AIC / ECOSYSTEM WHITEPAPER

AI & Crypto.
Open resources.
Shared opportunity.

去中心化 AI 生态
开放资源，共享机遇

Compute. Data. Tasks. Incentives. Community governance.

分布式算力、数据市场、任务众包与社区治理

VERSION 6.1 / 8 AUGUST 2025

English + 简体中文 | 技术方案

ai-coin.tech

依据 AIC 项目计划编写；平台模块按阶段开发与验证。

CONTENTS / VERSION 6.1

A guide to this edition

本版阅读指南

01-03 / Vision and participants

Purpose, modular principles, and contribution roles.

愿景与参与者

项目宗旨、模块化原则与贡献角色。

04-08 / Platform modules

Distributed compute, scheduling, data access, and task collaboration.

平台模块

分布式计算、调度、数据访问及任务协作。

09-14 / Utility and monetary economics

AI Coin uses, funded rewards, service pricing, and treasury resilience.

用途与货币经济学

AI Coin 用途、奖励资金、服务计价及资金库韧性。

15-18 / Trust and applications

Data rights, security, DAO governance, finance, health, and education.

信任与应用

数据权利、安全、DAO 治理、金融、医疗科研与教育。

19-20 / Development roadmap

One complete experiment and three stages with acceptance gates.

发展路线

完整实验与具验收关卡的三个发展阶段。

21 / Team responsibilities

Contribution scopes across the ecosystem.

团队职责

生态建设中的贡献方向与职责。

22 / Source material

The supplied project plan and technical documentation.

参考资料

所提供的项目计划与技术文档。

01 / VISION & SCOPE

AI & Crypto: an open AI ecosystem

AI & Crypto：开放的 AI 生态

AIC connects distributed computing, permissioned data sharing, and collaborative AI work through transparent incentives and community governance. [9]

AIC 通过透明激励与社区治理，连接分布式计算、经授权的数据共享及协作式 AI 工作。[9]

The purpose

AIC means AI & Crypto. The project plan brings developers, enterprises, resource providers, and users into a shared AI ecosystem. Its purpose is to widen access to computing and useful data, support model development, and make contributions visible across the path from an idea to an application.

项目宗旨

AIC 代表 AI & Crypto。项目计划将开发者、企业、资源提供者与用户连接为共享 AI 生态，旨在拓宽算力及有用数据的获取渠道，支持模型开发，并使从创意到应用过程中的贡献可被识别。

Four connected components

The design combines a distributed AI computing platform, an owner-controlled data marketplace, a crowdsourced task platform, and contribution rewards with DAO governance. Training, inference, and model deployment form the computing foundation; modular finance, healthcare, and education applications create practical directions for testing those capabilities.

四个相互连接的组成部分

设计包含分布式 AI 计算平台、由数据所有者控制的数据市场、任务众包平台，以及贡献奖励与 DAO 治理。训练、推理和模型部署构成计算基础；模块化的金融、医疗与教育应用提供验证这些能力的实际方向。

Scope and development status

This publication presents the AIC ecosystem design, monetary economics, and development roadmap. Distributed computing, the data marketplace, task matching, contribution rewards, and DAO execution require implementation and validation. Progress should be assessed through working integrations and documented results.

范围与开发状态

本文件介绍 AIC 生态设计、货币经济学及发展路线。分布式计算、数据市场、任务匹配、贡献奖励和 DAO 执行仍需实现与验证，进展应以可运行集成及有记录的结果为依据。

02 / DESIGN PRINCIPLES

An ecosystem built around contribution

围绕贡献构建生态

Useful cooperation requires open interfaces, clear rights, measurable work, and rules that participants can inspect.

有效协作需要开放接口、清晰权利、可衡量的工作，以及参与者能够审查的规则。

Open participation with clear terms

A participant may contribute compute, licensed data, models, completed tasks, evaluation, or applications. Each contribution type needs an explicit admission process and an accepted deliverable. Access should depend on the requirements of the work, including data permissions and operating constraints, rather than a single uniform participation model.

以清晰条款支持开放参与

参与者可以贡献算力、授权数据、模型、任务成果、评估或应用。每类贡献均需明确准入流程和验收交付物。参与权限应依据工作要求，包括数据许可与运行约束，而非对所有角色套用同一模式。

Make cooperation modular

Compute scheduling, data access, task coordination, evaluation, payment, and governance should expose versioned interfaces. An application can use the components it needs without adopting every future module. This separation makes responsibility clearer and allows a failed component to pause without automatically disrupting every service in the ecosystem.

模块化协作

算力调度、数据访问、任务协调、评估、支付和治理应提供具版本信息的接口。应用可采用所需组件，无须同时接入全部未来模块。模块分离有助于明确职责，使单个组件故障时可暂停相关功能，减少对其他服务的影响。

Demonstrate value through evidence

Lower cost, better utilization, and wider access are design objectives to test. Compare accepted work, total delivery cost, reliability, and user experience against a documented baseline. Publish limitations alongside results. Resource sharing or blockchain records alone do not establish quality, efficiency, privacy, or fair outcomes.

以证据验证价值

降低成本、改善资源利用及扩大可及性是需要验证的设计目标。应针对有记录的基线比较验收成果、完整交付成本、可靠性及用户体验，并同时公开局限。资源共享或区块链记录本身不能证明质量、效率、隐私或结果公平。

03 / ECOSYSTEM ROLES

Participants and responsibilities

参与者与职责

The platform design connects resource owners and contributors with users who have specific AI work to complete.

平台设计将资源所有者与贡献者连接至具有明确 AI 工作需求的用户。

Resource providers

Compute operators register supported hardware, capacity, locations, and availability. Data owners define permitted uses and access conditions. Model developers provide documented artifacts and dependencies. Each provider identifies relevant rights, operational contacts, and service limits, so task owners can determine whether the offered resource fits the intended work.

