

# ares

Blockchain.  
Gaming.  
Network.

**30.9.2018**  
Ares Tech GmbH  
Berlin, Germany

# 1、Abstract

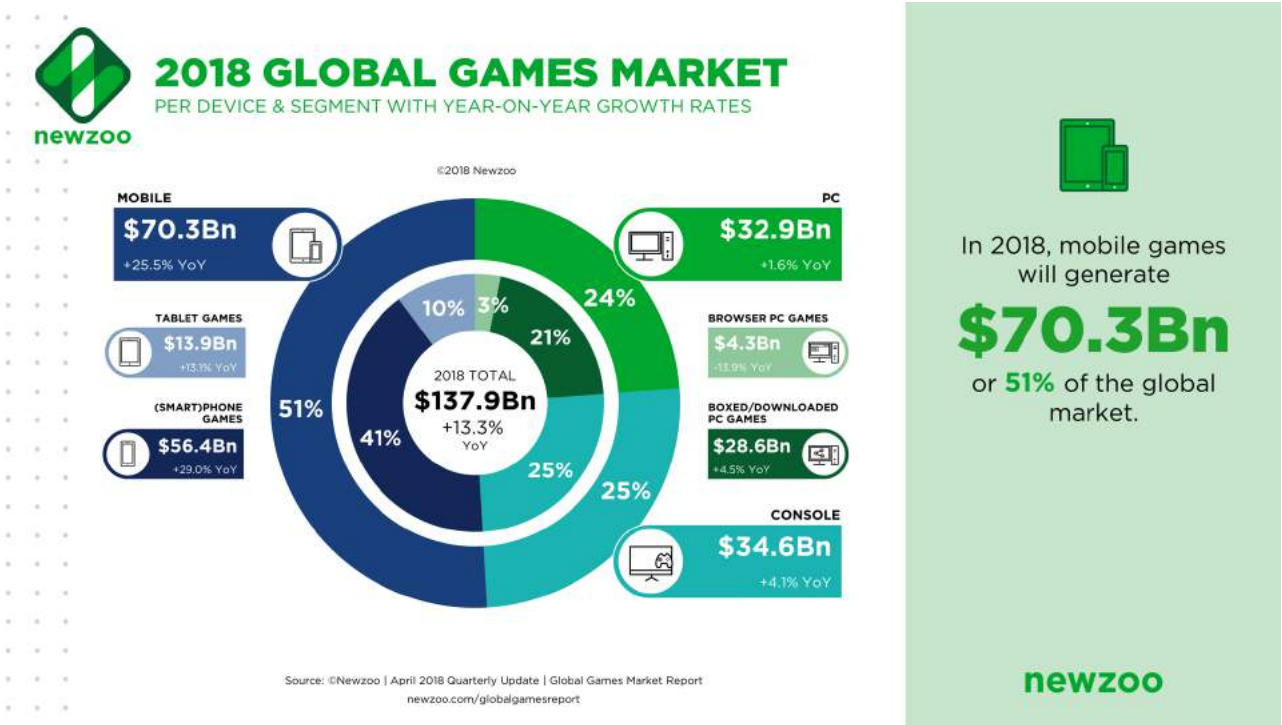
Ares Project is a game platform based on the Plasma sidechain protocol developed by Ethereum. Ares Arena is open for all the gamers.

## 2、Market Overview

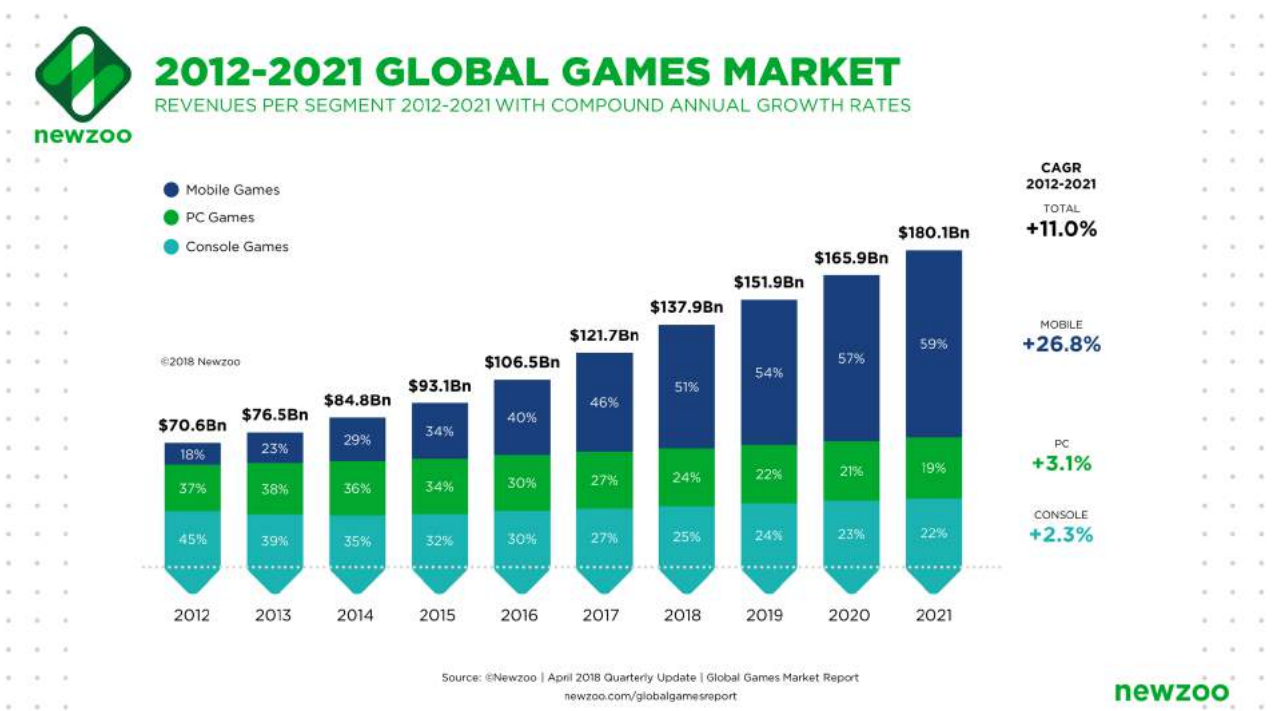
### 2.1 Market Development Status

It takes a long time for game to become one of the most important forms of entertainment in the daily life of modern human beings. As a human activity that has existed since 2600 BC, the game itself represents a part of human experience. Till now, the changes of game have been made no matter in its inner elements or the intermediaries.

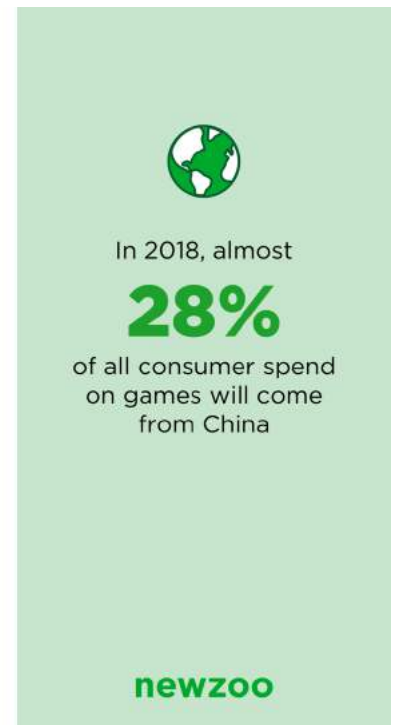
As an important field, video games are divided into five types basing on the intermediary, console games, handheld games, computer games, arcade games and mobile games. There are various contents in the game, which can meet the needs of people of different ages and different interests. With the increasing number of players in games and the complexity of game contents, the gameplay has been becoming more diverse. It also brings the trading of a series of game-related peripherals like props, ornaments and heroes. It takes a lot of money and time for indulgers to get a very rare item. This is also the most important business model of "free" games.



According to 2018 Global Game Market Forecast Analysis Report released by Newzoo, since the launch of the first iPhone in 2007, mobile games have become the largest market segment in a decade, growing at a double-digit rate each year. PC games are expected to generate \$32.9 billion in revenue in 2018, and home games are expected to generate \$34.6 billion in revenue, making it the second-largest market segment.



Simultaneously, it is estimated that by 2021, consumer's spending on games will reach \$180.1 billion, compounded annual growth rate is approximately 10.3% compared to that in 2017.



