



# Whitepaper

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## Automated Outcome Markets Protocol

*Abstract: RAIN is an Automated Outcome Markets Protocol designed to redefine how markets predict and incentivize future events. It combines robust decentralized prediction markets with innovative incentive-driven mechanisms, empowering participants to engage seamlessly across a broad spectrum of event scales—from major global occurrences to specialized niche scenarios.*

*RAIN's automated market maker (AMM) architecture, decentralized oracle integration, and transparent pricing methodology transform outcomes into tradable and incentivized assets. This approach not only democratizes market creation and participation but also aligns incentives around real-world actions, enhancing collective forecasting accuracy and actively shaping desired outcomes.*

### 1. Introduction

Current prediction markets, both centralized and semi-centralized, typically focus solely on significant global events, often neglecting broader market accessibility and versatility. Their restrictive architecture prevents effective market creation for diverse and varying scales of events, limiting both usability and practical impact.

RAIN emerges with a transformative vision—offering a universally adaptable Automated Outcome Markets Protocol capable of handling events of any scale efficiently and elegantly. Its hybrid pool architecture, inspired by groundbreaking decentralized finance models, ensures fluid market dynamics, automated liquidity adjustments, and precise pricing, supporting events ranging from globally significant to highly specialized ones without compromise.

Additionally, RAIN introduces incentive markets that complement traditional predictive functionalities. These markets uniquely enable participants to proactively create financial incentives to realize specific outcomes, fostering active engagement and tangible impact.

Leveraging decentralized oracle systems, with built-in optimistic dispute resolution, RAIN ensures outcome verification remains accurate, trust-minimized, and resilient. Built upon the Incentiv Blockchain and governed transparently through the RAIN governance token, the protocol embodies a vision of democratized, accessible, and dynamic outcome markets that shape a more predictable and incentivized future.

## 2. Protocol Overview

RAIN operates as a fully decentralized Automated Outcome Markets Protocol, built to accommodate a diverse array of predictive and incentive-driven markets. At its core, RAIN employs an Automated Market Maker (AMM) system that efficiently manages liquidity and share pricing. This innovative architecture enables frictionless market creation, participation, and resolution, functioning seamlessly irrespective of event size or liquidity conditions.

## 3. How Outcome Markets Work

### Market Creation

Any user can create a market on RAIN by clearly defining an outcome with multiple possible options. Markets can be set as public or private, ensuring versatile applicability from global predictions to community-specific events. A minimum of \$10 liquidity must be placed for each pool that is opened.

### Automated Market Makers (AMM) and Share Pricing

RAIN utilizes an intuitive and transparent pricing mechanism. The total funds in a market are automatically distributed among outcome options, with each option's price dynamically reflecting the proportion of total funds allocated to it. If 50% of the funds are placed on Option A, its share price is automatically set to \$0.50. As new funds flow into different options, prices are adjusted proportionally and automatically, maintaining continuous market equilibrium.

The share price of each outcome option, along with its corresponding payout multiplier (referred to as "Line"), is dynamically determined based on the proportion of funds allocated to that option. This reflects the market's current assessment of the probability of each outcome.

The relationship between share price and the Line is defined as follows:

**Line (Payout Multiplier) = 1 / Share Price**

The Line indicates the potential return for each unit of currency (e.g., \$1) placed on a specific outcome. In essence, it represents the multiplier applied to the stake if that outcome is realized.

For Example: If the Line is 4.2, each \$1 placed on that option would yield a \$4.2 payout upon successful resolution of that outcome.

## Outcome Resolution

RAIN employs a decentralized and robust resolution mechanism powered by oracle-based systems, utilizing the DOP Oracles platform. The resolution process varies depending on whether the market creator is a registered oracle on DOP Oracles and whether the market is public or private.

When a market creator registered as an Oracle on DOP Oracles opens a market pool on RAIN, they are considered an Optimistic Oracle for that specific market. This allows them to initially resolve the market outcome. Here's how the resolution process unfolds:

1. **Initial Resolution:** If the market creator is registered as an oracle on DOP Oracles (and thus acts as an Optimistic Oracle for their market), they initially resolve the outcome. If the creator is not a registered oracle on DOP Oracles, the resolution is automatically transferred to DOP Oracles.
2. **Optimistic Dispute Window:** After the initial resolution by an Optimistic Oracle, participants have a 30-minute window to file a dispute if they disagree with the resolution. Filing a dispute requires putting up a stake (e.g., \$100).
3. **Oracle Escalation:**
  - **Dispute Filed:** If a dispute is filed, the resolution is escalated to multiple decentralized oracles on the DOP Oracles platform for a final decision. The stake put up by both the initial resolver (Optimistic Oracle) and the disputer is held. The party deemed correct by the DOP Oracles receives their stake back plus a profit. **No**
  - **Dispute Filed:** If no dispute is filed within the 30-minute window, the initial resolution by the Optimistic Oracle stands, and participants can proceed to make claims.
4. **Resolver's Reward and Token Burning:** The resolver's reward (0.1%) is collected. This reward is divided between the party who won the dispute resolution (either the Optimistic Oracle or the disputer) and the DOP Oracles platform. Additionally, 2.5% of the trading volume in the prediction market is used to buy back and burn RAIN tokens.