资源提供者

算力运营者登记支持的硬件、容量、位置及可用性；数据所有者明确允许用途与访问条件；模型开发者提供具说明的模型产物及依赖。各提供方应明确相关权利、运营联系人与服务边界，使任务发起者能够判断资源是否适用。

Task owners and contributors

An enterprise, developer, or individual defines a task, budget, acceptance criteria, and deadline. Contributors may supply models, data, compute, or specialist work. Evaluators review agreed evidence and disclose conflicts. Responsibility for task approval remains identifiable even when execution is distributed across multiple participants and modules.

任务发起者与贡献者

企业、开发者或个人定义任务、预算、验收标准和期限。贡献者可提供模型、数据、算力或专业工作。评估方审查约定证据并披露利益冲突。即使执行分散于多个参与者和模块，任务批准责任仍需明确归属。

Application and community stewards

Application builders translate capabilities into useful workflows. Community stewards maintain specifications, review changes, and organize contributor feedback. The governance design must disclose who can admit participants, alter parameters, resolve disputes, or pause a service. Role descriptions are operating requirements, not evidence of an existing decentralized organization.

应用与社区维护者

应用构建者将基础能力转化为实用流程。社区维护者负责规范、变更评审及贡献者反馈。治理设计须公开准入、参数变更、争议处理及服务暂停权限。上述角色属于运营要求，并不表示去中心化组织已经运行。

04 / COMPUTE PLATFORM

Distributed AI computing

分布式 AI 计算

The computing platform is designed to coordinate suitable resources for training, inference, and deployment.

计算平台设计用于协调适当资源，支持训练、推理与部署。

Training and adaptation

A training job declares its model, authorized dataset, software environment, memory requirements, communication needs, and checkpoint policy. Start with workloads that fit the available resources. Distributed execution must account for transfer time and coordination overhead; connecting more machines is not sufficient evidence that a training job becomes faster or cheaper.

训练与适配

训练任务声明模型、授权数据集、软件环境、内存要求、通信需求及检查点规则。早期采用与可用资源相匹配的工作负载。分布式执行须计入传输时间与协调开销；增加机器数量并不足以证明训练更快或更便宜。

Inference and model deployment

Inference jobs define request formats, response limits, latency targets, and acceptable outputs. Deployment packages identify model versions, dependencies, access permissions, and rollback procedures. Separate the process of making a model available from the evaluation of its output, with monitoring for failures, capacity constraints, and unexpected behavior.

推理与模型部署

推理任务定义请求格式、响应限制、延迟目标及可接受输出。部署包明确模型版本、依赖、访问权限与回滚程序。模型上线流程与输出评价应分别管理，并监测故障、容量限制和异常行为。

Measure completed service

Record accepted jobs, resource consumption, retries, completion time, and total cost. Compare equivalent workloads under consistent assumptions. The initial implementation should support a narrow, reproducible job set before broadening hardware and model compatibility. Claims about scale or savings require measured results from that implementation.

衡量已完成服务

记录验收任务、资源消耗、重试、完成时间及总成本，并在一致假设下比较等效工作负载。初始实现应先支持范围明确、可复现的任务，再扩大硬件与模型兼容性。规模与成本节约须以该实现的测量结果为依据。

05 / ARCHITECTURE

A modular network architecture

模块化网络架构

Applications coordinate compute, data, and tasks through shared interfaces; blockchain records support selected economic and governance actions.

应用通过共享接口协调算力、数据与任务；区块链记录支持选定的经济及治理操作。

Execution and access

Compute nodes run AI jobs outside the ledger. A data-access module checks permissions and provides authorized inputs. Task coordination links requirements, contributors, and deliverables. Large model files, private datasets, and prompts remain in controlled storage, with retention and access policies appropriate to the work.

执行与访问

算力节点在账本之外运行 AI 任务。数据访问模块检查权限并提供授权输入。任务协调将要求、贡献者和交付物相连接。大型模型文件、私有数据集及提示保存在受控存储中，并采用与工作相适应的保留和访问规则。

Scheduling and evidence

A scheduler matches eligible resources to job constraints and records placement decisions. Evaluation services inspect delivery evidence using versioned rules. Shared identifiers connect resource usage, dataset permissions, task completion, and payment records, allowing a reviewer to follow a contribution across modules without publishing its confidential contents.

调度与证据

调度器将合格资源与任务约束匹配，并记录分配决策。评估服务依据具版本信息的规则审查交付证据。共享标识连接资源使用、数据许可、任务完成及付款记录，使复核者能够跨模块追踪贡献，而无须公开机密内容。

Blockchain and network scope [2]

Selected contracts could record commitments, service settlement, and governance decisions. Each interface needs explicit permissions and security review.

区块链与网络范围 [2]

选定合约可记录承诺、服务结算及治理决策。每个接口均需明确权限与安全评审。

06 / RESOURCE COORDINATION

Dynamic scheduling and resilient jobs

动态调度与任务韧性

The scheduler must balance job requirements, available capacity, permissions, and recovery behavior before optimizing utilization.

调度器应先协调任务要求、可用容量、权限及恢复行为，再优化资源利用。

Describe and match resources

Each resource advertises a versioned capability profile and recent availability. Each job specifies required hardware, memory, runtime, locality, permissions, and deadline. The scheduler filters incompatible resources before ranking eligible choices by documented objectives such as completion time or total cost. Record the reasons behind placement and rejection.

描述与匹配资源

资源发布具版本信息的能力描述与近期可用状态。任务明确硬件、内存、运行环境、位置、权限和期限。调度器先排除不兼容资源，再按有记录的目标，如完成时间或总成本，对合格资源排序，并记录分配与拒绝原因。

Reassign without losing accountability

Use job identifiers, leases, heartbeats, and bounded retry rules to detect stalled work. Checkpoint where the workload supports recovery. Reassignment must preserve data permissions and prevent duplicate delivery from creating duplicate payment. A failed node, missing checkpoint, or expired lease should produce an explicit, reviewable state.

重新分配并保留责任记录

使用任务标识、租约、心跳及有上限的重试规则识别停滞工作。在负载支持时保存检查点。重新分配须保持数据权限，并防止重复交付形成重复付款。节点失效、检查点缺失或租约到期应产生明确且可复核的状态。

Test the scheduling objective

Exercise resource churn, inaccurate capacity reports, delayed responses, and shared infrastructure outages. Measure queue time, successful completion, wasted work, recovery delay, and cost per accepted job. Publish the tradeoffs between utilization and reliability. Dynamic scheduling remains a development target until these behaviors are demonstrated.

