QGEX

QGEX

QUANTUM GLOBAL EXCHANGE

white paper

The world's first AI driven protocol exchange for RWA self evolution

introduction

Since the birth of Bitcoin, digital assets based on blockchain technology have flourished. Nowadays, the types and influence of digital assets are increasing day by day. The formation of fair prices for digital assets, exchange transactions between different digital assets, as well as related customer service, regulatory compliance, and even derivative trading are all fundamental requirements.

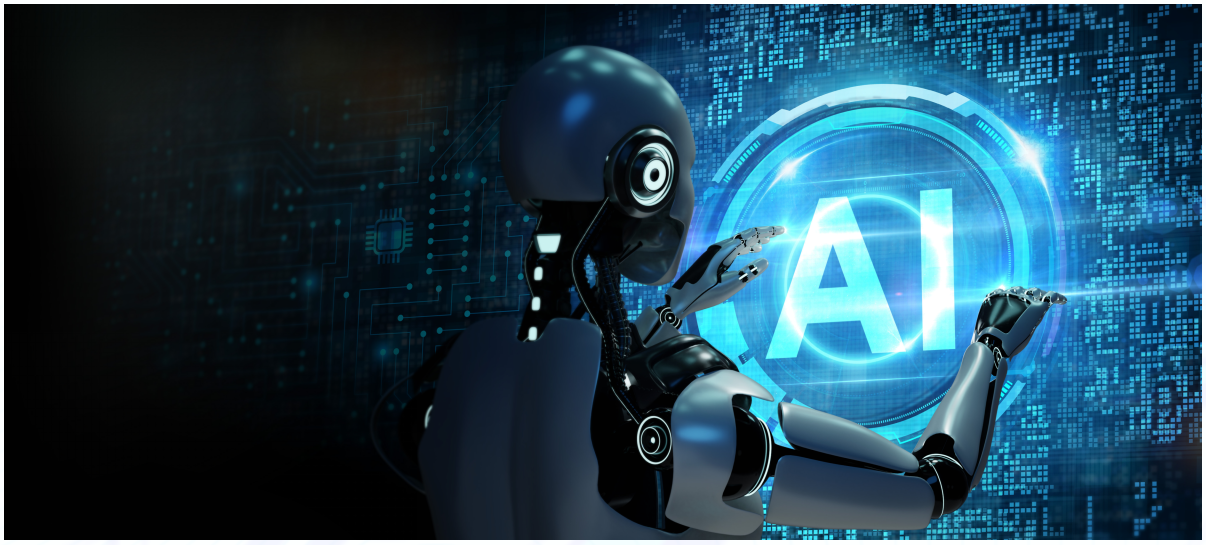
Currently, various digital asset trading platforms are carrying this demand. In the short history of digital assets, these platforms have played a significant role, but serious accidents have also occurred. These problems are not so much attributed to the trading platforms themselves, but rather to the fact that traditional trading platforms are no longer able to adapt to the requirements of the new digital asset era.

As a "transit station" for various currencies, the exchange is an indispensable part of the entire blockchain ecosystem. The future development trend is bound to be comprehensive, and the preceding factors may only be some essential elements for the future development of the exchange.

What is the trend of future digital asset exchanges? Safer, more transparent, deeper transactions, and the ability to withstand greater risks may not be the ultimate answer. QGEX believes that whether it is the popularity of decentralization or the competition for centralized trading platforms, always adhering to the protection of investors' core rights is the fundamental basis for the long-term development of a trading platform, and this is also the foundation of QGEX's existence.

Faced with the strong demand for investment in cryptocurrency assets in the market. QGEX has established a connection between ordinary investors and digital asset managers through its own efforts, and solved the trust problem of ordinary investors in asset management services. It has proposed QGEX, the world's first AI driven protocol exchange for RWA self evolution.

The white paper elaborates on the market demand, products and services, business model, technical roadmap, and token issuance mechanism of the QGEX trading platform.



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1 Global market background

1.1 Global Trends in Digital Asset Development

Blockchain technology is a distributed ledger constructed using modern cryptography, distributed network technology, and other techniques. Bitcoin is the first application based on blockchain technology in history, realizing the digital currency that hackers dream of being secure, secretive, and independent of central banks or financial institutions.

Since the birth of the first Bitcoin on January 3, 2009, digital asset exchanges have also emerged. According to incomplete statistics, there are currently over 6000 digital asset exchanges of all sizes in the world, but due to severe homogenization competition, most of the traffic is concentrated on some large and well-established exchanges.

Taking Binance, the world's largest digital asset exchange, as an example, since its establishment in June 2017, it has over 8 million registered users, more than 90 million monthly visits, and an average daily trading volume of over 5 billion US dollars. In the bear market of Bitcoin's decline, public discussions and media coverage have accumulated a large number of new users for the upcoming bull market. The attitudes of various countries towards digital assets have gone from prohibition to recognition, and some countries have even begun to legislate to support digital assets, indicating that digital assets will form a new historical economic trend.

At present, the number of participants and followers of digital assets worldwide has reached hundreds of millions, with a daily transaction volume of around 20 billion US dollars and a total market value of nearly 500 billion US dollars. However, this is only the initial stage of the digital asset trading market. Compared to the global stock market, with an average daily trading volume of over 2 trillion US dollars and a total market value exceeding 120 trillion US dollars, even if the size of digital asset trading, finance, and markets only reaches half of the stock market in the future, there is still more than a hundred times the growth potential compared to now.

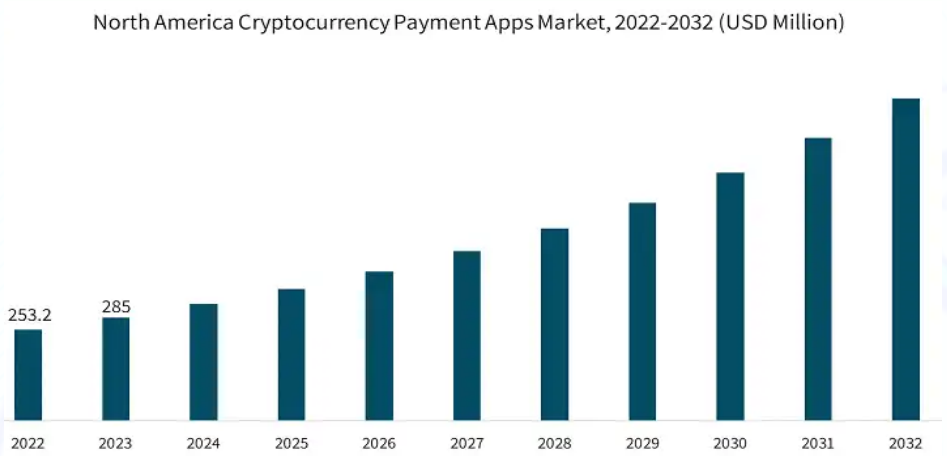

Figure 1: Global Digital Currency Market Size

1.1.2 Development Status of Digital Asset Exchanges

At present, the secondary market for blockchain digital assets is developing rapidly. According to incomplete statistics, there are over a hundred digital asset trading platforms worldwide, with an active investor base of over ten million. According to data from Coin Maket cap, since October 2017, the daily trading volume of the global digital asset market has exceeded $20 billion, with an overall market value exceeding $400 billion.

