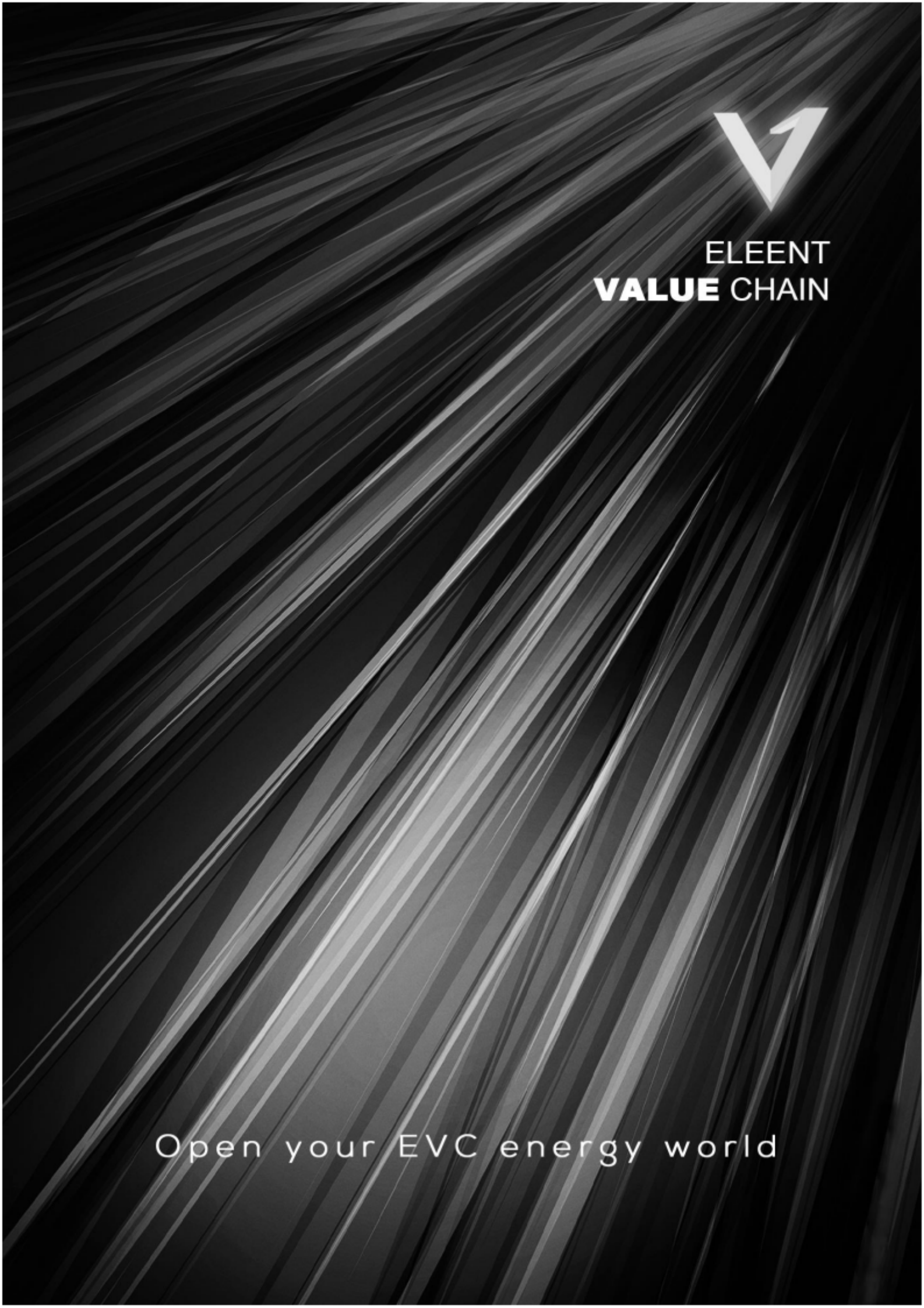

ELEENT
VALUE CHAIN
Open your EVC energy world

Foreword

The birth of the blockchain marks the beginning of humanity to build a truly trustworthy Internet.A blockchain is essentially a distributed database that records all transactions or digital events. It can also be thought of as a public account book that can be accessed and recorded by all parties.Blockchain can establish reliable trust between peers in the network, so that the value transfer process removes the interference of the intermediary, not only exposes information but also protects privacy. It not only makes decisions and protects individual rights, but the internal mechanism improves the efficiency of value interaction and reduces The cost has broad application prospects.This disruptive technology contains a huge number of opportunities, and a revolution triggered by it has just begun.

The Eleent Vlaue Chain aims to establish a peer-to-peer inventory sharing public chain, and to support third-party advertising service providers to build their own advertising service applications on top of their open source agreements by building blockchain underlying architecture and advertising resource distribution agreements, and many industries. The internal partners form a complete ecosystem of blockchain technology and applications.Based on various rules and protocols created by the Eleent Vlaue Chain, it grafts various media resource application scenarios including text, images, music, video,

software, etc., providing a decentralized direct docking platform for advertisers and consumers.

Third-party service providers can deploy their own contracts, build their own economies, or focus on creating applications for the Value Value Chain, using the EVC in the Eleent Vlaue Chain as the system's credentials.

For example, you can set up a self-media sharing platform on the Eleent Vlaue Chain, and the media sharer will price the published value information. The advertiser will trade on the platform, and every fee paid to the media sharer will be instantly paid; Promoters can be interested in advertising in the Eleent Vlaue Chain. People who click on the advertisement or forward the advertisement can get a certain amount of income; the owner of the advertisement screen of the announcement place can set up a node on the Eleent Vlaue Chain to list and sell their own advertising screen resources. Advertisers in need directly pay for inventory through the Excel Value Chain's decentralized trading system, and so on.Different from the previous information transmission, it is necessary to use the centralized platform or other centralized intermediary companies to spread the profit and profit. This mode eliminates the intermediate links. The resource providers directly connect with the advertisers and consumers through the Eleent Vlaue

Chain platform to ensure the advertising screen. Maximizing the interests of nodes and advertisers also ensures the value of the readers.

In order to support the construction and operation of the decentralized value network, the Eleent Vlaue Chain perfectly integrates the underlying blockchain service and the neural network algorithm to provide high-concurrency and blockchain-based advertising value sharing for the majority of users. Go to the center platform.The Eleent Vlaue Chain is mainly composed of the Eleent Value Store platform and the Eleent Vlaue Chain chain. The Eleent Value Store platform provides massive cloud storage space, high QoS (Quality of Service) resource sharing service, and convenient nodes. Deployment, etc., has a good user experience; the Original Value Chain original chain introduces a distributed node network based on neural network algorithm, provides a stable network and IPFS storage infrastructure, and ensures the healthy and orderly development of the entire value of the EleentValue Chain through voting and budgeting mechanisms. The combination of smart contracts allows users to easily deploy distributed applications, perfectly supporting the entire ecosystem.

This white paper details the design concepts, features and innovations of the Eleent Vlaue Chain project, business vision, and key technologies.