## Fees

The RAIN protocol incorporates the following fees:

- 1.2% to the pool creator
- 1.2% to the liquidity provider(s)
- 0.1% to the resolver
- 2.5% for buying back and burning \$RAIN

## Private Events

In private events, the market creator acts as the resolver, and the resolution is immediate—claims can be made immediately. This means it is crucial to trust the creator of a private event, as they have the sole authority to resolve the outcome and could potentially take advantage of participants. Therefore, participants should only engage in private events if they know and fully trust the market creator.

## Example Scenario

1. The prediction creator, registered as an oracle on DOP Oracles, opens a market pool and thus acts as an Optimistic Oracle, putting up \$100 as a stake.
2. The Optimistic Oracle resolves the market outcome.
3. A user files a dispute, also putting up \$100 as a stake.
4. The resolution is escalated to the DOP Oracles platform.
5. The DOP Oracles platform determines the correct outcome.
6. The winning party (either the Optimistic Oracle or the disputer) receives their \$100 stake back, plus a profit from the other party's stake.
7. The 0.1% resolver's reward is divided between the winning party and the DOP Oracles platform.
8. Half of the platform's share is used to burn ORC and DOP tokens, and the other half rewards the oracles.

## Incentive Markets

In addition to traditional prediction markets (primarily utilizing stablecoins like USDT), RAIN introduces incentive markets allowing users to stake various tokens to incentivize specific outcomes. This mechanism provides organizations and communities a powerful tool to actively influence desired outcomes, such as reaching particular milestones or targets.

## Liquidity-Preserving Exit Mechanism

RAIN incorporates an advanced liquidity-preserving exit mechanism utilizing account abstraction, enabling participants to exit positions without withdrawing liquidity. This innovative method involves several detailed steps:

1. **Position Entry:** Users initially purchase shares via the pool, with new shares minted and prices set according to the AMM formula.
2. **Sell Order Placement:** Users wishing to exit positions place conditional sell orders specifying their desired quantity and minimum acceptable price.

3. **Internal Buyer Matching:** When new buyers enter the market, the protocol matches them internally with existing sell orders.
4. **Liquidity Integrity:** All matched trades occur internally, preserving market liquidity.

## 4. Decentralization and Protocol Economics

RAIN integrates elements of both Proof-of-Work and Proof-of-Stake mechanisms, creating a robust decentralized economy:

- **Proof-of-Work:** Contributors who create markets, provide liquidity, and resolve outcomes actively contribute "work" to the protocol, receiving direct rewards.
- **Proof-of-Stake:** Participants demonstrate "stake" by providing liquidity and staking tokens during oracle disputes, ensuring commitment and accountability.

RAIN is governed by a decentralized autonomous organization (DAO), allowing multiple third-party front-ends and embedding functionalities, demonstrating true decentralized control and governance.

## 5. Tokenomics and Governance

### The RAIN Token

RAIN is the protocol's native governance token, operating exclusively on the Incentiv Blockchain. It is not required to use the prediction or incentive markets but is essential for participating in governance and shaping the protocol's future.

### Token Utility

At launch, RAIN is strictly a governance token. Users do not need to hold RAIN to participate in markets. Only those who wish to contribute to the protocol's evolution—by submitting or voting on proposals—need to hold the token.

The DAO will be able to decide on additional token utilities in the future. For example: Requiring a minimum token holding to create a market pool.

### Deflationary Mechanism

RAIN introduces a powerful deflationary component designed to reward holders as the protocol grows:

- 2.5% of the trading volume in every prediction market is used to buy back and burn RAIN tokens.

This creates constant downward pressure on supply as usage increases, tying token scarcity directly to protocol activity and adoption.

### **Inflationary Mechanism**

To support ongoing growth and incentivize contributors, RAIN also employs a carefully controlled inflation model:

- No inflation during the first 3 months post-launch.
- Starting in month 4, the protocol will mint \$50,000 worth of RAIN tokens daily.