As one of the most important circulation links in the entire cryptocurrency market ecosystem, exchange platforms play an irreplaceable and important role. The most important role of an exchange is to output the value of the project's encrypted digital currency to all investors, tightly connecting them together. With the development of cryptocurrency, the number of digital asset exchanges is constantly increasing. There are 28 mainstream digital currency exchanges on Coin Market Cap alone, and all digital currency exchanges worldwide currently exceed 12000.

However, most of the existing trading platforms on the market have not engaged in traditional financial trading business, and their trading system technology architecture is too rudimentary to meet the professional level financial system requirements, which cannot bear efficient concurrent transactions and is prone to system failures during trading peaks, easily causing customer losses.

In addition, we also found that the business processes of most trading platforms are not well handled, with missing functions, and cannot fully meet the needs of investors. In addition, due to the different currencies selected for listing on various platforms and the lack of liquidity between them, the market depth of a single platform is relatively shallow, making it easy for market makers to manipulate and causing unnecessary losses to ordinary investors.

The most important point is that there is currently no credible third-party institution involved in the custody of blockchain digital assets, and all customer assets are kept by the platform itself, which requires extremely high system security from the platform. Due to the special nature of blockchain digital assets, they are easily targeted by various malicious individuals. Once a security loophole occurs, it can easily cause great losses to the platform. Currently, there have been multiple incidents of exchange theft, resulting in damage to the assets of many users.

1.2 Real asset (RWA) docking requirements

With the increasingly mature development of digital asset exchanges, the high-yield cycle model relying solely on on on chain assets is no longer sustainable. The industry is beginning to move from an "internal circulation" to an "external circulation", connecting Real World Assets (RWA) with the on chain financial system, becoming a key breakthrough for the next stage of development of digital asset exchanges.

1.2.1 The urgent demand for RWA in the market is accelerating its release

The DeFi incremental market is stagnant, and RWA has become a breakthrough: the current DeFi total lock up volume (TVL) has experienced a decline from a peak of $180B to a stable range, and the growth of new users and liquidity has significantly slowed down. Relying solely on on on chain encrypted assets is no longer sufficient to sustain the long-term growth of DeFi, and there is an urgent need to introduce larger volumes of real assets to support new capital inflows and value capture.

The real asset stock market is huge, with enormous potential for value connectivity: the total size of traditional assets such as real estate, bonds, stocks, commodities, and accounts receivable worldwide exceeds hundreds of trillions of dollars, and only 0.1% of it needs to be released to inject a hundredfold of liquidity into the on chain ecosystem, bringing revolutionary growth engines to DeFi.

1.2.2 Various types of RWA are gradually being put on the chain, with diversified development scenarios

Real estate and property rights: Through real estate sharing and rental income tokenization, investors can participate in the global real estate market on the chain, achieving high liquidity and low threshold asset allocation.

Debt certificates and debt instruments: Traditional accounts receivable, supply chain financial instruments, etc. are confirmed, split, and traded through blockchain, becoming stable income on chain investment products that meet the strong demand of institutional and individual investors for "fixed income assets".

Commodities and raw materials: Bulk commodities (such as gold, oil), agricultural products, etc. are mapped onto the chain in the form of RWA tokens, providing physical asset support for decentralized finance, and combining with oracle dynamic pricing for derivative trading.

Enterprise credit assets and cash flow: The future revenue, copyright usage rights, data assets, etc. of small and medium-sized enterprises can be monetized on the chain to expand financing channels and enrich the types of assets on the chain.

1.2.3 RWA docking is the bridge that drives institutions to enter Web3

The compliance portal for traditional financial institutions: RWA provides a more acceptable form of on chain financial participation for institutional funds. By connecting assets with real legal ownership, DeFi protocols can more easily obtain regulatory exemptions or license approvals, attracting capital from banks, funds, insurance and other institutions to gradually enter the market.

Building an on chain credit system: RWA connects the legal framework and asset evaluation logic of the real world, helping to establish a compliant, transparent, and risk controllable on chain credit system, and promoting the development of digital transactions.

Enhancing the risk resistance of on chain assets: By connecting stable income real assets as collateral, it helps to hedge the systemic risks brought by the drastic fluctuations in cryptocurrency prices, thereby enhancing the overall stability of the ecosystem.

1.2.4 Realistic challenges and solutions for RWA docking

The biggest challenge in promoting RWA is how to achieve consistency in ownership between on chain assets and offline assets, which is the difficulty of asset certification and legal compliance. We need to use mechanisms such as trusted intermediaries, off chain regulatory compliance frameworks, and digital credential authentication to address legal boundary issues.

The accuracy issue of oracle and pricing mechanism: Real asset prices need to be linked through trusted oracle, and data source selection, price update frequency, and manipulation resistance have become important challenges. The adoption of multi oracle redundancy mechanism and off chain audit mechanism is currently the mainstream solution in the industry.

Lack of unified standards and fragmented protocols: RWA tokenization currently lacks industry consensus standards, and the underlying logic, collateral ratio, and liquidation models of assets issued by different protocols are different, which limits the interoperability and market liquidity between assets.

1.3 QGEX's Core Strategy and Transformation for RWA

1.3.1 QGEX's Core Strategy for RWA

Building a trustworthy bridge mechanism: QGEX ensures that each RWA's on chain representation has genuine, legal, and traceable asset support through off chain audits, digital trust structures, and compliance custody mechanisms.

Introducing multiple types of RWA products: The platform will gradually introduce diversified assets such as debt, real estate, and commodities, build a stable income asset pool, support algorithm stability mechanisms, and the national treasury reserve system.

Modular protocol structure: The QGEX protocol supports standardized asset issuance and trading interfaces, is compatible with multi chain deployment, and has scalable governance logic, making it easy to connect with multiple types of RWA service providers in the future.

1.3.2 QGEX brings new changes

The influence of digital assets and blockchain technology has also been increasing over time. The fair price formation of digital assets, exchange transactions between different digital assets, as well as related customer service, regulatory compliance, and even derivative trading demands are increasingly evident in the market. Various digital asset trading platforms are carrying this demand, and traditional trading platforms are no longer able to meet the requirements of the new digital asset era.

In this context, QGEX, the world's first AI driven trading protocol exchange with self evolving RWA, emerged in response to the trend. QGEX combines RWA as the core with the matching trading rules of a centralized exchange, as well as the intelligent exchange with blockchain underlying logic specifications. Based on the principle of 100% equality and transparency in trading, it accepts the supervision of all users and is committed to building a secure, stable, open, transparent, equal and trustworthy global blockchain digital asset trading platform.

2 Introduction to QGEX Exchange

2.1 Origin of QGEX Exchange

Although the cryptocurrency trading market is thriving, users generally face pain points such as low trading efficiency, high costs, unpredictable market fluctuations, and dispersed liquidity. Traditional trading platforms often cannot meet the rapidly changing market demands, especially for retail and institutional investors, who lack intelligent tools to optimize trading decisions and asset management. This has inspired the mission of the AGI team to create a global trading platform centered around RWA+AI, empowering users to stand out in the complex and ever-changing cryptocurrency market.