Eleent Vlaue Chain Directory

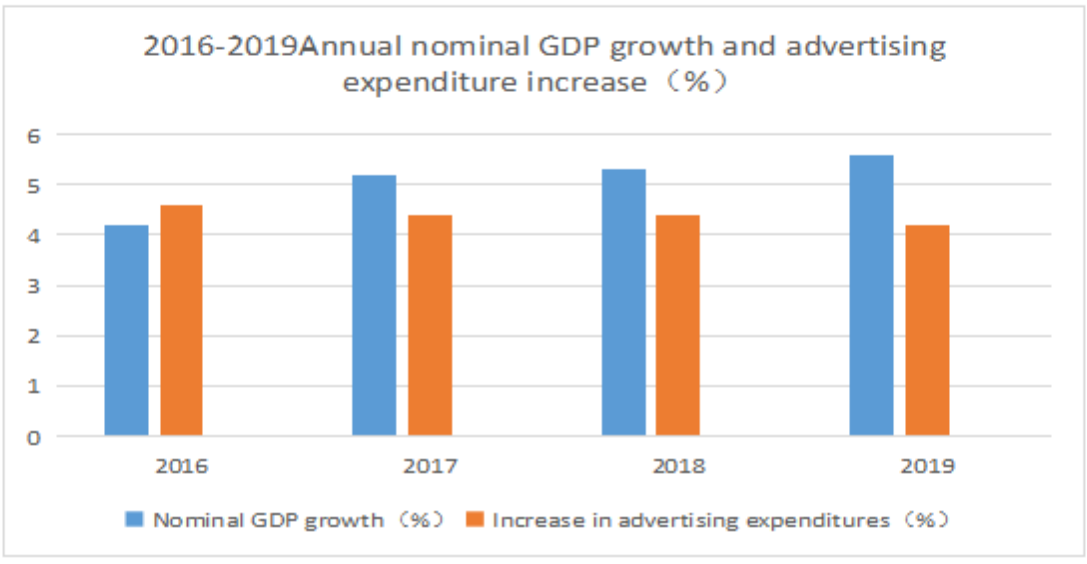
I. Summary

1．1 Advertising industry status

After years of development, the global advertising industry has been in the mature stage of the industry life cycle, and the industry boom is closely related to economic development.After the 1980s, the world economy became more international, and a large number of multinational advertising companies and groups also came into being. The international advertising market showed a trend of concentration and intensification. The merger, alliance and merger between advertising companies produced Several giant advertising groups.After a series of mergers and acquisitions of the international 4a company, the concentration and professional level of the industry has increased significantly.

1.2 Overview of the global advertising industry

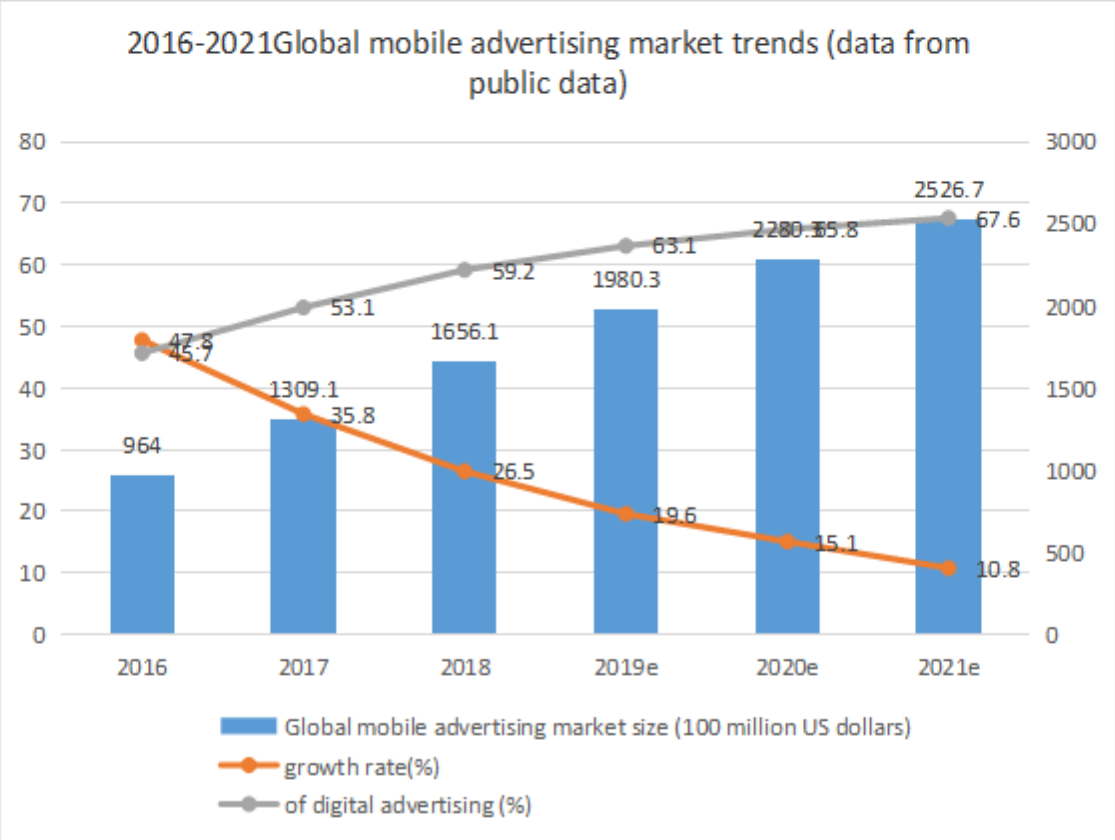
The global advertising market is huge, and according to data released by GroupM, it reached $521.934 billion in 2016.According to ZenithOptimedia, the world's leading



authoritative organization (which is part of the French Publicis Group, the world's leading media communications company, its regularly published advertising industry forecasts and reports are authoritative in the industry) The March 2017 study predicts that starting in 2011 , the global advertising market in 2016-2019 nominal GDP growth and advertising expenditures increased (%)

Steady development, the industry growth rate is maintained between 4% and 5%.In 2017 and 2018, global advertising expenditures will increase by 4.4% and 4.4%, respectively, and global advertising expenditures will reach $592 billion by the end of 2018.

On the demand side of the overseas market, the mobile advertising platform undertakes the advertising needs of advertisers, and provides advertising services through the establishment of advertising platforms through its own platform; on the supply side, application developers



independently develop mobile Internet products, while providing free software to users around the world. To build a mobile Internet traffic platform, by embedding advertisements in its own app products, to enable customers to place advertisements on mobile terminals, and to provide third-party application distribution, e-commerce shopping guides, and brand-type advertisement display opportunities for advertisers through advertising platforms. Earn income and achieve profitability.

According to the report of aril Consulting, the global mobile advertising market in 2017 has exceeded 100 billion US dollars, accounting for 53.1% of Internet advertising in the first place.Although the growth rate has declined, the overall growth rate has been maintained at a high speed.

1.3 Current problems in the advertising industry

1.3.1 Controlled by giants and monopoly capital

At present, the global advertising industry presents a monopoly format.Although the international advertising market forms a differentiated market due to different delivery methods, each distribution method is monopolized by large capital.Advertisements on the mobile Internet and PC web pages are controlled by FaceBook and Google. The advertisement distribution of TV broadcasts is monopolized

by international giant CBS.The status quo of monopoly increases the marketing cost of advertisers for advertisers.At the same time, for small and medium-sized advertising companies and advertising equipment service providers, the monopoly caused their accounts and bills to be extended, the receivables could not be received in time, and the profits of small and medium-sized advertising service providers continued to decrease with the suppression of giants. The value of equipment suppliers has long been ignored.

1.3.2 Message asymmetry for advertisers

At present, in the global advertising industry, due to the excessive concentration of voice and advertising resources, the information is extremely unbalanced due to the influence of interests.This kind of asymmetry is mainly reflected in the fact that advertisers cannot obtain real information such as delivery conversion rate, delivery accuracy, audience effectiveness, etc. when selecting advertising services. Advertising service providers often deliberately modify data for their own operations.The asymmetry of data has caused many advertisers to be unable to obtain the best matching channels and methods for their own business in the first time, wasting advertising funds.

1.3.3 Reader value is ignored for a long time

The advertiser is the ultimate audience for the ad.At present, their value has been neglected for a long time on a global scale.The audience

of the advertisement supports the operation of the advertiser with its own potential consumption power, but it does not pay for any value of this support.In the centralized and highly monopolized advertising industry, more profits are allocated to monopolist operators.With the overall development of the advertising industry and the active participation of advertisers, each audience will invisibly contact a large number of various forms of advertising every day, which also makes the audience gradually form a conflict of inner feelings, which also directly affects the effectiveness of advertising.

Second, the project introduction

2.1Eleent Vlaue Chain Positioning

Eleent Vlaue Chain Chinese translation for "Eleent price chain", referred to as evc.

