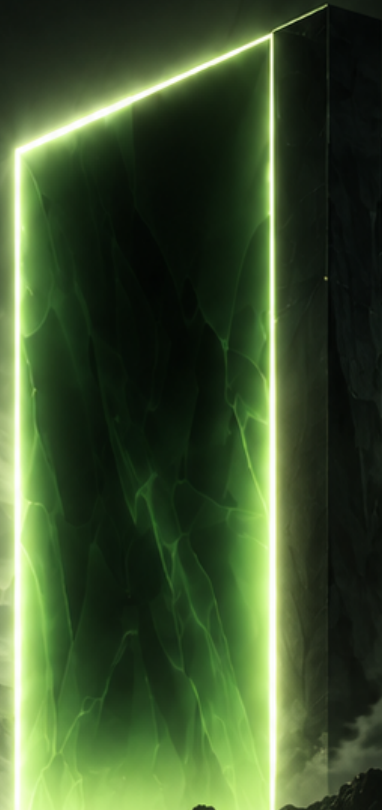


Whitepaper

AI Agent Multi-Market Quantitative Execution and On-Chain Verification Network



Let AI execute. Let on-chain data provide the proof.

AI Executes. Blockchain Proves.

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Executive Summary

Digital asset markets have developed into a new environment that operates around the clock, accommodates multiple trading scenarios, and carries data in real time. Centralized trading markets, on-chain trading markets, derivatives markets, prediction markets, and strategy accounts together form a complex, open market structure. Information is more abundant, opportunities are more dispersed, and trading moves ever faster. Traditional methods that rely on manual observation, judgment, and order placement can no longer easily process information from multiple sources while keeping pace with rapidly changing market conditions.

Artificial intelligence is therefore moving from an analytical tool to an execution system. In the past, AI primarily organized news, identified trends, and generated signals. Today, AI Agent can read market information, organize tasks, form trading judgments, select execution routes, and adjust subsequent actions based on execution results, all within explicit rules. AI no longer merely answers “What happened in the market?” It also addresses “What action should be taken, how much capital should be committed, when should execution stop, and how should results be recorded?”

This change also creates new requirements for trust. Users are no longer considering only a trading recommendation, but an intelligent system that can participate in actual account operations. Evaluation therefore extends beyond prediction accuracy to the entire trading process: who controls the capital, what the system actually executed, the prices at which orders filled, the costs incurred, how account value is calculated, how exceptions are handled, and how users ultimately recover their assets.

Blockchain provides a foundation of public records for this process. When capital movements occur on a public blockchain, the relevant addresses, transactions, and receipt records can be queried. Off-chain orders and account movements are supplemented by fill receipts and reconciliation data. Once these two types of records correspond to one another, trading results no longer depend solely on a screenshot or a summary figure; they can be checked again along the path of the funds.

LUMENOVA positions itself as an “AI Agent Multi-Market Quantitative Execution and On-Chain Verification Network,” with the core proposition “Let AI execute. Let on-chain data provide the proof.” LUMENOVA focuses on a complete product architecture comprising market data reading, intelligent judgment, strategy selection, risk control, order execution, account settlement, and proof of results, rather than a single signal, strategy, or trading venue.

LUMENOVA defines its product through a clear chain of responsibility: AI transforms fragmented information into bounded actions; the trading system transforms actions into market instructions; account and on-chain data transform results into verifiable records. Separating trading authority

from asset transfer authority, accounting separately for strategy profit and loss and community incentives, and keeping the service entry point independent of the right to retrieve assets are the architecture's core design principles.

LUMENOVA's mission is to move intelligent trading into a new stage, from "displaying returns" to "proving the process." A valuable intelligent trading system must do more than identify opportunities: it must complete execution, constrain risk, calculate results accurately, and retain evidence. Only when each judgment corresponds to an action, each action to a record, and each result can be checked along the funds' path can intelligent trading build lasting trust with users worldwide.

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AI Is Reshaping Digital Asset Trading

Digital asset markets are naturally suited to automated systems. Markets remain open around the clock, prices change continuously, and different trading scenarios generate market, order, capital, and on-chain data simultaneously. The central challenge for traders has long ceased to be a lack of information. It is how to filter useful information within limited time, identify market conditions, and translate judgments into timely, accurate, and disciplined action.

Traditional trading workflows comprise several separate stages. Researchers analyze markets, strategists define rules, traders place orders, risk managers monitor positions, and operations staff handle reconciliation and settlement. As information moves among these roles, delays, differences in measurement conventions, and execution deviations arise. The faster markets change, the harder it becomes for this segmented workflow to remain consistent.

The change introduced by AI Agent is to organize understanding, decision-making, and action into a continuous sequence of tasks. It is neither a simple chat tool nor a program that repeatedly places orders once conditions are set. A complete AI Agent has the fundamental abilities to continuously receive market inputs, call tools, check rules, and adjust actions based on feedback. Its core value is turning complex tasks into a continuous, controllable chain of action.

Quantitative strategies bring discipline to this chain of action. They use data and rules to determine what to trade, when to trade, how much capital to commit, and under what conditions to exit. AI processes a broader range of information, identifies market conditions, and organizes selection among multiple strategies. Together, they give the intelligent system analytical capabilities while keeping it subject to explicit rules.

Complete intelligent trading begins with reliable data. The system reads prices, bids and asks, trading activity, account positions, funding costs, and on-chain states, and aligns their timestamps and data definitions. Incorrect, delayed, or conflicting data directly affects subsequent judgments. Detecting bad data, identifying exceptions, and handling interruptions are therefore part of trading capability itself, rather than auxiliary back-office work.

After forming a judgment, the system converts trading intent into an action plan with clearly defined risks. The instruments to trade, capital size, position caps, loss limits, exit conditions, and methods of human takeover should all be specified in explicit rules before execution. AI may seek opportunities, but rules control the scope of capital use. A good intelligent system knows both when to act and when to refuse to act.