After categorizing the data by region and country. The Asian region is expected to generate \$71.4 billion in 2018, accounting for 52% of the total global game revenue, of which China's data is about \$37.9 billion, accounting for more than a quarter of the world's game revenue. Regardless of game revenue or number of players, China is always the biggest market in the world. At the same time, due to the explosive growth of mobile phones in emerging markets in Southeast Asia, the expected income of mobile games will also explode in Southeast Asia.

## 2.2 Analysis on Traditional Game Platform Represented by Steam

Founded in 2003, the Steam platform is one of the world's largest integrated digital distribution platforms for traditional video games. In recent years, the Steam platform has gained a lot of attention in the game community and the business has also seen a huge increase. The annual income in 2016 is \$3.5 billion, currently there are 370

million paid game activations. As of July 15, 2017, the number of active users on Steam platform was 12.8535 million, and the number of games was 14,398. Steam has a relatively complete ecosystem and is one of the game ecosystems with large number of games and players, where players can buy, download, discuss, upload and share games. Steam officially released games including Half Life Series, Counter-Strike Series, Survival Road Series, Portal Series and Dota2. The well-known games sold on Steam include PUBG,



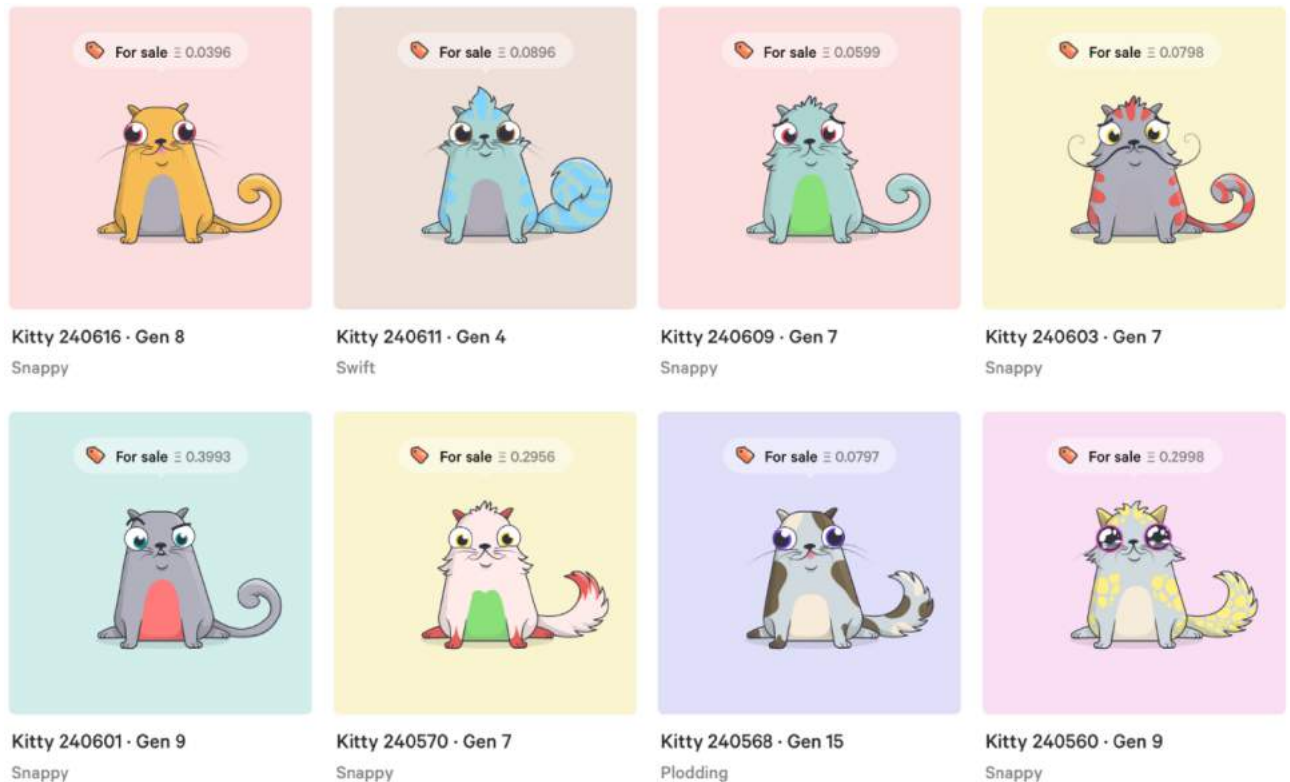
As a comprehensive digital distribution platform, Steam currently builds a complete ecosystem for gamers and developers (props and accessories developers attached to the game) including Steam stores, creative workshops, discussions, and markets. Steam Store offers game shelves for launch and purchase. Steam shop provides game developers with a place to interact with players. Players can browse games, props, accessories, etc. and vote for their favorite works. The discussion area provides players a place to communicate and evaluate the game, novice players get answers here. Developers can improve and upgrade the game based on the questions raised by the community; the market provides players with various props and jewelries in the game platform, the price of all items on this platform is priced by the player, and the Steam platform charges a certain percentage of the handling fee (15%) from the seller.

On the other hand, as the largest and most successful integrated digital distribution platform in the traditional video game industry, Steam has caused dissatisfaction among players and game developers due to its centralized operation. These issues might shake Steam's status in the blockchain era.

- Platform centralized operations. As a game distribution platform, Steam has full control over its platform games. Users log in their Steam account to play games. The quality of the game itself is reviewed by Steam. The user has no right to judge or evaluate.
- Low sense of belonging of game assets. Steam currently supports assets trading in the games of CS:GO, DOTA2, TF2, PUBG, and H1Z1. Among them, only CS:GO, DOTA2 and TF2 have the distribution mechanism of props and accessories, accounting for less than 0.02%. For games that without distribution mechanism, although players spend a lot of time and energy in the games to get props and ornaments, there is no value if the assets can't be traded, the nominal player's assets do not actually have any liquidation or circulation.
- High transaction fee (15%). In the Steam market, the seller has to pay up to 15% of the fee, while the funds sold in the Steam community market can not be withdrawn, and can only be consumed in the Steam ecosystem until zero.
- No cross-game asset trading. Currently, several games that support asset trading can only be traded between players within the same game's internal ecology. The game assets in Dota2 cannot be traded with than in CS:GO.
- Untransparent game treasure chest mechanism. In Steam, games that issued by publishers currently supports asset trading like CS:GO and DOTA2, they have similar treasure chest. Players pay a fixed amount to purchase treasure chest and will have a chance to open rare and even global out-of-print items. At present, players generally do not trust the falling mechanism of the game side and the treasure chest eventually evolves into a simple recharge for faith. The public transparency of the winning mechanism algorithm is the biggest demand of the current treasure chest game.



## 2.3 Analysis on Blockchain Game Market



On November 28th, 2017, Crypto Kitties based on Ethereum developed by AxiomZen Studio became famous overnight. The price of one single cat soared to \$100,000, which once occupied more than 15% of the trading volume of Ethereum and caused jam of the Ethereum main network. The emergence of Crypto Kitties has led many game makers to follow suit. A game company in the United States joint with China's Linekong also launched a game named "crypto dog". This game looks very similar to Crypto Kitties, but the game is based on Achain, the underlying platform of the blockchain developed in China, the cryptocurrency used in the game is ATC, not Ethereum. Later, similar blockchain games gradually emerged, such as Baidu Laici Dog, Xiaomi Encryption Rabbit, 360 Block Cat, and Blockchain pet raising. But even the current hottest blockchain game project, Crypto Kitties, its users are mainly blockchain industry insiders, and the user base is still too small compared to traditional mobile games and end-games. On December 30, 2017, the number of PUBG online users reached 3.1 million. The number of online users of classic MOBA game DOTA2 on Steam has been stable at around 800,000.

