A.REX: Assets Real-World Exchange

"Connecting traditional finance with blockchain"

Abstract. A.REX project was created with the goal of bridging Web2 and Web3.

The primary objective of AREX is to develop and operate the RWA platform, transforming real-world assets into digital formats to enhance liquidity and accessibility. This facilitates the use of cryptocurrencies for payments of these digitized real assets through a differentiated mechanism.

The strategy of using only valuably assessed foundational assets for tokenization on the RWA platform provides a clear and strong market differentiator. This approach enhances the platform's credibility and offers investors more stable asset-based investment opportunities.

We can provide platform participants with stable interest backed by real-world assets on such a competitive platform.

Additionally, within the platform, the AREX utility token will enhance transaction liquidity, Institutional node participation opportunities, preferential interest rates, validate value, integrate markets, facilitate global transactions, and enable governance participation.

We are going to build a market where an extensive range of real world assets can be traded, starting with US residential mortgage notes.

1. Background

Global Fintech Market Status

The report titled "Global Fintech 2023: Reimagining the Future of Finance," released by the consulting firm Boston Consulting Group (BCG) and QED Investors, projects that the global fintech market, currently valued at $245 billion, is expected to grow sixfold to reach $1.5 trillion by 2030.

Technological innovation has enabled the creation of new financial products and services, enhancing customer experiences and reducing costs. Notably, advancements in artificial intelligence, big data analytics, machine learning, and blockchain technology provide fintech companies with opportunities to develop innovative solutions and apply them in the market.

These technological advancements bolster the competitiveness of the fintech industry and improve the efficiency and accessibility of financial services. Therefore, technological innovation is identified as one of the primary drivers of growth in the fintech market.

This is evident as we begin our days checking smartphones. Numerous companies are offering personalized services through consumers' mobile devices, which has sparked a wave of disruptive innovation in the traditionally conservative financial market. Companies that have experienced this

are now competing to adopt new technologies to navigate the emerging Web 3.0 era, aiming to enhance user engagement and loyalty in the evolving financial landscape.

The recent integration of Bitcoin into ETFs has sparked global interest as it represents the beginning of convergence between cryptocurrencies and traditional financial sectors, leading to the creation of an innovative financial ecosystem based on Real World Assets (RWA).

"The market for tokenization of Real World Assets involves not just securities but the tokenization of all real-world assets and their representation on the blockchain. Recently, there has been a significant increase in efforts to place U.S. Treasuries, gold, currencies, funds, and real estate on the blockchain," according to the report 'Tokenization: Overview and Financial Stability Implications' published by the Federal Reserve.

The RWA market is projected to grow to approximately $16 trillion by 2030, as per Boston Consulting Group (BCG).

"The next generation of financial markets and securities will be based on asset tokenization," stated Larry Fink, CEO of BlackRock, emphasizing that the future of finance lies in the tokenization of assets.

As a result, innovative financial services such as Security Token Offerings (STO) and RWA are being developed, with companies aggressively investing in service development.

These assets, ranging from real estate and corporate bonds to artworks, can be tokenized and traded on the blockchain. The vision for RWA holds significant implications in several aspects.

It has the potential to revolutionize asset management and investment methods globally and is expected to play a vital role in the future development of financial markets.

We are poised to leverage our proven expertise and technology in the disruptive innovation landscape of the fintech market to establish a web 3.0-based global RWA platform. Our objective is to provide a enabling the tokenization, conversion, and distribution of real-world assets.

2. Overview.

AREX(Assets Real-World Exchange)

AREX's primary objective is to develop and operate an RWA platform, transforming real-world assets into digital form to enhance liquidity and accessibility. It aims to support the use of cryptocurrencies for payments through a decentralized asset conversion with distinctive mechanisms. Within the platform, AREX utility tokens will facilitate trade liquidity, value verification, market integration, global transaction facilitation, governance participation, and more. This will bring innovation to traditional asset trading and management practices.

Purpose of the RWA Platform

Enhanced Liquidity:

real-world assets, especially high-value ones, often suffer from liquidity constraints and cumbersome trading processes. Tokenization allows these assets to be divided into smaller units for trading, lowering entry barriers and enabling more investors to participate in the market.

Transparency Provision:

Blockchain-based platforms ensure a high level of transparency by permanently and immutably storing all transaction records. This facilitates easy verification of asset ownership and tracking of transaction history, thereby increasing trustworthiness.

Increased Accessibility:

With internet access available worldwide, investors can invest in a variety of assets without geographical restrictions. This particularly offers significant opportunities for investors in developing countries.