Once execution begins, market conditions determine the ultimate outcome. The same trading judgment will produce different fill prices when executed in different markets, with different amounts of capital, or at different times. The gap between the expected price and the actual fill

price directly changes strategy results. Unfilled orders, partial fills, connection interruptions, and rapid price changes also alter the account's actual state.

Execution capability therefore cannot be measured by "successfully submitting an order." The system must select trading routes based on market depth, transaction costs, and speed; track the status of each order; and cancel, retry, reduce size, or stop operations when conditions change. The strategy answers "What should be done?" The execution system answers "How can it actually be accomplished?"

A multi-market environment further increases the importance of execution. Centralized markets, on-chain liquidity pools, leveraged trading markets, and prediction markets use different trading and settlement methods. One market may offer more capital available to buy and sell, while another provides more public records of funds. One may execute faster, while another, under specific account and contract designs, allows users to operate assets directly through a wallet. An intelligent system must understand these differences instead of treating all markets as the same interface.

After trades are completed, account settlement translates order results into asset changes users can understand. The system distinguishes profit and loss confirmed after completed trades from unrealized profit and loss that continues to fluctuate with prices, and includes fees, fill-price differences, funding costs, and network fees in a unified record. Only after applicable costs are included in the calculation does account value have a basis for comparison with the final settlement result.

Verification reconnects the entire trading process. Where funds entered, which account received them, which instructions the system submitted, how orders filled, how fees were deducted, how account value changed, and where assets ultimately went together form a coherent record. When the original information, calculation conventions, and valuation time are consistent, others can reconstruct the trading results, providing a basis for external review of performance displays.

The introduction of AI does not reduce human responsibility; it redefines its allocation. People set objectives, capital boundaries, risk rules, and permission scopes, while the intelligent system executes efficiently within those conditions. When exceptions occur, the system enters a restricted, paused, or human-takeover state. More powerful automation requires a clearer control structure.

The model determines what the system sees; rules determine what it may do; execution determines what it actually obtains; and evidence determines whether the result is credible. Competition in intelligent trading ultimately rests on whether these four elements can function as one.

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Markets Need a New Foundation for Trust

Traditional trading products usually place returns in the most prominent position. An upward curve is easy to understand and share, but it displays only the result without explaining how that result was produced. Actual trading includes the entry of funds, position changes, order fills, fee deductions, account valuation, and asset exit. If any stage lacks clear records, the returns users see cannot fully correspond to what they actually receive.

At the strategy level, the central issue is the boundary of risk. Users need not understand all the code, but they should understand which markets the system trades, which types of strategies it uses, the maximum capital it may deploy, and the loss levels that trigger position reductions or a stop. Strategy transparency is about making capital limits and trading discipline clearly visible, rather than disclosing every method.

At the capital level, the central issue is actual control. Assets appearing in an account or at an on-chain address do not, by themselves, clarify who controls them. Who can sign transactions, transfer funds, modify rules, or suspend exits determines the assets' true control relationships. The separation of user funds from project operating funds must also be reflected in accounts and records.

At the data level, the central issue is whether actual fills can be reconstructed. A displayed price is not the actual fill price, and theoretical returns are not real account returns. Trading instructions, fill receipts, position changes, fees, and balances must correspond to one another to demonstrate that performance comes from actual trading. The essence of data transparency is enabling reconstruction of the process, rather than adding more charts.

At the settlement level, the central issue is whether displayed values correspond to the assets ultimately received. Locked-in returns differ in meaning from unrealized gains that fluctuate with markets. Fees, fill-price differences, holding costs, and network fees also affect the final result. What users truly care about is not the amount displayed at a particular moment, but how many assets enter an account they control after all costs are deducted.

The new foundation for trust consists of a complete chain of evidence: funds enter the system and a defined account, are converted into orders, orders produce fills, fills generate fees and profit or loss, profit or loss is reflected in account value, the user initiates an exit, and assets are ultimately received. Each stage has corresponding records, and each preceding stage can be reconciled with the next.

Blockchain provides a public ledger for this evidence chain. Asset changes at public addresses and on-chain operations have a clear chronological sequence that can be queried externally. Off-chain trades are supplemented by order receipts, account data, and reconciliation records. When these

two types of records correspond under consistent conventions, transparency moves from a brand statement to a product capability.

Permission design is another essential foundation. The intelligent system responsible for trading should have permissions limited to placing orders, canceling orders, and handling risk.

Withdrawals, transfers, changes to core rules, and system upgrades are controlled through independent mechanisms. Limits, multiparty confirmation, delayed activation, permission expiry, and emergency pauses collectively reduce the impact of a single point of failure.

Users' right to exit completes the trust cycle. The front-end interface is an entry point for services and should not be the only channel for retrieving assets. The standard for an independent exit is that users can still query their shares, confirm exit conditions, and initiate asset retrieval through a public route when the primary entry point is unavailable. Trust is demonstrated not only when entering the system, but also when leaving it.

The new foundation for trust in intelligent trading is therefore an entire set of principles running through the product, rather than the phrase "on-chain transparency": trading has boundaries, funds have defined ownership, orders have receipts, costs have records, results can be recalculated, permissions can be limited, and exits have routes. Returns thus cease to be isolated numbers and become facts that can be checked step by step along the flow of funds.

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LUMENOVA's Mission and Long-Term Vision

LUMENOVA's mission is to bring artificial intelligence into actual trade execution and ensure that every execution leaves evidence that can be checked. With AI Agent as the execution core, multiple markets as the setting for strategies, and on-chain data as the basis for verification, the project seeks to shift digital asset trading from reliance on displayed results toward trust grounded in the complete process.

"Let AI execute" means artificial intelligence goes beyond market summaries and trading recommendations. LUMENOVA defines its full responsibilities through market data reading, opportunity identification, strategy matching, risk checks, route selection, and trading operations. AI improves the efficiency of information processing and task execution, risk rules limit the scope of action, and human governance sets objectives and retains ultimate control.