The Eleent Vlaue Chain is a decentralized inventory aggregation ecosystem.Evc is used for the circulation and encouragement of its ecosystem, so that the ecosystem can operate efficiently and automatically, and realize the autonomous management within its ecology, and improve the conversion rate coverage and profitability of advertising resources.

Eleent Vlaue Chain will use the technological innovation of the

blockchain to create a new advertising aggregation ecosystem, through decentralized nodes and trading platforms.Eleent Vlaue Chain will combine the continuous ecological incentive mechanism and the self-made role mechanism to complete the ecological fission of the Eleent Vlaue Chain and the mutual restraint between users, and create a new advertising industry ecology with fair fairness and value sharing.

On the user side, EVC proposes to make information valuable, to make participation meaningful, and to get rid of past users' resistance to advertising information.

The use of the "Tink Tank Blockchain Advertising Protocol" at the merchant end uses the tamper-proof ledger to open the way for advertisement impression tracking, allowing advertisers to pay only for the correct impressions and to prevent traffic fraud.

2.2Eleent Vlaue Chain Mission

Eleent Vlaue Chain forms a new aggregated advertising resource sharing ecosystem through a combination of public and decentralized inventory trading distribution platforms and advertising distribution reading apps.It aims to integrate outdoor advertising screens and other forms of self-media advertising resources distributed around the world by combining blockchain technology, and to link different advertising screen nodes through a unique "neural network" to form a unique

advertising chain.Advertisers can view the number and distribution of nodes across the network in real time.In conjunction with Google's real-time Street View big data, the "Value Analyzer" of the Eleent Vlaue Chain will evaluate and feedback the traffic of the advertising screens in different locations in different regions. The advertisers can freely choose the delivery node and the delivery cycle. After EVC, the Eleent Value Store will automatically review and distribute the advertising content uploaded by the advertiser.

Evc will protect the benefits of advertising readers' own value in the process of reading and sharing in a smart contract + self-made ecological way.Through value sharing, advertisement readers are disgusted with the content of advertisers, increasing the arrival rate and conversion rate of advertisements, and promoting mutual benefit and win-win for advertisers and end consumers.

Evc will create a new advertising resource sharing ecosystem through the innovation of technology and the characteristics of the blockchain to the center, and develop a new format.

2.3Eleent Vlaue Chain Innovation

2.3.1 Innovation-"Neural Network" Algorithm

By combining the neural network algorithm with the blockchain DPOS algorithm, the Eleent Vlaue Chain has high concurrency and low

latency, and the Eleent Vlaue Chain network has Eleent fault tolerance and self-healing capabilities like a neural network.Create more possibilities by allowing more computing power and network bandwidth to participate in more valuable advertising distributions, while consuming less computing power.

2.3.2 Innovation 2 "tink tank" advertising agreement

The tink tank blockchain advertising agreement uses a ledger and a special smart contract between the advertiser and the publisher.The tamper-proof ledger opens the way for impression tracking.Therefore, advertisers only pay for the correct impression and do not need any fraud or inaccuracy.

It solves the problem of advertising fraud, just like the double spending problem of cryptocurrency.All digital advertising impressions are recorded, and the actual advertising impression is separate from the fraudulent impression.The information gathered in the blockchain network is like a filter that can block fraud in the entire ecosystem.If this impression is wrong, then the advertisement will be unpaid. Through such an agreement, all advertisements will be viewed by real human viewers. In this way, the ecosystem of the advertising industry will be completely changed.

2.3.3 "Quark Content Container"

Decentralization does not mean completely unrestricted freedom of

content, for some harmful remarks and content,

It is necessary to delete and block.In the Eleent Vlaue Chain system, in addition to the Quark intelligent system for vulgar content identification, a user-made review mechanism (voting system) is adopted to allow the public to filter out inappropriate content.

At the same time, the Quark container system also has anti-spam function, which can greatly reduce the amount of spam, such as all malicious content or worthless resources, through the principle that "all information must be traded and all transactions will be recorded".At the same time, through the gateway MAC physical address homing technology design, malicious content or other bad behavior will also leave the user with a "record" that cannot be changed in the system, affecting the user's credit rating.

2.4 Business Vision

The Eleent Vlaue Chain categorizes inventory through its unique "neural network" and under smart contracts, and integrates idle inventory.Increase the value of fragmented information.And advertisers/advertisers can make advertising letters

Free exchange of interest, exchange and promotion of value between different fields through the Eleent Vlaue Chain.

On the user side, EVC proposes to make information valuable, to

make participation meaningful, and to get rid of past users' resistance to advertising information.

The use of the "Tink Tank Blockchain Advertising Protocol" at the merchant end uses the tamper-proof ledger to open the way for advertisement impression tracking, allowing advertisers to pay only for the correct impressions and to prevent traffic fraud.

In traditional advertising media platforms, information is difficult to monitor.Water army, illegal information, traffic cheats, regional information restrictions, etc. not only cause commercial advertising to lose money, but also not timely supervision, will also make the platform quality decline.Evc ecosystem, users can not only get the benefits of advertising browsing, but also report violations of information to obtain autonomy dividends, national sharing / national autonomy.

The introduction of the evc ecosystem combines the advertising industry with blockchain technology. By constructing smart credits from blockchains, it is possible to eliminate intermediate links, reduce the exploitation of intermediaries, and increase the benefits, so that communicators can better customer service.Companies can even skip the traditional ad buying process and pay directly to the target groups that watch the ads.

The evc ecosystem integrates the idle communication channels that traditional advertising channels can't involve or lose. The combination of

blockchain technology and the economics of the pass will completely subvert the traditional advertising platform.

Through a combination of technology and user-made, create a de-centered advertising resource sharing ecosystem.In the future, more advertising resources will become evc nodes, and more third-party advertising service providers will join eVC to develop advertising service applications.

The landing of the evc ecosystem will completely change the current traditional way of advertising.Through such an ecological landing, it will bring a lot of extra-circle traffic to the blockchain industry to achieve killer applications.

Users of evc ecological transformation will form high viscosity through the evc ecosystem.Users of the same level will also enable eVC to diversify, and evc will also implement evc pass global payment through its network/media communication nodes around the world.

III. Ecological Design

3.1 Ecological structure

3.1.1Eleent Vlaue Chain

The Eleent Vlaue Chain chain provides a link to the main network for all inventory nodes.To meet the needs of content distribution, the Excellence Value Chain chain introduces a file system that constructs the

entire primary node network as a point-to-point Distributed File System (IPFS).Considering sustainable development, the voting system and budget system are introduced. The voting system can not only intelligently judge multiple applications of the application layer, but also assist the budget system, and support more developers to invest in service contract development, so that the entire Eleent Vlaue Chain Ecological development is in a virtuous circle, carrying more service applications.In other implementations, the Eleent Vlaue Chain network is compatible with smart contracts.

3.1.2 Eleent Value Store

The evc eco-shop can quickly integrate the common idle information dissemination channels, give value to the information dissemination channels that have no value/hard to obtain value, and make the information spread more sticky through ecological incentives, thus attracting merchants' favor. Build a bridge between advertisers/idle resources and end users, making information delivery more efficient/faster and more valuable.

3.1.3 APP

Businesses are advertised to the EVC ecosystem. All EVC eco users can choose to browse and share according to the advertisements they are advertising. In the process, the user participates in this ecology, that is, the way of "reading mines" and obtains the evc eco-pass. The

reward of the certificate encourages the effective dissemination of information, and the eVC eco-business can also obtain more accurate exposure in this way.With the expansion of the evc ecosystem, the value of evc can also be stabilized and improved rapidly.

3.2 Ecological role

3.2.1 Advertising Media Node

In the EVC ecosystem, the media has become more diverse, bidding farewell to the framework limitations of previous media, and the media of evc has become more diversified.The integration of idle media makes information more valuable, and in the media system, information can be exchanged and transmitted in the evc ecosystem.

3.2.2 advertiser

Advertising in the EVC Ecology can achieve more accurate crowd matching, users are more willing to read and share advertisements, and deeply explore user needs and participation.And can effectively eliminate false traffic and improve the efficiency of advertisers' advertising.