In 2025, the trial version of QGEX exchange will be launched, and its core technologies "Quantum Flux Algorithm" and "Liquidity Fusion Engine" will solve trading delays and high costs through real-time market analysis and multi exchange liquidity integration. In 2026, QGEX will officially become the world's leading AI driven trading platform, providing users with an intelligent and transparent trading experience, helping them accurately capture opportunities in the cryptocurrency market.

QGEX has chosen RWA+AI as its core driving force to process massive market data in real-time, predict price trends, and optimize trading strategies through big data analysis and machine learning. This not only reduces the complexity of manual trading for users, but also solves the problem of losses caused by information asymmetry or slow response. The intelligent routing and dynamic optimization functions of AI further ensure low latency and low-cost transactions, helping users achieve higher investment returns in highly volatile markets.

2.2 Introduction to QGEX Exchange

QGEX Exchange is the world's first RWA self evolving AI driven trading protocol exchange initiated by AGILabs, dedicated to reshaping the cryptocurrency trading ecosystem through artificial intelligence technology. As a leading platform for AI driven trading, QGEX focuses on self-developed intelligent trading as its core, significantly improving on chain trading efficiency and market liquidity through real-time big data analysis and AI driven trading decisions. The platform provides intelligent routing, dynamic optimization, and decentralized architecture, supporting mainstream cryptocurrencies, stablecoins, and DeFi tokens, providing a low latency, low-cost, and secure trading environment for individual investors, quantitative teams, blockchain projects, and exchange partners.

QGEX serves the global market, supports multilingual and localized operations, collaborates with regulatory agencies to ensure compliance, and provides 24/7 customer support. The platform simplifies retail investment through AI trading recommendations, empowers quantitative trading through high-performance APIs, and provides liquidity support for blockchain projects. In 2025, QGEX plans to launch AI asset management consultants and cross chain trading capabilities to continue leading innovation in digital asset trading.

QGEX Exchange is one of the core products of AGILabs, highly aligned with the mission of the AGI project, committed to optimizing the cryptocurrency trading ecosystem through cutting-edge AI technology. As a trading platform practice of AGI, QGEX applies AGI's AI innovation to practical trading scenarios, providing users with intelligent tools to help capture market opportunities, while promoting AGI's vision of building a transparent and efficient global digital asset trading ecosystem.

2.3 QGEX's original intention and vision

QGEX is committed to becoming the world's first AI driven trading protocol exchange comprehensive service platform for RWA self evolution. It will rely on an international technical team lineup, work together with high-quality investors and advisory teams, and use high-performance blockchain technology combined with deep optimization of the platform's core business and mature experience verified by the market to invest strong resources to create an ideal digital trading platform for global trading users.

Our vision is to build QGEX into the world's first AI driven RWA financial infrastructure platform for small and medium-sized enterprises by 2028. Enable peer-to-peer commercial assets to obtain the same liquidity as multinational corporations, with an expected service coverage of over 3 million small and medium-sized merchants in 180 countries worldwide.

World Bank data shows that:

Small and medium-sized enterprises account for 90% of the global enterprise population, but only receive 23% of bank loans. The minimum threshold for traditional asset securitization is $500 (excluding 90% of small and medium-sized enterprises). QGEX can solve 90% of the financing problems of small and medium-sized enterprises through AI computing and RWA, helping them to put their assets on the chain and create a trillion yuan ecosystem together!

In the future, QGEX will build a global ecosystem based on technology research and development, production research, open platforms, and related investments.

2.4 Features and highlights of QGEX platform

2.4.1 Characteristics of QGEX Platform

Global market operation capability: The core team members of QGEX come from multiple countries around the world and have international backgrounds. The exchange will establish market and research and development stations in important continents and cities around the world, and will develop differentiated products and targeted market strategies for different global markets.

Strong technical foresight: All members of the QGEX team are from world-famous Internet and financial industry practitioners, graduated from world-famous universities, and have extremely cutting-edge knowledge architecture and extremely complete technical reserves. Having strong research and development capabilities, able to achieve productization of the latest technologies.

Efficient resource integration capability: The QGEX team has numerous partners in the blockchain and traditional financial industries, including but not limited to various financial institutions, venture capital firms, investment funds, media units, virtual currency mining pools, etc. This lays a solid foundation for the future business development of the platform.

ACRA
Accounting And Corporate Regulatory Authority

Certificate Confirming Incorporation of Company

THIS CERTIFICATE IS PRESENTED TO

QGEX INVESTMENT FOUNDATION PTE. LTD.

OF UEN

202439730E

The company was incorporated under the Companies Act 1967, on and from **27 Sep 2024**, and is a **EXEMPT PRIVATE COMPANY LIMITED BY SHARES**.

TAN YONG TAT
ASST REGISTRAR OF COMPANIES & BUSINESS NAMES
ACCOUNTING AND CORPORATE REGULATORY AUTHORITY SINGAPORE

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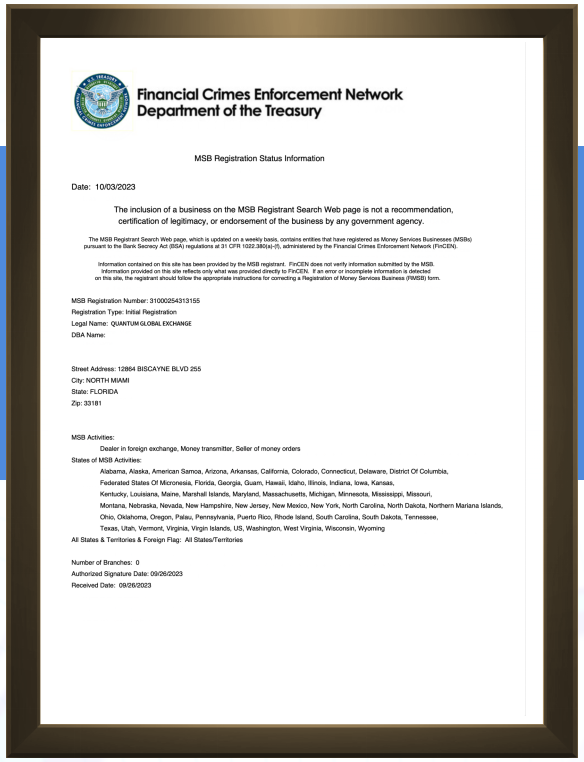

Financial Crimes Enforcement Network
Department of the Treasury

MSB Registration Status Information

Date: 10/03/2023

The inclusion of a business on the MSB Registrant Search Web page is not a recommendation, certification of legitimacy, or endorsement of the business by any government agency.

