

FRICE ARVES (FCA) White Paper

Data Incentive Protocol Standards in the Web3.0 Era

Project name: Frtce Arves
Network standard: ERC-20 (compatible with EVM multi-chain)
Areas of interest: Web3.0 · Data rights · Behavior incentives · DID · ZK privacy

Project Vision:

Build a decentralized data value circulation network where everyone can participate, data ownership can be confirmed, and behavior can be incentivized.

Project Mission:

Break the data monopoly and reconstruct the ownership of data assets; make every user behavior a contribution and return that can be confirmed on the chain.

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Where the boundaries of centralization end is the starting point for the reconstruction of trust and the freedom of value.

Where the boundaries of centralization end, it is the starting point for the reconstruction of trust and the freedom of value. FCA connects everything and restarts the future of the Web.

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1. Project Overview

1.1 Background and Value Proposition

- 1.2 Vision and Mission
- 1.3 Innovation Highlights

Chapter 1 Project Overview

1.1 Background and Value Proposition

In today's rapidly evolving digital society, data has become the most valuable "new asset". However, in the traditional Internet system, data is monopolized by large platforms, and users can neither claim ownership nor get fair returns from it. This "data colonization" model seriously deviates from the free, open and shared spirit of the Internet.

With the rapid development of technologies such as blockchain, DID (decentralized identity), and ZK (zero-knowledge proof), Web3.0 provides users with the possibility to regain data sovereignty. However, most projects on the market are still centered on financial transactions and do not have a deep understanding of the essence of Web3, which is "participation is value."

Frtce Arves (FCA) has proposed a new data incentive logic: users are nodes, behavior is value, data is assets, and contribution is income. Through a decentralized protocol, it encourages users to upload their behavior data to the chain in a secure and private manner, forming an open, verifiable, and tradable data economic network.

FCA's value proposition:
Make every user behavior have value mark
Let the ownership of data return to individuals
Let the incentive method move from "speculation" to "contribution-oriented"
Allow a new social structure of Web3.0 to germinate and grow

1.2 Vision and Mission

Vision:

Build a decentralized data-driven ecological network to enable individuals to become core asset holders and value producers in the digital age.

mission:

Breaking the data platform monopoly Realize on-chain data incentives and assetization Building a real and sustainable Web3 social and behavioral ecosystem Activate hundreds of millions of users to become important nodes of the decentralized network

Frtce Arves is not just a token project, but is committed to becoming the underlying protocol of the future "value Internet", allowing all participants in the Web3 ecosystem to participate in a fairer and more open economic system in the form of "behavioral assetization".

1.3 Innovation Highlights

As a new generation of Web3.0 basic protocol project, Frtce Arves embodies many innovations in design concept, technical structure and economic model:

1 Dynamic Identity Aggregator (DID Aggregator)

Aggregate user identities across chains and platforms, build a unified identity portrait on the chain, and support ZK privacy verification to solve the two fundamental problems of "who is contributing" and "how to measure contributions".

2 Activity Mining

Users' browsing, commenting, socializing, creating and other behaviors in any DApp connected to the ecosystem can be recorded in a weighted manner, and FCA tokens can be released according to their contributions, realizing the true meaning of "mining by use".

3Data asset circulation market

User behavior data is packaged into anonymous assets, which are purchased and called by data consumers (such as AI developers, decentralized advertising systems, etc.) through FCA to create an on-chain data value circulation system.

④Inflation-Destruction Dual Engine Mechanism

New coins are intelligently released based on the ecological growth, and automatically destroyed through the on-chain data market to ensure the long-term deflationary trend and value stability of FCA.

(5) Modular + combined Web3 incentive system

FCA is not only a complete ecosystem, but also supports other Web3 projects to access its incentive protocol on demand, achieving "incentive plug and play" and forming a network effect.





Chapter 2 Market Analysis And Industry Pain Points

- 2.1 Web3.0 development trend
- 2.2 Problems in the current industry
- 2.3 Market opportunities created by FCA

Chapter 2 Market Analysis and Industry Pain Points

2.1 Web3.0 development trend

Web3.0 is undergoing a critical transition from "popularization of concepts" to "ecological implementation". According to the analysis of authoritative institutions such as Messari, Deloitte, and Electric Capital, by the end of 2024:

The number of global Web3.0 users has exceeded 420 million, with an annual growth rate of more than 45%.