3.2.3 Reading Sharer

In the traditional media, users are always just terminals for information reception, and they are constantly being disgusted by "marketing" for advertising information.In the ecology of EVC, each

role is given a different role. Even if the user can read the advertisement information in this ecology, the "marketing" will obtain the traffic reward, so that the user can change from refusing to happy and active browsing, and improving the user. A sense of participation and a quick increase in the number of eco fans.

3.2.4 Fire spreaders

The fire spreader is an early player in EVC and a node developer in different regions.Fire spreaders play a vital role in the entire ecology.Contribute to the value of communicators for the evc ecosystem through sharing and fission.At the same time, the fire spreader can participate in the ecological reward and get the evc reward.

3.3 Ecological incentives

The output of EVC is mainly divided into two parts, one part is the total RF output mechanism of 1 billion in the early stage, and the early players are cultivated for the Eleent Vlaue Chain.The total output of radio frequency is 1 billion. The first day of output is 1000w pieces, which is reduced by 1% every day, and the output of 181 days is completed.

The second part is the ecological incentive of a total of 8 billion.Among them, the 8 billion EVCs of ecological incentives are divided into two parts: node mine pool and audit mine pool. The total number of node mines is 6 billion. The first day output is 6000w pieces,

which is reduced by 1% every day, and the output is completed in 1001 days.The total number of mines was 2 billion, and the first day produced 2000w pieces, which was reduced by 1% every day, and the output was completed in 1001 days.

RF production cycle

Day1	10000000.00	Day21	8179069.38	Day41	6689717.59
Day2	9900000.00	Day22	8097278.68	Day42	6622820.41
Day3	9801000.00	Day23	8016305.90	Day43	6556592.21
Day4	9702990.00	Day24	7936142.84	Day44	6491026.28
Day5	9605960.10	Day25	7856781.41	Day45	6426116.02
Day6	9509900.50	Day26	7778213.59	Day46	6361854.86
Day7	9414801.49	Day27	7700431.46	Day47	6298236.31
Day8	9320653.48	Day28	7623427.14	Day48	6235253.95
Day9	9227446.94	Day29	7547192.87	Day49	6172901.41
Day10	9135172.47	Day30	7471720.94	Day50	6111172.40
Day11	9043820.75	Day31	7397003.73	Day51	6050060.67
Day12	8953382.54	Day32	7323033.70	Day52	5989560.06
Day13	8863848.72	Day33	7249803.36	Day53	5929664.46
Day14	8775210.23	Day34	7177305.33	Day54	5870367.82
Day15	8687458.13	Day35	7105532.27	Day55	5811664.14
Day16	8600583.55	Day36	7034476.95	Day56	5753547.50
Day17	8514577.71	Day37	6964132.18	Day57	5696012.02
Day18	8429431.93	Day38	6894490.86	Day58	5639051.90
Day19	8345137.61	Day39	6825545.95	Day59	5582661.39
Day20	8261686.24	Day40	6757290.49	Day60	5526834.77
Day61	5471566.42	Day81	4475232.14	Day101	3660323.41
Day62	5416850.76	Day82	4430479.82	Day102	3623720.18
Day63	5362682.25	Day83	4386175.02	Day103	3587482.98
Day64	5309055.43	Day84	4342313.27	Day104	3551608.15
Day65	5255964.88	Day85	4298890.14	Day105	3516092.07
Day66	5203405.23	Day86	4255901.23	Day106	3480931.14
Day67	5151371.17	Day87	4213342.22	Day107	3446121.83
Day68	5099857.46	Day88	4171208.80	Day108	3411660.62
Day69	5048858.89	Day89	4129496.71	Day109	3377544.01
Day70	4998370.30	Day90	4088201.74	Day110	3343768.57
Day71	4948386.60	Day91	4047319.73	Day111	3310330.88

Day72	4898902.73	Day92	4006846.53	Day112	3277227.57
Day73	4849913.70	Day93	3966778.06	Day113	3244455.30
Day74	4801414.57	Day94	3927110.28	Day114	3212010.75
Day75	4753400.42	Day95	3887839.18	Day115	3179890.64
Day76	4705866.42	Day96	3848960.79	Day116	3148091.73
Day77	4658807.75	Day97	3810471.18	Day117	3116610.81
Day78	4612219.67	Day98	3772366.47	Day118	3085444.71
Day79	4566097.48	Day99	3734642.80	Day119	3054590.26
Day80	4520436.50	Day100	3697296.38	Day120	3024044.36
Day121	2993803.91	Day141	2448652.99	Day161	2002770.27
Day122	2963865.87	Day142	2424166.46	Day162	1982742.57
Day123	2934227.22	Day143	2399924.80	Day163	1962915.14
Day124	2904884.94	Day144	2375925.55	Day164	1943285.99
Day125	2875836.09	Day145	2352166.29	Day165	1923853.13
Day126	2847077.73	Day146	2328644.63	Day166	1904614.60
Day127	2818606.96	Day147	2305358.18	Day167	1885568.45
Day128	2790420.89	Day148	2282304.60	Day168	1866712.77
Day129	2762516.68	Day149	2259481.56	Day169	1848045.64
Day130	2734891.51	Day150	2236886.74	Day170	1829565.18
Day131	2707542.60	Day151	2214517.87	Day171	1811269.53
Day132	2680467.17	Day152	2192372.69	Day172	1793156.84
Day133	2653662.50	Day153	2170448.97	Day173	1775225.27
Day134	2627125.87	Day154	2148744.48	Day174	1757473.01
Day135	2600854.61	Day155	2127257.03	Day175	1739898.28
Day136	2574846.07	Day156	2105984.46	Day176	1722499.30
Day137	2549097.61	Day157	2084924.62	Day177	1705274.31
Day138	2523606.63	Day158	2064075.37	Day178	1688221.57
Day139	2498370.56	Day159	2043434.62	Day179	1671339.35
Day140	2473386.86	Day160	2023000.27	Day180	1654625.96
				Day181	1638079.70

3.4 Income Mechanism

3.4.1 node revenue

Each ad node in the Eleent Vlaue Chain can play the mine by playing

the advertiser content distributed by the Eleent Vlaue Chain.The total output of the mine pool on that day is S, and the total number of online total nodes is L.Each node's return P is automatically adjusted according to the current day coefficient a, and the node's revenue is calculated based on the node's traffic index e and time index t.

a={S/L +S/t}/2; P=0.75ate

3.4.2 Recommended income

Each participant in the Eleent Vlaue Chain can act as a fire deliverer to integrate advertising resources in their area.Recommend high-quality and reliable advertising resources, outdoor advertising screen to join the node, the recommendation node needs to pledge a certain number of EVC as a recommendation guarantee, and permanently capture 25% of the node's mining revenue.The recommended income r will be affected by the node's revenue (node online constant t and traffic index e)

r=0.25ate

3.4.3 Review revenue

Each participant in the Eleent Vlaue Chain can participate in the content review of the Eleent Vlaue Chain, and all published content will be included in the pending review.Users need to pledge a certain number of EVCs as audit margins and pass the audit to obtain EVC eco rewards.The reward E obtained by the reviewer on a daily basis depends on the total output of the mine on the day is S, the total amount of

audits on the whole network and the number of audits that he participated in.

E=Si/o

3.4.4 Reporting revenue

Each participant in the Eleent Vlaue Chain can report the content that has been reviewed and distributed in the Eleent Vlaue Chain in real time. The reported content will be forced to freeze, the reported content or the node's margin and the guarantor. The deposit will be frozen.The reported content and nodes will be transferred to the Arbitration Commission for arbitration.When the user reports, it is required to pledge the EVC with the same amount of content as the security deposit. If the report is successful, the reporter obtains the full deposit of the reported content (node) as a reward, and the reporter's report margin is released.In the event of a malicious report, the whistleblower' s deposit will be paid to the reported person and his guarantor.