验证调度目标

测试资源变动、容量报告失准、响应延迟及共享基础设施故障，衡量排队时间、成功完成、无效工作、恢复延迟和单次验收任务成本，并公开利用率与可靠性之间的权衡。完成这些行为验证之前，动态调度仍属于开发目标。

07 / DATA MARKETPLACE

An owner-controlled data marketplace

由所有者控制的数据市场

Data participation starts with the owner's authority to share and the recipient's permitted purpose. [9]

数据参与始于所有者的共享权限与接收者的获准用途。[9]

Describe rights before access

A listing should identify the dataset version, provenance, permitted purpose, eligible recipients, retention period, and commercial terms. Confirm the contributor has authority to grant those rights. Separate a searchable description from the underlying data, and avoid exposing sensitive samples through previews or marketplace metadata.

先明确权利，再开放访问

数据条目应明确版本、来源、允许用途、合格接收者、保留期限及商业条款，并确认贡献者有权授予这些权限。可搜索的描述与原始数据分开，避免通过预览或市场元数据暴露敏感样本。

Consent and controlled delivery

Owners select sharing scope and approve access under recorded terms. A delivery process authenticates recipients, enforces permissions, and records use where feasible. Revocation controls future access; its limits for previously delivered copies must be explained. Confidential data requires appropriate access and storage controls beyond any ledger entry.

同意与受控交付

所有者选择共享范围，并按已记录的条款批准访问。交付流程验证接收者身份、执行权限，并在可行时记录使用。撤销机制控制未来访问，但须说明其对已交付副本的限制。机密数据需要账本记录之外的访问与存储控制。

Quality, payment, and dispute handling

Define quality checks, duplicate detection, acceptance conditions, and complaint procedures before purchase or reward. Connect an accepted contribution to a versioned license and payment record. The marketplace requires implementation and validation; a file hash or a recorded payment alone cannot establish ownership, permission, or dataset usefulness.

质量、支付与争议处理

购买或奖励之前，定义质量检查、重复检测、验收条件和投诉流程。将已验收贡献连接至具版本信息的许可与付款记录。数据市场仍需实现与验证；文件哈希或付款记录本身不能证明所有权、使用许可或数据集的有用性。

08 / TASK COLLABORATION

Crowdsourced AI work

AI 任务众包

Enterprises and individuals can define work that contributors complete with models, data, computing resources, and specialist skills.

企业与个人可定义任务，由贡献者结合模型、数据、算力与专业技能协作完成。

Publish a task that can be accepted

A task brief defines the user need, inputs, deliverables, data permissions, budget, deadline, and evaluation criteria. Divide complex work into explicit milestones with clear ownership. Contributors can offer a model, data preparation, training, evaluation, or integration service, with dependencies and expected evidence declared before selection.

发布可验收的任务

任务说明定义用户需求、输入、交付物、数据权限、预算、期限和评价标准。复杂工作划分为权属清晰的里程碑。贡献者可提供模型、数据处理、训练、评估或集成服务，并在选定之前声明依赖与预期证据。

Match and coordinate contributions

Matching considers capabilities, availability, authorized data access, and task-specific requirements. Record how a contributor is selected and how changes are approved. Preserve the link between each contribution and the accepted deliverable, including subcontracted or shared work, so responsibility and compensation can be reviewed without counting the same work twice.

匹配与协调贡献

匹配考虑能力、可用性、数据访问授权及任务具体要求。记录贡献者选择依据与变更批准方式，保留各贡献与验收交付物之间的关联，包括外包或共享工作，使职责与报酬可以复核，并避免重复核算同一工作。

Evaluate, challenge, and close

Evaluators apply criteria committed before delivery, record results, and disclose conflicts. Provide a bounded challenge process and human review for disputed judgments. An accepted task produces completion evidence and a settlement instruction under agreed permissions. Task matching and automated reward distribution are development work, not current website capabilities.

评估、异议与结项

评估方应用交付前确定的标准、记录结果并披露利益冲突。设置有期限的异议流程，对争议判断进行人工复核。验收任务形成完成证据，并按约定权限生成结算指令。任务匹配及自动奖励分发仍属开发工作，尚非网站当前能力。

09 / INCENTIVE DESIGN

Contribution rewards and service funding

贡献奖励与服务资金

Rewards should connect demonstrable contribution to a funded budget, with understandable rules and a path to challenge errors.

奖励应以可证明贡献为依据，连接至有资金支持的预算，并提供易懂规则与错误申诉路径。

Recognize different contributions

The plan includes rewards for compute operators, data providers, model developers, task participants, and ecosystem builders. These activities need different evidence. Resource availability, accepted data, delivered models, and completed tasks should not be treated as interchangeable units. Define eligibility and prevent overlapping claims for the same economic work.

识别不同贡献

计划涵盖算力运营者、数据提供者、模型开发者、任务参与者及生态构建者的奖励。这些活动需要不同证据。资源可用性、验收数据、模型交付及任务完成不能视为可互换单位。应定义资格，并防止同一经济工作被重复申报。

Evaluate quality and reliability

Use task-specific metrics, cost, timeliness, and accepted results. Version scoring rules before each round and test sensitivity to disputed or missing evidence. Independent review and conflict disclosure help assess claims; neither replaces a clear dispute process. Early experiments should use simulated rewards while evaluation methods are tested.

评估质量与可靠性

采用与任务匹配的指标、成本、时效及验收结果。每轮开始前确定评分规则版本，并测试争议或缺失证据对结果的影响。独立复核与利益冲突披露有助于审查申报，但不能替代清晰争议流程。早期实验应以模拟奖励验证评估方法。

Keep the funding boundary visible

Separate service compensation from additional ecosystem incentives. Identify the approved funding source, spending cap, review period, and conditions for suspension. Preserve the evidence needed to reproduce each reward decision. AI Coin payment and reward functions require supporting contracts, service integrations, and operating controls before they can be used.