Innovative Approach

Fractional Ownership:

By tokenizing assets into smaller units, ownership can be divided into minimum fractions, allowing even small investments in high-value assets such as real estate. This lowers the investment threshold and broadens ownership to more people.

Automated Trading:

Utilizing smart contracts automates the trading process, enabling asset trading without intermediaries. This reduces trading costs and shortens transaction execution times.

Creation of New Markets:

Tokenized assets can be used to develop new types of financial products and services. For example, services like loan offerings using tokenized real estate as collateral or profit-sharing schemes enable portfolio diversification.

Valuation:

Our platform tokenizes real-world assets based on valuation by professional institutions, providing consumer protection and transparency.

This RWA platform, with its innovative approach to tokenizing real-world assets, will revolutionize the structure of financial markets and offer new opportunities to both investors and asset owners. It paves the way for democratizing and streamlining traditional asset management and investment methods.

How AREX bridge Web2 and Web3

1. De-Financial Product(DFP) service

DFP service differentiated services that help both fintech companies and their clients benefit from money transfers, payments, and top up on the application.
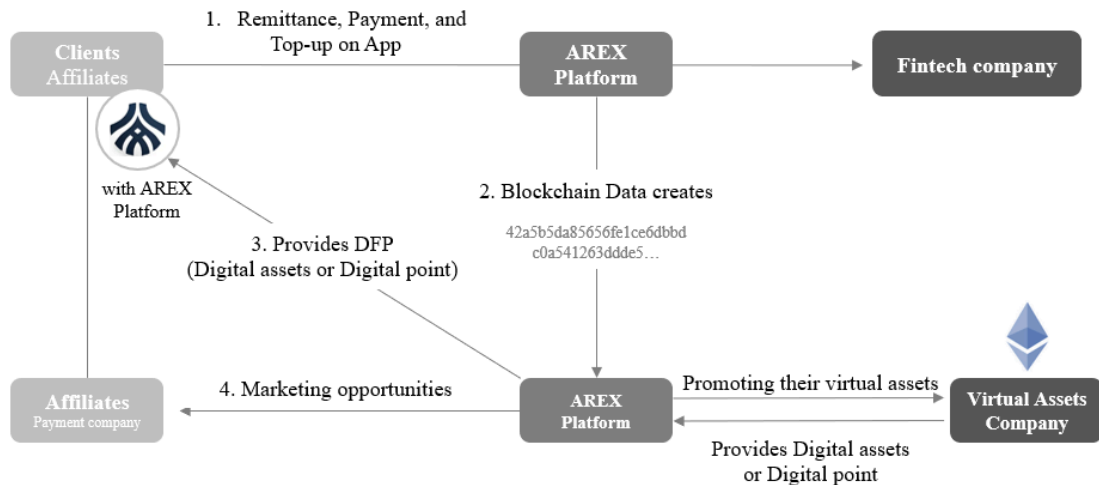
AREX Platform structure

Service Overview
1) Provide De-Financial Product to existing remittances and payment operators.
   (Fintech and Payment operators)
2) Provide virtual asset and digital point rewards to the operating companies' clients.
3) Securing users through a reward platform and maximizing advertising effects.

Service Operation Field
Capitalizing on our history of collaboration with major traditional financial institutions, we aim to build the AREX ecosystem and expand our business through partnerships with leading global fintech companies.

2. RWA(Real-World Assets) business

Through the AREX project, we aim to address many of the challenges inherent in traditional real-world asset trading, thereby creating a more efficient and global market for asset management and investment. The AREX token contributes to solving various issues arising from the tokenization of real-world assets on our RWA platform. With its multifunctional features, the token enhances liquidity, accessibility, efficiency, and transparency of transactions, thereby activating the market.

Real Asset(Web2)	Type	Solution(Web3)
High-value assets like real estate or artwork often have infrequent transactions, making it difficult to liquidate assets easily and accurately reflect market prices.	Liquidity	Tokenizing assets greatly enhances liquidity by enabling trading in smaller units, facilitating global investor access and increasing market liquidity.
Complex documentation and legal procedures, along with the need for various intermediaries such as agents, lawyers, result in additional fees.	Transaction Cost	Utilizing smart contracts for automated trading reduces associated fees significantly.
Investing in specific assets often requires high capital, making it difficult for small investors to enter the market.	Accessibility	Tokenized assets allow fractional investment, enabling broader participation from individuals and small-scale investors.
Inefficient record-keeping and management methods lead to opacity, increasing the risk of fraud.	Transaction Transparency	Blockchain technology ensures permanent, immutable recording of all transactions, guaranteeing transparency in asset ownership transfers and transaction histories.
Market fragmentation based on the geographical location of assets makes it challenging for investors to invest in assets from different regions.	Market Structure	Digital platforms enable trading of assets worldwide, eliminating geographical barriers and allowing trading across a vast market.
The lack of standardized valuation criteria for tokenized real assets makes consumers vulnerable to inadequate protection.	Asset Valuation	Our platform tokenizes assets based on professional institutional valuations, ensuring consumer protection and transparency.

