

# Project Incubation Submission 005: Evolution - SDK

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**Prepared by:**  
Christian Taylor  
Head of Open Source Office, Intersect  
Terence McCutcheon  
Open Source Program Manager, Intersect

**Date:**  
August 08, 2025

**Organization:**  
Open Source Committee  
Intersect Member Based Organization  
Cardano Ecosystem

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Review Process	Approval
1st Pass: Tooling Working Group	Not yet established
2nd Pass: Open Source Committee	YES, Aug 13
3rd Pass: Technical Steering Committee	YES, Aug 20

**Application Contact Emails:** [jona.ca.eng@gmail.com](mailto:jona.ca.eng@gmail.com), [mladenlamesevic@gmail.com](mailto:mladenlamesevic@gmail.com)

**Project Summary:** Evolution-SDK is a scalable transaction builder and off-chain framework that makes it easier for developers to build production-ready dApps on Cardano.

**Project Description:** Building dApps on Cardano shouldn't be harder than it needs to be, but right now, developers face unnecessary complexity at every turn. Transaction construction is overly complicated, tooling options are fragmented, and scaling applications often becomes a major headache.

These barriers are holding back talented developers who could be building amazing things on Cardano. Evolution SDK changes this by giving developers a complete, battle tested framework that actually works in production. Instead of spending months building basic infrastructure from scratch, teams can focus on what makes their application unique. Our modular approach means you only use what you need, whether that's our transaction builder, off chain components, or the full suite.

What makes Evolution SDK different is its flexibility. Developers can seamlessly work across Mainnet, Preprod, Preview, or custom networks, making testing and deployment straightforward. We also support multiple blockchain providers, so teams aren't stuck with a single service that might not meet their performance needs.

The reality is that Cardano has incredible potential, but the developer experience has been holding it back. We've seen too many projects struggle with basic infrastructure challenges instead of innovating on their core ideas. Evolution SDK solves this by providing the solid foundation that the ecosystem has been missing, making it easier for developers to build the sophisticated applications that will drive Cardano's next wave of growth.

**Organization Repo URL:** <https://github.com/no-witness-labs>

**Project Repo URL in Scope:** <https://github.com/no-witness-labs/evolution-sdk>

**Additional Repos in Scope:** <https://github.com/no-witness-labs/lucid-evolution>

**Website URL:** <https://no-witness-labs.github.io/lucid-evolution/documentation/about>

**Roadmap:** <https://github.com/no-witness-labs/evolution-sdk?tab=readme-ov-file#-roadmap>

**Roadmap Context:** Evolution SDK development is organized into four phases, with Phase 1 now complete.

The current foundation includes 78 TypeScript modules for Cardano primitives, Effect integration for error handling, and Docker DevNet support for local blockchain development.

Phase 2 is currently underway, focusing on transaction building components and blockchain provider integrations. This includes support for Maestro, Blockfrost, Koios, KupoOgmios, and UtxoRpc providers, along with transaction builder functionality, UTXO selection, and multi-asset transaction support.

Phase 3 will add wallet integration capabilities for both hardware wallets like Ledger and Trezor, and browser wallets following the CIP-30 standard. Smart contract support is also planned, with UPLC

evaluation from various languages including Aiken, Helios, Plu-ts, and Scalus. This phase will also include migrating to Effect 4.0.

Phase 4 covers more specialized features like Hydra integration for state channels and Layer 2 scaling, DeFi utility functions, and developer tooling improvements including a CLI tool and VS Code extension. The roadmap prioritizes transaction building and provider integrations first, as these form the core infrastructure most developers need. Each phase builds on previous work while maintaining the TypeScript-first approach and comprehensive type safety that defines the project.