保持资金边界清晰

区分服务报酬与额外生态激励，明确已批准资金来源、支出上限、复核周期及暂停条件，保留复现每项奖励决策所需的证据。AI Coin 的支付与奖励用途需要配套合约、服务集成及运营控制，完成后方可使用。

10 / UTILITY & ADOPTION

AI Coin utility and ecosystem participation

AI Coin 用途与生态参与

The plan links AI Coin to service payments, contribution rewards, and DAO participation; each function needs a working application. [9]

计划将 AI Coin 与服务支付、贡献奖励及 DAO 参与连接；每项功能均需可运行的应用支持。[9]

Payment for identifiable services

Payment design covers compute rental, model access, licensed data, and completed AI tasks. A user should see the deliverable, quote, acceptance conditions, and refund process. Applications must identify the payment asset and network fees separately, and explain which service obligation a payment settles.

为明确服务付款

支付设计涵盖算力租用、模型调用、授权数据及已完成 AI 任务。用户应能看到交付物、报价、验收条件和退款流程。应用须分别说明支付资产与网络手续费，并明确付款结清何种服务义务。

Contribution and governance functions

Reward eligibility depends on verifiable work and an approved budget. Governance participation requires implemented voting, delegation, decision, and execution rules. Holding a transferable token alone does not create these application functions or an entitlement to project assets. The relevant rights must be defined in the service or governance design.

贡献与治理功能

奖励资格取决于可核验工作与已批准预算。治理参与需要已实现的投票、委托、决策及执行规则。持有可转让代币本身不会产生这些应用功能或项目资产权益。相关权利必须在服务或治理设计中明确。

Measure participation through use

Track accepted jobs, licensed data use, returning paying customers, active contributors, and application reliability. Report funded incentives separately from customer demand. Evaluate whether participants can complete useful work at an acceptable total cost. Integration progress and measured service adoption provide the basis for expanding the ecosystem.

通过使用衡量参与

跟踪验收任务、授权数据使用、重复付费客户、活跃贡献者及应用可靠性，并将有资金支持的激励与客户需求分别报告。评估参与者能否以可接受的完整成本完成有用工作。集成进展与服务采用测量结果构成扩大生态的依据。

11 / MONETARY ECONOMICS

Monetary economics: service value

货币经济学：服务价值与计价

An economic framework explains what users buy, how prices are quoted, and which obligations a payment settles.

经济框架说明用户购买什么、价格如何表达，以及支付结清何种义务。

Three separate roles

Separate the unit of account, the payment asset, and the asset used for network fees. Compute, data licenses, and task outputs can be compared in a common currency while applications evaluate payment methods. AIC utility depends on working integrations and agreed terms.

区分三种角色

区分计价单位、支付资产及网络手续费资产。算力、数据许可与任务成果可采用统一货币口径比较，应用另行评估支付方式。AIC 的用途依赖可运行的集成与约定条款。

Quote, accept, settle [6]

Bill = quantity × service unit price. If settlement uses another asset, units due = bill ÷ quoted conversion rate, expressed as currency per payment-asset unit. Record the source, quote time, expiry, quality requirements, refund terms, and fee payer.

报价、验收与结算 [6]

账单 = 数量 × 服务单价。若使用另一资产结算，应付数量 = 账单 ÷ 报价换算率，换算率采用每单位支付资产对应的计价金额。记录来源、报价时间、有效期、质量要求、退款条款与手续费承担方。

Tie money to delivery

Track collected fees, accepted deliveries, repeat users, refunds, and full delivery costs. Distinguish a prepaid job from an earned service fee. Pricing policy should explain how quote changes and disputes are handled. Payment records must remain linked to actual obligations; increasing transfer activity alone does not demonstrate increasing demand for AI services.

将资金与交付连接

跟踪实收费用、验收交付、复购用户、退款及完整交付成本，区分预付任务与已赚取服务费用。计价规则应说明报价变更与争议如何处理。付款记录须持续关联实际义务；转账活动增加本身并不证明 AI 服务需求增长。

12 / MONETARY ECONOMICS

Payment turnover and real demand

支付周转与真实需求

Monetary flows become useful operating evidence when their boundaries, units, and relationship to services are clear.

资金流只有在边界、单位及服务对应关系清晰时，才能成为有用的运营证据。

A monetary identity has limits [5]

The exchange identity M × V = P × Y connects money, velocity, a price level, and real output within a defined economy. P describes goods and services. Applying the identity to AIC requires defensible boundaries and demand assumptions; it cannot replace measurement of actual compute, data, and task transactions.

货币恒等式的边界 [5]

交换恒等式 M × V = P × Y 将特定经济范围内的货币、流通速度、价格水平与实际产出连接。P 描述商品与服务。将该恒等式用于 AIC 需要可靠边界与需求假设，不能替代对实际算力、数据及任务交易的测量。

A service-payment turnover measure

Turnover = eligible service payments during a period ÷ average service-payment balance. Use the same asset, unit, and time window. Exclude internal transfers, duplicates, grants, and reward distributions. If service balances cannot be identified reliably, report observed payments and their limitations without publishing a turnover ratio.

服务支付周转指标

周转率 = 期间合格服务支付金额 ÷ 期间平均服务支付余额。采用相同资产、单位与时间窗口，排除内部划转、重复记录、补助及奖励分配。无法可靠识别服务余额时，报告已观察付款及其局限，不发布周转比率。

Measure adoption and payment friction

Pair payment flows with accepted work, returning customers, quality, refunds, and cost per accepted job. Define repeat-use windows and exclude subsidized self-dealing. A pilot should also track quote-to-payment delay, conversion costs, failed payments, and refunds. Report missing records explicitly and evaluate payment convenience alongside the service itself.

衡量采用与支付摩擦

将支付流与验收成果、复购客户、质量、退款和单次验收任务成本一同报告。定义复购窗口，排除补贴支持的自我交易。试点还应跟踪报价至付款延迟、换算成本、付款失败及退款，明确报告缺失记录，并结合服务本身评价支付便利性。

13 / MONETARY ECONOMICS

Unit economics and funded incentives

单位经济与有资金支持的激励

Test whether paid service demand covers delivery and operating costs before expanding incentive spending.