"Let on-chain data provide the proof" means product value is presented jointly through capital and trading records, rather than described only by the project. Under this verification principle, orders, fills, fees, profit and loss, account value, exits, and asset receipts form continuous evidence. On-chain records and account data together reveal the complete path by which results are produced.

LUMENOVA summarizes its product logic in six consecutive stages: Market, Intelligence, Strategy, Execution, Settlement, and Verification. Markets provide data, the intelligent system identifies conditions, strategy rules generate action plans, the execution system completes trades, the settlement system updates accounts, and the verification system connects funds with results. All six stages share the same risk, permission, and data principles.

At the market stage, LUMENOVA focuses on prices, liquidity, execution conditions, and on-chain states across trading environments. A market is a set of continuously changing trading conditions, rather than a static collection of quotes. Reading and interpreting these conditions consistently provides aligned inputs for subsequent actions.

At the intelligence and strategy stages, LUMENOVA emphasizes that judgments must become bounded trading plans. The system identifies opportunities while also determining capital size, position limits, exit conditions, and stop rules. Intelligence means consistently applying clear discipline in a complex environment, rather than pursuing unrestricted freedom of action.

At the execution stage, LUMENOVA places fill quality ahead of strategy outcomes. The target execution architecture selects routes based on market depth, price changes, transaction costs, and connection status, and incorporates instructions, fills, and exception handling into unified record standards.

Settlement and verification follow the same timeline principle. Strategy profit and loss, community incentives, and token value are accounted for separately, with orders, fills, and fees providing the basis for reconciling account changes.

Execution has boundaries. Rules limit capital use, position size, loss limits, and stopping conditions. Actions beyond those limits enter rejection, pause, or human-takeover procedures.

Funds have defined ownership. The product structure defines trading permissions separately from withdrawal, transfer, and system administration permissions, and establishes clear account boundaries between user funds and operating funds.

Results can be checked. Fund paths, order status, transaction costs, account value, and final asset receipts use unified record standards, allowing every result to be traced back to the original trading process.

The right to exit is independent. The service interface provides convenience, while asset retrieval does not depend on a single entry point. Wallets, account rules, and public operating routes together uphold users' right to exit.

Multiple markets are the foundation through which LUMENOVA connects different opportunities and sources of liquidity. LUMENOVA's multi-market vision covers centralized markets, on-chain markets, derivatives, prediction markets, and strategy accounts. Its overall architecture connects data, strategies, execution, and settlement through a unified intelligence layer. A single intelligence layer connects multiple markets to maintain consistent trading discipline and evidence standards under different conditions, rather than merely accumulate platform names.

LUMENOVA's long-term vision is to create a verifiable intelligent trading network for global digital asset markets. AI handles understanding and action, the trading system handles execution and settlement, public data provides records and proof, and users understand the state of their funds and their exit routes through clear control relationships.

This vision points toward a new product relationship: users understand results through complete records, rather than trusting them solely on the strength of a platform's reputation; the project builds long-term credibility through execution quality, risk discipline, and capital transparency, rather than expressing value solely through return figures. Intelligent trading thus evolves from a single tool into a service system that establishes trust through execution records, risk discipline, and capital transparency.

The ultimate state LUMENOVA seeks can be expressed in one sentence: let every judgment lead to bounded execution, and let every execution become a fact that can be checked.

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LUMENOVA's Complete Trading System

Traditional trading tools often cover only one stage of the complete process: market software displays data, analytical tools generate views, trading programs submit orders, and account systems record balances. The separation of these stages makes it difficult to connect judgments, execution, funds, and results. LUMENOVA defines the complete trading process as a unified system: market data, intelligent judgment, strategy rules, trade execution, account settlement, and result records share the same business flow, and every operation can be traced to its corresponding fund and trading events.

LUMENOVA's trading system follows a clear path:

**Understand the market → Form a judgment → Select a strategy → Control risk
→ Complete the trade → Calculate the result → Retain the records**

All stages share consistent data definitions, account states, and execution rules. Market information forms strategy inputs; strategy instructions enter trade execution; fill results update account states; and account changes are then checked against the original orders, creating a coherent trading relationship from beginning to end.

4.1 Market Data as a Common Starting Point

A trade must first answer what is happening in the market. The data layer receives price changes, trading activity, executable quantities, funding costs, and on-chain activity in a unified manner, organizing them according to common time, asset, and price conventions. Data quality rules identify stale, duplicate, and clearly abnormal information. Every strategy input retains its source and time information to ensure that judgments correspond to the market conditions at that moment.

4.2 Turning Market Information into Executable Judgments

Market data does not automatically become a trade. LUMENOVA uses its intelligent system to identify market direction, price differences, execution conditions, and funding costs, then converts this information into specific strategy candidates. The system considers not only whether prices will rise or fall, but also whether an opportunity offers sufficient room, whether the capital can be deployed smoothly, whether holding costs are reasonable, and whether the exit route is clear.

Each candidate strategy carries explicit trigger conditions, applicable capital, target markets, execution deadlines, and stopping conditions. Intelligent judgment therefore takes the form of structured instructions that can be processed by the trading system, rather than a vague opinion.

Instructions proceed to the next stage only when both market conditions and strategy requirements are satisfied.

4.3 Strategy Selection Subject to Risk Constraints

A complete trading system must determine the maximum capital to commit and the maximum loss to bear before assessing where return opportunities exist. LUMENOVA places risk checks before trade execution, applying unified constraints to capital size per trade, overall position direction, price volatility, execution capacity, and exit costs.

When several strategies arise at the same time, the system compares the relationship among return potential, capital commitment, execution costs, and risk, rather than simply choosing the strategy with the highest expected return. Different strategies share the same capital caps and risk boundaries, preventing seemingly independent trades from creating excessive concentration in one market direction.