**Contributing Guide:**

<https://github.com/no-witness-labs/evolution-sdk/blob/main/CONTRIBUTING.md>

**Code of Conduct (CoC):** N/A

**Adopters:**

<https://github.com/no-witness-labs/lucid-evolution?tab=readme-ov-file#powered-by-evolution-sdk>

**Contributing or Sponsoring Org:** <https://github.com/sponsors/no-witness-labs>

**Maintainers File:** <https://github.com/solidsnakedev>

**IP Policy Agreement:** Yes

**Trademark and Accounts Agreement:** Yes

**Why Intersect MBO?:** Evolution SDK aligns naturally with Intersect MBO's mission to strengthen Cardano's developer ecosystem through open source infrastructure. As a comprehensive TypeScript framework, Evolution SDK addresses one of the most significant barriers to Cardano adoption: the complexity and fragmentation of developer tooling.

Contributing to Intersect MBO ensures the project serves the broader Cardano community rather than any single organization's interests. The MBO's governance structure and commitment to open source principles provide the ideal environment for Evolution SDK to grow into a foundational piece of Cardano's development infrastructure.

The value proposition is straightforward. Currently, developers building on Cardano face steep learning curves and must piece together various incomplete tools. Evolution SDK provides a unified, production-ready solution with comprehensive type safety, multiple provider options, and intuitive APIs.

By placing this under Intersect MBO's stewardship, we ensure it remains vendor-neutral and community-driven. This contribution also leverages Intersect MBO's resources and network to accelerate development and adoption.

The organization's connections with other ecosystem projects, educational initiatives, and governance processes can help Evolution SDK become a standard tool that new developers discover early in their Cardano journey.

**Benefit to the Landscape:** Evolution SDK fills a critical gap in Intersect MBO's infrastructure by providing the developer experience layer that makes other ecosystem projects more accessible. Instead of each team building transaction handling and provider integrations from scratch, they can focus on their unique features while leveraging Evolution SDK's foundation.

The framework creates a multiplier effect across the portfolio. Wallet projects, DeFi protocols, and governance tools can all build on Evolution SDK's type-safe transaction builder and multi-provider support, reducing duplicate work and accelerating development timelines. Evolution SDK also serves as an onboarding tool for the broader ecosystem. Its TypeScript-first approach and familiar APIs make it easier for developers from other blockchain communities to start building on Cardano and discover other Intersect MBO projects.

**Cardano 'Fit':** Evolution SDK bridges the gap between Cardano's technical capabilities and developer accessibility. While Cardano offers unique advantages like eUTXO architecture and native multi-assets, complex tooling has made these features difficult to leverage.

The framework sits at the infrastructure layer, abstracting CBOR encoding, transaction construction, and provider management while preserving full access to Cardano's features. It complements existing services like Blockfrost and Maestro by providing a unified interface that shields developers from provider-specific complexities.

**Cardano 'Integration':** N/A.

**Cardano Overlap:** N/A

**Similar Projects:** Mesh

**Landscape Listing:** N/A

**Business Product or Service to Project Separation:** N/A

**Project Presentations:** N/A

**Project Champions:** Christian Taylor

**Additional Information:** Evolution SDK is the next step in Cardano development, moving away from the old lucid-evolution approach that relied on WebAssembly through dcSpark's Cardano Multiplatform Library (CML). The WebAssembly dependency has been a major pain point, causing headaches with browser compatibility, breaking deployments on Cloudflare Workers, and creating frustrating debugging experiences across different JavaScript environments. We're solving this by building everything natively in TypeScript instead of relying on WebAssembly. This means no more compatibility issues, no more deployment restrictions, and no more wrestling with WebAssembly quirks when you just want to build a Cardano dapp.

**Project Accepted by OSC:** Yes

**Rationale:** The project aligns very well to the mission and vision of Intersect and there is a consensus that the success rate of adoption will be highly likely.

**Project Accepted by TSC:** Yes

**Rationale:** This has existing open source adoption across the board, it's the default choice for JS users to interact with the chain in a nontrivial way. Additionally, this codebase spent the last year in chaos due to lack of funding/maintainership. It is critical to include.