扩大激励支出之前，检验付费服务需求能否覆盖交付与运营成本。

Define the accounting boundary

Let N be monthly paid, accepted jobs; p the collected fee per job after refunds; c the variable cash cost per accepted job; F fixed costs; and I additional incentives. Use one currency. Include failed attempts, compute, licensed data, evaluation, and settlement in c; avoid counting provider compensation again in I.

明确核算边界

设 N 为每月已付款且验收的任务量；p 为扣除退款后每任务实收费用；c 为单次验收任务变动现金成本；F 为固定成本；I 为额外激励。采用统一货币。c 包含失败尝试、算力、授权数据、评估及结算；I 不重复计入提供方报酬。

Core operating equations

Collected fees = N × p. Cash expense = N × c + F + I. Net cash flow = N × (p - c) - F - I. Fee coverage = collected fees ÷ positive cash expense. Break-even jobs = ceiling((F + I) ÷ (p - c)) when unit contribution is positive.

核心运营公式

实收费用 = N × p。现金支出 = N × c + F + I。净现金流 = N × (p - c) - F - I。费用覆盖率 = 实收费用 ÷ 正数现金支出。单位贡献为正时，盈亏平衡任务量 = 向上取整((F + I) ÷ (p - c))。

Plan incentives against service demand

Use consistent accounting periods and compare service revenue with delivery costs. Record the assumptions behind task volumes, pricing, resource costs, and incentive budgets. Keep customer prepayments separate from earned revenue. Expand rewards only when funding and operating results support the decision.

依据服务需求规划激励

采用一致的核算周期，将服务收入与交付成本相比较，记录任务量、价格、资源成本及激励预算的假设。区分客户预付款与已赚取收入，根据资金安排和运营结果决定是否扩大奖励。

14 / MONETARY ECONOMICS

Treasury resilience and budget governance

资金库韧性与预算治理

An operating reserve must be accessible when bills fall due and governed by clear spending rules.

运营储备须在账单到期时可用，并受清晰支出规则约束。

Available cash and runway

Closing cash = opening cash + collected inflows - paid outflows. Under a constant monthly deficit, runway = unrestricted liquid reserve ÷ monthly deficit. With no deficit, report no depletion under the scenario. Exclude customer escrow, restricted funds, and illiquid holdings from the baseline available reserve.

可用资金与运营期限

期末资金 = 期初资金 + 实际流入 - 实际流出。月度缺口恒定时，运营期限 = 不受限流动储备 ÷ 月度缺口。无缺口时，报告该情景下无储备消耗。基准可用储备排除客户托管资金、受限资金及缺乏流动性的持仓。

Document the stress scenarios [7]

Combine lower demand, higher compute and data costs, larger network fees, delayed collections, and increased refunds. Document liquidity assumptions, monthly shortfalls, responsible owners, and corrective actions. Review actual receipts, expenses, subsidy dependence, and budget variance regularly. These are project planning scenarios and must be updated when operating conditions change.

记录压力情景 [7]

组合测试需求降低、算力与数据成本上升、网络费用增加、回款延迟及退款增加。记录流动性假设、逐月缺口、责任人和应对措施，定期复核实际收款、支出、补贴依赖及预算偏差。这些属于项目规划情景，运营条件变化时须更新。

Separate approval from execution [8]

Record purpose, payee, evidence, spending cap, conflicts, and reviewer approval. Governance design should specify multiple authorizers and execution delays where needed. Assign an owner to unresolved exceptions and pause spending when records are stale, limits are exceeded, or funding is insufficient. Treasury control requires its own implemented permissions.

审批与执行分离 [8]

记录用途、收款方、证据、支出上限、利益冲突及复核批准。治理设计应按需规定多方授权与执行等待期。未解决异常须指定责任人；记录过期、超限或资金不足时暂停支出。资金库控制需要单独实现的权限机制。

15 / DATA & EVIDENCE

Data rights and reproducible work

数据权利与可复现工作

Reproducibility depends on authorized inputs, recorded versions, and evidence that can be reviewed without unnecessary disclosure.

可复现性依赖授权输入、版本记录，以及能够在避免不必要披露的前提下接受审查的证据。

Maintain a rights record

For each dataset and model, document provenance, license terms, permitted tasks, access recipients, and retention requirements. Preserve the permissions in force when a job ran. A contribution record should identify its source and version without publishing private content. Resolve uncertain rights before distributing data to additional participants.

维护权利记录

为各数据集与模型记录来源、许可条款、允许任务、访问接收者及保留要求，保存任务运行时生效的权限。贡献记录应明确来源和版本，同时避免公开私有内容。向更多参与者分发数据之前，先解决权利不明确的问题。

Make experiments reproducible

Record the task definition, input versions, model configuration, software environment, random seeds where relevant, and evaluation method. Separate development examples from held-out tests. Publish aggregate results, sample counts, failure cases, and limitations. Where private inputs prevent public reproduction, define an authorized review path and explain the remaining verification limits.

使实验可复现

记录任务定义、输入版本、模型配置、软件环境、适用的随机种子及评价方法，将开发示例与留出测试分开。公开汇总结果、样本数量、失败案例及局限。私有输入妨碍公开复现时，明确授权复核路径，并说明仍然存在的核验限制。

Review access and confidentiality [4]

Keep sensitive source data outside public records. Provide authorized reviewers with the task versions, permission history, and evaluation records necessary for their role. Record access changes and retention decisions. Information sharing should support collaboration while respecting each owner's license and the agreed purpose of use.

审查访问与保密要求 [4]

将敏感源数据保留在公开记录之外，为获授权的复核者提供其职责所需的任务版本、许可历史及评价记录，记录访问变更和保留决定。信息共享应支持协作，同时尊重所有者许可与约定用途。

16 / SECURITY & RELIABILITY

Security and operational boundaries

安全与运营边界

The system must treat compute operators, task inputs, data access, and economic actions as distinct trust boundaries.