3.5 deflation model

3.5.1 node lock recommendation also needs to be locked

The consensus mechanism adopted by the Eleent Vlaue Chain is DPOS. All participating nodes are required to pledge 2-10w EVCs as proof of equity, and are subject to the ecological self-made rules. All nodes and content are required to pledge a certain amount of

margin.When the number of nodes and players increases, the pledge demand for margin will continue to expand, and the EVC eco-release will continue to reduce production by 1%/10 days, ensuring the ecological deflation mechanism of EVC.

3.5.2 Community voting lock

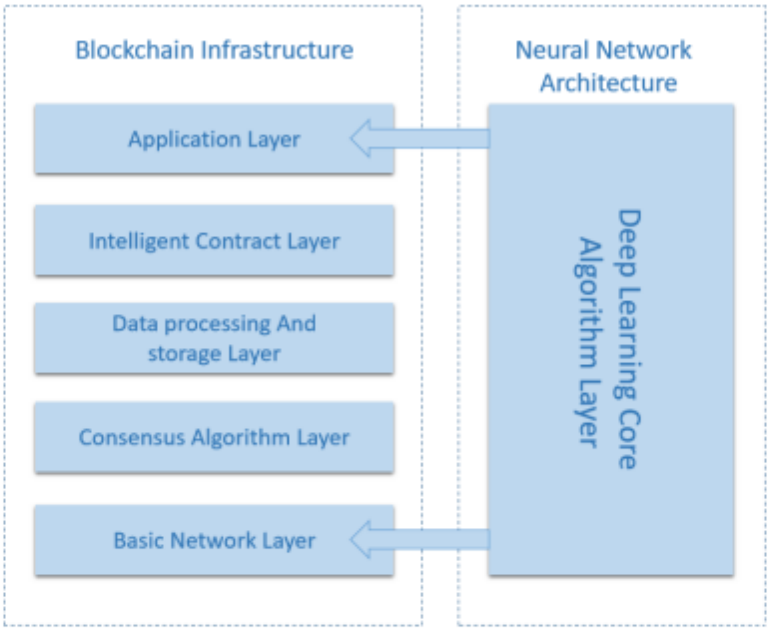
In the evc homemade ecology, all the selection and democratic voting need to freeze the evc, each ticket will freeze 1 evc, all participants will have a freezing cost to vote, in order to guarantee the rights of each evc holder. And democratic voting rights.

3.5.3 Recycling and destruction

For all transactions in the Eleent Value Store, the system will automatically deduct 5% of the EVC, 1% of which will be used as the operating expenses of the Foundation and the Arbitration Commission, and 4% will be recycled and permanently destroyed.EVC's destruction mechanism guarantees the scarcity of EVC's circulation and guarantees the long-term benefits and EVC value of each participant.Fourth, technology implementation

4.1 Core Architecture Overview

The Eleent Vlaue Chain core architecture consists of a blockchain infrastructure and a neural network deep adaptive learning framework.The blockchain infrastructure consists of five parts: the basic



network layer, the consensus algorithm layer, the data processing and storage layer, the intelligent contract layer, and the application layer.As a system core optimization algorithm layer, the neural network depth adaptive learning framework cooperates with the basic network layer and application layer in a loosely coupled manner to ensure the efficiency, accuracy and fault tolerance of the system data entry, and the whole system. The stability and open API interface allows more advertisers, media, and users to link to the entire blockchain network.

Neural network algorithms can evolve through their own adaptive learning capabilities.At the network layer, neural network algorithms are used to optimize network discovery and data transmission and reception to improve the network communication capabilities of the entire system, thereby improving system concurrency and data processing capabilities, reducing network latency; at the application layer, through a large

amount of advertising content and user big data. Learning and training, the neural network algorithm can classify the advertisements into more dimensions and make more detailed images of the users, thereby improving the accuracy and effect of the advertisements.

4.2 Combination of neural network algorithm and blockchain

4.2.1 Neural Network Algorithm

Neural network is a model in machine learning. It is an algorithmic mathematical model that simulates the behavioral characteristics of animal neural networks and performs distributed parallel information processing.This kind of network relies on the complexity of the system to adjust the relationship between a large number of internal nodes to achieve the purpose of processing information.

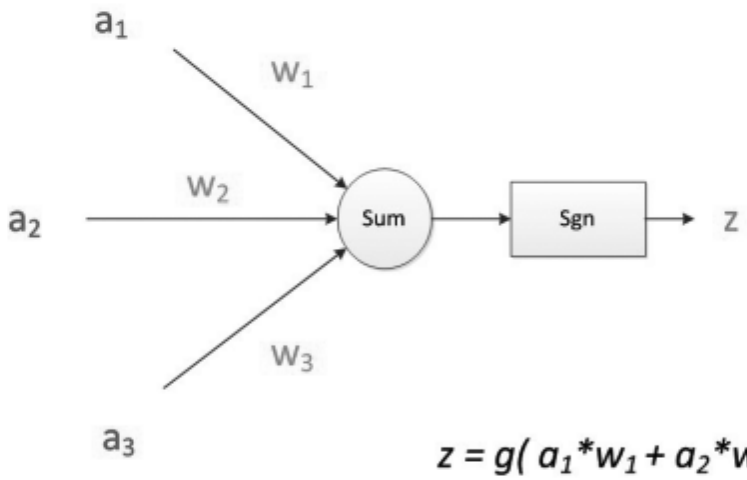
In a biological structure, a neuron usually has multiple dendrites, which are mainly used to receive incoming information. There is only one axon, and many axon terminals at the end of the axon can transmit information to other neurons.The axon tip is connected to the dendrites of other neurons to transmit signals.

The neuron mathematical model in the computer field is a model that contains input, output, and computational functions.The input can

be analogized to the dendrites of the neurons, and the output can be analogized to the axons of the neurons, and the calculation can be analogized to the nucleus.

A neuron has n inputs, each of which corresponds to a weight w. The neuron will multiply the input and the weight after multiplication, and the result of the summation is offset from the offset, and finally the result is placed in the activation function. The final output Z is given by the activation function.

If we symbolize all the variables in the neuron graph and write out the calculation formula for the output, it is the following image:



$$z = g(a_1 * w_1 + a_2 * w_2 + a_3 * w_3)$$

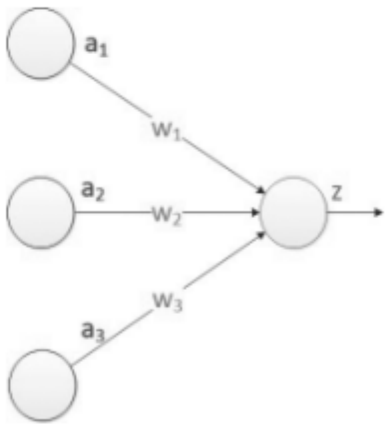
In the computer world, the output z is often binary, with a 0 state representing suppression and a 1 state representing activation.

This is the simplest MP neuron model, although simple, the foundation of the neural network has been established.However, in the MP neuron model, the values of the weights are all set in advance, so they cannot be learned.Computational scientist Rosenblatt proposed a neural network consisting of two layers of neurons, named as a perceptron, which was the first artificial neural network that could be learned at the time.

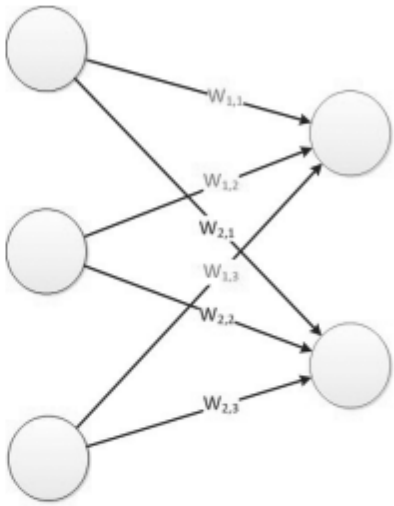
$$\text{output} = \begin{cases} 0 & \text{if } \sum_j w_j x_j \leq \text{ threshold} \\ 1 & \text{if } \sum_j w_j x_j > \text{ threshold} \end{cases}$$

Single layer neural network (perceptron)

Adding a neuron node to the "input" position of the original mp model constitutes a neural network composed of two layers of neurons, marking it as an "input unit."