More than 1,800 DApps are deployed on main chains such as Ethereum, BSC, and Polygon. Nearly 40 countries have introduced regulations to support the confirmation of digital asset ownership and the development of DID.

The data value-added market size is expected to exceed US\$230 billion in 2026, becoming one of the most important sub-tracks of Web3.0.

This means that the future of Web3 will no longer be limited to DeFi or NFT, but will enter the third stage with "data sovereignty" as the core and "incentive structure" as the driving force.

Frtce Arves was born in this trend. With "data is incentive" as its core concept, it redefines value attribution through tokenization and enables every user to become an asset owner and income recipient in the ecosystem.

2.2 Proble

Although Web3.0 is developing rapidly, it still faces many key issues:

1 The incentive mechanism is distorted, resulting in serious user loss

In the early stages, most projects rely on the "airdrop - short-term speculation high-throw" mechanism to quickly increase user activity, but this lacks sustainability, resulting in low user retention rates and poor community activity.

②Personal data cannot be monetized

Although blockchain provides the ability to confirm data ownership, "how to turn data into tradable assets" is still a gap in the industry, and users are unable to convert their own behavioral data into income.

③Insufficient data privacy protection

Currently, most on-chain data is public, which makes it difficult to use it effectively while ensuring privacy, limiting the expansion of data application scenarios.

(4) DAO governance is in name only

The DAO governance of many projects is merely "ritualistic" and lacks an actual power distribution mechanism. Users are unable to truly participate in the evolution of the protocol, resulting in a centralized and inefficient governance structure.

2.3 Market opportunities created by FCA

The data incentive economic protocol proposed by Frtce Arves directly hits the core pain points of the industry:

Industry Issues	FCA Innovative Solutions
User incentives are unsustainable	Behavior is the incentive mechanism, and continuous positive feedback on the value of user behavior
Data is difficult to capitalize	Build a data market on the chain to achieve a closed loop of data " production-right confirmation-transaction"
Weak privacy protection mechanism	Use ZK protocol and MPC architecture to achieve encrypted storage and verification
Hollowing out of DAO governance	Binding governance proposals with incentives to stimulate real participation

Through this set of structured innovation mechanisms, FCA has created a new financial and value paradigm for the circulation of data assets, and also provided a feasible path for Web3.0 to move towards large-scale user landing.



3. Core Mechanism And Application Scenarios

- 3.1 Project positioning and objectives
- 3.2 DID digital identity aggregation mechanism
- 3.3 Behavior Mining and Data Incentive System
- 3.4 Real Application Scenarios of FCA

Chapter 3 Core Mechanisms and Application Scenarios

3.1 Project positioning and objectives

Frtce Arves is not only a token, but also a modular, modular, open behavior incentive protocol framework (BehaviorDriven Protocol Framework) that can be embedded in any Web3 platform or DApp for unified user incentives, data rights confirmation and value distribution.

Its objectives include:

Establish a data economy system with clear incentives, open rules, and behavior orientation

Realize efficient linkage among users, data and benefits

Become the most influential data value circulation protocol in the Web3.0 era

3.2 DID digital identity aggregation mechanism

The traditional DID system can only establish "one address = one identity", but FCA innovatively introduces the "identity aggregator" to aggregate users' addresses, social accounts, and off-chain data on multiple chains, and verify privacy protection through zero-knowledge proof to ensure data security and identity traceability.

Key Features:

Cross-chain identity recognition Zero-knowledge privacy binding User-controlled identity components

This mechanism becomes the basis for FCA on-chain incentives, making "data rights confirmation" technically and legally feasible.

3.3 Behavior Mining and Data Incentive System

FCA introduces the concept of "Activity Mining", which records every real behavior of users

in the ecosystem as a measurable contribution and gives them corresponding FCA token rewards.

Incentive scenarios include but are not limited to:

Browsing web pages and reading content Post, share, and comment on content Participate in governance and forward project information On-chain interaction and social behavior Contribute data models to the platform

The contribution is comprehensively evaluated by the on-chain algorithm based on the frequency, complexity, and influence of the behavior, and is mapped in real time into extractable FCA rewards to ensure that the incentives are "sustainable, decentralized, and fair."