Risk rules run through the entire trading process. The system checks funds and conditions before placing orders, monitors price changes and completion during execution, tracks profit and loss and market states while positions are held, and recalculates execution capacity and costs at exit. If preset conditions are triggered at any stage, the system reduces capital size, stops opening new trades, or executes an exit.

4.4 Bringing Judgments into the Market Through Execution

A strategy moves from analysis to execution only when it becomes an actual order and is filled. The execution layer selects trading routes based on prices, executable quantities, trading fees, and response speed, while continuously recording submission, fill, cancellation, and final order states. Strategy instructions, order actions, fill receipts, and account changes are linked through the same transaction identifier, allowing execution results to be reconciled with the original strategy task.

4.5 Reconstructing Actual Results Through Settlement

After fills are completed, the system calculates trading results under consistent conventions. Profit and loss from price changes, trading fees, funding costs, on-chain operating fees, and other actual expenses are recorded separately. Unrealized changes from open positions are displayed separately from results confirmed after completed trades, maintaining a clear distinction between account figures and amounts actually available for settlement.

LUMENOVA separately records principal, strategy results, service fees, community rewards, and token changes. No reward is combined with strategy trading results, and token price movements do not replace actual trading profit and loss. Every category of figures shown to users has a defined source, calculation method, and account location.

After settlement, the system updates account net asset value, meaning the account value corresponding to the user's shares at that point in time. Net asset value records show the

combined effects of gains, losses, fee deductions, and fund transfers on the account, reconstructing the final balance as a clear calculation process.

4.6 Connecting Processes and Results Through Records

The record layer incorporates market inputs, strategy judgments, risk actions, orders, fills, fees, net asset value, and exits into the same linked chain. On-chain records, trading receipts, and account data explain fund movements, trade execution, and settlement results respectively. The specific data conventions and query methods are discussed in Chapter 7.

LUMENOVA's complete trading system is measured by three outcomes: judgments can lead to execution, execution can lead to settlement, and settlement can be checked against the original records.

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AI Agent Intelligent Execution Engine

Within LUMENOVA's product architecture, AI Agent is defined as an intelligent execution engine constrained by objectives, rules, and permissions. Models interpret markets, strategy rules define actions, the risk module limits capital scope, the execution module processes orders, and the record module connects processes with results. AI Agent does not directly possess full account control.

5.1 Market Intelligence

The market intelligence module organizes large volumes of fragmented information into usable market states. It continuously identifies price direction, volatility intensity, trading activity, market depth, and funding costs, and assesses whether the current environment is better suited to waiting, entering, reducing capital size, or exiting.

Market identification is an overall assessment of trading conditions, rather than a single prediction of future prices. The same price signal means different things in an active market and a thinly traded market. The same strategy should also deploy different amounts of capital in low-volatility and highly volatile environments. The market intelligence module provides context for strategy selection by identifying these scenarios.

5.2 Strategy Engine

The strategy engine matches market states with different trading methods. The system defines applicable conditions, capital requirements, target ranges, stopping conditions, and evaluation standards for each strategy type. When market information satisfies a set of conditions, the strategy engine generates a structured task specifying the trading instrument, direction, capital size, and execution deadline.

The focus of multi-strategy coordination is reducing reliance on a single market direction, rather than running more strategies simultaneously. Trend strategies focus on sustained price changes, hedging strategies reduce exposure to particular directions, arbitrage strategies seek price differences among markets, and liquidity strategies focus on trading demand and capital efficiency. The strategy engine organizes different strategies according to market conditions, while the account risk layer evaluates their combined effects on capital direction and overall positions.

5.3 Execution Routing

Execution routing compares prices, executable quantities, fees, response speed, and actual fill-price differences, selecting trading routes according to strategy conditions. After an order is submitted, the execution layer continuously identifies states such as unfilled, partially filled, canceled, and completed. When the original conditions no longer hold, the task ends under preset stop rules.

5.4 Risk Control

The risk control module separately defines capital caps, position limits, loss conditions, and stop rules for an individual trade, an individual strategy, an individual market, and the entire account. When multiple strategies create concentrated exposure to the same market direction, the account layer adjusts capital scope according to overall risk. No strategy may bypass account-level limits.

5.5 Module Coordination

Market intelligence, the strategy engine, execution routing, and risk control work together in a fixed sequence. The market module provides states, the strategy module forms tasks, the risk module checks capital boundaries, the execution module processes orders, and the settlement and record stages return actual results to the corresponding tasks. Each module has independent responsibilities while using the same account state and transaction identifiers.

5.6 Permissions and Human Rules

The permission model assigns separate permissions to analysis, order placement, fund transfers, and changes to key rules. AI Agent permissions are limited to strategy execution. Account ownership, receiving addresses, and fund transfers are outside the matters the model may modify. Governance rules define objectives, capital boundaries, stopping conditions, changes to key rules, and methods of human takeover.

5.7 Execution Review

Each strategy is reviewed against expected prices, actual fill prices, expected costs, actual costs, and final account results. Review findings are assigned separately to market judgments, strategy conditions, execution routes, and risk settings, providing a basis for subsequent rule evaluation. Strategies and rules are version-controlled, and trading results for different versions are recorded separately.

LUMENOVA defines AI Agent through explicit tasks, limited permissions, and unified records, allowing intelligent judgments to enter a constrained trading process while retaining evidence for review of every action.

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Multi-Market Trading Network

Digital asset trading spans multiple market structures. Centralized markets usually offer greater execution efficiency; decentralized markets exchange assets through public rules; on-chain derivatives provide leverage and hedging tools; and prediction markets form prices around event outcomes. These markets differ in trading methods, capital efficiency, costs, and settlement paths.

LUMENOVA's multi-market architecture establishes common data, strategy, order, and settlement standards across trading scenarios. The intelligent system uses these standards to compare trading conditions across scenarios and determine execution locations under unified rules.

6.1 Understanding Different Markets Consistently

The same asset has different prices, executable quantities, and transaction costs in different markets. Multi-market data first aligns asset names, timestamps, trading directions, and order states, then compares fees, capital commitment, and exit conditions. States such as "submitted," "partially filled," and "fully completed" are recorded separately to avoid duplicate or incorrect calculations.