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MSB Registration Number: 31000254313155
Registration Type: Initial Registration
Legal Name: QUANTUM GLOBAL EXCHANGE
DBA Name:

Street Address: 12864 BISCAYNE BLVD 255
City: NORTH MIAMI
State: FLORIDA
Zip: 33181

MSB Activities:
Dealer in foreign exchange, Money transmitter, Seller of money orders
States of MSB Activities:
Alabama, Alaska, American Samoa, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District Of Columbia, Federated States Of Micronesia, Florida, Georgia, Guam, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Marshall Islands, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Northern Mariana Islands, Ohio, Oklahoma, Oregon, Palau, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Virgin Islands, US, Washington, West Virginia, Wisconsin, Wyoming
All States & Territories & Foreign Flag: All States/Territories

Number of Branches: 0
Authorized Signature Date: 09/26/2023
Received Date: 09/26/2023

2.4.2 Highlights of QGEX Platform

(1) International platform: an international multilingual frontline team to maintain the operation and sustainable development of the platform;

(2) Financial grade security: using high-performance graphene blockchain technology;

(3) High speed order matching: buying and selling digital currencies is faster and more convenient;

(4) Tailored Assets: Individuals, companies, and organizations can create and publish customized digital assets on AGI;

(5) Value creation loop: User behavior contribution → Training AI models → Enhancing strategy returns → Attracting more users

(6) Compliance with KYC and AML: Eliminate fraudulent transactions and create a legal and secure trading environment;

(7) Online customer service: 24-hour enthusiastic service throughout the year;

(8) Quick payment: instant recharge and withdrawal;

(9) Token Scarcity: Deeply Binding AGI Consumption to Ecological Core Functions

(10) Multi platform terminal access: supports iOS, Android, and desktop transactions.

3 QGEX technology advantages

3.1 Safe and stable, with multiple technical guarantees

For digital asset trading, security is the key. QGEX Exchange adopts a comprehensive approach of mobile security, real name authentication security, Google dual authentication security, offline BTC wallet, server SLB balance and simultaneous backup to ensure the safety and security of users and funds, and provides protection for users worldwide from the following three aspects:

3.1.1 Consensus mechanism

Various consensus mechanisms have been proposed for consensus algorithms in blockchain technology, with the most common being PoW and PoS systems. But whether these consensus mechanisms can be implemented and ensure true security requires more rigorous proof and the test of time.

The asymmetric encryption algorithms used in blockchain may become increasingly fragile with the development of mathematics, cryptography, and computing technology. Secondly, under the mechanism of Bitcoin, the private key is stored in the user's local terminal. If the user's private key is stolen, it will still cause serious losses to the user's funds.

On the level of protecting user private keys from theft, QGEX Exchange has a safe deposit box strategy, a distributed custody strategy, and a three out of two private key open strategy. Regardless of the custody method, it is always very confidential, ensuring that one copy is lost and the others are replenished later.

3.1.2 Smart Contract

The verification node of QGEX exchange can accept three types of transaction types for state replication machines and BFT consistency protocol, which are:

◆ QGEX deploy transaction： Using smart contracts written in Go and JAVA as parameters, the smart contracts are initialized, deployed, and ready to be called on the validation node;

◆QGEX transfer transaction:Call the transaction of a previously deployed specified smart contract, with parameters specified by the transaction type; Smart contracts execute transactions and read and write them to the KV database accordingly, returning whether they succeed or fail;

◆ QGEX Inquiry transaction:Read the persistent worldview state directly from the node and return relevant data entries. QGEX considers the internal economic stability of the platform when building smart contract functions, appropriately addresses inflation and tightening issues, quickly resolves technical difficulties encountered, and uses consensus mechanisms to enter or renew after obtaining consumer voting consent.

3.1.3 Improvement of Traditional Information System Security

The digital asset exchange consists of web servers, backend databases, and other elements. Users can access the server as clients through various methods such as browsers, mobile apps, and APIs provided by the exchange. Because the main threats faced come from server software vulnerabilities, improper configuration, DDoS attacks, server-side web program vulnerabilities (including technical vulnerabilities and business logic defects), office computer security issues, internal personnel attacks, etc.

For such security threats, Binance refers to the security standards and best practices of the traditional financial industry and combines them with its own situation to improve the construction of its security system. Through penetration testing, code auditing, and other security services, identify and fix security vulnerabilities in the system, and ensure the security of user assets through mobile security, real name authentication security, Google dual authentication security, server SLB balancing, and simultaneous backup.

3.2 High performance matchmaking engine for faster transactions

QGEX adopts advanced distributed cluster architecture and microservice development methods, and independently develops a matching transaction engine. By adopting a distributed architecture, each transaction pair can be deployed on different servers for matching, thus achieving linear scalability. Supports high concurrency capability, matches transactions quickly, and ensures server stability.

The trading part of the digital asset exchange is the core of the entire platform, and its technical value is relatively high. The way of matching transactions requires a very high system performance consumption. As the number of users increases, its trading volume also increases. Matching transactions are based on time priority and price priority, requiring fast and accurate speed, as well as strong trading logic. This requires high requirements for module technology development experience and technical foundation.

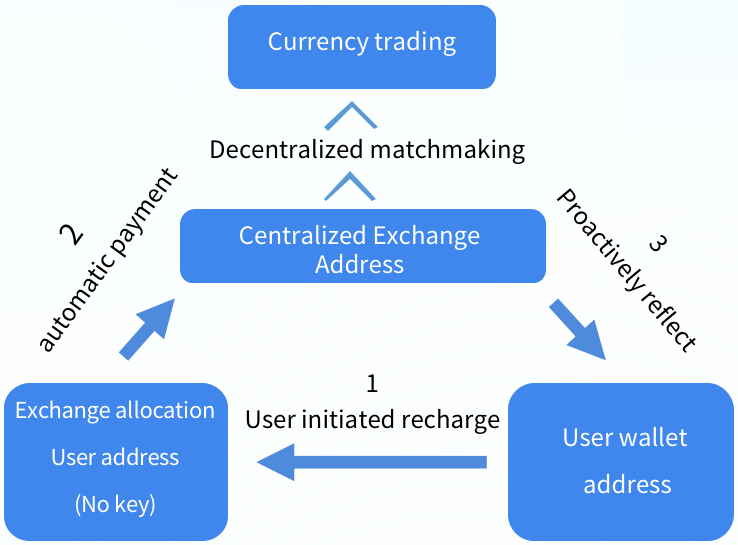


Figure 4: QGEX Matching Trading Algorithm

3.3 51% denial of service attacks with higher security

There is a theory that suggests that in the Bitcoin network, the majority of miners are honest miners. Because miners' profits mainly come from two parts, one is the mining reward given by the network after winning the computing power competition. Initially, it was 50 bitcoins, but as the number of blocks increases, this reward gradually decreases; The other part is to confirm the transaction fee given by the payer during the transaction. If 51% attacks occur repeatedly, users will question the security of the digital currency and lose trust. Bitcoin will lose its value if it loses its user base, and the Bitcoin obtained by miners through 51% attacks will also lose its value.

So, conducting a 51% DOS attack would require the attacker to incur huge costs to buy off the entire network, and the mining profits of users would increase, making 51% double payment attacks more expensive. In QGEX, communication between all nodes is encrypted for two reasons: preventing packet filtering and making it more difficult to determine new transaction sources, which would make the QGEX system more private and secure.