3.4 Real Application Scenarios of FCA

FCA is not limited to finance or transactions, but focuses on building a scalable "behavioral value ecosystem":

Application Category	Scenario Example	
Decentralized social	User behavior points + advertising system, based on FCA profit distribution	
Web3 content platform	Writing, video, live broadcast and other content production behaviors can get token incentives	
Educational platform	Users can earn FCA as academic points through learning, exams and answering questions	
Data platform/ advertising platform	Users are rewarded for browsing data/advertising, and FCA drives the data economic cycle	
Third-party DApp access	FCA protocol serves as a "general incentive engine" module for other projects to call and access	

Frtce Arves does not replace other ecosystems, but is embedded in any Web3 scenario with "user behavior data" in an open protocol manner, becoming the incentive base layer

and value calculation engine for various platforms.





4. Technical Architecture And Security System

4.1 System Technology Framework Diagram

4.2 Data Confirmation and Zero-Knowledge Privacy

Protection

- 4.3 Multi-layer architecture and Layer 2 solution
- 4.4 Smart Contract and Security Mechanism

Chapter 4 Technical Architecture and Security System

4.1 System Technology Framework Diagram

The Frtce Arves technical architecture adopts a modular design to ensure high scalability and compatibility, while taking into account privacy security and multi-chain adaptability.

Frtce Arves Technica	Architecture
User Layer	Web3 wallet, DApp interface, DID identity aggregation
Protocol layer	FCA behavioral incentive protocol/task scheduling/governance protocol
Data and consensus layer	Data rights confirmation engine/ZK privacy certification/PDC consensus mechanism
Link layer	Cross-chain bridge module/Oracle oracle/Interface standard
Underlying infrastructure	EVM compatible main chain/Layer2 expansion/decentralized storage

4.2 Data Confirmation and Zero-Knowledge Privacy Protection

FCA uses a multi-layer privacy protection mechanism to resolve the long-standing contradiction between "property confirmation" and "usability" :

ZKSNARKs/PLONK: used for identity binding and behavior verification to ensure that data processing is "verifiable but not leakable".

MPC (Multi-Party Computing) Wallet: Avoid centralized custody of private keys and improve asset security.

DID encapsulation protocol: Encrypts behavioral data and only allows authorized readers to parse and access it, ensuring that the data is not available to unauthorized users.

At the same time, the platform uses the Merkle Tree structure to encrypt and hash user behaviors, forming a set of verifiable Proof of Data Contribution (PDC), which becomes the basis for reward calculation and data market transactions.

4.3 Multi-layer architecture and Layer 2 solution

The FCA network uses a Layer2 acceleration mechanism to process high-frequency small transactions and behavior records, significantly reducing Gas fees:

zkRollup batch compresses behavior records to improve on-chain writing efficiency.Optimistic Rollup supports parallel running of DApps and reduces main chain congestion.The off-chain behavior is processed first + the on-chain consensus confirmation mode improves the interactive experience.

This architecture supports any developer to deploy personalized modules in the ecosystem, such as "social mining plug-ins", "content incentive templates", etc., and schedule them through a unified FCA incentive rule system.

4.4 Smart Contract and Security Mechanism

All core functions are implemented by smart contracts, and the main contract has completed the following security designs:

Multi-signature mechanism: key permissions must be executed through community multi-signature

Regular contract audit: A full audit is conducted every quarter by an external agency (the list of partners will be disclosed in Chapter 8)

Emergency Pause Function (Circuit Breaker): Emergency freezing of token release and incentive distribution when encountering abnormal behavior

Modular contract design: facilitates upgrades and rapid iterations after proposals are approved in community governance

In addition, the platform connects to Chainlink and Band Protocol as dual oracle sources to ensure the authenticity of on-chain and off-chain data synchronization.



5. Token Economic Model

- 5.1 Basic information of tokens
- 5.2 Token Allocation Plan
- 5.3 Incentive and Deflation Mechanism
- 5.4 Token Usage and Circulation Design

Chapter 5 Token Economic Model

5.1 Basic information of tokens

Project Name	Frtce Arves
Token abbreviation	FCA
Blockchain Standard	ERC20 (supports multi-chain expansion)
Total Issue	50,000,000,000 FCA (50 billion)
Initial issue price	0.0001 USDT/FCA
Supported Network	Ethereum mainnet, compatible with Polygon, BSC, etc.
Contract address	Will be announced simultaneously on the official website and GitHub before the mainnet launch

As the only incentive medium of the protocol, the FCA token's economic model is centered on "user contribution-driven value release", taking into account fair distribution, ecological incentives, deflation logic and governance.