These tokens are allocated to support:

- Team rewards
- Ecosystem development
- Marketing campaigns
- Strategic partnerships
- Community initiatives and contributors

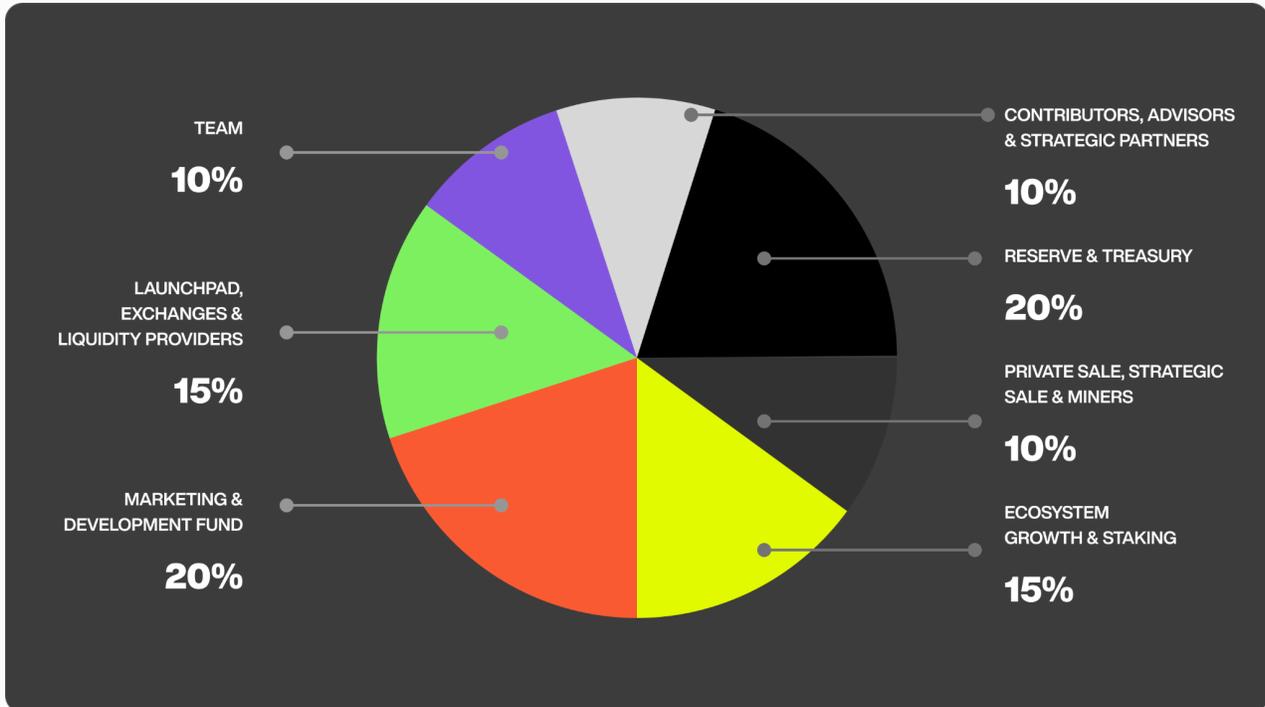
This balance between deflation through usage and inflation through contribution creates a sustainable and incentive-aligned token economy.

### **Total Supply of RAIN**

The RAIN token's initial total supply is 1.15 trillion tokens. Note that this is not the maximum supply. The protocol includes both an inflationary mechanism to support ecosystem growth and a deflationary mechanism where 2.5% of trading volume is used to buy back and burn RAIN tokens. This deflationary pressure offsets the inflation, linking token scarcity to protocol activity and adoption.

## Token Distribution

Category	Allocation	Vesting Details	Notes
Private Sale, Strategic Sale & Miners	10%	18-month non-linear momentum vesting with monthly unlocks	Only 0.3% on TGE to ensure limited float and early protocol activity.
Contributors, Advisors & Strategic Partners	10%	18-month vesting	Vesting-based rewards for those supporting early growth and long-term development.
Team	10%	2-year linear vesting with monthly unlocks	No tokens at launch. Multi-year vesting to ensure alignment and long-term commitment.
Marketing & Development Fund	20%	5% released at TGE 15% 18 months vesting	Used to fund operations, protocol development, marketing, campaigns, and user acquisition.
Launchpad, Exchanges & Liquidity Providers	15%	No lockup or vesting, used upon need	Supports liquidity provisioning, listings, and key exchange partnerships.
Ecosystem Growth & Staking	15%	1-year linear vesting with monthly unlocks	Used to reward users, fund staking incentives, community grants, and ecosystem expansion.
Reserve & Treasury	20%	18 month cliff 6 month linear vesting with monthly unlocks	Protocol-owned tokens for future use, managed by multisig or DAO governance over time.



## 6. Roadmap

RAIN's strategic roadmap includes:

- Q2-Q3 2025: Protocol Launch, Initial Market Deployment, Community Bootstrapping.
- Q4 2025 - Q2 2026: Expansion of Incentive Markets, Oracle Integrations, Enhanced DAO functionalities.
- Q3-Q4 2026: Global Partnerships, Enhanced Front-End Ecosystem, Cross-chain Capabilities.
- 2027 onwards: Continuous Decentralization, Advanced Liquidity Solutions, Protocol Scalability Upgrades.

## 7. Conclusion

RAIN introduces a sophisticated Automated Outcome Markets Protocol, significantly enhancing predictive accuracy, incentivization capabilities, and market accessibility. Its innovative decentralized architecture, combined with balanced tokenomics and community-driven governance, positions RAIN as a foundational infrastructure for decentralized market predictions and incentives, driving widespread adoption and lasting impact.