In summary, the current blockchain game cannot be called a real game, there are two main reasons:

1. The game itself is less playable, more like a graphical display of digital currency, the core thing is the scarcity of assets, not the leisure, entertainment, competition, growth and other experience brought by the game. During the "game" process, players mainly make purchases and transactions. EOS eco-game DApp is mainly focused on gambling applications, represented by EOS BET, BET DICE. The biggest feature of these DApp games is that the game heat is easy to be took. Once new gameplay appears, the old gameplay will be quickly eliminated.
2. Traditional high-quality games are not migrated to the blockchain. For traditional classic games, high-quality game development or transplant based on blockchain technology requires a certain amount of technical accumulation and mindset change, the threshold is a little high. It will take ordinary developers a long time to understand the technical architecture, currency settlement flow, smart contract development, DApp debugging deployment and other things. This has high cost pressure and technical risk for the game development team.
3. The underlying technology is not mature. Ethereum, as the most mature public chain only supports low-TPS smart contracts, and scalability cannot support PUBG or large games that require high-speed computing like Arena of Valor. Although some indicators of EOS public chain are close to the needs of large-scale games, there are still some problems like the high threshold of learning, ecosystem problems need to be solved. Except for the gambling games, there are fewer high-quality games based on EOS.



## 2.4 Why do We Need Blockchain

As a new revolutionary technology, the blockchain is developing rapidly around the world. All industries in the world are researching and exploring the application mode and landing scene of blockchain technology. The game has a high degree of user recognition because of its natural cryptocurrency distribution gene. The users' willingness to pay is strong, and the game is the best scene to promote prosperity and development in the industry, and also the booster for the underlying hardware upgrade; at the same time, the advantages of blockchain game security and stability, openness and decentralization can upgrade the game industry, instead it will lead the game industry to upgrade again, subvert or re-create a billion-dollar game market. The decentralized accounting and operation method, unique ecological incentives of blockchain, are completely suitable for game props in video games, the virtual props issued by Ethereum ERC721 can guarantee the uniqueness of the props, the distributed and non-tamperable accounting method of the blockchain ensures the authenticity of the props, and the peer-to-peer trading method meets the needs of trading from game players.

The application of blockchain technology in games is not limited to this: decentralized platforms, wider circulation of game props, less transaction costs, cross-game prop asset trading, and treasure chest winning algorithms. It can greatly change some problems existing in traditional games, and can better promote the development of this industry and attract more people to participate.

Attempts to blockchain games have never stopped, and the transformation of the public-chain two-tier network has taken shape. Various technical means such as sidechain, sharding and lightning network have made small and medium-sized games run on the blockchain become possible. As a result, with the gradual maturity of Ethereum Casper technology development, various public chains themselves are constantly optimized, and the future public chain will no longer become a factor hindering the development of blockchain games in terms of game performance support. The gameplay design, ecological construction and motivation model of the blockchain game itself will determine whether the game itself will be favored by the players, and more traditional games will gradually be added to the blockchain transformation.

### 3、 Product Introduction



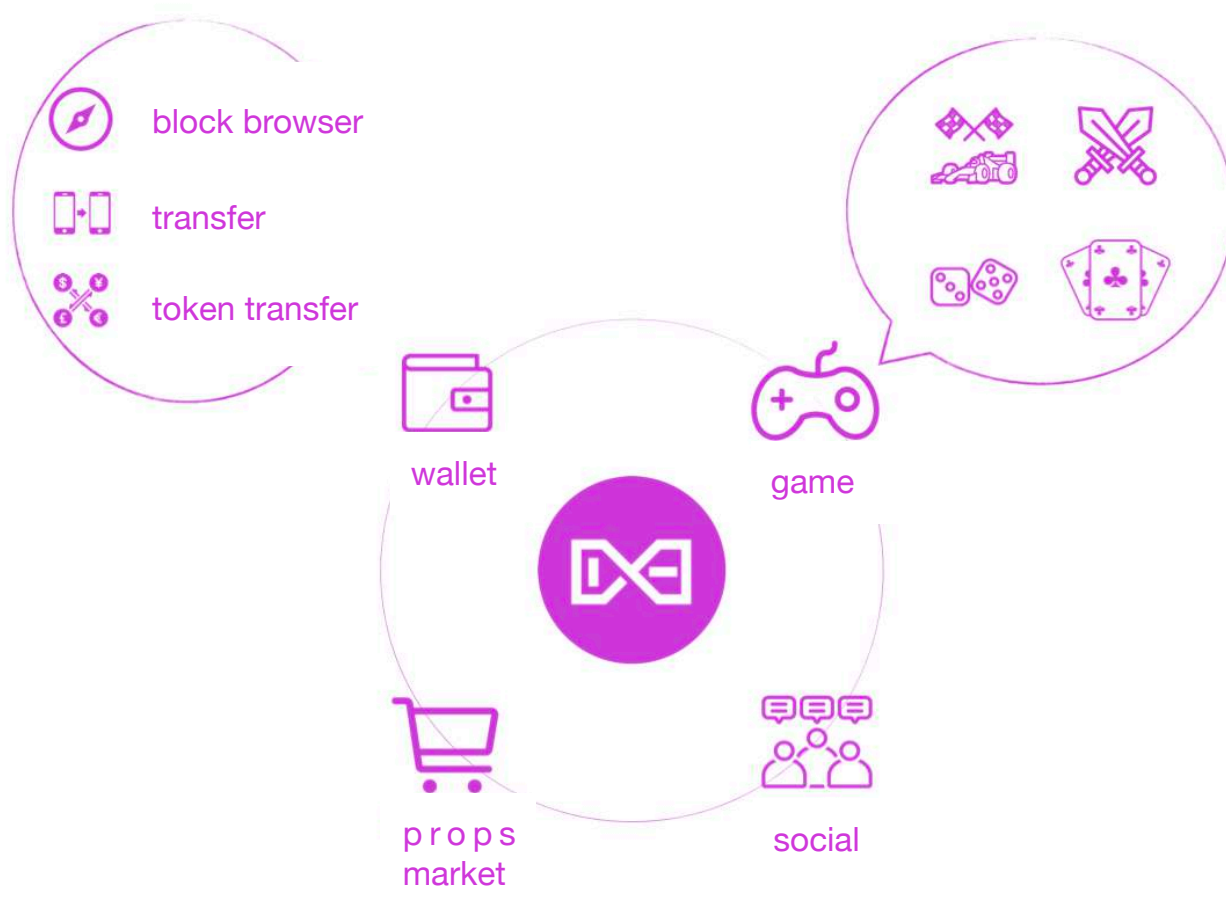
Based on its many years of experience in traditional gaming and blockchain, the Ares team is committed to developing a complete blockchain gaming solution that provides developers, players and partners with a more convenient blockchain game entry. At present, Ares Ecology has three major sections. Each section is designed to grasp the pain points, emphasize the landing, and strive to present a truly playable blockchain game ecology for players.

Ares Suite basing on the first step of the Ares ecosystem, which means the development of Ares core-games is mainly open for developers. We have prepared a complete set of solutions for developers including game development engine, smart contract compiler, cloud storage, SDK and API interaction, as well as ecological tools including Ares token, random number generation, encrypted user image and so on. Plus the engine that Ares is currently completing, it will accelerate development of games with high quality.

Ares Arena is the part opening for users of the entire Ares ecosystem and the most important part of the Ares project. Arena built four sections focusing on social networking and gaming: wallets, games, props and social networking, wallet supports for ERC20 and ERC721 token storage, built-in block browser, token conversion and transfer functions. The block explorer is the Ares side chain blockchain explorer. The token conversion supports the conversion between the Ares platform token and the in-game token, the Ares platform token and the mainstream ETH tokens.

Ares Connect is geared towards future partners of Ares Eco, and Ares Tech will build an eco-incubator in the future to provide traditional gamers and developers with a complete solution for developing Ares platform games, including technical, financial, community and user resources. At the same time, Ares Tech will seek compliance licenses in Europe, mainly for legal currency licenses and gambling licenses. In the future, the related games that enter the Ares Ecology will not need to apply licenses separately. Ares is committed to opening up the exchange channels between eco-internal tokens and fiat and empowering for the entity industry. Finally, as another important part, Ares will develop a derivatives exchange based on the in-game IP and eco-partner's unique IP. The derivatives exchange will use the Ares platform token as the exchange medium, with no platform fees to establish a truly decentralized exchange with Ares' self-developed sidechain technology.

### 3.1 Ares Arena



Pic X Ares Arena Architecture Diagram

Ares Arena is a decentralized social gaming platform that integrates multiple social scenes, based on the token economy and encrypted image for the player's true social empowerment, detonating a new generation of blockchain social trends. The Arena social gaming platform consists of four main parts, the wallet, the game props, market and social networking.