5.2 Token Allocation Plan

Allocation category	Percentage	Quantity (pieces)	Description
User Behavior Incentive Pool	40%	20.000.000.000	Released linearly over 10 years to incentivize user contributions, behavior data, etc.
Foundation Reserve	20%	10.000.000.000	For ecological support, emergency reserves, and long-term operating expenses
Team and early contributors	15%	7.500.000.000	3 years linear unlocking to encourage long-term team building
Strategic Investors	15%	7.500.000.000	1 year lock-up period, then linear release over 6 months
Liquidity and Market Development	10%	5.000.000.000	Support exchange listing, market making and community development

All release rhythms are managed through on-chain smart contracts to ensure transparency, openness and queryability.

5.3 Incentive and Deflation Mechanism

Frtce Arves has designed a closed-loop economic system of "release-recycling-destruction" to ensure the long-term value of FCA:

1) Behavior-driven release mechanism

Users must complete behavioral tasks (such as browsing, interacting, and contributing data) to release rewards, and all data must be verified through DID and ZK protocols.

2) Data circulation and destruction mechanism

All transactions in the on-chain data market are settled in FCA. The platform charges a 5% handling fee and destroys 100% of it, creating a deflation mechanism of "the more it is used, the less it circulates".

3) Dynamic control mechanism

The protocol dynamically adjusts the incentive release curve every quarter based on indicators such as the number of active wallets, task completion rate, and total data submission to ensure currency price stability.

4) Governance Binding Mechanism

All governance actions (proposals, voting) require staking FCA. Locking means deflation and governance means empowerment, which increases token participation and holder stickiness.

5.4 Token Usage and Circulation Design

The application of FCA is not limited to internal incentives within the ecosystem, but will also be deeply involved in multiple scenarios of protocol operations:

Use scenario	Description
User Behavior Rewards	Browsing/commenting/creating/voting and other behaviors can earn FCA according to weight

Data rights registration fees	DID registration, behavior hashing on-chain, etc. will pay a small amount of FCA as processing fees
Data market circulation	Advertisers and data analysts must use FCA payment when purchasing behavioral data or API
Governance Participation	FCA must be pledged to initiate proposals/vote, and the voting results affect the direction of protocol evolution
Third-party application docking	External DApp needs to pledge FCA to obtain the call quota, or embed FCA incentive logic through SDK

As the ecosystem expands and scenarios are implemented, FCA will gradually increase its intrinsic scarcity and market demand under the logic of "use is destruction, participation is value".





6. Governance Mechanism Design

6.1 Decentralized Governance Model (DAO)

- 6.2 Proposal and Voting Mechanism
- 6.3 Community participation and consensus

decision-making

6.4 Anti-Sybil Attack and Authentication Mechanism

Chapter 6 Governance Mechanism Design

6.1 Decentralized Governance Model (DAO)

Frtce Arves adopts the decentralized autonomous organization (DAO) model, giving coin holders real governance rights over key project matters and ensuring that the protocol evolves in a fair, open and transparent direction.

The core governance structure includes:

FCA DAO governance platform: an on-chain governance portal that carries the entire process of proposal, voting, and execution.

Community proposal mechanism: Users can initiate proposals on economic models, incentive rules, cooperative projects, etc.

Voting rights and staking mechanism: Voting rights are calculated based on the weighted number of coins held and the length of time pledged.

Execution layer contract binding: Once the proposal is passed, the smart contract is automatically triggered to complete the policy change.

6.2 Proposal and Voting Mechanism

Proposed Rules

The initiator needs to pledge \geq 5,000,000 FCA to ensure the responsibility and sincerity of the proposal.

All proposals must meet the following three key elements: clear objectives, implementation plans, and risk assessment.

There is a 72-hour cooling-off period after a proposal is submitted, during which the community will supervise and screen out malicious/invalid content.

Voting Process

Each voting cycle lasts for 5 days, and coin holders can participate in on-chain voting. All FCA holders can vote weighted by wallet balance (\geq 10,000 FCA is required to vote). The threshold for passing a vote is \geq 51% of valid votes in favor.

