned regimes (§ 6); the engineering build does not require resident Daml capacity in the Maldives in year one or year two. The Boli Association's standards-body engagement, conducted from Zurich under Swiss-Verein governance, sits in the same position the World-Wide-Web-Consortium and the International Organization for Stand-

ardization conventionally occupy relative to a national digital-government implementation: the standards work happens at the international body, and the jurisdiction adopts the standard through a domestic procurement.

Regional capacity matters here. Mauritius, Seychelles, and Singapore have measurably higher digital-finance institutional density than the Maldives does as of 2026, and each is a plausible source of pooled regional engineering capacity — Mauritius under its Virtual Asset and Initial Token Offering Services regime, Singapore under the Monetary Authority of Singapore's Project Guardian, Seychelles under the Financial Services Authority's digital-asset framework. The architectural pathway composes with regional-capacity pooling; it composes with hosted-by-Tenzro-Labs-from-Singapore operation; it composes with the Maldives growing resident capacity over a multi-year horizon. None of those three patterns is dependent on either of the others.

The capacity question is therefore a sequencing question, not an irreducible obstacle. The Maldives' choice of whether to build capacity domestically, to pool regionally, or to procure internationally is preserved at the institutional layer where it conventionally sits, on the timeline the supervisory authority chooses.

15.4 The Maldives International Financial Centre's supervisory perimeter

The fourth surface concerns the Maldives International Financial Centre. The Centre is, as of May 2026, in master-planning and early-enabling-works phase, with completion targeted for 2030. The supervisory authority — the Maldives International Financial Services Authority — is in formation. The bespoke regulatory regime under which Centre licensees would operate is not yet public. The Centre's stated fintech and blockchain mandate is a stated mandate, not a published regime.

The architectural property that bears on the risk posture is **REGIME-NEUTRALITY**. The Boli compliance-pack catalogue described in § 6 already ships patterns appropriate to each of the regimes the Centre might plausibly adopt: a Capital Markets Development Authority-aligned regime (which the Capital Markets Development Authority already operates for Securities Virtual Asset Service Providers); an Abu Dhabi Global Market-modelled regime; a Dubai International Financial Centre-modelled regime; a Bahrain-modelled regime; a Markets-in-Crypto-Assets-Regulation-aligned regime for European-Union distribution; a Reg D 506(c) plus Reg S regime for United States accredited-investor and non-United-States distribution; a

Hong Kong Stablecoins Ordinance-modelled regime for stablecoin-and-payment-token issuance; and the Islamic-finance packs (Sukuk Ijara, Murabaha, Salam) for Sharia-structured instruments.

The architectural investment a Maldivian deployment makes — Daml integration against Canton Improvement Proposal 0056 and AllocationV1, Boli pattern library deployment, TDIP credential bridge, agentic-runtime configuration — is durable across each of those regime choices. The compliance-pack-as-policy-artefact pattern (§ 6) is exactly the pattern that lets a sovereign rulebook ship as a code artefact configured by the licensed party, against a stable platform substrate. The supervisor's choice of regime is preserved; the platform investment does not become stranded under any plausible choice.

The Centre is the single most consequential institutional opening in the Maldives' 2026 configuration for a Canton-aligned settlement stack to be hosted under a credible supervisory perimeter. The architectural pathway is built so that the Centre's eventual rulebook is an input to the deployment configuration rather than a determinant of the platform investment.

15.5 The standards work that closes the remaining architectural gaps

The fifth surface concerns the standards work that closes the remaining architectural gaps. The gaps surfaced in this paper — International Organization for Standardization 20022 mapping for AllocationV1, cross-plane interoperability between Canton and mBridge, the standardisation of decentralised-identifier-bound artificial-intelligence mandates and revocation trees, the supervisory recognition of Trusted Execution Environment-attested agent compute, the post-quantum-cryptography migration trajectory for Canton signing curves — are real, and each is a standards-body workstream of broader relevance.

The architectural property that bears on the risk posture is that none of those gaps is the Maldives' alone to close. The International Organization for Standardization, the World Wide Web Consortium, the Fast Identity Online Alliance, the Decentralised Identity Foundation, the OpenID Foundation, the Internet Engineering Task Force, the Bank for International Settlements' Innovation Hub, the International Organization of Securities Commissions, and the Financial Stability Board are the bodies in which these workstreams sit. The Boli Standards Proposals series is the editorial vehicle through which the Boli Association contributes to those workstreams.