Specialized Competitiveness in the RWA Market

The AREX RWA platform adopts a strategy of tokenizing only underlying assets with assessable value, providing a clear and robust market differentiation. This approach enhances the platform's credibility and offers investors more stable asset-based investment opportunities, fostering a predictable investment environment. These factors will help our platform gain a competitive edge.

Competitors Analysis

Competitors	Type	AREX RWA Platform
While we tokenize various types of assets, the valuation of all assets may not be clear.	Service Scope	Using only assessable assets for valuation ensures investors have a clear understanding of the asset's value.
Transparency in the valuation process may be lacking.	Reliability & Transparency	All asset valuations are conducted by professional institutions and transparently disclosed.
The need for investors to understand various assets can be a barrier to entry.	Market Accessibility	Access to stable and easily understandable asset investments through carefully curated assets.
Low liquidity and unclear valuation may limit investment opportunities.	Liquidity & Investment Opportunities	Targeting assets with clear valuations for stable liquidity and value preservation.

3. AREX Token.

plays a crucial role in the RWA platform through several core functions.

Core functions of AREX token

Provide payment methods and incentives:
Users can purchase underlying assets (ST) within the platform using cryptocurrencies such as BTC, ETH, and USDT. If purchasers use AREX tokens as a means of payment, they will receive more advantageous benefits compared to using other cryptocurrencies. These benefits may include discounts, lower transaction fees, or additional rewards.

Preferential interest rates (Reward on investment in real assets):
Users who deposit AREX tokens will receive not only a preferential interest rate on their investments in underlying assets but also a portion of the profits generated by the platform in the form of dividends. This allows investors to anticipate higher returns from their investments.

Governance Participation
Token holders have the right to vote on key decisions regarding the platform. This includes voting on the direction of platform development, addition of new features, and changes in policy, ensuring that the opinions of token holders directly influence the operation of the platform.

These functionalities establish AREX tokens as not merely a store of value, but as a critical tool within the platform that performs various roles and fosters user engagement. AREX tokens will contribute to enhancing the liquidity, participation, and overall ecosystem health of the platform.

Token Economy

Token Supply and Distribution: Total supply - 5,000,000,000 AREX

Category		DRX(%)	Quantity	Lock	Vesting
Sale	Seed	3.0%	150,000,000	12 months	12 months
	Private	7.0%	350,000,000	12 months	36 months
	Community	0.5%	25,000,000	-	-
Ecosystem		54.0%	2,700,000,000	-	-
Development		30.0%	1,500,000,000	12 months	48 months
Marketing		5.5%	275,000,000	-	-
Total		100.0%	5,000,000,000		

Sale (10.5%).
- Seed (3%): This is the initial investment round for partner institutions.
- Private (7%): Early-stage investment round for individuals and institutions.
- Community (0.5%): Sale to the crypto community prior to exchange listing.

Ecosystem (54%). This allocation supports various activities within the ecosystem, such as interest on underlying assets and staking rewards. It is also allocated to partners who directly contribute to the expansion of the ecosystem.

Development (30%). Allocated to partners who contribute directly to development, including platform development, financial product development, valuation of underlying assets, and regular/special audits.

Marketing (5.5%). Utilized for project branding, participating as hosts in global blockchain events, and expanding the community.

Ecosystem Utilization

Ecosystem Incentives:
Institutions listing underlying assets on the platform require AREX tokens (for node configuration). This necessitates these institutions to purchase tokens from the market, naturally driving up token demand.

Participation Incentives:
By purchasing and utilizing tokens within the ecosystem, listing institutions promote the health of the platform and circulation of the tokens, which supports the continual appreciation in token value.

Promotion of Token Demand

Governance Participation:
Token holders can participate in voting on critical decisions of the platform, which enhances the value of the tokens.

Means of payment and Preferential Benefits:
Additional benefits are provided when payments are made with AREX tokens on the platform, encouraging users to choose AREX tokens over other cryptocurrencies.