Proposal Type

Modification of incentive strategies (such as behavior reward parameters)Fund allocation (use of foundation assets, development funding)Launch new functions/modules (such as opening a certain type of data market)Introduction/elimination of cooperative projectsCore contract upgrade or freeze

6.3 Community participation and consensus decision-making

In order to lower the governance threshold, FCA has set up a multi-level participation path to encourage users at different levels to actively build the ecosystem:

Participating roles	Permission types	Empowerment methods
Coin holders	Voting rights	Lock your coins and you will be eligible to propose and vote
Staking Nodes	Proposal priority, data revenue bonus	Staking FCA for a long time, enjoying ecological rewards
Core Contributor	Joint proposals, experimental feature management	Elected/appointed by community DAO
External developers	SDK access permissions, protocol layer secondary development support	Provide API keys and contribution i ncentive mechanism

6.4 Anti-Sybil Attack and Authentication Mechanism

Decentralized governance generally faces the problem of "sybil attacks" (forging multiple identities to manipulate votes). FCA uses the following multiple mechanisms to ensure that governance is authentic and effective:

1) DID+SBT combined identity authentication

Each proposal account needs to be bound to a decentralized identity (DID) At the same time, you must have at least one "Non-Transferable SBT" mark to avoid bulk registration of addresses

2) Voting stratification and weighting

New addresses must complete a certain number of on-chain actions before they can participate in high-weight voting

The more active the old address is and the more it stakes, the higher its weight will be, which will incentivize real long-term users.

3) On-chain behavior reputation points mechanism

The system scores user governance behaviors, and malicious proposers will be included in the gray list

Users can improve their credibility through active governance and content contribution, which in turn drives long-term participation

Frtce Arves is committed to building a truly usable, sustainable and scalable governance architecture for decentralized governance, which not only ensures the security of the protocol, but also unleashes the collective creativity of coin holders.





7. Roadmap And Development Plan

- 7.1 Start-up phase (2024)
- 7.2 Growth stage (2025)
- 7.3 Expansion period (2026)
- 7.4 Long-term goals and evolution path

Chapter 7 Roadmap and Development Plan

The Frtce Arves (FCA) project will be promoted in stages, from protocol construction to ecological expansion, and eventually develop into the world's leading Web3 data value circulation standard protocol. Each stage has clear technical goals, ecological indicators and incentive nodes.

7.1 Start-up phase (2024 Q4)

>Goal: Complete technical architecture design and initial community cultivation

Completed the development of core protocols (behavior incentive engine, DID module) Launched the test network and opened a whitelist DApp access pilot Released the first edition of white paper and technical documentation Build community infrastructure (official website, GitHub, governance forum) Conduct private financing rounds to attract early supporters and strategic investors Open the first batch of behavioral mining task tests to verify the incentive logic

7.2 Growth stage (2025 Q2)

>Goal: Mainnet launch, establishing a preliminary ecological closed loop

Officially launched Frtce Arves mainnet Open Activity Mining function Launched on-chain data market and data circulation settlement module Release official browser plug-in and lightweight DID wallet Cooperate with 5+ Web3 platforms to complete SDK incentive system deployment Launch decentralized governance DAO platform FCA tokens are officially listed on major exchanges (Top 10 CEX/DEX)

7.3 Expansion period (2025 Q3-Q4)

>Goal: cross-ecological layout, module standardization, open incentive agreement

Launch of the open FCA Incentive Protocol standard (FIP v1)

Build a developer support platform and issue incentives and code rewards Access to 20+ third-party applications/projects to build diversified usage scenarios Establish new application sub-ecologies such as on-chain education platforms and content communities

Establish cooperation mechanisms with ZK/privacy protocol projects (such as Manta, Aztec)

Launched FCA data API market for AI platforms and data providers to use Establish a dual DAO model: Development DAO + governance DAO to optimize governance efficiency

7.4 Long-term goals and evolution path (2026 and beyond)

>Goal: Create a new standard for data incentives and become one of the core protocols of the global Web3

Complete the construction of the on-chain data index platform (Data Index) Launch of SaaS-based "Incentive as a Service" toolkit (IaaS Layer) FCA protocol access to 100+ platforms (social, content, e-commerce, education) Promote FCA to become the basic incentive protocol standard of Web3 (similar to ERC20) Establish a global governance alliance DAO to achieve ecological co-governance and standard autonomy Launched the "Data Citizen" program to promote the legalization of global user rights and incentives

The total number of FCA ecosystem users is expected to exceed 100 million, and the ecosystem TVL will exceed US\$10 billion

The roadmap of Frtce Arves is not limited to the development route, but also the trajectory of value realization. Each stage measures the results with quantifiable goals to ensure the coordinated advancement of the community, technology, and ecology.