The Maldives' configuration choices in the 2026–2028 window do not require the gaps to be closed before participation. The pathway composes with the gaps as they are closed; the gaps as they exist today do not block

a Capital Markets Development Authority observer-tier participation on Canton, do not block a sovereign sukuk pilot under the Boli sovereign-issuance pack, and do not block the Centre's bespoke regime adopting Canton-class designs. The standards trajectory and the Maldives' decision horizon are independent variables; the architecture is designed so that they remain independent.

15.6 The asymmetry

The structural property the five sub-sections above share is asymmetry. Several features bound the residual exposure of the pathway under each surface of uncertainty. The platform substrate is open source and shipping today. The participation tier matches the supervisory posture. The cash leg is settlement-asset agnostic, and the compliance-pack layer is regime-neutral. The standards trajectory is a broader workstream the Maldives joins rather than carries. The pathway works under caution, under pace, and under a multi-year horizon in which the Maldives International Financial Centre's rulebook crystallises before any production issuance moves through the Centre.

The architectural pathway described in this paper exists in 2026 — built on shipped, open-source software at the Canton, Splice, and Boli layers; on production Trusted Execution Environment attestation primitives at the Tenzro orchestration layer; on the regulator-endorsed three-layer composition for agentic artificial intelligence; and on the verifiable-credential, multi-party-computation, and post-quantum-migration substrates the institutional financial system has settled on. Through it, a jurisdiction in the Maldives' position interoperates with the institutional commercial venue at which the major balance sheets of the global financial system are consolidating, without bilateral arrangements with each licensed entity on it.

The question the architecture leaves with the Maldivian state is a question of pace and posture, not of architectural irreversibility. The choice of whether to enter the institutional venue as a publicly-named first SIDS regulator on Canton — an observer-tier permissioning is the cheapest and most realistic vector — or to engage the pathway later through Centre-licensed counterparties, or to defer the choice further, remains a sovereign one. The architectural ground on which the choice is made, however, exists today and is consistent with each of those postures.

References

Bank for International Settlements. 2025. *Annual Economic Report 2025*, Chapter III: "The next-generation monetary and financial system". Basel, June.

Bank for International Settlements. 2025. *Project Nexus: Multilateral Interlinking of Domestic Instant-Payment Systems*. Phase-4 documentation; Nexus Global Payments incorporated 2025 with founding central banks of India, Malaysia, the Philippines, Singapore, and Thailand.

Bank for International Settlements. 2026. *Project Agorá*. Project page, BIS Innovation Hub.

Bank for International Settlements. 2025. *Project Leap Phase 2*. Quantum-safe payment-message signing demonstrator.

Bank for International Settlements and Federal Reserve Bank of New York. 2025. *Project Pine: Tokenised Monetary-Policy Implementation*. Final report, 14 May.

Bank for International Settlements Financial Stability Institute and Basel Committee on Banking Supervision. 2025–2026. *Tokenised Bank Deposits as a Regulatory Category: Briefs and Position Papers*. Basel.

Bank for International Settlements and Central Bank of the United Arab Emirates. 2024. *mBridge Project Update — Reaching Minimum Viable Product*. October.

Bank of Maldives. 2024. *Statement on Cryptocurrency Exchange Services*. October 2024.

Bank of Maldives. 2025. *Swipe Multicurrency Digital Wallet: Beta Release*. December.

Bank of New York Mellon. 2026. *Tokenised Deposit Service: Live Launch with Intercontinental Exchange, Citadel Securities, DRW, and Circle*. January.

Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company. 2024–2025. *Parametric Insurance Programme: Annual Reports and Methodology Disclosures*. Cayman Islands.

European Space Agency and European Commission. 2025. *Copernicus Sentinel-1 and Sentinel-2 Programme Documentation*. Copernicus Data Space Ecosystem.

European Space Agency. 2024–2025. *Sentinel-2 Multispectral Imager: Red-Edge and Short-Wave Infrared Bands for Vegetation and Wetland Monitoring*. Sentinel Online technical documentation.

Global Fishing Watch. 2026. *Vessel-Activity Data Platform, Version 4*. Released 26 February 2026. globalfishingwatch.org.