3.4 Dynamic cloud scaling technology, capable of supporting millions of high concurrency levels

When there are significant market fluctuations and various scenarios such as the distribution of candies on the QGEX platform, a large number of users will enter QGEX, and the platform's user base will be very large. This is a challenge for the QGEX platform, as well as for its instant high concurrency trading.

In view of this, the QGEX platform has adopted dynamic cloud expansion technology, which can ensure that even with a large influx of users, the QGEX platform can still maintain smooth and normal operation.

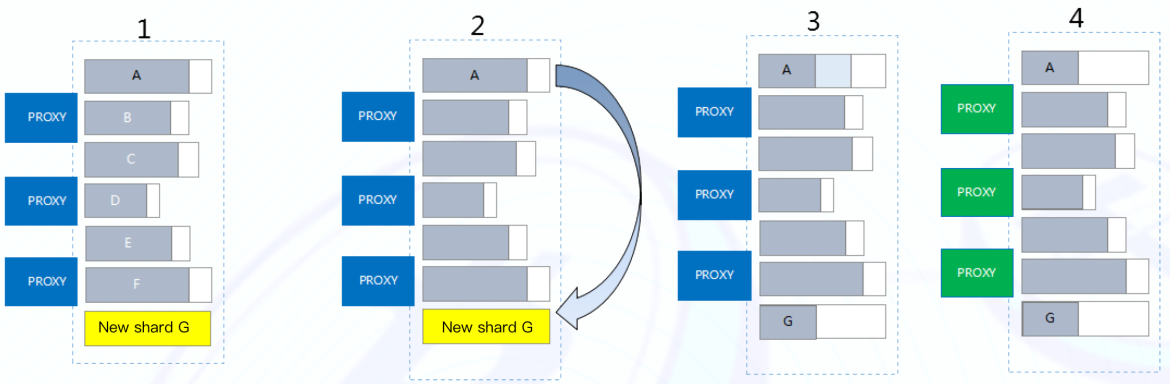


Figure 5: QGEX Dynamic Cloud Expansion Technology

The entire architecture of dynamic cloud scaling is divided into two parts by QGEX: web applications and smart devices

Web application: The web user forwards the request to the function calculation through the API gateway for processing. The function calculation updates the processed content to the database and updates the index, simulating a process of transaction update and data processing. Another function calculation pushes the search engine of the index update to external customers for retrieval, completing the entire data loop processing.

Smart devices: The device status is pushed to the function calculation processing through the IoT gateway, and the function calculation sends the message through the mobile push service through the API interface for status confirmation and management on the mobile end.

3.5 QGEX risk control system, safeguarding funds

QGEX has entered into a deep strategic cooperation with GXS Industrial Information Treasure to establish a risk control portrait system, which includes three functional modules:

(1) Identity verification

In response to anti money laundering laws and regulations in various countries, the QGEX platform is integrated with the GXS Public Trust KYC system to verify the identity of basic citizen information submitted by registered users, ensuring that all registered users on the platform are real name users.

(2) Credit certification

The QGEX platform adopts the GXS Gongxinbao risk control engine to regularly review and filter the credit information of registered users. It also conducts risk warnings, transaction restrictions, fund freezing, account freezing and other processing operations on accounts with low financial credit to prevent financial risks in advance and improve the security of platform transactions and funds.

(3) User Profile

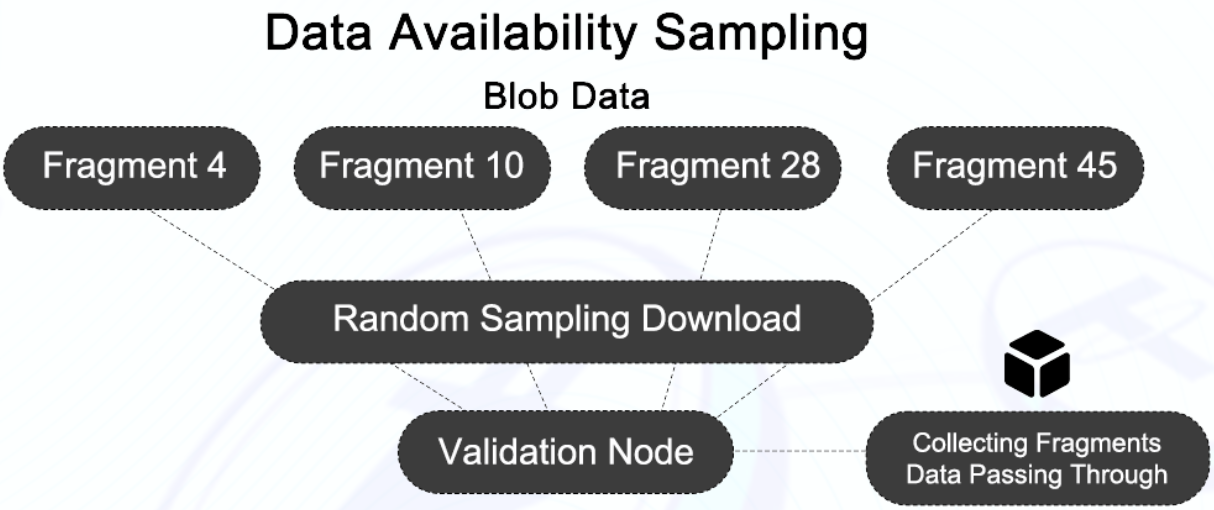
The QGEX platform has integrated with the GXS Gongxinbao data exchange. Based on the underlying data source of GXS Gongxinbao, it analyzes the past behavior of users on the platform and completes user profiles. The profile results will be visible to all platform users, making it easier for users to better understand the information of their trading partners when trading

3.6 Cross shard technology lays the foundation for future ecosystems

The unavoidable challenge of a sharded blockchain architecture is how to strike a balance between data consistency and performance when handling cross shard data interactions. A design that achieves strong consistency is often accompanied by complex transaction processes and data locking, which can significantly drag down performance; Although lower data consistency requirements can improve development work and blockchain performance, they often increase the difficulty of developing smart contracts and bring potential trust and security crises.

QGEX provides a flexible, free, and efficient cross shard interaction solution. QGEX provides two cross shard interaction methods, namely low-cost cross shard addition of UTXO type data and higher cost but monotonically consistent cross shard modification of account type data. Developers can choose from them based on specific business needs, and try to implement high-frequency cross shard operations with low-cost UTXO type data. QGEX also divides the entire network into multiple shard modules, each containing a group of miners and storage nodes. The storage spaces of the sharding modules are independent of each other and do not share any data. The way of interaction between shards is to send messages asynchronously to each other. After each shard completes block generation, a set of instructions will be generated based on the confirmed transaction calculation results to perform data operations on itself and other shard storage nodes. Miners will directly execute data operation instructions within their own shards, while splitting the remaining instructions and sending them to the corresponding shards. When a new block is generated from a corresponding shard, the miner to which it belongs modifies the data within that shard. Ensure monotonic write consistency across shard data by sequentially processing instructions from other shards.

The operation of sending instructions to other shards is an asynchronous operation, and after sending, miners can immediately start the next round of block output without waiting for receipts from other shards.