- Wallet

Ares wallet is based on Ethereum sidechain technology to provide digital asset wallet to various operating platforms, including Android, iOS and PC systems, to ensure that users in the mainstream operating environment can participate in asset transactions. With the digital asset wallet, users can store all of their game tokens, making it easier to be spent and traded in the game props market. On the other hand, Ares performs a financial-level algorithmic encryption of the digital asset wallet, and combines the KYC service of the platform to ensure the security of the digital property that the user stores in the wallet.

In addition to the simplification of the layout, the Ares Wallet trading interface is clear, the display content is rich enough, and runs without stagnation. On the other hand, Ares Wallet supports browsing all ERC721 assets and integrating all of the user's digital assets such as encrypted pets on one page.

At the same time, Ares Wallet is also a bridge linking blockchain and the real world. In addition to the upcoming closed-loop experience of laptop, phone, pad and watch, it can also be used on Apple Watch, Apple HomePod, Amazon Echo and other smart wear and home products. In the later stage, Ares Wallet will also develop face recognition and intelligent voice assistant functions to make the market query lively and dynamic. Ares Wallet, which combines AI, will present accurate content recommendations based on the analysis of behavioral dimensions such as the user's usual habits and speculative preferences.

As the key “chess piece” of Ares' ecological layout, Ares Wallet has unlimited imagination. In addition to the usual decentralized cryptocurrency trading, Ares Wallet will also be combined with the high-speed main chain. Based on public-chain smart contracts, Dapp developers can conduct a wide range of token referendums through Ares Wallet, which in turn will create a huge traffic pool ecosystem. In addition, Ares Wallet supports the entry of blockchain game Dapp. The token that flows in the game scene also means that it is not limited to the previous digital asset wallet settings, but is the application portal for the one-stop Dapp. Developers can enjoy the asset management services and enjoy the convenient access and profitable channels provided by Ares Wallet.

Ares wallet is based on Ethereum sidechain technology to provide digital asset wallet to various operating platforms, including Android, iOS and PC systems, to ensure that users in the mainstream operating environment can participate in asset transactions. With the digital asset wallet, users can store all of their game tokens, making it easier to be spent and traded in the game props market. On the other hand, Ares performs a financial-level algorithmic encryption of the digital asset wallet, and combines the KYC service of the platform to ensure the security of the digital property that the user stores in the wallet.

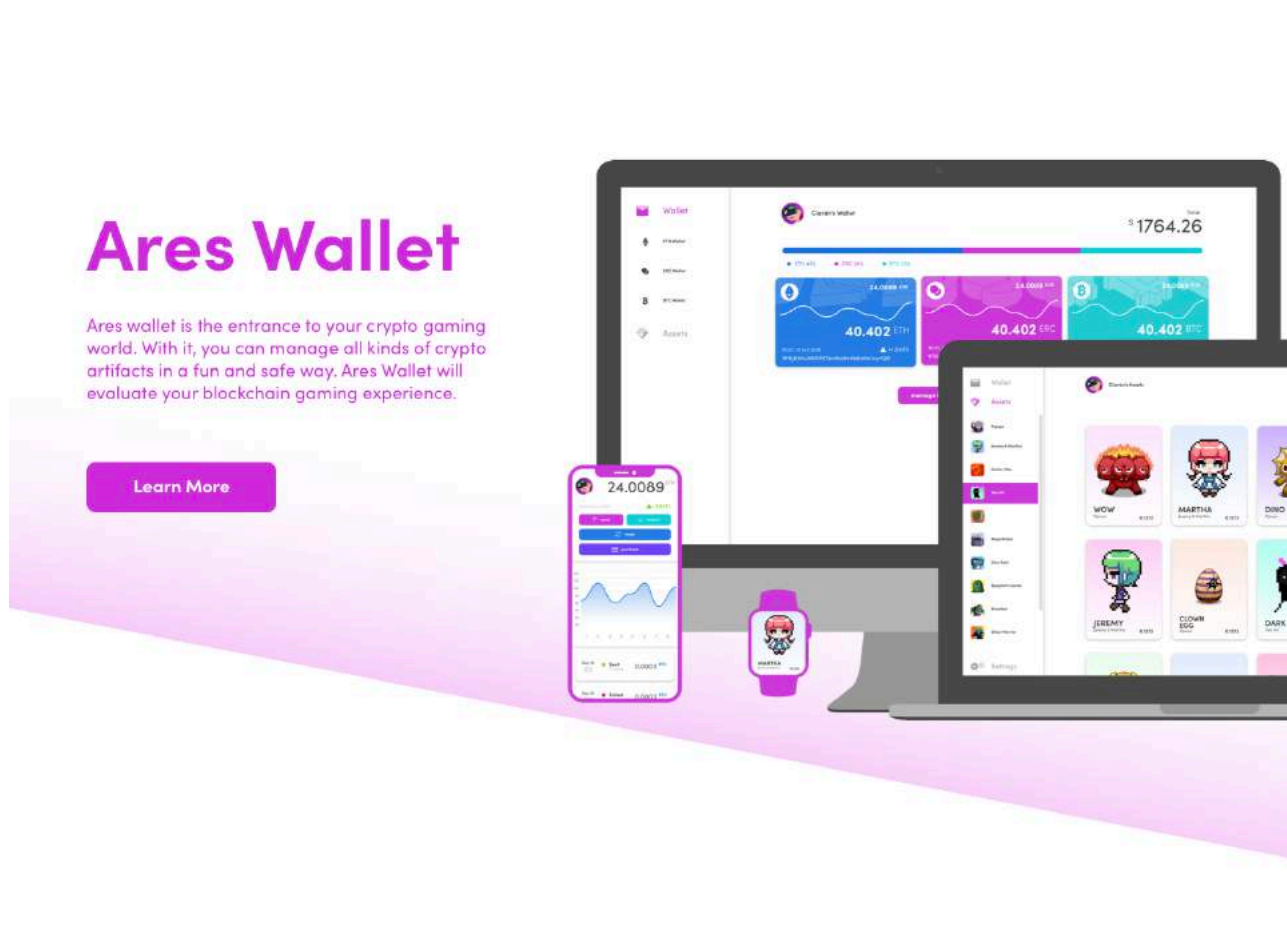
Ares provides the function of sidechain block viewing in the wallet. The blockchain explorer is the main window for viewing blockchain information, and the contents recorded in each block can be viewed from the blockchain explorer. Ares provides a complete blockchain explorer with query and jump functions. For example, when a user gets a cherished item asset in the game, the corresponding game item data will be generated in the Ares side chain. The user can query the corresponding transaction information in the blockchain explorer. Ares' blockchain explorer supports atomic operations, allowing users to understand their asset distribution more transparently, all data is recorded in the blockchain, and periodically synchronized with the main chain, real and not tamperable.

In addition to the block explorer, the Ares wallet provides functions of transfer and built-in token conversion. The user can exchange between the in-game token and the Ares token, the Ares token and the mainstream tokens (such as ETH) in the wallet, in this way users can realize the in-game assets.