Google Cloud. 2025–2026. *Agent Payments Protocol (AP2): Open Specification for Agent-Led Payments and Cryptographically Signed Mandates*. Announced 16 September 2025 with 60+ launch partners; version 0.2 released and donated to the FIDO Alliance 28 April 2026; Mastercard contributed the complementary Verifiable Intent standard to the same FIDO process in the same window.

Google Cloud and PayPal. 2025. *Conversational Commerce Agent: Multi-Merchant Production Deployment under the Agent-to-Agent Protocol and the Agent Payments Protocol*. Announced 27 October 2025.

Hyperledger Foundation and Intel Corporation. 2025–2026. *Intel Trust Authority: Composite Attestation for Intel Trust Domain Extensions and NVIDIA H100/H200 GPU Confidential Computing*. Technical documentation.

International Advisory Panel on Biodiversity Credits. 2024. *Framework for High-Integrity Biodiversity Credit Markets*. Launched at the Sixteenth Conference of the Parties to the Convention on Biological Diversity, Cali, October.

International Organization for Standardization. 2024–2026. *ISO/IEC 20022 Financial-Services Messaging: Tokenisation Mappings under Active Working-Group Review*. Geneva.

Indian Ocean Tuna Commission. 2024. *Resolution 22/04 on Regional Observer Scheme and Electronic Monitoring Standards*. Conservation and Management Measures.

Marine Stewardship Council. 2012–2025. *Maldives Pole-and-Line Skipjack Tuna Fishery: Certification and Surveillance-Audit Records*. London.

National Aeronautics and Space Administration and Indian Space Research Organisation. 2025–2026. *NASA-ISRO Synthetic Aperture Radar (NISAR) Mission: Operational Status and L-Band and S-Band Biomass Monitoring Capability*. Mission documentation. Commissioned into scientific service 7 November 2025; declared fully operational January 2026.

National Oceanic and Atmospheric Administration. 2026. *Coral Reef Watch: Global Bleaching Heat-Stress Indicators*. Daily 5-kilometre-resolution satellite product; April 2026 global bleaching status report.

Phala Network. 2026. *Confidential Compute on Graphics-Processing-Unit Trusted Execution Environments: Production Inference Throughput and OpenRouter Integration*. Network disclosures, March.

Planet Labs PBC. 2024–2025. *PlanetScope, SkySat, and Pelican Constellation Capability and Subscription Documentation*. San Francisco.

Tenzro Labs Pte. Ltd. 2026. *Tenzro Network: Decentralised Artificial-Intelligence Runtime, Tenzro Decentralised Identity Protocol, Multi-Party-Computation Wallet, and Canton Validator Operation*. Open-source repositories at github.com/tenzro and documentation at tenzro.com/docs.

Verra. 2023. *VM0033 Methodology for Tidal Wetland and Seagrass Restoration, version 2.1*. Approved 4 September 2023.

Verra. 2026. *SD VISta Nature Framework: Project-Registration Pipeline*. Opened January 2026.

World Wide Web Consortium. 2026. *Agent Identity Registry Protocol Community Group*. Proposed 22 April 2026.

Canton Foundation. 2025–2026. *Canton Improvement Proposals: CIP-0056 (Canton Network Token Standard), CIP-0096 (Validator Reward Schedule), CIP-0105 (Super Validator Locking and Long-Term Commitment Framework), CIP-0112 (Token Standard V2 Privacy Improvements, draft)*. cantonfoundation/cips repository.

Cantonscan. 2026. *Canton Network Validator and Super Validator Registry*. Public network explorer, cantonscan.com. Accessed May 2026.

Capital Markets Development Authority of the Maldives. 2025. *Securities Virtual Asset Service Providers Regulation*. Male.

Dar Global, World Liberty Financial, and Securitize. 2026. *Tokenization of Dar Global Property-Portfolio Loan-Revenue Interests for Distribution under Regulation D Rule 506(c) and Regulation S, On-Chain via the Morpho Protocol on Base*. Joint announcement, 18 February.

Depository Trust and Clearing Corporation. 2025. *DTCC and Digital Asset Partner to Tokenize DTC-Custodied US Treasury Securities under an SEC No-Action Letter*. Press release and Securities and Exchange Commission no-action letter, December.

Broadridge Financial Solutions. 2025–2026. *Distributed Ledger Repo Platform: Monthly Repo Volume Disclosures*. Press releases and investor communications, December 2025 through April 2026.

Cloud Security Alliance. 2026. *Securing the Agentic Control Plane*. Programme documentation, March–April.