6.2 Letting Strategies Select Markets

Traditional trading programs often bind themselves to one market and then seek opportunities within it. LUMENOVA adopts the reverse logic: first identify a strategy task, then select a suitable market for that task. Strategies focus on price differences, hedging needs, trend conditions, or liquidity demand, while markets provide the specific routes for completing the task.

The execution location is determined by a combination of conditions. A better price does not necessarily mean a better outcome: trading fees, differences between expected and actual fill prices, fund transfer times, and exit costs all affect the final result. The system compares actual results after trading, fund transfer, and exit costs, rather than a single displayed quote.

6.3 Managing Cross-Market Execution

Cross-market tasks treat related orders as one complete trading unit, managing submission sequence, completion ratios, and stopping conditions together. If either side fails to complete under the original conditions, subsequent actions remain subject to account capital caps and risk rules. Capital allocation also considers the executable size in each market and preserves available balances required for adjustments and exits.

6.4 Unified Settlement and Evaluation

Each market produces different fees and settlement methods. The multi-market trading network includes trading fees, funding costs, on-chain operating costs, and asset conversion costs within consistent account conventions before calculating a strategy's actual result. Strategy evaluation therefore extends across trading venues and corresponds directly to the final change in funds.

Market integration follows unified standards: data must be readable, order states confirmable, account changes reconcilable, fund paths explainable, and exit rules executable. The number of integrations is subordinate to execution quality, and every trading scenario follows the same risk, record, and settlement standards.

The multi-market network expands the range of trading conditions that strategies can observe and compare, while all execution remains subject to the same capital discipline, cost conventions, and record standards.

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Data to Support Every Result

A return curve shows only that account figures have changed. It cannot, by itself, answer whether trading was real, where returns originated, how fees were deducted, or whether funds were returned successfully. LUMENOVA expands result displays into a complete chain of data evidence, allowing each account change to be matched with its corresponding event.

The supporting data comprises on-chain records, trading receipts, account information, and system logs. On-chain records are suited to documenting fund transfers, account ownership, and public settlement; trading receipts confirm orders and fills; account information reflects positions and net asset value; and system logs retain strategy instructions and risk actions. These records connect to provide multiple perspectives on the same facts.

7.1 Recording from the Entry of Funds

Data standards begin recording the wallet, asset, amount, time, and target account when a user initiates a capital operation, assigning a unique identifier to every entry of funds. Asset conversions, network transfers, account allocations, and fee deductions each create separate records. User assets, platform operating funds, strategy funds, fee funds, and ecosystem funds follow separate-accounting principles, with every use of funds corresponding to a clearly defined account scope.

7.2 Matching Strategy Instructions with Actual Fills

Strategy tasks record the market state, strategy version, risk parameters, target capital, and execution conditions, and are linked to order identifiers. Order evidence covers submission, modification, partial fills, cancellation, and completion. Fill evidence covers assets, direction, quantity, price, time, and fees. When multiple orders jointly complete one strategy, they are accounted for under the same task.

7.3 Accounting for Every Return and Cost

Strategy results are calculated from actual changes in funds. Profit and loss confirmed after completed trades are displayed separately from unrealized changes in open positions. The former enter settlement results, while the latter continue to change with market prices. This distinction helps users understand which results have been realized and which remain subject to market movements.

Net returns are determined jointly by trading profit and loss and all actual costs. The system records trading fees, bid-ask price differences, funding costs, on-chain operating fees, asset

conversion fees, and strategy losses separately. Fee rebates and other income directly related to trading are also listed separately, then aggregated under consistent rules.

Referral rewards, community distributions, and token value appear in independent categories. Each has its own funding sources, calculation rules, and distribution records, and none is included in the return figures for AI trading strategies. Clear separate accounting prevents income of different kinds from being presented as interchangeable and allows users to assess the strategy's own performance accurately.

7.4 Presenting Account Changes Through Net Asset Value

Net asset value conventions are based on the account value corresponding to a user's shares at a specific point in time, with records of the assets, positions, profit and loss, and fees at that moment. Strategy evaluations also present cumulative results, the account's maximum decline from peak to trough, result volatility, the number of loss-making days, and the amount of capital the strategy can accommodate. Capital additions, share reductions, and cycle changes each establish calculation points, so displayed results correspond to account records at specific times.

7.5 Producing Complete Exit Evidence

Exit evidence covers the shares exited, settlement net asset value, deducted fees, destination address, and operation time. It divides exit requests, asset release, account transfers, and wallet receipt into consecutive states. Complete records support tracing back from asset receipt through settlement, net asset value, fills, strategy tasks, and the initial entry of funds.

7.6 Enabling Others to Obtain the Same Result

Reviewable data uses consistent transaction identifiers, metric definitions, time ranges, and version information. When strategy rules, fee rules, or account states are adjusted, new rules have their own effective points, while historical results continue to use the calculation conventions in effect when they occurred.

Public data disclosure is limited to what is needed to verify results, presenting only information necessary for funds, trading, and settlement. User identities and personal information unrelated to verification are excluded from public display.

On-chain records answer whether funds moved and operations occurred; trading receipts answer how orders were completed; account data answers how results were calculated. Verifiability answers "What happened?" while strategy evaluation answers "How well was it done?" Each serves its own purpose. Through this data system, LUMENNOVA turns trust from a promise into a chain of records that can be inspected.

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Asset Control and Settlement Architecture

An intelligent trading system must do more than manage strategies. It must also specify who controls assets, which permissions the intelligent system holds, how different funds are separated, and how users recover their assets. LUMENOVA incorporates asset control into its system architecture so that trading efficiency rests on clear account relationships and divisions of authority.

The architecture follows four principles: users retain key signing rights; trading authority is separated from fund transfer authority; funds for different purposes are recorded separately; and exit routes do not depend on a single service entry point. Each principle is implemented through specific elements such as wallets, accounts, permissions, addresses, settlement, and monitoring.