系统须将算力运营者、任务输入、数据访问及经济操作视为不同的信任边界。

Protect execution and secrets

Job execution should isolate workloads, restrict credentials, and limit access to authorized data and services. Resource registration is not proof that an operator is trustworthy. Document model and software dependencies, patch responsibilities, and incident contacts. Avoid sending unrestricted secrets or unnecessary personal information to participant-controlled machines.

保护执行环境与机密

任务执行应隔离工作负载、限制凭证，并仅允许访问获准数据与服务。资源登记不证明运营者可信。记录模型与软件依赖、修补职责和事件联系人，避免向参与者控制的机器发送不受限密钥或不必要的个人信息。

Test abuse and failure [1]

Test false resource reports, duplicate identities, poisoned inputs, copied outputs, evaluator conflicts, and manipulated task evidence. Define rate limits, admission rules, challenge handling, and response owners. Evaluation must include outages, data-access errors, and unsuccessful jobs, with explicit criteria for suspending a workload or participant during investigation.

测试滥用与故障 [1]

测试虚假资源报告、重复身份、投毒输入、复制输出、评估方利益冲突及任务证据篡改。定义速率限制、准入规则、异议处理与响应责任人。评估涵盖故障、数据访问错误及失败任务，并明确调查期间暂停工作负载或参与者的标准。

Limit economic authority

Keep analysis services separate from signing keys and payment execution. Any settlement or governance contract needs permission review, failure-path testing, and an incident procedure. Define rollback, pause, and recovery responsibilities before a pilot expands. Publish unresolved security findings and remediation status as part of the release evidence.

限制经济权限

分析服务应与签名密钥及付款执行分离。结算或治理合约均需权限评审、失败路径测试与事件程序。试点扩大之前，明确回滚、暂停及恢复职责，并将未解决安全问题与修复状态纳入发布证据。

17 / GOVERNANCE

DAO governance and accountable change

DAO 治理与可追责变更

The plan assigns the community a role in platform rules, funding decisions, and protocol upgrades. [9]

计划赋予社区参与平台规则、资金决策及协议升级的角色。[9]

Define what governance can decide

A governance charter should specify membership, voting eligibility, delegation, decision thresholds, and execution authority. Separate changes to data-access terms, compute protocols, incentives, and treasury budgets. Publish the powers retained by operators or administrators. Token-based participation requires implemented governance rules and does not replace affected users' data permissions.

明确治理决策范围

治理章程应明确成员、投票资格、委托、决策门槛及执行权限。区分数据访问条款、算力协议、激励与资金库预算的变更，公开运营者或管理员保留的权力。基于代币的参与需要已实现规则，不能替代受影响用户的数据许可。

Make decisions reviewable [8]

A change request records purpose, evidence, affected interfaces, cost, conflicts, and migration requirements. Allow discussion and review before voting. Approved decisions need a visible execution path, appropriate delays, and records of the resulting state. Emergency powers must identify their holders, scope, expiry, and subsequent review process.

使决策可审查 [8]

变更申请记录目的、证据、受影响接口、成本、利益冲突及迁移要求。投票之前安排讨论与评审。获批决策需要可见执行路径、适当等待期及执行后状态记录。紧急权限须明确持有人、范围、期限与后续复核流程。

Decentralize through demonstrated capability

Begin by publishing responsibilities and testing decisions in a simulation. Expand authority only after participants can reproduce results, handle disputes, and operate the relevant controls. Measure participation and concentration, including shared infrastructure dependencies.

以已验证能力推进去中心化

先公开职责并通过模拟测试决策。参与者能够复现结果、处理争议及运行相关控制后，再扩大权限。衡量参与情况与集中程度，包括共享基础设施依赖。

18 / APPLICATION DIRECTIONS

Modular applications: finance, health, education

模块化应用：金融、医疗与教育

Application modules translate shared compute, authorized data, and collaborative tasks into specific user outcomes. [9]

应用模块将共享算力、授权数据与协作任务转化为明确用户成果。[9]

Financial AI applications

Shared compute and authorized financial datasets can support model research and collaborative application development. Define the user need, task boundaries, and evaluation criteria with domain specialists. Compare model outputs against a documented baseline, explain uncertainty, and retain human review before expanding an application.

金融 AI 应用

共享算力与获授权的金融数据可支持模型研究和协作式应用开发。与领域专家共同定义用户需求、任务边界及评价标准，对照有记录的基线比较模型输出，解释不确定性，并在扩大应用前保留人工审查。

Healthcare research and support

Research modules can explore authorized data preparation, model evaluation, and administrative workflows. Define intended users, data permissions, expert review, and task boundaries before testing. Sensitive records require access controls throughout the compute and task lifecycle. Clinical use would need separate validation and applicable approvals.

医疗研究与辅助

研究模块可探索授权数据处理、模型评估及行政流程。测试之前，明确目标用户、数据许可、专家复核与任务边界。敏感记录在算力和任务全生命周期内均需访问控制。临床使用需要单独验证及适用批准。

Education and learning tools

Education modules can explore licensed learning materials, adaptive practice, and instructor-reviewed feedback. Contributors might prepare datasets, develop models, or evaluate explanations. Measure learning-task quality and usability with appropriate participant permissions. Keep educators responsible for consequential judgments and provide a clear route to correct inaccurate content or challenge automated feedback.

教育与学习工具

教育模块可探索授权学习材料、自适应练习及经教师复核的反馈。贡献者可准备数据、开发模型或评价解释。在适当参与许可下衡量学习任务质量与易用性。重要判断由教育工作者负责，并提供纠正错误内容及申诉自动反馈的清晰渠道。

19 / IMPLEMENTATION EVIDENCE

The first integrated experiment

首个集成实验

A small end-to-end experiment should connect resource scheduling, authorized data, task completion, and a reproducible contribution record.

小规模端到端实验应连接资源调度、授权数据、任务完成及可复现贡献记录。

Bound the workload

Choose one bounded inference task with licensed or synthetic data. Specify hardware, software, metrics, deadlines, and acceptance criteria. Recruit independently operated resources where feasible and document shared dependencies. Use simulated service budgets and rewards while testing coordination and evaluation; add training or adaptation workloads after the inference workflow is reproducible.