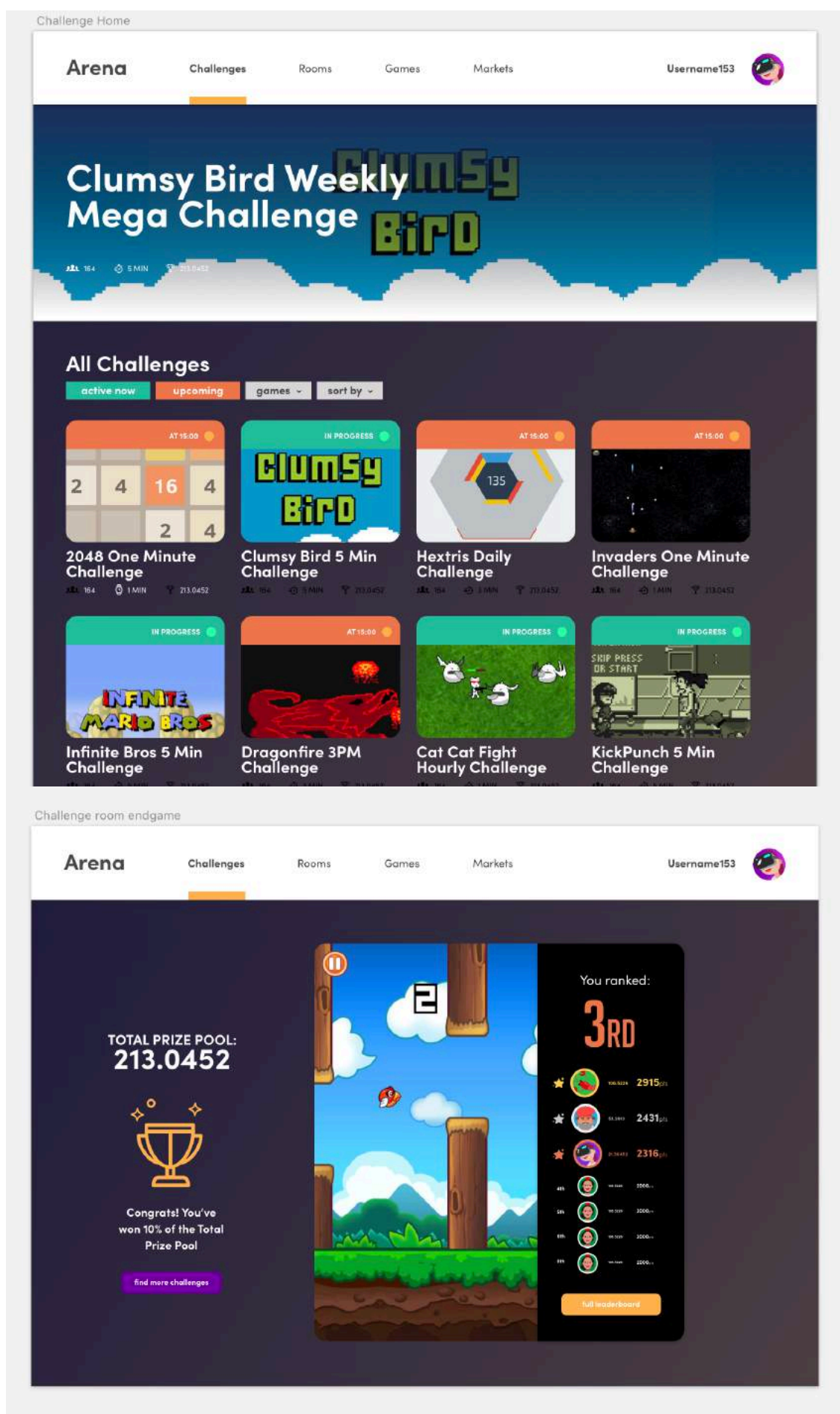
- Game

Ares game is an open game platform. All developers can submit games to the platform while complying with the Ares platform development procedure. Ares has a complete development procedure for developers to refer to, currently Ares has reached a cooperation with 5 projects and the games are under development. The Ares team will also provide an example for all developers with an open source game. All games on the Ares game platform are free to be listed, and the paid game release revenue does not need to be paid to the platform.





Ares is currently developing a time-limited challenge game, Clumsy Bird, which is similar to Flappy Bird, but with a role that can be replaced in the game, players can use their own virtual game image or create a new avatar. The in-game items are bounded to become the new ERC998 asset in the game. At the same time, Clumsy Bird has added the prize pool and reward mechanism. In the limited time challenge mode, Ares will set up a fixed prize pool, and the top three will receive the Ares token reward within the limited time. In the battle mode, according to the historical data of both parties, the odds of winning against the game are given. Both parties need to freeze the different tokens to play game. When the game is over, the winner will get all the frozen tokens, and the loser will lost the frozen tokens.



- Prop market

All ERC721 based on the Ares Arena social game platform will be able to be traded in the prop market. Both sides of the market can be the player and the player or unilaterally sold and repurchased from prop issuer. Ares is committed to all eco-participants: there are no additional fees for all transactions in the prop market.

- Social Networking

The social platform will provide players with new ways to play and communicate with friends. The social platform has a built-in chat system that enables players to communicate peer-to-peer or in group. At the same time, Ares will provide players with a unique personal image freely, and achievements in the game will also be recorded in their unique image to upgrade. In the future, Ares will open an image system and welcome more IPs. Ares will also jointly with a batch of star IPs to create a limited in-game image assets, and players can trade them on the derivatives exchange.

The Ares Arena gaming social platform is dedicated to providing players with:

1. Transparent and Fair Mechanism

Basing on the blockchain trust mechanism, players do not need to trust the Ares team and game developers. All core game rules are recorded on public chain and can be viewed by players at any time. Core rules include but not limited to treasure chest drop probability, lottery algorithm, ERC721 props real supply.

2. Peer to Peer Decentralized Prop Trading

All transactions and addresses of the prop store can be queried to ensure the real and reliable transaction. There are only the two parties participate in the transaction process, and the platform does not charge fees.

3. Game Assets are Owned by Players

The player's in-game assets and personal image will be owned by the player for the first time. Players can freely trade, develop, and create their own encrypted image. The IP image which will be introduced in the future will also make the player's social networking more colorful and valuable.

4. Social+ Game+ Token+ New Gameplay

The biggest fun of player on the Ares Arena platform comes from the unique gameplay of the platform: the ownership of tokens and the change of personal image are decided by winning or losing. Whether it's friends, family, colleagues or unknown opponents, game-based social icebreaking will build a better relationship for players.

## 3.2 Ares Suite



Pic X Ares Suite Architecture Diagram

Ares Suite integrated development tool kit provides blockchain developers with a mature and friendly development environment, including integrated SDK, Ares token, random number generator, user encrypted image, decentralized database and other integrated APIs. It can build a complete development documentation, tutorials and community, and provide a number of development aids including IDE plug-ins, multi-chain compatibility adapters and so on.

### Ares Suite Technical Advantages

- Decentralized Application (DApp) Integrated Development Solution

Providing a unified and stable API interface to the Ares SDK;

Support Solidity and JavaScript language, blockchain testnet one-click rapid deployment and other functions Ares IDE integrated development environment;

Optional feature plugins for version management, team collaboration, etc.;

- Smooth migration capability among the underlying platforms of different blockchains

Through the adapter module in the Ares SDK, the smooth migration adaptation during the infrastructure upgrade process is implemented for different public chain underlying technologies;

During the iterative process of the underlying blockchain infrastructure upgrade, the developer side can avoid most of the code modification, and the transition and adaptation work in the migration process will be solved by the adapter module which will be constantly improved by the Ares Suite;

- Decentralized data storage

Ares will work with Berlin blockchain data storage service provider BigchainDB to provide developers with decentralized data storage based on blockchain technology;

Ares will provide a decentralized rapid deployment service for the entire blockchain infrastructure with third-party partners;

- Scalable technology applications

Side chain technology, based on Ethereum's Plasma technology.

Ares Suite is dedicated to providing developers with:

#### 1. Zero commission game distribution platform

Ares Arena will be the first zero commission blockchain game platform, Ares Arena platform will not deduct any proportion of the various benefits generated by developers and players in the game. All the profits are owned by the developers whether selling games or in-game props.

#### 2. One-stop solution

Ares Suite not only provides companies with paid consulting services for commercial solutions, but also freely opens blockchain games and software development related documents, SDK and other complete development environments for independent developers. All development tutorials, codes are open sourced. Ares Suite is dedicated

to building a friendly and healthy developer community that provides the most comprehensive help for blockchain developers. For business users, Ares Suite will also provide stable, integrated and highly efficient paid consulting and development services to accelerate the transformation of blockchain business in European.

### 3. Continuous technical support

As a development team with many years of experience, the Ares team has a clear understanding of the industry's pain points, and we deeply understand that it is not enough to provide only development kits and corresponding documentations. Therefore, we will make full use of the technological innovation atmosphere in Berlin and Europe, and launch a blockchain version of Stack overflow or Wikipedia in the Ares project to create an active and professional developer community. Ares will also organize events and help developers connect with Silicon Valley R&D labs and business resources in East and South Asia.



### 3.3 Ares Connect



Pic X Ares Connect Architecture Diagram

Ares Connect is geared towards future partners of Ares Eco, and Ares Tech will build an eco-incubator in the future to provide traditional gamers and developers with a complete solution for developing Ares platform games, including technical, financial, community and user resources. Basing on the recognition and grasp of the industry by the Ares team, in the future, Ares will select an excellent developer team and development project to provide incubation services. Basing on its own technology, Ares will provide support for traditional game makers from the underlying technology to SDK, in-game asset design and other aspects to help traditional game makers transform to blockchain game makers, and will also work with well-known game companies to release new games.

Ares Tech will seek compliance licenses in Europe, mainly for legal currency licenses and gambling licenses. In the future, the related games that enter the Ares ecology will not need to apply it separately.