3.7 Performance expansion support, infinite possibilities of ecology

The unavoidable challenge of a sharded blockchain architecture is how to strike a balance between data consistency and performance when handling cross shard data interactions. A design that achieves strong consistency is often accompanied by complex transaction processes and data locking, which can significantly drag down performance; Although lower data consistency requirements can improve development work and blockchain performance, they often increase the difficulty of developing smart contracts and bring potential trust and security crises.

QGEX provides a flexible, free, and efficient cross shard interaction solution. QGEX provides two cross shard interaction methods, namely low-cost cross shard addition of UTXO type data and higher cost but monotonically consistent cross shard modification of account type data. Developers can choose from them based on specific business needs, and try to implement high-frequency cross shard operations with low-cost UTXO type data. QGEX also divides the entire network into multiple shard modules, each containing a group of miners and storage nodes. The storage spaces of the sharding modules are independent of each other and do not share any data. The way of interaction between shards is to send messages asynchronously to each other. After each shard completes block generation, a set of instructions will be generated based on the confirmed transaction calculation results to perform data operations on itself and other shard storage nodes. Miners will directly execute data operation instructions within their own shards, while splitting the remaining instructions and sending them to the corresponding shards. When a new block is generated from a corresponding shard, the miner to which it belongs modifies the data within that shard. Ensure monotonic write consistency across shard data by sequentially processing instructions from other shards.

The operation of sending instructions to other shards is an asynchronous operation, and after sending, miners can immediately start the next round of block output without waiting for receipts from other shards.

QGEX adopts a dual chain architecture design, which is divided into a user chain (UBC) and a transaction chain (TBC). QGEX optimizes both chains separately, which not only ensures user privacy but also saves a lot of computing power.

The dual chain architecture is load balanced, capable of both parallel and serial computing, and has good scalability. Therefore, adding servers can increase blockchain speed. In the future, QGEX will continue to expand its ecosystem applications based on this.

4 Diversified application scenarios

4.1 QGEX decentralized exchange

QGEX is a global decentralized comprehensive trading platform that provides diverse system functions such as cryptocurrency trading, futures contracts, financing and financing, over-the-counter trading, full network trading, decentralized trading, etc., which can meet the trading needs of various investors. QGEX's trading system has a comprehensive security mechanism and powerful underlying architecture, which can bring investors the ultimate trading experience. In addition, the unique full network trading model of QGEX platform will effectively connect with the market depth of major exchanges around the world, providing higher liquidity.

At the same time, QGEX decentralized exchange draws on the Road Seal protocol and innovatively adopts a loop matching protocol to extend matching to multiple digital assets, completing the matching of transactions between multiple digital assets through the trading loop. And placing order generation, propagation, and matching outside of the blockchain can avoid transaction congestion on the chain and remove the performance bottleneck of blockchain for order table updates and maintenance. Loop matching helps improve market liquidity, increase transaction confirmation speed, and reduce transaction costs. In the future, we believe that QGEX will become the world's largest liquidity provider for digital assets, relying on a comprehensive online trading system.

4.2 QGEX Global Community

QGEX has always focused on community building. In the future, QGEX will collaborate with QGEX enthusiasts and cryptocurrency enthusiasts around the world to establish a QGEX community, solving the confusion of global investors in the cryptocurrency market under the blockchain environment. Analysts and market leaders from QGEX Research Institute will provide cryptocurrency hot topic interpretation, currency analysis, project rating and other content in the form of sharing guests, meeting investors' personalized needs for investment information, helping investors discover valuable trading strategies and asset management products, eliminating information blind spots and thinking blind spots, reducing uncertainty in investment decisions, enhancing community activity and cohesion. As the token of the QGEX ecosystem, QGEX will play an important role in motivating community members to participate in activities and contribute to the community. Currently, the core users of QGEX have formed a strong consensus and highly autonomous community economy, and its scale is constantly expanding.

In terms of community ecological construction, QGEX has established good cooperative relationships with numerous project parties, exchanges, research institutions, rating agencies, media, industry leaders, analysts, etc. They can use the QGEX platform to publish projects, disclose project progress, and build communities; Numerous self media influencers and analysts have joined the QGEX platform to interact and communicate with community users. While promoting the development of its own community ecology, QGEX will also contribute its own strength to the development of the entire blockchain industry.

4.3 QGEX Wallet

Different from ordinary exchange wallets that simply connect data with exchange websites, QGEX Wallet has multiple functions such as QGEX Mall, QGEX Entertainment, and QGEX Quantitative Trading.

In the QGEX Token Mall, users can use the QGEX platform coin AGI as a payment method for shopping and consumption, or receive AGI as a reward by participating in merchant reviews, merchant feedback, and other methods. Merchants can use AGI payment as an incentive to obtain precise consumer feedback, thereby enabling product positioning and marketing adjustments.

The QGEX Wallet entertainment platform will integrate merchant information, and users can use QGEX to make reservations and payments. They can also receive AGI as rewards by participating in reviews and feedback. On the QGEX gaming platform, the entire process of game rules and virtual asset trading is executed by smart contracts, fully transparent, without intermediaries or centralized management, thus eliminating unfair phenomena such as withholding and intervention. Players can participate in the game using mainstream digital currencies such as QGEX or BTC/ETH. On the quantitative trading platform of QGEX Wallet, users can pay to use the platform's provided quantitative trading tools and trading interfaces to conduct strategy research, data modeling, trading model design, performance backtesting, simulation verification, tracking analysis, and automated trading, thereby earning profits.

4.4 Amusement Games

For zero based investors, they are unfamiliar with how to buy and sell in the cryptocurrency market, how to grasp trading rules, how to choose investment targets, and how to judge market changes. Relying solely on theory to directly enter the market for trading can easily lead to losses. QGEX will create a series of interactive games based on digital currencies, allowing users to quickly get started, familiarize themselves with operations, and master investment skills. It will help users practice while learning theory, interact with friends in games, and experience the endless fun brought by the investment process.

QGEX will soon launch a guessing game to cultivate investors' ability to judge trends through educational and entertaining methods. At the same time, it will continue to launch various interesting investment games such as futures training and simulated trading. Some of these games will use Dapp technology framework and upload key data to the blockchain to ensure fairness, notarization, and openness of the game, expanding its autonomy.

4.5 Pledge mining

On the QGEX decentralized platform, global users can engage in DEFI financial lending. Users can use stablecoins such as USDT, TRX, or platform currency QGEX for staking mining. QGEX will obtain different staking mining profits based on different staking periods, which will greatly stimulate the enthusiasm and stability of community coin holdings.

In addition to the heterogeneous sharding feature that improves flexibility, QGEX's unique PoSW - a proof of work consensus mechanism with equity - can form a cooperative mechanism for miners to efficiently mine with the help of token staking by holders, and then divide the profits between both parties. This has become the foundation for us to implement a unique DeFi product.

QGEX also adopts a flexible supply mechanism to ensure the stability of token value for staking mining profits. At the same time, borrowers can obtain considerable mining profits. This product makes it easier for miners to find the main network QKC for staking, and holders can also earn profits while holding the coins.