8.1 User Wallets and Operation Confirmation

Wallet-layer standards use the user's wallet as the identity entry point for asset operations. Users sign deposits, authorizations, exits, and destination-address confirmations after reviewing the amounts, assets, and addresses. The product does not receive or hold users' private keys or seed phrases. Authorization targets, scopes, and purposes are presented separately. Viewing an account, submitting orders, and transferring assets must not be combined into one ambiguous authorization.

8.2 Separating Trading Authority from Transfer Authority

The permission architecture separates strategy trading authority from asset transfer authority. AI Agent permissions cover creating, adjusting, and ending trades, but do not include changing asset ownership, modifying receiving addresses, or altering key account settings. Rule upgrades, emergency pauses, fee adjustments, and address management are handled through independent administrative permissions, constrained by multiparty confirmation and operation records.

8.3 Separating Accounts and Funds

The account architecture records user shares independently, with different account scopes for platform operating funds, strategy assets, fee funds, and ecosystem funds. Available funds, funds committed to trading, open positions, and settleable balances are identified separately. Cross-account allocations, asset conversions, and fee deductions are included in independent records, so user shares always correspond to specific account changes.

8.4 Separate Accounting for Principal, Trading Results, and Fees

Settlement standards handle principal, strategy results, service fees, and other incentives separately. Each settlement point records starting assets, ending assets, trading results, all costs, and the retrievable amount. Fee records also include the calculation base, rate, amount, time, and purpose. New settlement points are established when capital is added, shares are reduced, or a new cycle begins. Starting amounts from different cycles must not be mixed.

8.5 Dual Exit Channels

The product architecture defines two exit methods: regular exit and independent exit. A regular exit uses the product interface to organize share confirmation, amount calculation, address confirmation, and user signatures. Independent exit is defined as the ability, when the official website is unavailable, for users to exit the corresponding shares through their original wallets and public tools, initiate fund transfers, and verify asset receipt. An operating entry point outside the main site, public operating instructions, account query methods, and complete asset receipt records together form the product acceptance criteria for this capability. The exit page displays retrievable amounts and processing stages according to open trades, settlement times, and fund transfer states.

8.6 Layered Control System

Layered control standards cover wallet confirmation, account segregation, least privilege, address management, governance of key rules, independent exits, and exception monitoring. Monitoring rules cover abnormal authorizations, large fund transfers, account net asset value discrepancies, trading concentration, and exit states. Trigger conditions correspond individually to actions such as restricting new trades, preserving available funds, and human takeover.

LUMENOVA's asset architecture explains who can do what through signing rights, account relationships, permission scopes, and exit routes. This establishes clear boundaries among users' asset rights, the intelligent system's execution capabilities, and the platform's management responsibilities.

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User Participation Experience

LUMENOVA's user journey centers on four activities: understanding rules, confirming operations, viewing the process, and completing an exit. Users can understand where assets enter, what the system executes, what happens to the account, and how to end participation without needing to understand every model or trading detail.

9.1 Beginning Participation

The participation entry point first presents strategy objectives, applicable cycles, fee methods, and account rules, after which users choose how to participate. The wallet connection page clearly displays the network, assets, amount, authorization target, and operation purpose. User signatures correspond one-to-one with fund records and account shares.

9.2 Selecting a Strategy

Standard strategy-page information includes trading objectives, principal methods, scope of capital use, stopping conditions, cycles, net asset value conventions, maximum account drawdown, fees, and exit rules. The submission confirmation page brings together the participating assets, amount, strategy, cycle, fees, and target account. Only after confirmation is completed is the strategy task linked to account shares.

9.3 Viewing the Execution Process

The dashboard organizes information around "Where are the funds, what is the system doing, and how are results changing?" The home page presents current assets, capital committed to trading, strategy status, account net asset value, and usable balances. The next level links to trade details, order fees, and fund flows, keeping core information clear and readable while allowing further queries into detailed records.

9.4 Settlement and Exit

The settlement page presents principal, strategy results, fees, other rewards, and retrievable amounts separately, and explains how continued participation or ending the current cycle affects the state of funds. Regular and independent exits use the same account data and settlement conventions. Independent exit is defined at the product level by independence from the main site, initiation through the original wallet, and verifiability throughout the entire process.

The user experience centers on clear information and explicit control rights. The intelligent system handles market and trading tasks, the product interface explains fund, operation, and settlement states, and key capital actions require users' right of confirmation. Automation thus supports trading efficiency, while transparent records support user understanding and verification.

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LUMENOVA Ecosystem Architecture

This chapter defines LUMENOVA's ecosystem architecture: intelligent trading at the core, with verifiable data linking users, assets, execution, settlement, and ecosystem participation. Rather than stacking more functions into one entry point, it assigns clear responsibilities to each stage so that information, trading, and value flow along a unified path.

The user and asset layer uses wallets as the entry point for identity and assets. Users confirm key asset operations, while account records cover asset ownership, strategy participation, available balances, and settlement states.

The intelligent decision layer reads prices, volatility, market depth, funding costs, and on-chain activity, and produces trading tasks according to strategy rules. Position adjustments, reductions, pauses, and human takeover are all triggered by preset conditions. Intelligent capabilities therefore serve stable execution, rather than unconstrained decision-making.

The trade execution layer addresses scenarios including centralized trading, decentralized trading, on-chain derivatives, and prediction markets, selecting routes based on price, cost, liquidity, and risk conditions.

The strategy system covers arbitrage, hedging, trend following, funding cost management, liquidity strategies, and related approaches. All strategy types share unified account rules, risk limits, and settlement conventions to reduce data fragmentation across markets. The wider the range of markets, the more important unified management becomes; the ecosystem structure therefore centers on execution quality rather than the number of platforms.