The output of one neuron can be transmitted to multiple neurons. If it is passed to two neurons, the formula is as follows.



$$z_1 = g(a_1 * w_{1,1} + a_2 * w_{1,2} + a_3 * w_{1,3})$$
$$z_2 = g(a_1 * w_{2,1} + a_2 * w_{2,2} + a_3 * w_{2,3})$$

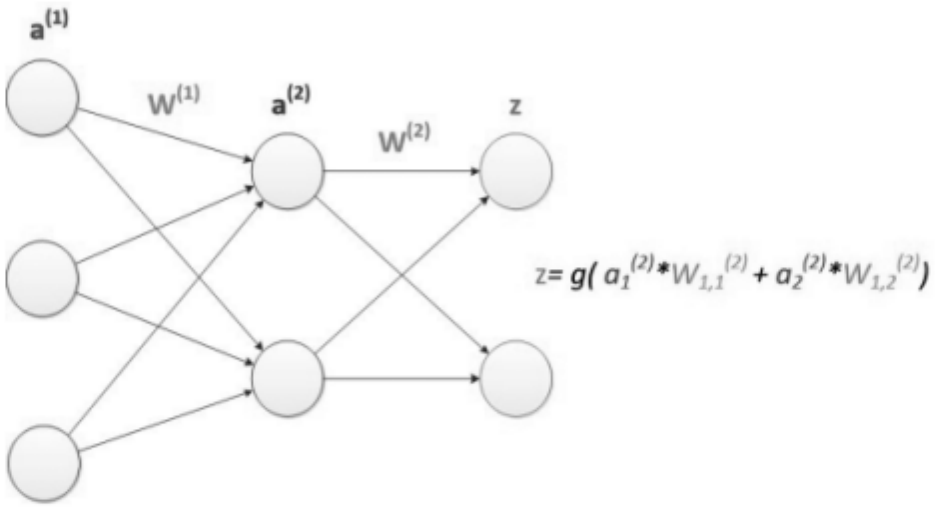
Passing to multiple neurons can be deduced by analogy.Unlike the neuron model, the weights in the perceptron are obtained through training.The perceptron is similar to a logistic regression model and can do linear classification tasks.

We can use the decision boundary to visually express the effect of classification.Decision boundary is to draw a line in the two-dimensional data plane. When the dimension of the data is 3D, it is a plane. When the dimension of the data is n-dimensional, it is an n-1 dimension. flat.

Two-layer neural network (multilayer perceptron)

On the basis of a single-layer neural network, extension can be extended to a two-layer neural network.The two-layer neural network adds an intermediate layer in addition to an input layer and an output

layer.At this point, both the middle layer and the output layer are computational layers.

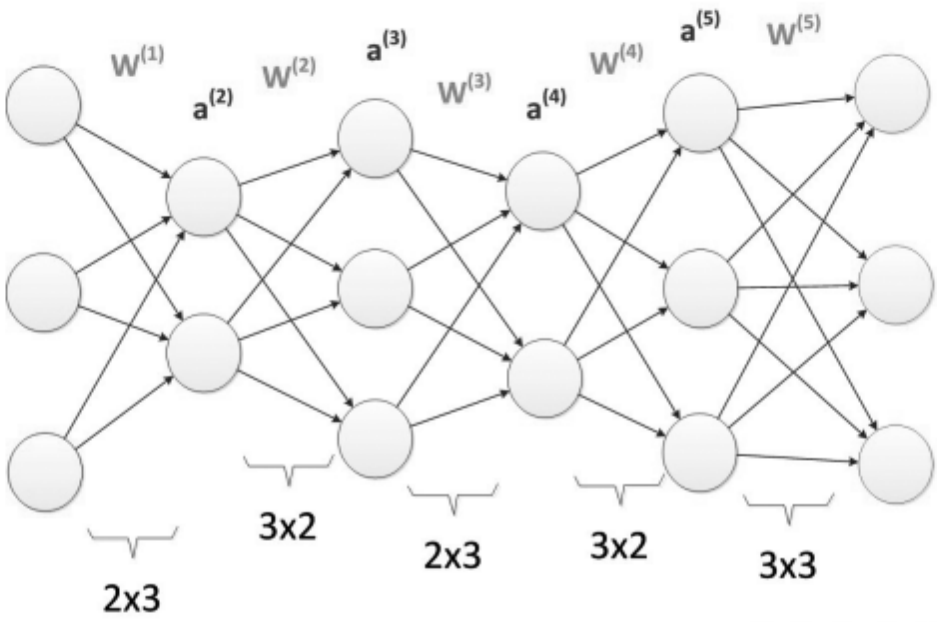


Different from single layer neural networks.The theory proves that a two-layer neural network can approximate any continuous function infinitely.In the face of complex nonlinear classification tasks, two layers (with a hidden layer) neural network can be classified better.The two-layer neural network can already exert its utility and value in many fields such as speech recognition, image recognition, and automatic driving. The XOR problem in the neural network community is easily solved.However, there are still some problems in neural networks: the training of a neural network still takes too long, and one problem that plagues training optimization is the local optimal solution problem, which makes the optimization of neural networks more difficult.At the same time, the number of nodes in the hidden layer needs to be

adjusted, which makes the use less convenient.Finally, the SVM (Support Vector Machines) algorithm invented by Vapnik et al. was born, and soon showed the advantages of contrast neural network in several aspects: no need to adjust parameters; high efficiency; global optimal solution.For all of the above reasons, SVM quickly defeated the neural network algorithm to become mainstream.

Multi-layer neural network (deep learning)

In 2006, Hinton published a paper in Science and related journals, and for the first time proposed the concept of "deep belief network".Unlike the traditional training method, the "Deep Belief Network" has a "pre-training" process, which makes it easy to find the value of the neural network in a value close to the optimal solution, and then use " Fine-tuning technology to optimize training for the entire network.The use of these two technologies has greatly reduced



the time required to train multi-layer neural networks.It also gives a new term for multi-layer neural network-related learning methods - "deep learning."Soon, deep learning has emerged in the field of speech recognition.

Different from the two-layer neural network.The number of layers in a multilayer neural network has increased a lot.Add more levels to more deeply represent features and stronger functional simulation capabilities.The stronger function of function simulation is due to the fact that as the number of layers increases, the parameters of the entire network increase.The essence of neural network is the method of simulating the true relationship function between feature and target. More parameters mean that the function of simulation can be more complicated, and there can be more capacity to fit the true relationship.

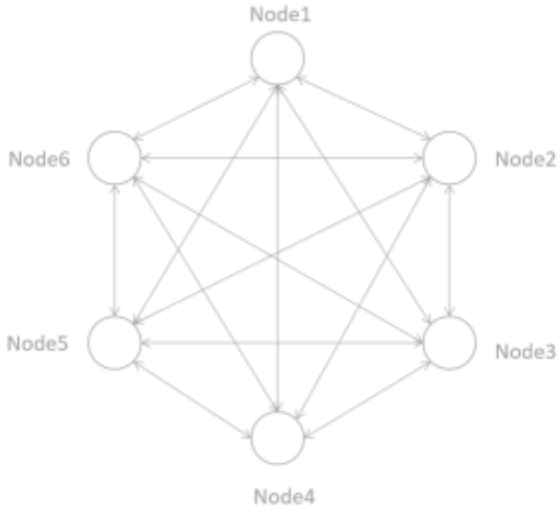
With the same number of parameters, deeper networks tend to have better recognition efficiency than shallower networks.Differentiate features by extracting more abstract features to achieve better differentiation and classification.

The advantages of neural network depth adaptive algorithm are used in the artificial intelligence industry, which enables the system to learn independently and continuously improve the stability and accuracy

of the system, and find the optimal solution of the system in efficiency and stability.