On the QGEX platform, users can deposit digital currency, become "depositors", and earn interest; You can also mortgage assets to obtain loans and become a 'borrower'. The interest rate spread between deposits and loans is QGEX's income.

4.6 QGEX Entrepreneurship Incubation Platform

The QGEX decentralized trading platform will actively help clients transform their ideas into executable, scalable, and reliable blockchain projects, and provide innovation incubation services for them. QGEX will establish strong relationships with outstanding entrepreneurs and top investors in the blockchain field, bringing customers comprehensive industry resources and realizing its strategic investment philosophy.

The QGEX team believes that the protection of future digital assets requires an effective combination of finance and digital assets, as well as a valuable conversion between physical finance and digital finance, in order to effectively safeguard the most basic rights and interests of digital asset investors. In the future, the security of data and wealth will be a key guarantee for the continuity of funds.

5 Organizational Structure of QGEX

5.1 QGEX Foundation

The QGEX Foundation is a non-profit corporation. The QGEX Foundation is committed to the development, construction, and governance transparency of AGI, promoting the safe and harmonious development of an open source ecological society. The foundation will help manage the general anecdotes and privileged matters of open source community projects by establishing a sound governance structure. In order to build a complete digital economy ecosystem of the global Internet industry, the foundation will be set up in countries with complete legal supervision around the world.

The operation idea of the QGEX Foundation is as follows: the purpose is to build a global digital currency trading system and create the world's most credible and secure integrated service platform for asset trading on the chain. The QGEX Foundation will set up a global decision-making committee, an application committee, etc., to ensure that the operation and governance of the foundation are broadly consistent with the preferences of global moral investment capital, and in line with the original governance works of the corresponding jurisdictions and the Internet industry at the operational level, so as to establish a good risk control system and build authority and credibility in global investment institutions.

5.2 QGEX Foundation Governance Structure

The QGEX Foundation will help manage the general and privileged matters of the QGEX community by establishing a sound governance structure. The design goals of the governance structure of QGEX Foundation mainly consider the sustainability of the platform, the effectiveness of management, and the safety of fundraising. The QGEX Foundation publishes monthly updates on project progress, conducts annual audits, and publishes audit reports. The QGEX Foundation consists of a Community Operations Center, a Technology Development Center, a Marketing Center, and a Daily Management Center. The following figure shows the governance structure of the QGEX Foundation.

5.3 QGEX Fund Innovative Super Node

In the QGEX system, the role of super nodes is set, and each super node has a server, which is a node. The more nodes there are, the more stable the system becomes. The top 50 super nodes in the system can receive mining rewards from QGEX in the system.

5.3.1 Super Node Qualification

(1) Become a lifetime member by paying a predetermined amount of AGI.

(2) Apply to become a super node through the ranking system. Decided jointly by the participants, reaching a consensus, and officially becoming a super node from the next cycle.

(3) Establish nodes (independent of user wishes, or provide financing requirements on behalf of users to the QGEX platform to build nodes) and run witness services.

5.3.2 Responsibilities of Super Nodes

(1) Building and operating data centers: providing stable computing power to support the basic work of super nodes for the QGEX ecosystem, of course, providing computing power and bandwidth resources to ensure normal block generation and transaction data recording. With the increase of applications on the QGEX main network and the improvement of throughput in the future, super nodes are likely to become a huge project that requires the construction of its own data service center to meet the demand for computing power. If we refer to the scale of Alibaba's more than ten global data centers for evaluation, the data center scale of each super node in QGEX is likely to reach several thousand square meters in the future.

(2) Actively participating in QGEX ecological governance: Super nodes are duty bound to participate in the entire upper level governance work of QGEX. From the initial stage, nodes need to frequently communicate, vote, and cooperate in handling various technical issues. For example, resolving issues such as recovering stolen accounts.

(3) Hatching excellent DAPP projects: promoting ecological prosperity: a future super node, with the core mission of incubating excellent DAPP projects. At present, many super nodes have set up their own ecological funds, ready to invest in and support project development, which is also the field that the QGEX community will enter in the future.

(4) Building a good community: The QGEX team believes that a community will be crucial for an excellent super node, and truly building a good developer and investor community will be an important task for the future of super nodes. At present, some elected nodes are still very weak in this regard. If a super node can simultaneously build its own investor community and developer community, it will become a very positive interaction and form a closed loop within its own node ecosystem. I hope that super nodes can remain humble and make every effort to contribute to the community, so that they can truly build their own community well.

6 AGI Token Economy Model

6.1 AGI token allocation

AGI, as the equity token of QGEX platform, is the value carrying tool of QGEX exchange. It represents the rights and interests of users to participate in the ecosystem, and is also the basic credential for users to participate in governance, incentives, and reward mechanisms.

The goal of QGEX Exchange is to trade digital currencies that generate value through the application of blockchain technology and maintain its own profitability. At the same time, by promoting the circulation of the platform token AGI, all parties involved in the platform, including physical enterprises, entrepreneurs, investors, and project parties, can obtain investment profits, network resources, financial support, project support, etc.

Token Name:AGI

Total issuance:200 million pieces

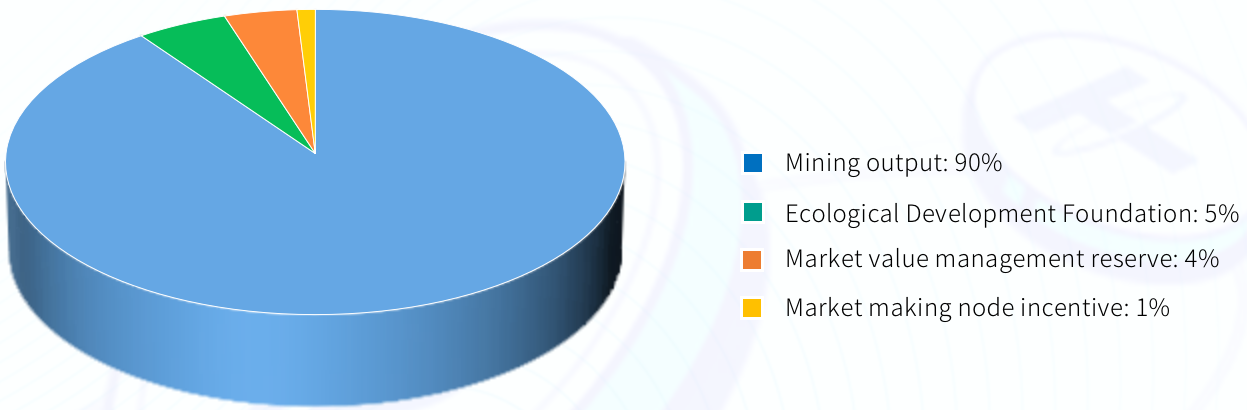
The allocation rules are as follows:

Mining output: 90% (released with decreasing deflation over ten years, no lock up period)

Ecological Development Fund:5% (linear release within 48 months after the main network goes live, locked in for the first year)

Market value management reserve fund:4% (released after quarterly audit for every 10% increase in TVL)

Market making node incentive:1% (50% will be released on the day of the main network launch, the remaining 50% will be released by branches and nodes)



Purpose	quantity	Proportion	Release rules	Locking terms
Mining output	180 million pieces	90%	Ten years of decreasing deflation release	Unlocked periodic
Ecological Development Fund	10 million pieces	5%	Linear release within 48 months after the main network goes live	First year locked in
Market value management reserve fund	8 million pieces	4%	According to a 10% increase in TVL Release 10%	Release after quarterly audit
Market making node incentive	2 million pieces	1%	On the day of the main network's launch, 50% will be released The remaining 50% of the distribution will be released	Node release

7 Core team and partners

7.1 core team

QGEX is headquartered in Singapore, with a founding team from the Massachusetts Institute of Technology AGILabs、 The core team consists of top market analysts, technical geeks, A1 and trading experts from institutions such as BlackRock Fund Uniswap, with an average of over ten years of experience in first-line trading platforms. Their business covers multiple financial fields such as digital assets, foreign exchange, quantitative funds, stock index futures, etc.