The data recording layer covers market inputs, trading instructions, order results, fill prices, fees, profit and loss, and account value, allowing strategy results to be traced to specific trades rather than remaining an isolated return curve.

The settlement system records principal, strategy returns, and ecosystem incentives separately. These three categories of assets have different sources, purposes, and circulation rules. Separate accounting makes account changes clear to users and gives ecosystem resource formation and distribution an explicit basis. No category of results substitutes for another, and trading performance always traces back to order and settlement data.

The fifth layer is the user data interface. Users view not only account balances, but also strategy cycles, fund states, trading results, fee deductions, return settlement, and exit progress. A unified interface turns complex trading processes into clear information, helping users understand what their funds have undergone, how results were produced, and which actions they can take next.

The sixth layer is value connection. Product use generates trading activity and data records; strategy results create identifiable service value; and fee income supports platform operations, technology development, community incentives, and ecosystem expansion. Value distribution is driven by product activity, creating a cycle among technology, users, and the community around the same product logic.

Within this structure, the community supports product communication, knowledge education, user services, and ecosystem connections. Community value comes from contributions to product use and the long-term ecosystem, rather than substituting for strategy results. Community incentives, strategy returns, and token circulation follow separate conventions, keeping every source of value clear.

The trading flow converts market data into orders, settlement, and account records. The value flow distributes product income to operations, technology, the community, and token mechanisms. These two flows connect through account data, and community incentives are not included in strategy returns.

LUMENOVA's ecosystem architecture addresses four relationships: who executes trades, who controls assets, how results are settled, and where ecosystem resources originate. Under this structure, LUMENOVA's long-term form is a product system connecting intelligent decision-making, trade execution, settlement records, and user participation.

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Business Model and Fee Mechanisms

LUMENOVA's business model links product services with ecosystem value. The system provides a complete service through intelligent decision-making, strategy organization, trade execution, account management, return settlement, and data presentation. Clear fee rules then support technology investment, platform operations, and ecosystem development. Business revenue connects directly to product use, and value creation precedes value distribution.

The product organizes user participation into three strategy cycles: 30 days, 180 days, and 360 days. These cycles provide different schedules and settlement points, allowing users to choose how to participate according to their own capital arrangements. Cycles define the time boundaries of strategy operation, while trading results arise jointly from strategy execution, market movements, and actual costs.

At the end of a strategy cycle, principal and strategy returns are settled separately. Principal enters the user's balance, while strategy returns enter a separate returns account. Separate handling prevents account figures from being mixed and helps users understand which assets come from their original commitment, which results come from strategy operation, and which amounts have already been settled.

Separating principal from strategy returns is the foundation of a clear commercial mechanism. Principal is not the source of platform revenue distributions, and ecosystem incentives are not calculated together with principal. Every amount has a defined character, creating a stable relationship among accounts, fees, and ecosystem resources.

When users withdraw strategy returns, the system charges a strategy-return withdrawal fee of 15% of the amount withdrawn. This fee is settled together with the strategy returns, placing platform income on the basis of strategy results that have already been generated. The fee amount, deduction time, and assets received enter the same account record, allowing users to identify them directly from changes in balances before and after withdrawal.

The 15% strategy-return withdrawal fee is allocated to different uses in explicit proportions:

Allocation Purpose	Share of Strategy Returns Withdrawn
Platform Operations	5%
Buy Back and Burn \$NOVA	3%
Distribution to Returns-Account Participants	2%
Honorary Leaders	1%
Business School Fund	1%
Warmth Education Support Fund	1%
Lucky 7	1%
Higher-Level Reward Pool	1%
Total	15%

Platform operations, buyback and burn, and distributions to returns-account participants correspond to 5%, 3%, and 2% respectively. Honorary Leaders, the Business School Fund, the Warmth Education Support Fund, Lucky 7, and the Higher-Level Reward Pool each receive 1%, entering their respective purpose-specific accounts.

When users withdraw available balances to an external wallet, a withdrawal fee of 1 USDT is charged per transaction. This fee relates to the external transfer process and is independent of the strategy-return withdrawal fee. Presenting the two fees separately helps users distinguish return settlement costs from asset transfer costs and prevents them from being combined into a single percentage.

Three principles run through the business model. First, platform revenue comes from product services and strategy results, rather than the movement of principal. Second, principal, strategy returns, community incentives, and token value follow separate account conventions. Third, fee accrual, deduction, allocation, and receipt are recorded along the same data path.

This mechanism places the platform, users, and ecosystem participants within the same set of value relationships. The platform operations share covers intelligent systems, trading connections, data processing, and user services; the remaining ecosystem budgets are recorded independently according to their designated uses. As the product scope expands, fee subjects, accrual points, and fund destinations continue to follow the same conventions.

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\$NOVA Token Economics

\$NOVA is an ecosystem token connecting community participation, ecosystem resources, and product development. It serves incentives, collaboration, technology and operations, liquidity support, and buyback and burn within LUMENNOVA, connecting different participant roles around product use.

The total issuance of \$NOVA is 21,000,000 tokens. This fixed total establishes clear boundaries for ecosystem resources and a common basis for allocation and use. Token allocation centers on four areas-community, ecosystem, technology, and market liquidity-so that resources cover the main components of ecosystem development.

Allocation Purpose	Share
Community Airdrop Incentives	50%
Private-Sale Subscriptions	20%
Ecosystem Partnerships	10%
Technology and Operations	10%
Initial Liquidity Pool	10%
Total	100%

The allocation structure assigns 50% to community airdrop incentives and 20% to private-sale subscriptions. The remaining 30% is divided equally among ecosystem partnerships, technology and operations, and initial liquidity. These five purposes are accounted for separately and together constitute the resource structure of \$NOVA.

\$NOVA and strategy accounts follow two independent systems. Strategy returns arise from trading activity and are recorded through orders, fills, fees, and account settlement. \$NOVA circulates according to token allocation and ecosystem usage rules. Presenting the two independently allows users to distinguish trading results, community incentives, and token activity.