Digital artwork has a natural fit with the blockchain because of its uniqueness. Basing on the previous layout of IP assets, Ares will deepen the scene of IP assets in the Ares ecosystem in the future. As another important part, Ares will develop a derivatives exchange based on the in-game IP and eco-partner's unique IP. The derivatives exchange will use the Ares platform token as an exchange medium, with no platform fees, using Ares self-developed sidechain technology to establish a truly decentralized exchange.

- Strategic cooperation with Microsoft China Accelerator

During China Joy on August 4, 2018, the Ares Tech team officially announced a strategic cooperation with Microsoft China Accelerator, and will soon launch a "soft landing plan." The two parties will jointly help the European blockchain projects to expand into the Chinese market, provide overall services like strategic consulting, investment and financing support, and technical solutions for blockchain game projects. The plan is a support program offered by Microsoft China Accelerator for overseas projects. As a global strategic partner, Ares Tech will also provide additional incentives and in-depth incubation of premium blockchain gaming projects.

- Cooperation with BigchainDB

BigchainDB recently announced a partnership with Ares Tech to prototype a blockchain-based gaming platform. The BigchainDB-based game asset management service will be an integral part of Ares Tech's scalable blockchain social gaming network. The Ares Tech prototype integrates blockchain operation and security into the game, it uses the BigchainDB blockchain feature of splittable assets to store and transfer data. In Ares Tech's prototype, we model game items and amounts, attributes, and rules as BigchainDB assets, which helps the game and its players get real gaming assets that belong to the players. The solution is built as a general platform, so developers can quickly integrate blockchain functionality in any game without understanding the underlying blockchain technology.

- Joining Dora Hacks

On September 3, 2018, Ares Tech will be stationed at Dora Hacks, and the two sides will conduct in-depth cooperation and resource integration on Hacker support. Ares Tech will provide Hackers with technology, mentor, competition and bonus support for a long time to push the development of blockchain games into a new phase.

## 4、 Technical Solution

At present, blockchain technology is still in its infancy, and in terms of scalability, many developer communities are focusing on a variety of different forms of expansion. Ares tech will conduct in-depth research and discussion on the direction of the second-layer expansion solution.

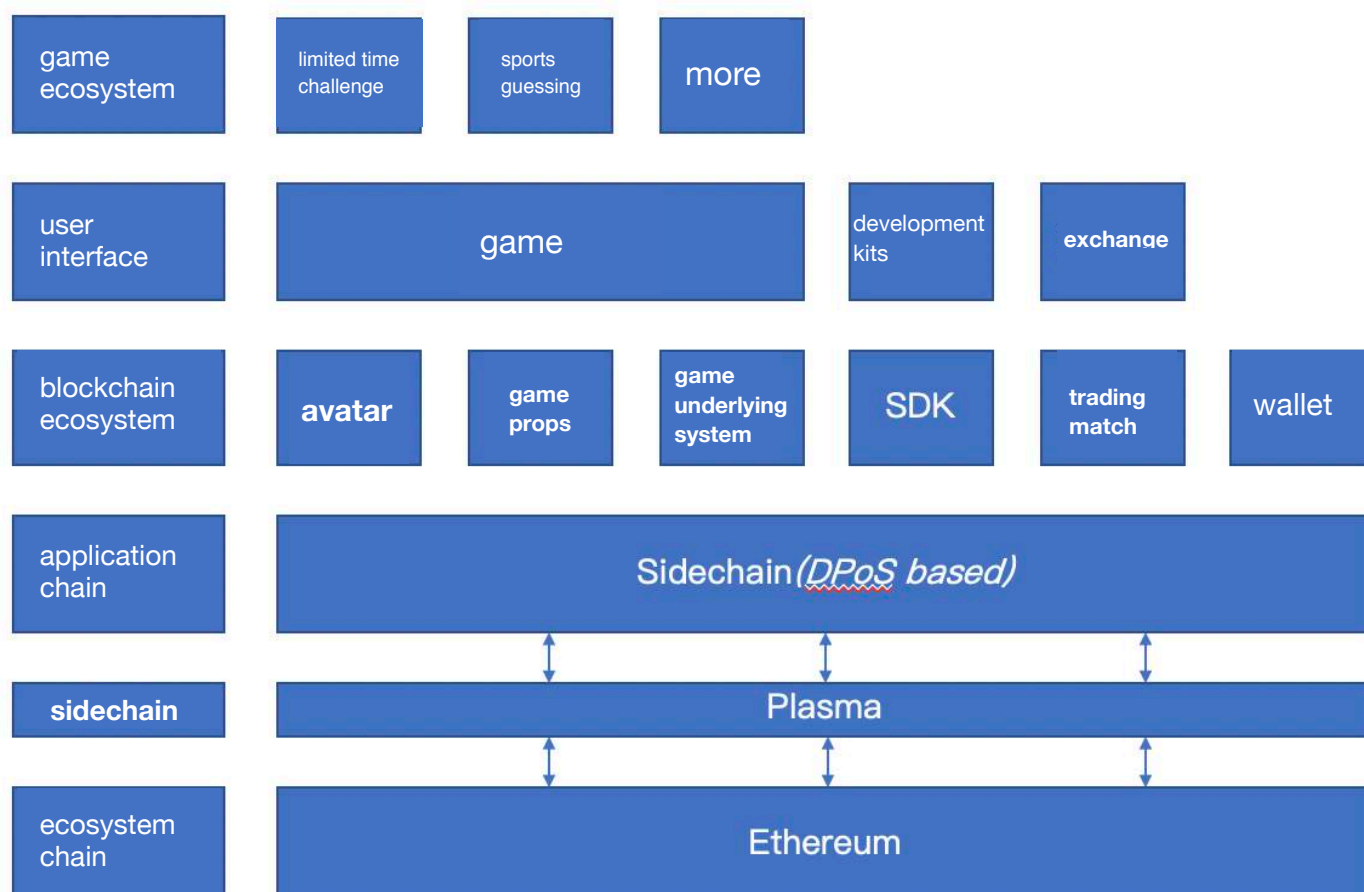
Currently, there are several technologies for the second layer expansion scheme of the Ethereum public chain: side chain, sharding, DAG and sub-chain.

The side chain is the implementation of the state channel technology in the Ethereum, such as the lightning network, which establishes the offline payment channel network. The mode is similar to the lightning network in the Bitcoin blockchain. The user does not need to open a channel with each party, but using the larger state channel of the lightning network, the user can connect to any node in the state channel network to pay and it will greatly reduce transaction costs.

Sharding is a traditional database technology that divides large databases into smaller, faster, and easier-to-manage parts. These parts are called data fragments, but they are quite complex to apply to blockchains. Ethereum's sharding, simply put, is to divide the blockchain network into smaller, component-based networks that can handle transactions to construct a payment system that processes thousands of transactions per second. According to Ethereum founder Vitalik Buterin, sharding is to set up a blockchain. There are a hundred different universes in this blockchain system. Each universe is a separate account space. Users can have an account in a universe, and the user-initiated transaction will only affect the transaction-related universe. The side chain is grafted to the main chain from the outside, and the sharding is the internal division of the main chain.

The relatively mature sub-chain at present is MOAC. It is the first to break through the current industry problems such as asynchronous contract calling, contract sharding processing and cross-chain. The processing speed of contracts is more superior than the current smart contract platforms like Ethereum. Sub-chain can be defined and created according to your different needs.

Plasma allows the creation of a "sub-chain" attached to the Ethereum "main chain". These sub-chains can continue to produce their own sub-chains. As a result, we can perform many complex operations at the sub-chain level, running the entire application with thousands of users, and interacting as little as possible with the Ethereum main chain. The Plasma sub-chain can operate faster with lower transaction cost because its operation does not require a copy of the entire Ethereum blockchain. Plasma is a way to implement blockchain expansion calculations by creating economic incentives to automate and persist state on the chain without the need for state transition management in the contract creator. The nodes themselves are motivated to run a chain. In addition, important scalability is achieved by reducing the amount of money spent on a single bit in a bitmap, in this way a transaction can aggregate with a signature represent a multi-party transaction. We combine this with a MapReduce framework and use a smart contract with a deposit to build scalable computing compulsions. This kind of construction allows everyone to let the external participants hold the funds and calculate the contract according to their own behavior, similar to a miner, but the Plasma is running on an existing blockchain, so that everyone does not need to create corresponding transaction on the main chain when the update is made (even if it includes the newly added ledger), and only a small amount of information such as the merged state change needs to be written on the chain.