4.2.2 Neural network algorithm optimization blockchain p2p network communication

The blockchain is a decentralized network (p2p). There is no central node in the network. Each node has the characteristics of equality, autonomy, distribution, etc. All nodes are connected in a flat topology, and there is no centralized authority and hierarchical structure. Each node has functions such as route discovery, broadcast transactions, broadcast blocks, and discovery of new nodes.Communication transactions can be directly performed between any two nodes. Each node can also join or leave the network at any time. The blockchain platform usually selects the p2p protocol which is completely distributed and can tolerate single point of failure as the network transmission protocol.

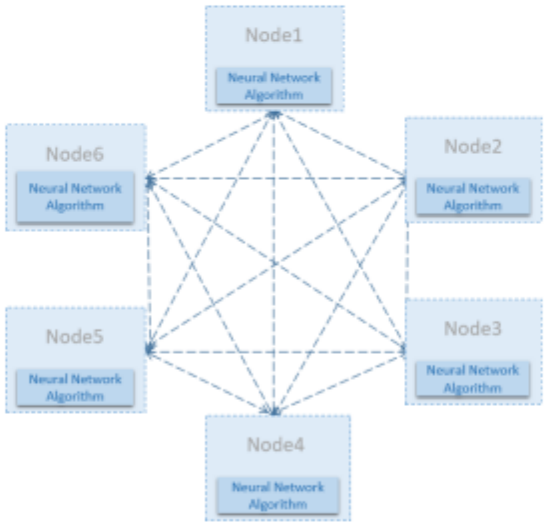


The P2P protocol of the blockchain network is mainly used to transmit transaction data and block data between nodes. The P2P protocol of Bitcoin and Ethereum is implemented based on the TCP protocol, and the P2P protocol of Hyperledger Fabric is implemented based on the HTTP/2 protocol.In a blockchain network, a node listens to data broadcasted in a network at a time. When receiving new transactions and new blocks sent by neighboring nodes, it first verifies whether the transactions and blocks are valid, including the digital signature in the transaction, The proof of the workload in the block, etc., only the transactions and blocks passed by the verification will be processed (new transactions are added to the block being built, the new block is linked to the blockchain) and forwarded to prevent the continuation of invalid data. propagation.

Although p2p brings positive effects on the equality, autonomy and distributed fault tolerance of blockchain networks, it also increases the

complexity and instability of the network environment.Because there may be new nodes, faulty nodes at any time, and the data processing capabilities and stability of the nodes themselves are unpredictable.

The neural network deep learning adaptive framework forms a node ip data pool by performing health check on all discovered nodes in the network, and scores according to the node's data processing capability and capacity, and broadcasts it to the healthy nodes in the system. In this way, the faulty node is shielded, and according to the network node pool, the node with the highest performance capacity is selected for communication, thereby improving the concurrency and data processing efficiency of the entire network, and reducing the average transmission delay of the entire network.



At the same time, the neural network deep learning adaptive framework continuously monitors the state of the nodes in the whole network, learns the evolution state of the whole network, finds the

optimal parameters of the evaluation nodes, and enables the entire blockchain network to continuously self-repair and evolve.

4.2.3 Blockchain + Neural Network to improve the effectiveness of advertising

Blockchain + Neural Network Improves Advertising Fraud Technology

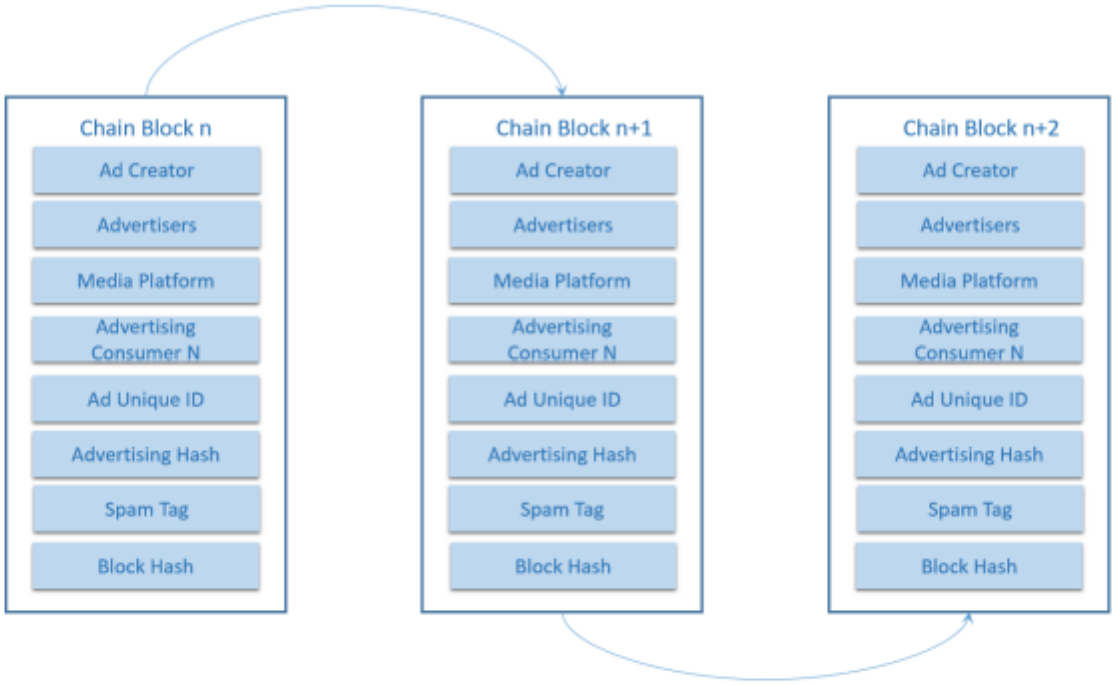
Advertising is essentially the cooperation of advertisers and publishers to attract users.In the real world, user value is captured by traffic control parties such as Google and Facebook, occupying an absolute mainstream position.They have a large user base and collect a large amount of data from end users, so they are very popular among advertisers, making them an intermediary between advertisers and publishers.Although the services they provide are very convenient, they are built on an opaque system.The middleman plays the role of an advertising platform and plays the role of a platform between Unicom advertisers and publishers.When advertisers do not have a transparent way to measure the effectiveness of advertising, advertisers will waste money, and today's large number of advertising robots will exacerbate this problem.

Data centralization also brings certain advertising fraud problems.The current online advertising ecosystem is flawed, and the middle-tier operations are opaque, making fraudulent behavior by ad networks, advertisers, and malicious third parties possible.

The blockchain relies on the hash pointer between the blocks and the Merkle tree in the block to realize the non-tamperable data on the chain; and the full amount of data stored in each node and the consensus mechanism running between the nodes makes the single node data illegal. Tampering cannot affect other nodes throughout the network.

Through the non-tamperable nature of the blockchain, the creators, advertisers, traffic platforms, and advertising audiences of the advertising content can be marked, and the hash content of the advertising content itself is calculated by the Hash algorithm, and the blockchain is written together, thereby No one can cheat in the flow of information.

Once the ad content is created and confirmed by the advertiser, its hash value has been determined and written into the blockchain. The content cannot be tampered with and cannot be deleted by anyone.Corresponding advertisement creators, advertisers, and traffic platforms have also been recorded. Spam advertisements and false information will be marked by other nodes in the chain. The cheaters and counterfeiters are recorded in the non-integrity files because they cannot tamper with the records on the chain. For everyone to see.



At the same time, through the stronger classification and feature extraction ability of deep learning of neural network, feature extraction of spam advertisements and false information, and continuous adaptive learning, it is possible to quickly discover and mark false advertisements and spam, so that the entire network has The ability to self-purify.

Neural Network Deep Learning Adaptive Framework Improves User Image Accuracy

The user portrait, that is, the user information tagging, is a data view that abstracts a user's business by using big data technology after collecting and analyzing the data of the main information such as consumer social attributes, living habits, and consumer behavior.