Coinbase. 2025. *x402: Open Hypertext Transfer Protocol Payment Standard Using the 402 Payment Required Status Code*. Public release, May 2025.

Cloudflare and Coinbase. 2025–2026. *x402 Foundation*. Announced 25 September 2025; Solana Foundation joined April 2026 under a Linux Foundation umbrella; Stellar added support April 2026; Stripe integrated x402 into PaymentIntents in late 2025.

Commerzbank, Deutsche Bank, DZ Bank, and others. 2025. *German Tokenised-Deposit Pilot with Airplus, BASF, Evonik, Mercedes-Benz, and Siemens*. Joint disclosure.

DBS Bank. 2025–2026. *DBS Token Services and the DBS-Kinexys Cross-Bank Tokenised-Deposit Interoperability Framework*. Disclosures.

Decentralised Identity Foundation. 2026. *Model Context Protocol Identity (MCP-I): Donation from Anthropic and Working-Group Status*. March.

European Central Bank. 2026. *Comprehensive Payments Strategy*. March.

European Council. 2026. *Twentieth Sanctions Package: Russia's War of Aggression Against Ukraine*. Press release, 23 April.

European Securities and Markets Authority. 2024. *Markets in Crypto-Assets Regulation (MiCA): Stablecoin Provisions Effective*. Brussels.

Financial Action Task Force. 2025. *Targeted Update on Implementation of the FATF Standards on Virtual Assets and VASPs*. Paris, June.

Financial Stability Board. 2024. *The Financial Stability Implications of Artificial Intelligence*. November.

Financial Stability Board. 2025. *Monitoring AI Adoption and Related Vulnerabilities in the Financial Sector*. October.

Financial Stability Board. 2025. *Thematic Review of Crypto-Asset Frameworks*. October.

Federal Reserve. 2025. *FedNow Service: Transaction Limit Increase and United States Treasury Digital Payout Integration*. November.

HSBC Holdings plc. 2026. *Hong Kong Stablecoins Ordinance Issuer Licence: Hong Kong Dollar Stablecoin*. First licence granted under the Ordinance, 10 April 2026.

Anchorpoint Financial Limited (Standard Chartered consortium). 2026. *Hong Kong Stablecoins Ordinance Issuer Licence: Hong Kong Dollar Stablecoin*. Second licence granted, 10 April 2026.

JPMorgan Chase. 2026. *Kinexys USD JPM Coin (JPMD) Native Issuance on Canton*. Announcement, January.

Anchorage Digital. 2025–2026. *United States Office of the Comptroller of the Currency Federal Trust Charter and Participation in the Depository Trust and Clearing Corporation Canton Working Group*. Disclosures.

BitGo. 2025–2026. *Canton Coin Support via Qualified Custody and New York Stock Exchange Initial Public Offering*. Custody support announced October 2025; New York Stock Exchange listing January 2026.

Broadridge Financial Solutions. 2025. *Distributed Ledger Repo Platform: Three Hundred and Eighty-Five Billion Dollar Average Daily Volume*. October 2025 disclosure.

Canton Foundation. 2026. *Canton Improvement Proposal 0097 (Nasdaq Super Validator Approval via Milestone-Based Escrowed Weight)*. Approved January 2026.

Chainlink Labs. 2025. *Chainlink Joins Canton Network as a Super Validator*. Strategic-partnership announcement, 24 September 2025; Data Streams, SmartData (Proof of Reserve, NAVLink), and Cross-Chain Interoperability Protocol live on Canton, February 2026.

Circle Internet Financial. 2025. *USDCx Live on Canton: USD-Coin-Backed Settlement via the xReserve Smart-Contract Construction*. 4 December 2025.

Circle Internet Financial. 2025. *Circle Initial Public Offering on the New York Stock Exchange*. 5 June 2025.

Circle Internet Financial. 2025. *Acquisition of Hashnote and United States Yield Coin Tokenised Money-Market Fund*. 21 January 2025.

Circle Internet Financial. 2025. *Circle Payments Network*. Announced 21 April 2025; in-market since May 2025.

Federal Reserve Bank of New York and Bank for International Settlements. 2025. *Project Pine: Tokenised Monetary-Policy Implementation*. Final report, 14 May 2025.

Fireblocks. 2025–2026. *Canton Custody and Settlement Support via Regulated Trust Entity; Participation in the Depository Trust and Clearing Corporation Canton Working Group*. Disclosures.