Ares will adopt the Ethereum public chain as the underlying clearing public chain to ensure the asset security of all participants in the ecology. The Plasma protocol is used as the asset data interaction medium between the underlying clearing public chain and the application chain. The application chain will be a game chain based on DPoS consensus mechanism, used to satisfy the high concurrency calculation and storage of the game itself. Plasma will serve as a channel for the interaction of assets and key data in the application chain with the underlying public chain in the Ares technology solution. Plasma itself originated from Ethereum and will be superior than other sidechain technologies in asset support.

For most of the current games, it is not necessary to have all the games on the chain. Under the premise of the current low-level clearing network technology, if the game operation part is running on the chain, the TPS of the game will be greatly reduced, and it will also possess the main network of the Ethereum. For the player, it's enough to have the key algorithm and asset on chain. For the computing part of the game itself, the player is more concerned with the smooth game experience. In this case, the off-chain mode is better than the on-chain mode. The Ares application layer chain will adopt the DPoS consensus-based algorithm mechanism. By setting the threshold to control the number and quality of nodes, the nodes provide computing power and storage, supporting a large number of operations and storage in the Ares ecosystem. The DPoS consensus mechanism solves the problems of the current low TPS, high handling fee of Ethereum main chain that can't satisfy the game's large number of calculations. In theory, the node configuration determines the level of TPS of the Ares side chain. In actual implementation, we will adjust the minimum configuration dynamic update of the computing power and storage requirements based on the game itself to ensure that all games on the Ares platform can be ran without barriers.

By constructing a two-layer network expansion solution based on Plasma as the middle layer, Ares games will be able to improve TPS and optimize network configuration in the network without losing decentralization. The current reasonable way in the traditional game field will be transferred into the Ares network, but for the player's desire to change the ownership of the game assets, cross-game asset trading, fairness and justice and other issues, Ares will make these guaranteed by connecting to the underlying decentralized distributed clearing chain.

## 5、Token Design

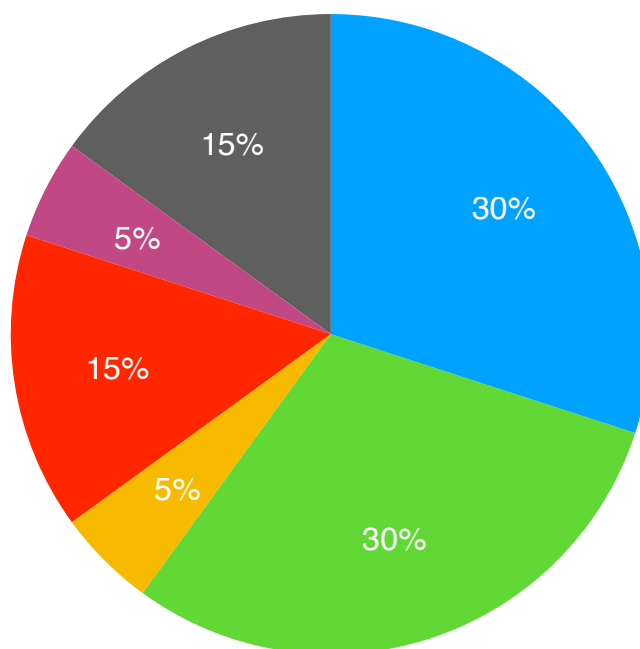
Token Information		
Symbol: <b>Ares</b>	Total Supply: <b>1,000,000,000 Ares</b>	Sale Supply: <b>300,000,000 Ares</b>
Token Format: <b>ERC20</b>	Soft Cap: <b>100,000,000 Ares</b>	Hard Cap: <b>300,000,000 Ares</b>
Conversion Rate: <b>1 ARES = 0.035 EUR</b>	Public Sale Date: <b>TBD</b>	

## 6、Token Distribution

Distribution Project	Ratio	Purpose	Lock Scheme
Token sales	30%	Completion of fund-raising	The cornerstone round will unlock 25% at one time, the remaining 75% will be unlocked linearly in 9 months; the private round will unlock once in 35% and 65% in 6 months; the public round will unlock linearly in no condition.
Founding team	30%	Reward early team contribution	Start to unlock in the next year, with 25% linear unlocking per year.
Strategic partners	5%	Strategic partners	

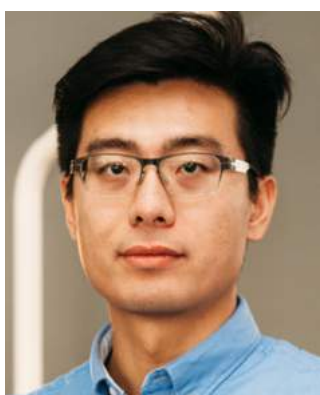


Incubator	15%	Supporting high-quality development teams and game projects in the ecosystem	No locking condition.
Initial operation	5%	Including airdrop and marketing	2% upper limit of airdrop ratio, no locking condition.
Bonus pool	15%	As the initial ecological incentive of Arena game eco-platform, plus an additional bonus on the basis of the game's internal bonus pool.	Bonus pool tokens are initially encouraged according to the community's established schemes, and tokens are encouraged to be unlocked.



● 代币销售 ● 创始团队 ● 战略合作伙伴 ● 孵化器 ● 初期经营 ● 奖金池

## 7、团队介绍



### Jack Li - Ares Tech Founder & CEO

Jack Li has more than 10 years of work experience on Internet, he has served in many companies like Weibo.com China, football community Onefootball Europe, Amazon E-commerce Optimization Platform-Sellics. With experience on global operation, cross-region, cross-culture community management, and user growth on GrowHack, Jack Li once led the team to design a game about world cup football quiz, got a DAU index beyond 70 million and gained hundreds of thousands of RMB. The DAU index from Europe and America on Onefootball has surpassed several million and gained millions of Euros.



### Christian Gehl - CTO

Christian Gehl is fond of game development, programming, and has a strong desire to explore new technologies. Gehl Christian ( Ares CTO ) has served as a senior manager in the functional departments of several international companies. In 2008, he was a researcher at Fraunhofer FIRST; in 2010, he became one of the co-founders of Trifense and served as the CTO of the company. Christian has successfully helped Trifense cause influence at DACH region (Germany, Austria, Switzerland), making it a leader in the security solutions and consulting industry.



### **Ciarán Dold - UX/UI Designer**

Ciarán Dold (Ares UI Designer) graduated from Dublin Institute of Technology with extensive UI/UX design experience in game interaction design and interface usability analysis. Before that, Ciarán worked for startups in Ireland and the UK, where he was responsible for the development of UI vision, programming, QA and others, he also provided optimization solutions for games to enhance players experience.



### **Carsten Schipke - Senior Back-end Engineer**

Carsten S. has rich experience in the design and implementation of scalable distributed system, server client program logic development and maintenance, and framework support. Carsten S. specializes in game product planning and functional module design. The social network, entertainment and mixed reality applications targeting Asia and Europe market developed by him and the team have ever reached millions of users per day.



### **Anny - Visual Designer**

Ms. Anny (Ares visual designer) is well versed in the design of game model, game environment, game color, performance, etc., and also in the design of cryptocurrency LOGO, brand differentiation. Moreover, She has ever served as chief designer in international companies in New York, Hong Kong and Berlin.

## 8、Consultants



### **Lu Sisi - Art Consultant**

Lv Sisi, a new generation of digital artists living in the UK, is keen on creative planning of games. His works are popular among the people from Sky Academy and New York Festival, and he once got accepted by Crown Prince Charles in 2014. In addition, Lv Sisi is also an art consultant for well-known brands such as Jaguar Land Rover, BBC and Sky Arts, etc. He also worked as creative director and music producer of Shanghai Fashion Show, agent and brand ambassador of Berlin migrant bird space.



### **Dr. Ingo Schneider - Legal Advisor**

Dr. Ingo Schneider(Ares Legal Advisor) is the co-founder of Icadia Legal, a law firm specializing in digital assets, ICO, venture capital and financial technology services. The company customers include corporate founders and their companies, investors, corporate builders and incubators. Icadia Legal's strategic legal advisory services mainly involve corporate equity structure design and trading risk aversion, as well as helping clients fulfill and change contracts.