Security and Regulatory Compliance

Regulatory Compliance:
The operation and circulation of the tokens strictly adhere to relevant regulations, ensuring investor protection and the legal stability of the platform.

Token Security Enhancement:
Advanced security technologies are applied to ensure the safe storage and transaction of tokens.

These structures position the AREX tokens as a pivotal economic tool within the platform. Closely linked to various activities of the platform, it naturally fosters active participation by ecosystem participants and increases token demand. This economic structure plays a vital role in ensuring the sustainable and stable growth of the AREX tokens.

Technical Structure

Blockchain Infrastructure. Initial development will use the 'ERC20' standard.

Initially, AREX tokens will be issued based on the widely recognized and commonly used ERC-20 standard. Depending on the platform's requirements and environment, we are considering transitioning to other blockchain technologies or even developing our own mainnet as needed. This process ensures the flexibility of AREX tokens and prepares for various potential scenarios that may arise in the future.

Considerations for Future Technological Transition:

Scalability and Transaction Costs:
As the platform grows, transaction costs and processing speeds become critical. We are considering transitioning to other blockchain platforms that can address these issues.

Converting Technical Requirements:
We are examining a shift to blockchains that offer more specialized functionalities or enhanced security measures tailored to the specific needs of the platform.

Blockchain Migration Plan:
We are developing and preparing to execute a detailed strategy for migrating to other blockchains.

Smart Contract

(1) Preferential Benefits and Incentives Mechanisms

Computational Logic Example

Token Discount Rate Calculation:
This function calculates the discount rate applied when making payments with AREX tokens.

```
function calculateDiscount(uint256 amount) public view returns (uint256) {
    uint256 discountRate = 5; // Discount rate 5%
    return amount * discountRate / 100;
}
```

Interest Distribution Mechanism:
This logic implements an annual interest rate of 10% on deposited AREX tokens.

```solidity
function annualInterest(uint256 deposit) public view returns (uint256) {
    uint256 interestRate = 10; // Annual interest rate 10%
    return deposit * interestRate / 100;
}
```

(2) Governance Participation

Implementing voting capabilities

```solidity
contract Governance {
    mapping(address => uint256) public balances;
    mapping(uint256 => mapping(address => bool)) public votes;

    function vote(uint256 proposalId) public {
        require(balances[msg.sender] > 0, "No DREX tokens held");
        require(!votes[proposalId][msg.sender], "Already voted");

        votes[proposalId][msg.sender] = true;
    }
}
```

Voting System:
Only AREX token holders are eligible to vote, and voting rights are allocated based on the number of tokens held.

Vote Limitation:
Once a token holder has voted on a proposal, they cannot vote again on the same proposal.

4. Roadmap. plays a crucial role in the RWA platform through several core functions.

2022-2023

STO Research and Development:
Conduct research and foundational development related to Security Token Offerings.

Partnerships with Underlying Asset Providers:
Establish key partnerships for supplying underlying assets to the platform.

ST(Security Token) Product Design:
Initial design and structuring of security token products.

STO Platform Development (Private Chain):
Develop the STO platform on a private blockchain.

2024

Q1 to Q2

RWA Research and Development:
Plan RWA business based on the experience from STO research and development.

RWA Platform Development (for Public Chain):
Develop the RWA platform using resources from the STO platform.

Partnership with AREX project operating company:
Structure and legalize the project framework.

Q3 to Q4

Issuance of AREX Tokens:
Begin official token issuance.

Seed Round Investment:
Raise initial funding.

Launch of AREX Platform Beta Version:
Release AREX platform for De-financial Product(DFP) service.

Partnerships with Global Fintech Companies for DFP service:
Enhance project visibility and expand the global network.

Participation in Global Blockchain Conferences

Private Sale:
Token sale for additional fundraising.

Listing on Two CEXs (Cryptocurrency Exchanges):
List AREX (token) on major cryptocurrency exchanges.

Design of AREX Token Products within the RWA Platform:
Develop platform-specific products.

2025

Q1 to Q2

RWA Platform Beta Testing:
Test and improve based on user feedback.

Establishment of the A.REX Ecosystem within the RWA Platform:
Establish and commence operations of the token ecosystem.

Launch of AREX Token Products within the RWA Platform

Q3 to Q4

Expansion of Underlying Assets (Node Expansion):
Integrate more assets and partners into the platform.

Expansion of Global Service Partnerships:
Broaden international market and service partnerships.

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