Hex Trust. 2026. *Canton Super Validator*. 29 January 2026; licences across Hong Kong, the Dubai Virtual Assets Regulatory Authority, the Monetary Authority of Singapore, France, and Italy.

Libeara (Standard Chartered SC Ventures). 2026. *Monetary Authority of Singapore Capital Markets Services Licence*. Granted March 2026; in-principle approval August 2025; tokenised Singapore-dollar money-market fund and tokenised gold for retail in Asia.

Nasdaq. 2026. *Canton Super Validator Approval via Canton Improvement Proposal 0097 with Milestone-Based Escrowed Weight*. January 2026.

Ondo Finance, Kinexys by JPMorgan, Mastercard, and Ripple. 2026. *First Cross-Border, Cross-Bank Redemption of Tokenised United States Treasuries*. Joint announcement, May 2026.

Paxos. 2024–2026. *Paxos Licence Stack: United States Office of the Comptroller of the Currency National Trust Charter, New York Department of Financial Services Limited Purpose Trust, Monetary Authority of Singapore Major Payment Institution, Abu Dhabi Global Market Financial Services Regulatory Authority; United States Dollar Global (USDG) Stablecoin*. November 2024 launch and onward.

Ripple. 2024. *RLUSD Stablecoin: New York Department of Financial Services Approval*. 10 December 2024; public launch 17 December 2024.

Ripple. 2025. *Acquisition of Hidden Road and Rebrand as Ripple Prime*. Announced 8 April 2025 at Paris Blockchain Week; closed October 2025; Kroll BBB investment-grade rating, April 2026.

Standard Chartered, Northern Trust, SBI Holdings, National Australia Bank, and Emirates NBD. 2025–2026. *Zodia Custody: Canton Coin Custody Support and Participation in the Canton Programmable Credit Protocol Pilot*. Disclosures, July 2025 onward.

Standard Chartered International. 2024–2025. *Securitize: Securities and Exchange Commission Registered Transfer Agent, Broker-Dealer, Alternative Trading System, and Registered Investment Adviser*. Disclosures; FINRA approval for tokenised-security custody and atomic settlement, May 2026.

SWIFT, UBS Asset Management, and Chainlink. 2024–2025. *Pilot for Tokenised-Fund Subscription and Redemption Settlement under Project Guardian; Digital Transfer Agent Technical Standard Introduced at Sibos 2025*. November 2024 pilot and onward.

Taurus SA. 2025. *Canton Super Validator and Swiss Financial Market Supervisory Authority Licensing*. Super Validator role, 24 November 2025; tier-one bank custody clients including Deutsche Bank, State Street, Santander, Crédit Agricole's CACEIS, and Credit Suisse.

Tenzro Labs Pte. Ltd. 2026. *Tenzro Network Documentation*. Multi-virtual-machine runtime (Ethereum Virtual Machine, Solana Virtual Machine, and Daml); Tenzro Decentralised Identity Protocol; Agent-to-Agent and Model Context Protocol surfaces; cross-chain integration with Chainlink Cross-Chain Interoperability Protocol, LayerZero, deBridge, and LI.FI across sixty-plus chains; Rust and TypeScript software-development-kit surfaces. tenzro.com/docs.

Government of the Maldives. 2025. *Maldives International Financial Centre: Joint-Venture Agreement with MBS Global Investments*. Announcement, 5 May 2025; binding joint-venture and memorandum of understanding signed January 2026.

Government of the Maldives. 2025. *Seventeenth Amendment to the Decentralisation Act*. Ratified by the President of the Maldives, 1 December 2025; Office of the President press notice, presidency.gov.mv/Press/Article/35797.

Government of the Maldives. 2025. *Sixteenth Amendment to the Tourism Act*. Ratified December 2025; Office of the President press notice, presidency.gov.mv/Press/Article/35826.

Government of the Maldives and Maldives Monetary Authority. 2024. *Foreign Currency Act 32/2024 and Foreign Currency Regulation 2024/R-91*. Effective October 2024; Maldives Monetary Authority *Payments Bulletin* 2024.

International Monetary Fund. 2024. *Republic of Maldives: 2024 Article IV Consultation*. Country Report 2024/106. Washington, DC.

International Monetary Fund. 2026. *How Agentic AI Will Reshape Payments*. IMF Note 2026/004. Washington, DC, April.