### **Prof. Dr. Konrad Rieck - Scientific Consultant**

Prof. Dr. Konrad Rieck currently is a professor at the School of Computer Science, TU Braunschweig. He used to work at the Institute of Systems Security, George-August-University of Göttingen and Technische Universität Berlin successively. His research fields involve game server development, security protection and system underlying framework optimization, etc.



### **Simon Schwerin - Blockchain Consultant**

Simon, the CEO of Medixain is dedicated to exploring the solution with “health care + blockchain”. He was the head of commercial project strategy in blockchain startup BigchainDB. Simon led team members to develop the public chain project--Bundesverband in German. Besides that, Simon is very erudite and has analyzed the general data protection regulations in his master's thesis Blockchain and Privacy, which has played a vital role in promoting the development of the industry.



### **Jonathan Maxim - Media Consultant**

Jonathan Maxim is a post-recognized thought leader, a staff writer at Forbes, Inc Magazine and Huffington Blockchain & Tech space, with 10 years' experience in PR and marketing for data centers, apps & more. Jonathan Maxim majored in graphic design and user interface at San Diego State University when he was an undergraduate, and he started his career in business (marketing/public relations) at the master's level. In addition, Jonathan has also written technical books in the fields of product development, UX design and marketing. After leaving the position of Fortune 50 Marketing Strategy Director for many years, Jonathan Maxim started his own entrepreneurial career. He used to manage millions of dollars of advertising and public relations budgets for large technology companies, these projects have successfully ignited the team members' pursuit of business goals and passions.



### **Füsün Wehrmann - Engineering Consultant**

Ms. Füsün Wehrmann (Ares Engineering Consultant) currently is the Vice President of OLX Berlin Technology Center. She used to be the head of external engineering at Microsoft (Germany) and the EMEA technical development manager. Moreover, Füsün is also a business mentor, speaker and Google LP tutor.



### **Steven Karch - Blockchain Consultant**

Mr. Steven Karch is a blockchain fanatic. He started to learn the cryptocurrency mining business from 2013. In addition, Steven also has extensive experience in distributed systems, computer networks and IT architecture.



### **Ran Wang - Game Distributing/ Publishing Consultant**

Ran Wang currently is the Vice President of Global Business & Distribution at Winking Entertainment. He also held executive roles in leading companies such as Garena, NVIDIA, THQ and Shanda. Moreover, Ran has abundant experience, deep insight and global perspective in video game industry. And then he is also the co-founder of two startups with a strong entrepreneurial belief.





### **Maurus Radelow - Cyber Security Consultant**

Mr. Maurus Radelow once served as advisor to public and private clients on information security governance, including ISO 27000 & BSI Grundschrift, risk management and compliance. Before that, he worked in Maurus (Germany) for six years and handled the information security consulting services for international organizations.



### **Rasmus Giesel - Branding Creativity Consultant**


Mr. Rasmus is the Branding Creative Director & Co-Founder of M.O.R. He used to be the head of branding at North Associates and Nick Bell Design, the prestigious design company in the UK before he lived in Berlin. The company customers cover start-ups and non-profit organizations in a wide range of fields including finance, technology, culture and the arts.

## 9、Investment Institutions and Partners

### Investment Institutions



## Partners

**BIGCHAIN**DB medixain**BCCM**  
BLOCKCHAIN  
COMPETENCE CENTER  
MITTWEIDA games:net  
berlinbrandenburg media:net  
berlinbrandenburg**mtg** Merkle  
Tech  
Group Berlin Games Capital*f(x)Live*  Jingtum Tech**ICADIA**  
strategic.legal.solutions**MOR** 候鳥空間  
Migrant  
Bird  
Space

## 10、 Legal Disclaimer

10.1 This statement neither involves securities tendering, nor any other controlled products under laws. This document aims to elaborate the concepts of Ares Project.

10.2 Essentially, the purpose of Ares token is limited to enabling the holders to use specific functions within the Ares ecosystem. Therefore, Ares token does not represent things and functions as follows:

- 1) Equity rights (or similar rights) or obligations of any entity in any country;
- 2) Creditor or requesting right aiming to any person;
- 3) Any type of investment in any business;
- 4) Any security, whether or not it has intrinsic value or market price;
- 5) Vouchers representing certain underlying assets;
- 6) Any commodity or asset should be obliged to be redeemed or acquired by anyone.

Based on the above properties and functions of Ares token, this white paper is not intended to sell or solicit tenders for shares, securities or other controlled products related to Ares token products and related companies. This document shall not be used as a prospectus or any other form of standardized contract document, nor does it constitute any advice or investment proposals for securities or any other regulated product in any jurisdiction. This document cannot be used at any sale, subscription or invitation to purchase or subscribe to any securities, as well as any form of contract, offer or undertaking based on it. This white paper has not been examined by judicial regulators in any country or region.

10.3 Suggestions for participation in investment as omission: any information or analysis presented in this document does not constitute any suggestions for participation in token investment decisions and will not make any specific recommendations with a tendency. You must listen to all necessary professional advice, such as tax and accounting to sort out related matters.

10.4 No declarations or guarantees can be made: This document is intended to illustrate the Ares game ecosystem we proposed, but Ares Tech clearly states that:

1) No declaration or guarantee shall be given for the accuracy or completeness of any of the contents described in this document, or for project-related contents published in other ways;

2) No declaration or guarantee shall be given to any achievements or reasonable contents of forward-looking and conceptual statements;

3) Nothing in this document shall be served as a basis for any future commitment or statement;

4) No loss shall be incurred as a result of the contents of the white paper itself, the relevant personnel of the project, any investment or trading activities of any person in the project or other aspects, including but not limited to:

(A) Anyone who purchases or holds Ares token violates the anti-money laundering, anti-terrorist financing or other regulatory requirements imposed in any region;

(B) Any person who purchases Ares token violates any statement, warranty, obligation, undertaking or other requirement stipulated in the contract between him and the relevant seller, as well as the consequent failure to pay or claim the Ares token that he has purchased;

(C) Ares token's sales plan was terminated in advance for any reason;

(D) Ares token or Ares game ecosystem development fails or is abandoned, and the resulting in a failure to deliver Ares token;

(E) Postponement in the eco-development of Ares tokens or Ares games, and consequently lead to the failure to achieve the expected schedule;

(F) Ares Arena's source code errors, defects or other problems;

(G) Ares game ecosystem or Ethereum blockchain's failure, collapse, paralysis, rollback or hard fork;

(H) Ares token or Ares game ecosystem fails to achieve any specific function or unsuitable for any particular purpose;

(I) Use of funds obtained from the sale of Ares token;

(J) Failure to disclose information on Ares development timely and completely, including Arena's source code;

(K) Any purchaser leaks, loses or damages the cryptocurrency or the private key of token wallet (especially the private key of Ares token wallet);

(L) Ares Tech's third-party cooperatives' default, violation, infringement, collapse, paralysis, service termination or suspension, fraud, maloperation, improper conduct, error, negligence, bankruptcy, liquidation, dissolution or closure;

(M) There are differences, conflicts or contradictions between any purchasers and agreements of the third-party cooperative agencies, and the information published by Ares Tech;

(N) Anyone's trading or speculation with Ares token;

(O) Ares token's listing or delisting on any exchange or trading platform;

(P) Ares token is taken or regarded as a kind of currency, securities, commercial paper, negotiable instruments, investment goods or other things by any government, quasi-government agency, competent authority or public institution, so that they are prohibited, regulated or restricted by law.

5) Within the scope of legal liability that cannot be exempted, only the minimum legal liability allowed by the applicable law shall be assumed.

10.5 Not everyone can participate in the project: Ares' network system and platform are not accessible to anyone, and participants may need to complete a series of steps, including providing identifying information and documents. In particular, participants in Ares token pre-sale and private placement may need to meet certain thresholds and conditions, which are determined and discretionary by Ares Tech alone, and Ares Tech may be modified according to regulatory requirements or project needs; such thresholds and conditions include but are not limited to, participants not from the People's Republic of China (excluding Hong Kong, Macao, Taiwan), South Korea, The United States or other regions that restrict investment in similar projects or meet the requirements of "qualified investors" under the laws of those regions.

10.6 The unauthorized company has nothing to do with the project: except Ares Tech, the use of the name and trademark of any other company or institution does not imply that any party is associated with or recognized with it, but only for the purpose of explaining the relevant content.