Ben Willny/CEO

As the CEO of AGI Artificial General Intelligence, Ben Willny has extensive experience in financial leadership. He graduated from the Massachusetts Institute of Technology with a PhD in Mathematics, and after graduation, he held important positions in financial institutions on Wall Street, deeply understanding the pulse of the international financial market.

McCallen/Asia Pacific Chief Operating Officer

McCallen is the Asia Pacific Chief Operating Officer of AGILabs, possessing outstanding technical and innovative capabilities. He has served as the Chief Technology Researcher at Uniswap and held key positions on multiple well-known digital trading platforms, successfully leading and driving multiple large-scale digital field projects.

Jim Mayne/CMO

Graduated from New York University with 8 years of software development experience, previously worked at DXC Technology, responsible for the development of payment systems for Southeast Asian banks, and has rich practical experience in distributed system architecture. In addition, Greg has also served as the project leader for multiple large-scale payment system development projects, and is highly skilled in overall project architecture and team management.

Sumeet Nayak/Financial Instruments Engineer

Participated in the design and issuance of multiple asset management and funds, previously operated a professional digital currency over-the-counter trading team and was responsible for related fund management work. Sumeet focuses on the design and development of diversified investment functions such as digital currency fixed investment, leverage, and investment portfolios.

7.2 Global strategic partners

More partners will be joining in the future ....

8 Development planning

8.1 Development planning

QGEX's core mission is to reshape value anchoring and restart financial trust, establishing a cross chain foundational protocol that connects real assets (RWA) with the digital world. In terms of protocol design, asset mapping, governance mechanism, and global ecology, a five stage development path has been formulated, gradually building the "QGEX world's first AI driven trading protocol exchange for RWA self evolution".

- **Phase 1: Exchange Core Construction and Underlying Mechanism Development (Q3 – Q4 2025)**

Infrastructure construction and preliminary expansion:

Goal: Establish a solid technological foundation, expand user base, and promote platform development.

Core task:

Build the core underlying framework of QGEX exchange, including:

1. Stability Anchoring Mechanism
2. RWA Mapping Contract Template (Asset Mirror Smart Contracts)
3. Protocol Treasury and automatic risk hedging mechanism

Technical development and optimization:

1. Complete the development of more core technologies for the platform. 2. Upgrade and iterate the online aggregation bot trading and smart contract execution system.

Market Expansion:

1. Establish branch offices in North America, Europe, and Asia to expand market coverage.
2. Establish cooperative relationships with over 200 top global trading platforms, blockchain projects, and financial institutions.

User growth:

1. Through multi-channel marketing strategies, increase the number of platform users and aim to reach 50 million users.
2. Conduct user education and training to enhance users' awareness and skills in digital asset trading.

Compliance and Security:

1. Complete compliance certification for major global markets to ensure the platform operates legally and compliantly.
2. Establish a multi-level security protection system to ensure the security of user data and transactions.

Phase 2: Real asset anchoring and on chain financial activation (Q3 – Q4 2025)

Launch the first RWA asset mapping solution:

1. Including high-quality real estate, offshore corporate credit bonds, supply chain bills, and renewable energy certificates

2. Sign off chain asset custody agreements with licensed custody institutions

3. Activate the on chain stablecoin issuance mechanism

4. Release the first "algorithmic non stablecoin" anchored asset portfolio

Continuously upgrading and iterating AI intelligent robot trading service system:

1. Increase investment in technology research and development to ensure the platform's leading position in technology.

2. Establish an innovation laboratory focused on the research and application of cutting-edge technologies.

3. Optimize the user interface design of the platform to enhance the convenience and experience of user operations.

4. Provide 24/7 customer support services to ensure that users can receive assistance at any time.

5. Expand the layout in emerging markets and enter regions such as Latin America and Africa.

6. Increase the global market share of the platform, aiming to reach 10%.

Phase 3: Strategic planning/goal to reach 100-150 million users (2029-2033)

Ecosystem Expansion and Global Expansion:

Goal: To become a leading global digital asset exchange, promote global development, and achieve long-term profitability.

1. Hold a leading position in the global digital asset trading market, with a market share of over 20%.

2. Continuously expand the number of platform users, aiming to reach 100-150 million users.

3. Continuously promote cutting-edge technologies and maintain technological leadership advantages.

4. Strengthen the research and application of blockchain technology and AI intelligent robot trading systems.

5. Establish a global compliance framework, focusing on emerging markets.

6. Strengthen cooperation with top global trading platforms and large blockchain institutions to jointly promote technological innovation.

7. Promote the application of green technologies on the platform to reduce energy consumption and carbon emissions.

8. Achieve sustainable development of the platform, ensuring long-term profitability and market competitiveness.

9 Disclaimers

This document is only for the purpose of conveying information and does not constitute any investment advice, investment intention or instigation to invest. This document does not constitute or be construed as providing any buying or selling behavior, or any invitation to buy or sell any form of securities, nor is it any form of contract or commitment.

QGEX explicitly states that the intended users have a clear understanding of the risks associated with the QGEX project. Once investors participate in the investment, they acknowledge and accept the risks of the project and are willing to personally bear all corresponding consequences or outcomes.

QGEX expressly disclaims any direct or indirect losses (including but not limited to) resulting from its participation in the QGEX project:

(1) Economic losses caused by user transaction operations;

(2) Any errors, omissions, or inaccurate information arising from personal understanding;

(3) The losses caused by personal transactions of various blockchain digital assets and any resulting behaviors;

(4) Violating any country's anti money laundering, counter-terrorism financing, or other regulatory requirements while participating in the QGEX project;

(5) Violating any representations, warranties, obligations, commitments or other requirements set forth in this white paper while participating in the QGEX project.

Risk statement

1) Safety:

Many financial credit platforms have ceased operations due to security issues. We attach great importance to safety and have established strategic partnerships with top security teams and companies in the industry. However, there is no absolute 100% safety in the world, such as various losses caused by force majeure. We promise to do everything possible to ensure the security of your transactions.

2) Competition:

We know that the blockchain credit field is a vast but fiercely competitive field, with thousands of teams planning and working on developing payment tokens. Competition will be fierce, but in this era, any good concept, startup, or even mature company will face the risk of such competition. But for us, these competitions are the driving force in the development process.