International Organization of Securities Commissions. 2025. *Consultation Report on Artificial Intelligence in Capital Markets*. CR/01/2025. Madrid, March.

International Organization of Securities Commissions. 2025. *Tokenization of Financial Assets: Final Report*. FR/17/25. Madrid, November.

Internet Engineering Task Force. 2024. *Two-Round Threshold Schnorr Signatures with FROST*. Request for Comments 9591.

Maldives Monetary Authority. 2025–2026. *Register of Licensed Commercial Banks under the Maldives Monetary Act 1981*. Male.

Maldives Monetary Authority and Mastercard. 2025. *Memorandum of Understanding for Digital Country Partnership*. Signed 7 October 2025; Maldives Digital Partnership Programme launched August 2025.

Mastercard. 2025–2026. *Agent Pay and Mastercard Agentic Tokens*. Launched 29 April 2025; piloted with Citi and U.S. Bank in September 2025; first live agentic card transaction completed against PayOS on 29 September 2025; extended to all United States cardholders in November 2025; SoFi-SoFiUSD settlement integration announced 3 March 2026.

Mastercard. 2025–2026. *Multi-Token Network: Integrations with JPMorgan Kinexys, Fiserv, Ondo Finance OUSG, Standard Chartered Hong Kong with Mox Bank and Libeara, FIUSD, PYUSD, and SoFiUSD*. Programme disclosures.

Mastercard. 2026. *Verifiable Intent: Tamper-Proof Log of User-Authorised Agent Actions, Donated to the FIDO Alliance*. April 2026.

Qivalis. 2025–2026. *Qivalis Euro Stablecoin Consortium: Membership and Launch Plan*. Member institutions include Deutsche Bank, BNP Paribas, ING, Commerzbank, and (from February 2026) BBVA; launch announced for the second half of 2026.

Société Générale FORGE. 2023–2026. *EUR CoinVertible (EURCV): Markets-in-Crypto-Assets-Regulation Compliance and Multi-Chain Deployment*. Live since 2023; MiCA-compliant since 1 July 2024; deployed on Ethereum, Solana, the XRP Ledger, and Stellar; Bitpanda decentralised-finance lending integration since October 2025.

Standard Chartered. 2025–2026. *Tokenised Deposit Service in Hong Kong and Singapore*. Programme disclosures.

Visa. 2025. *Visa Trusted Agent Protocol: Open Framework for Merchant-Side Discrimination of Legitimate Artificial-Intelligence Agents*. October 2025.

Visa. 2025–2026. *Visa Intelligent Commerce: Production Pilots and Sandbox Programme*. Launched earlier 2025; 18 December 2025 disclosure of hundreds of completed agent-initiated transactions; Asia-Pacific and European pilots announced for early 2026 with 100+ ecosystem partners, 30+ sandbox builders, 20+ agent integrators (Ant International, LG Uplus, Microsoft, Perplexity, Stripe, Tencent, Skyfire, Nekuda, PayOS, Ramp).

Visa. 2026. *Visa Joins Canton Network as a Super Validator*. Announcement, 25 March 2026; first major global payments company in the Super Validator role; highest Super Validator weight in the network.

National Institute of Standards and Technology. 2024. *FIPS 203 (ML-KEM), FIPS 204 (ML-DSA), FIPS 205 (SLH-DSA)*. Final Federal Information Processing Standards Publications, August.

National Institute of Standards and Technology. 2025. *NIST IR 8547 (draft): Transition to Post-Quantum Cryptographic Standards*. December.

NPCI International Payments Limited and Maldives Monetary Authority. 2025. *Agreement for Cross-Border Integration of Favara and Unified Payments Interface*. December.

Trump Organization and Dar Global. 2025. *Announcement of Trump International Hotel Maldives*. Joint press release, 17 November 2025.

Splice. 2026. *Splice Token Standard V1, version 1.0.0*. hyperledger-labs/splice repository.

United States Department of the Treasury, Financial Crimes Enforcement Network, and Office of Foreign Assets Control. 2026. *Joint Notice of Proposed Rulemaking on Anti-Money-Laundering, Counter-Financing-of-Terrorism, and Sanctions-Compliance Requirements for Permitted Payment Stablecoin Issuers*. April.

World Wide Web Consortium. 2025. *Verifiable Credentials Data Model 2.0*. W3C Recommendation, 15 May.

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