The buyback-and-burn mechanism connects product use with the token ecosystem. Under the fee rules, 3% of the amount of strategy returns withdrawn is allocated to \$NOVA buyback and burn. Related execution records are presented separately from other fee uses.

\$NOVA is used for community participation, ecosystem collaboration, and product resource allocation; strategy returns continue to be calculated independently in trading accounts. Service revenue generated by product use provides a source for technology investment, community development, and buyback and burn. Through \$NOVA, LUMENOVA brings community participation and product development into one collaborative system while preserving clear boundaries among different accounts, sources, and purposes.

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Development Roadmap

LUMENOVA's development roadmap centers on a complete product cycle, using verifiable operating results as the standard for each stage. Progress is judged by whether each capability has clear inputs, stable outputs, and complete records, rather than by the number of features. Product, data, security, and ecosystem development advance at the same pace.

Stage One: Establish the Product Foundation

The first stage focuses on a unified account system, market data entry points, intelligent decision modules, strategy management, trade execution, risk control, settlement rules, and the user interface. All modules use consistent data conventions so that trading tasks have continuous records from creation to completion.

This stage also establishes the three strategy cycles and account rules for settling principal and strategy returns separately. Fee calculations, balance changes, and external wallet withdrawals enter a unified process, creating a stable product foundation for market expansion.

Stage Two: Complete the Trading Cycle

The second stage connects market information, strategy tasks, order fills, account changes, and data records. The intelligent system converts information into tasks, the execution system converts tasks into orders and fills, and the settlement system then converts trading results into account changes. Each key point retains corresponding records, forming a complete path from the entry of funds to final exit.

Asset permissions, exception pauses, human takeover, and independent exits together form a complete trading cycle. Trading permissions and asset transfer permissions have clearly divided responsibilities, and users retain the right to confirm key asset operations. The second stage includes independent exits in delivery standards: even if the primary service entry point is unavailable, users can still complete asset exits through the agreed route.

Stage Three: Expand Multi-Market Capabilities

The third stage connects more trading types and liquidity scenarios through a unified intelligence layer, while the strategy system adjusts execution methods to market characteristics. Every trading scenario follows the same standard: data can be read, orders can be processed, costs can be calculated, exceptions can be addressed, and results can be recorded.

Multi-market expansion also drives upgrades to the strategy structure. Arbitrage, hedging, trend, funding cost, liquidity, and other strategies are organized under unified risk rules, and the system

selects corresponding combinations in different market environments. The number of strategies serves adaptability to markets, rather than merely adding product labels.

Stage Four: Form an Open Ecosystem

The fourth stage connects product services, community participation, \$NOVA, technology and operations, and ecosystem applications into a unified value network. Account, data, and identity capabilities extend into wallets, asset exchange, content, communication, and collaboration, expanding LUMENOVA from an intelligent trading entry point into a digital finance ecosystem entry point.

Each stage is defined by explicit outcomes. Expansion into the next stage begins only after the preceding stage has established a stable foundation. From the product foundation to a complete trading cycle, and from multi-market connections to an open ecosystem, LUMENOVA maintains a consistent direction: let AI take on more complex execution tasks, let data bear stricter responsibility for proof, and let users understand how the product, accounts, and value operate at every stage.

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Vision for a Global Ecosystem

Digital assets naturally cross geographic and time boundaries, while intelligent systems can continuously process information from different markets. LUMENOVA's global vision is to serve different languages, markets, and modes of participation through unified product logic.

The first layer of globalization is multi-market connection. Centralized trading markets, decentralized trading markets, on-chain derivatives, and prediction markets each have their own prices, liquidity, and trading rules. The multi-market layer defines data, strategy, and execution standards for different trading scenarios.

The second layer is a multilingual experience. The multilingual layer uses unified fields and data conventions to present product information, account states, fee structures, and operating procedures in different languages. Localized expression lowers barriers to understanding and use, while core data retains consistent meaning across languages.

The third layer is user identity and asset entry points. The account layer uses wallets to connect trading, settlement, ecosystem participation, and other digital services while maintaining continuous relationships between assets and data.

The fourth layer is digital finance applications. LUMENOVA's ecosystem vision covers wallets, on-chain asset exchange, strategy services, and data dashboards, extending toward encrypted chat, group communication, online meetings, and real-time voice and video collaboration. These applications connect around identity, assets, and intelligent systems.

Trading and social interaction are not separate worlds. Digital finance activity naturally involves information exchange, learning, community collaboration, and service support. When accounts, communication, and trading enter the same user system, AI Agent can extend from a trade execution engine into an intelligent assistant for digital activities.

The fifth layer is a global community network. The global community layer supports educational content, user services, requirements feedback, and ecosystem culture, enabling participants in different regions to build collaborative relationships around a shared product.

In this vision, \$NOVA connects value among community participation, ecosystem resources, and technology investment. Trading accounts and token accounts are recorded separately.

LUMENOVA seeks to provide a consistent core experience across markets, rather than simply cover more countries: AI can execute, trading processes can be tracked, account results can be checked, and users can confirm asset operations. Global expansion is driven by product standards, rather than defined by the number of territories.

The long-term direction is to maintain continuous data relationships within the same account across trading, settlement, communication, and collaboration scenarios. One intelligence layer connects multiple markets, and one set of data standards connects every operation with its result, forming a new foundational network for the global digital economy.

EPILOGUE / LUMENOVA

Let Execution Create Value and Data Build Trust

LUMENOVA focuses this whitepaper on an inspectable path: how market information enters the system, how strategies form orders, how costs enter settlement, and how users view and confirm the state of their assets.

The product architecture centers on three strategy cycles, separate-account settlement, multi-market execution, and complete records. \$NOVA supports the allocation of community and ecosystem resources. The two systems are accounted for separately, and both ultimately trace back to verifiable data.

LUMENOVA's long-term standard is clear: let AI execute, and let on-chain data provide the proof.

AI Executes. Blockchain Proves.