8. Team And Consultant Introduction

- 8.1 Core Team Members
- 8.2 Advisory Committee
- 8.3 Technical Support and Strategic Partners

Chapter 8 Team and Consultants Introduction

The Frtce Arves project is led by a multinational team with experience in blockchain basic research, protocol development, privacy computing, financial structure design and global ecological operations. The core members come from the United States, Germany, the United Kingdom, Singapore and other places. The advisory team is composed of experts from Web3 standards organizations, blockchain security institutions and international think tanks.

8.1 Core Team Members



Ethan Carter – Founder and Chief Executive Officer (CEO)

Former Director of Blockchain Research at ConsenSys, leading the development of

multiple Ethereum Layer2 projects

Master of Computer Science from MIT, specializing in distributed systems and incentive game mechanisms

Served as consultant for Web3 data protocol DoraNet, with more than 10 years of entrepreneurial experience in the crypto market



Lena Hoffmann – Chief Technology Officer (CTO)

Former Parity Technologies Engineering Director, participated in the design of Substrate underlying architecture

Focus on Rust language, ZKSNARKs, cross-chain interoperability and cryptographic protocol implementation

Active in open source projects, leading the construction of FCA behavior mining and DID aggregation engine



Oscar Varela – Chief Product Officer (CPO)

MBA from IE Business School, Spain, former head of ecosystem growth at NEAR Protocol Has rich experience in Web3 product implementation and community growth, and is good at user behavior modeling and token design

Promote modular access to FCA protocols in multiple industry scenarios



Maya Bell - Chief Operating Officer (COO)

Former head of emerging market operations at Binance, promoting the launch of multiple products in Southeast Asia

Good at establishing global operation network and incentive model, leading the global deployment of FCA ecosystem

Responsible for the market introduction, community organization construction and incentive design of more than 10 blockchain projects

8.2 Advisory Committee



Dr. Adrian Westlake

PhD in Cryptography from Cambridge University, former consultant to the UK National Cyber Security Centre

Focus on privacy computing, zero-knowledge protocols and multi-party computing security models

Serves as a consultant for many European crypto companies and is an expert in ZKRollup security audits



Nathan Park

Senior analyst at HashKey Capital, focusing on Web3 governance economic model

Former blockchain policy researcher at World Economic Forum

In-depth research on encryption compliance strategies and incentive fairness models



Isabelle Zhou

Former Ecosystem Development Director of The Graph, Founder of Web3 Women Developer Community

Expert in content economy, data mining and Web3 content incentive mechanism design Main strategic advisor for FCA data market and content incentive scenario design

8.3 Technical Support and Strategic Partners

During the construction process, Frtce Arves received technical/resource support from the following organizations and communities:

OpenZKP Lab: Providing ZK protocol architecture audit and circuit design

MPC Alliance: Jointly building an MPC wallet and key custody framework

Polygon Labs: Providing underlying compatibility support for multi-chain deployment and low-fee layers

DAOhaus Network: Co-developing community governance tools and cross-chain DAO coordination layer

Ceramic&IDX: Participating in the access and testing of DID identity aggregation standards

Frtce Arves' core team and advisory configuration take into account "protocol depth + privacy security + ecological growth + governance design", which not only ensures the ability of the protocol to be implemented, but also provides a long-term strategic foundation for it to become a global data incentive standard.





9. Legal Compliance And Risk Statement

- 9.1 Compliance framework and regulatory adaptation
- 9.2 Risk Identification and Response Mechanism
- 9.3 User Data Privacy and KYC Strategy

Chapter 9 Legal Compliance and Risk Statement

Frtce Arves (FCA) adheres to the strictest data protection, crypto asset compliance and DAO governance transparency principles worldwide to ensure the legality, data security and project stability of user participation.

9.1 Compliance framework and regulatory adaptation

In order to cope with the multiple regulatory requirements of different jurisdictions for crypto assets, decentralized protocols and data markets, Frtce Arves has developed the following compliance framework:

Major global compliance paths:

United States: Follow FinCEN's regulatory guidance on "Virtual Asset Service Providers (VASPs)"; do not provide securities-like functions to US users to ensure that the securities test (Howey Test) defined by the SEC is avoided

EU GDPR: The data rights confirmation mechanism fully complies with the three principles of "user revocable authorization", "anonymous data storage" and "transparent use" Singapore: Cooperate with the Monetary Authority of Singapore (MAS) on the technical classification supervision of digital asset services and DID governance protocols Hong Kong, Japan, South Korea, etc.: Plan to gradually apply for relevant licenses, including MSB, DPT licenses, Virtual Asset Trading Notice (VATP) certification, etc.