限定工作范围

先选择一项范围明确的推理任务，采用授权或合成数据，明确硬件、软件、指标、期限与验收标准。在可行时由独立运营资源参与，并记录共享依赖。以模拟服务预算和奖励测试协调与评估；推理流程可复现后，再加入训练或适配任务。

Exercise the complete workflow

Register resources, authorize data access, publish the task, schedule execution, collect outputs, review evidence, and calculate a simulated reward record. Introduce a failed node, denied permission, repeated submission, and challenged result. Demonstrate that retries preserve rights and that duplicated work does not create duplicated compensation.

验证完整流程

登记资源、授权数据访问、发布任务、调度执行、收集输出、复核证据，并计算模拟奖励记录。引入节点故障、权限拒绝、重复提交及争议结果，验证重试仍保持权利边界，重复工作不会产生重复报酬。

Publish an acceptance pack

Publish versioned interfaces, reproducible methods, accepted and failed outcomes, cost assumptions, security findings, and unresolved issues. Measure completion, recovery, evaluation agreement, and record consistency. Proceed only when reviewers can trace each accepted job through its inputs, resource use, evidence, and funding calculation without relying on undocumented operator decisions.

公开验收资料

公开接口版本、可复现方法、成功与失败结果、成本假设、安全问题及未解决事项，衡量完成、恢复、评估一致性和记录一致性。复核者能够追踪各验收任务的输入、资源使用、证据及资金计算，且无须依赖未记录的运营决策后，再推进下一阶段。

20 / ROADMAP & RELEASE STATUS

A three-stage development roadmap

三阶段发展路线

The plan's infrastructure, ecosystem, and global-expansion sequence is expressed here as evidence gates, not claims that historical dates were met. [9]

本文件将计划中的基础建设、生态建设及全球扩展转化为证据关卡，不将历史计划日期视为已完成事实。[9]

Stage 1: platform infrastructure

Implement resource registration, bounded scheduling, task records, data permissions, and test contracts. Publish the integrated experiment and independent review findings. The gate is reproducible execution, clear failure recovery, and consistent contribution records. Establish these foundations before expanding contributor participation and application scope.

第一阶段：平台基础建设

实现资源登记、有边界的调度、任务记录、数据权限及测试合约，公开集成实验与独立评审结果。关卡为可复现执行、清晰故障恢复及一致贡献记录。先建立这些基础，再扩大贡献者参与和应用范围。

Stage 2: ecosystem and community

Develop the data marketplace and crowdsourced task workflows, broaden contributor participation, and test modular applications. Evaluate repeat usage, accepted work, dispute handling, and funded incentive costs. Publish contributor documentation and feedback processes. Expansion depends on working integrations and demonstrated demand, with transparent responsibilities and measurable service performance.

第二阶段：生态与社区建设

开发数据市场与众包任务流程，扩大贡献者参与，并测试模块化应用。评估重复使用、验收成果、争议处理及有资金支持的激励成本，公开贡献者文档与反馈流程。扩大规模依赖可运行集成、已验证需求、透明职责及可衡量服务表现。

Stage 3: global expansion and governance

Expand regional resource coverage and application access only as operational capacity supports it. Activate reviewed DAO processes, support additional integrations, and publish reliability, governance, and financial evidence. Each release should distinguish delivered capability from ongoing development, document remaining limitations, and identify who owns the next acceptance decision.

第三阶段：全球扩展与治理

依据运营能力扩大地区资源覆盖与应用可及性，启用经过评审的 DAO 流程，支持更多集成，并公开可靠性、治理及财务证据。每次发布均应区分已交付能力与开发中工作，记录剩余局限，并明确下一项验收决策的负责人。

21 / PEOPLE & ACCOUNTABILITY

Team responsibilities / 1

团队职责规划 / 1

The following profiles describe intended contribution scopes, not verified credentials or completed delivery.

以下简介描述贡献方向，不代表已核验的个人资历或已完成交付。

Dr. Charles Liew / Founder

创始人

Lead the technical direction of an open AI ecosystem connecting compute, data, models, and applications. Guide how distributed infrastructure, contribution incentives, and DAO governance fit together.

引导连接算力、数据、模型与应用的开放AI生态技术方向。统筹分布式基础设施、贡献激励与DAO治理之间的协作设计。

Teresa Gambino / Operation Director

运营总监

Coordinate platform planning, team operations, and community participation. Organize the processes that connect contributors, application projects, and ecosystem governance.

协调平台规划、团队运营与社区参与。组织连接贡献者、应用项目及生态治理的协作流程。

Cynthia Cao / Data Scientist

数据科学家

Develop data analysis and model evaluation methods for AI tasks, including financial applications. Help define dataset quality and contribution criteria for the data market and crowdsourcing platform.

开发面向AI任务的数据分析与模型评估方法，探索金融应用场景。为数据市场与任务众包平台设计数据质量和贡献评价标准。

Azzam Althunayyan / Computing Scientist

计算科学家

Design computing workflows that connect distributed resources with AI training and inference tasks. Develop task scheduling and service interfaces to support collaboration across network participants.

设计连接分布式资源与AI训练、推理任务的计算流程。开发任务调度与服务接口，支持网络参与者之间的协作。

Chloe Zou / AI Scientist

AI科学家

Explore AI models and evaluation methods for healthcare, education, and other application domains. Shape task requirements and model quality criteria for developers contributing to the ecosystem.

探索医疗、教育等应用领域的AI模型与评估方法。为参与生态建设的开发者设计任务要求与模型质量标准。

21 / PEOPLE & ACCOUNTABILITY

Team responsibilities / 2

团队职责规划 / 2

The following profiles describe intended contribution scopes, not verified credentials or completed delivery.

以下简介描述贡献方向，不代表已核验的个人资历或已完成交付。

Norman Mo / AI Engineer

AI工程师

Develop model integration, retrieval workflows, and inference service designs. Connect AI capabilities with application interfaces and the platform's task delivery process.

开发模型集成、检索流程与推理服务方案。将AI能力连接到应用接口及平台任务交付流程。

Toshiki Norimura / Sustainability Scientist

可持续发展科学家

Explore AI applications for environmental monitoring and sustainable resource use. Define relevant datasets, task objectives, and impact measures for ecosystem contributors.

探索环境监测与资源可持续利用领域的AI应用。为生态贡献者定义相关数据集、任务目标及影响评估指标。

Ellen Lee / Data Engineer

数据工程师

Design data pipelines that support sharing, preparation, and reuse across AI tasks. Connect data provenance, access permissions, and quality checks with the data market's contribution records.

设计支持AI任务中数据共享、处理与复用的数据管道。将数据来源、访问权限及质量检查与数据市场的贡献记录相连接。

Andy Chu / Data Engineer

数据工程师

Plan the integration of computing resources, data services, and machine learning workflows. Develop service monitoring and resource management approaches for a distributed AI platform.

规划计算资源、数据服务与机器学习流程的集成。为分布式AI平台开发服务监测与资源管理方案。

21 / PEOPLE & ACCOUNTABILITY

Team responsibilities / 3

团队职责规划 / 3

The following profiles describe intended contribution scopes, not verified credentials or completed delivery.

以下简介描述贡献方向，不代表已核验的个人资历或已完成交付。

Chace Chen / IoT Engineer

物联网工程师

Develop designs for connecting devices and edge computing with AI applications. Translate local sensing and inference needs into tasks that can work with the wider ecosystem.

设计设备与边缘计算接入AI应用的方案。将本地感知与推理需求转化为可与生态协作的任务。

Pulin Chang / IoT Engineer

物联网工程师

Explore computer vision workflows for connected devices and real-world applications. Define hardware requirements and evaluation methods for device-based AI tasks.

探索面向联网设备与实际应用的计算机视觉流程。为设备端AI任务定义硬件要求与评估方法。

Marcellus Ray Gunawa / IoT Engineer

物联网工程师

Design sensor integration and data collection workflows for connected applications. Support traceable device data that contributors can use in the data market and AI task platform.

为联网应用设计传感器集成与数据采集流程。支持可追溯的设备数据，为贡献者参与数据市场与AI任务平台提供基础。

Kevin Tim / Business Director

商务总监

Develop collaboration opportunities with enterprises, developers, and application partners. Translate demand in finance, healthcare, education, and other sectors into ecosystem use cases and project requirements.

拓展与企业、开发者及应用伙伴的合作机会。将金融、医疗、教育等行业的需求转化为生态应用场景与项目要求。

21 / PEOPLE & ACCOUNTABILITY

Team responsibilities / 4

团队职责规划 / 4

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Lanlan Lee / AIoT Director

智能物联网总监

Coordinate AIoT application planning across devices, data, and distributed computing. Guide how connected projects can contribute resources and use the ecosystem's AI services.

协调设备、数据与分布式计算之间的智能物联应用规划。引导联网项目贡献资源并使用生态内的AI服务。

Darpan Awal / Human-Computer Interaction Director

人机交互总监

Design accessible experiences for contributors, developers, and application users. Make data permissions, task participation, contribution rewards, and DAO decisions understandable through clear interfaces.

为贡献者、开发者与应用用户设计易于使用的交互体验。通过清晰界面呈现数据权限、任务参与、贡献奖励与DAO决策。

Dr. Majed Alrowaily / AI Research Director

AI研发总监

Lead research into AI model development and optimization within a distributed ecosystem. Guide model collaboration, task evaluation, and the connection between research outputs and practical applications.

引导分布式生态中的AI模型开发与优化研究。统筹模型协作、任务评估及研究成果与实际应用的衔接。

Dr. Jengyi Young / Big Data Director

大数据技术总监

Guide data architecture for the decentralized data market and AI ecosystem. Develop approaches to distributed storage, data analysis, and permission-based sharing that support contributor control over data.

引导去中心化数据市场与AI生态的数据架构设计。发展分布式存储、数据分析与授权共享方案，支持贡献者自主控制数据。

Linda Y. Dong / Biointelligence Director

生物智能研发总监

Explore how AI models and shared research workflows can support bioinformatics and healthcare applications. Define domain requirements and data stewardship approaches for collaboration with ecosystem developers.

探索AI模型与共享研究流程在生物信息学和医疗领域的应用。定义领域需求与数据管理方案，支持与生态开发者的协作。

22 / REFERENCES

Research references

研究参考资料

The supplied AIC project plan [9] is the primary reference for the ecosystem vision and stage sequence. Technical sources inform the design. Project formulas and acceptance gates are planning methods, not source-endorsed rules or evidence of completed delivery.

所提供的 AIC 项目计划书 [9] 为生态愿景及阶段顺序的主要参考，技术资料用于支持设计。项目公式与验收关卡属于规划方法，不代表来源机构背书或已完成交付。

[1] NIST: AI Risk Management Framework 1.0

https://nvlpubs.nist.gov/nistpubs/ai/NIST.AI.100-1.pdf

[2] Ethereum: smart contracts

https://ethereum.org/developers/docs/smart-contracts/

[3] Ethereum: oracles and external data

https://ethereum.org/developers/docs/oracles/

[4] IPFS: privacy and encryption

https://docs.ipfs.tech/concepts/privacy-and-encryption/

[5] ECB: Money and inflation

https://www.ecb.europa.eu/press/key/date/2023/html/ecb.sp230925_1~7ad8ef22e2.en.html

[6] Ethereum: gas and fees

https://ethereum.org/developers/docs/gas/

22 / REFERENCES

Implementation references

实现参考资料

The supplied AIC project plan [9] is the primary reference for the ecosystem vision and stage sequence. Technical sources inform the design. Project formulas and acceptance gates are planning methods, not source-endorsed rules or evidence of completed delivery.

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[7] Basel Committee: Stress testing principles

https://www.bis.org/publications/201810-guidelines-stress-testing-principles

[8] OpenZeppelin: On-chain governance

https://docs.openzeppelin.com/contracts/5.x/governance

[9] AIC: Decentralized AI Ecosystem Project Plan / 去中心化 AI 生态项目（AIC）计划书 — supplied project document; technical vision and stage sequence

Supplied source document; no public download link.