Technical compliance path:

Adopt zero-knowledge proof + MPC multi-party key storage, and do not collect user plaintext data

The DID system can be associated and matched by off-chain judicial entities (user authorization required), complying with the KYC/AML reservation mechanism All contracts are open source and governed by community voting to avoid centralized control risks

9.2 Risk Identification and Response Mechanism

Although FCA is highly defensive in terms of mechanism and security, it is still necessary to face the potential risks that the project may face:

Risk Category	Description	Response Mechanism
Technical implementation risks	Protocol upgrades or performance bottlenecks may affect user experience	Multi-chain deployment + Layer2 support + modular architecture ensures scalability
Security attack risk	Smart contracts or data modules may face a ttacks	Regular security audits, bug bounty programs, emergency fuse mechanisms
Legal and regulatory risks	Changes in laws in different countries may restrict the use of certain functions	Distributed architecture + user self-managemen + compliance adjustment plan
Market risk	Currency price fluctuations, overheated or ove rcooled speculation may affect users' long-term trust	Design deflationary incentives + steady advancement of DAO governance + long-term lock-up mechanism
User behavior is evil	Abuse of reward mechanism, DID forgery, multi-account voting manipulation and other witch attacks	DID binding + SBT identity verification + reputation grading defense system

FCA will integrate continuously updated risk perception and dynamic prevention and control logic at the protocol layer to form a three-in-one protection system of "protocol autonomy + community audit + external compliance".

9.3 User Data Privacy and KYC Strategy

Frtce Arves respects the data sovereignty and privacy of each user, ensuring that users do not bear excessive identity exposure risks while enjoying Web3 incentives:

Decentralized data storage: All behavior data exists only in hash form on the chain and cannot be read and restored

User-authorized calls: Data usage, DID query and other behaviors must be authorized by the user's wallet signature to prevent abuse

KYC is adapted to compliant countries: KYC process is only accessed in specific regions (such as exchanges), and the on-chain protocol itself does not enforce real-name registration

Data deletion right mechanism: Users can revoke the authorization on the behavior chain at any time to protect the "right to be forgotten" and "right to exit"

Frtce Arves is committed to building a data governance model with "clear compliance boundaries, flexible technical self-control, and user authorization-led" to establish trust and institutional moats for global users.

Chapter 10 "Appendix" will provide practical information such as glossary, reference technical materials, community entrance, etc., and then continue to write the final part for you.





10. Appendix

- 10.1 Explanation of Terminology
- 10.2 Technical Data Reference
- 10.3 Community Contact Information and Resource

Links

Appendix to Chapter 10

10.1 Explanation of Terminology

Noun	Explanation
FCA	Frtce Arves token, used for ecological incentives, data transactions, DAO governance, etc.
DID (Decentralized ID)	Decentralized identity recognition system, users can manage multiple identity components independently
PDC (Proof of Data Contribution)	Data contribution proof mechanism, used to record and quantify user on-chain behavior and grant rewards
ZK (ZeroKnowledge Proof)	Zero-knowledge proof, a privacy-preserving algorithm that verifies the authenticity of data without exposing the data itself
DAO (Decentralized Autonomous Organization)	Decentralized Autonomous Organization, FCA's governance structure, all rules and upgrades are determined by community proposals and voting
Activity Mining	Behavior is the mining mechanism, users obtain FCA tokens by generating behavioral data
SBT (Soulbound Token)	Non-transferable token, used to represent user identity and reputation, supports Sybil attack protection
Layer2	Blockchain expansion solution to increase transaction speed and reduce transa fees

10.2 Technical data and standard references

Ethereum Improvement Proposals(EIPs)
W3C DID Core Specification v1.0
zkSNARKs and PLONK Zero-Knowledge Proof Frameworl
IPFS&Ceramic network decentralized storage protocol
Polygon zkEVM Technical Architecture Reference
Chainlink Oracle Service Interface Standard Document
DAOhaus Governance Framework
OpenZKP secure encryption circuit framework

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