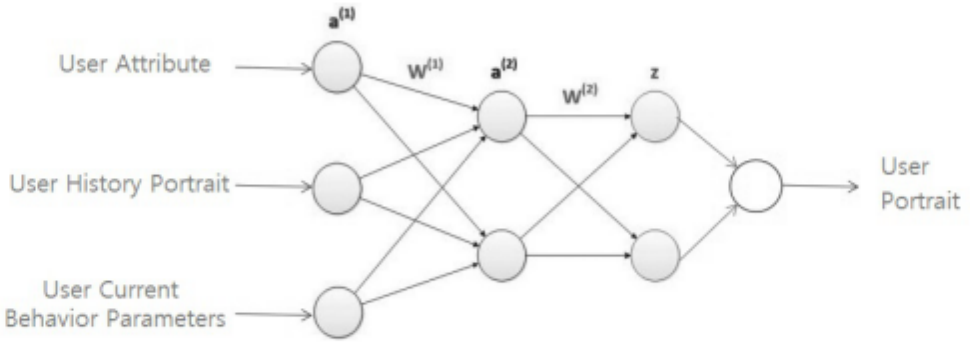
However, traditional Internet advertising networks have different measurement scales. This situation hinders advertisers from

cross-checking the results and cannot use uniform key performance indicators to be unified across the network, thus affecting the accuracy of tracking the return on investment of advertising expenditures.Based on blockchain technology, advertisers can easily track every click, view and verify each component of an activity (participants, ad slots, impressions, clicks, etc.).Because of the characteristics of the blockchain itself, the information stored on the chain is decentralized and decentralized, so it is difficult to be occupied or manipulated, so the advertiser pays the actual resulting cost.

The existing Internet network is based on user information, browsing records, consumption habits, etc. as a data basis to analyze user images, and then carry out accurate advertising marketing.This is because user data is directly related to human nature, and unlike financial data, it is deceptive, and all errors that cause a part of the user's portrait.Advertisers who deliver accurate results through traditional Internet-accurate portraits may be placed on users who are not interested.Therefore, how to more accurately match the user's portrait and advertising content becomes the key to accurate delivery.

The essence of neural network deep learning is the method of simulating the true relationship function between features and targets. As the number of layers increases, the parameters of the whole network are more.More parameters mean that the functions it simulates can be

more complex and have more capacity to fit the true relationship.In the case of a certain number of parameters, deeper networks tend to have better recognition efficiency than shallow networks.



By extracting the feature of the advertisement content, the advertisement can be better classified, so that the advertisement that the user likes is more likely to be found; and the user's behavior characteristics are extracted to obtain better user image distinguishing and classification ability.At the same time, through the adaptive learning of the neural network, the changes of the user's preferences are found, and the advertisements that are more likely to be in interest are recommended for the user.

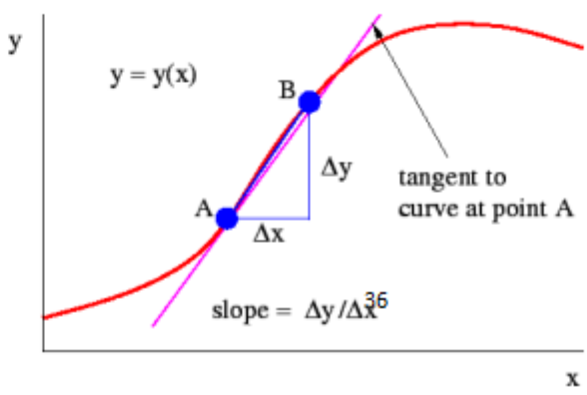
Neural network deep learning framework based on geographically accurate intelligent advertising

Based on more accurate user portraits and finer advertising content, the algorithm level wants to continue to improve the accuracy of advertising, and it needs external factors to introduce more effective parameters of the system.User portraits and advertising content are intrinsic parameters, and another important reference data is geographic

location.Different cities, regions, and communities have different traffic, consumption levels, advertising costs, and delivery methods. For example, the same chain stores may have distinct operational teams and activities in different geographical locations.On the other hand, users may only be interested in services or products in a certain area.

Therefore, in order to maximize the advertising revenue, it is necessary to further narrow the precise scope of the advertisement through the geographical location. However, it is unrealistic to implement the delivery parameters based on the artificial geographical location marker. The neural network deep learning algorithm can only be continuously learned to distinguish different advertising types in different geography. The placement of the location affects the parameters.

To achieve content-oriented advertising based on geographic information, the following key technologies are needed: (1) Only advertisements are related to geographic information, and it is meaningful to consider geographic information when placing advertisements. Therefore, it is necessary to extract more accurate advertisement features through neural network algorithms. To



determine whether it is geographically related; (2) need to quickly match the advertising characteristics and user portraits; (3) need to analyze the previous advertising to deliver big data, calculate the previous revenue maximizing delivery parameters, and through the depth of the neural network Learn the algorithm and quickly calculate the current revenue maximization delivery parameters.

Yield maximization delivery parameter fitting curve

Contribution of advertising revenue from different geographic locations

$$\frac{\partial y}{\partial W^l} = \frac{y(W^l + \Delta Wl) - y(Wl)}{\Delta W^l}$$

Neural network deep learning frameworkDistributed training

1. Prepare a network-connected training cluster, use 4 training nodes, use *.paddlepaddle.learn to represent the host name of the node, and modify it according to the actual situation.
2. Make sure you have read install_steps before you start and that you can run PaddlePaddle on all nodes of the cluster.
3. Use a simple linear regression model as an example to start a distributed training task with 2 PSERVER nodes and 2 TRAINER nodes, running with dist_train.py.

Deep learning neural network training code

```
import os
import paddle
import paddle.fluid as fluid
# train reader
BATCH_SIZE = 20
EPOCH_NUM = 30
BATCH_SIZE = 8
train_reader = paddle.batch(
    paddle.reader.shuffle(
        paddle.dataset.uci_housing.train(), buf_size=500),
```

```
    batch_size=BATCH_SIZE)

def train():
    y = fluid.layers.data(name='y', shape=[1], dtype='float32')
    x = fluid.layers.data(name='x', shape=[13], dtype='float32')
    y_predict = fluid.layers.fc(input=x, size=1, act=None)

    loss = fluid.layers.square_error_cost(input=y_predict, label=y)
    avg_loss = fluid.layers.mean(loss)
    place = fluid.CPUPlace()
    feeder = fluid.DataFeeder(place=place, feed_list=[x, y])
    exe = fluid.Executor(place)

    # fetch distributed training environment setting
    training_role = os.getenv("PADDLE_TRAINING_ROLE", None)
    port = os.getenv("PADDLE_PSERVER_PORT", "6174")
    pserver_ips = os.getenv("PADDLE_PSERVER_IPS", "")
    trainer_id = int(os.getenv("PADDLE_TRAINER_ID", "0"))
    eplist = []
    for ip in pserver_ips.split(","):
        eplist.append(':'.join([ip, port]))
    pserver_endpoints = ",".join(eplist)
    trainers = int(os.getenv("PADDLE_TRAINERS"))
    current_endpoint = os.getenv("PADDLE_CURRENT_IP", "") + ":" + port
    t = fluid.DistributeTranspiler()
    t.transpile(
        trainer_id = trainer_id,
        pservers = pserver_endpoints,
        trainers = trainers)

    if training_role == "PSERVER":
        pserver_prog = t.get_pserver_program(current_endpoint)
        startup_prog = t.get_startup_program(current_endpoint, pserver_prog)
        exe.run(startup_prog)
        exe.run(pserver_prog)
    elif training_role == "TRAINER":
        trainer_prog = t.get_trainer_program()
        exe.run(fluid.default_startup_program())

        for epoch in range(EPOCH_NUM):
            for batch_id, batch_data in enumerate(train_reader()):
                avg_loss_value, = exe.run(trainer_prog,
                                          feed=feeder.feed(batch_data),
                                          fetch_list=[avg_loss])
```

```
            if (batch_id + 1) % 10 == 0:
                print("Epoch: {0}, Batch: {1}, loss: {2}".format(
                    epoch, batch_id, avg_loss_value[0]))
        exe.close()
    else:
        raise AssertionError("PADDLE_TRAINING_ROLE should be one of [TRAINER, PSERVER]")
train()  # start deep learning training
```

Five, Token distribution

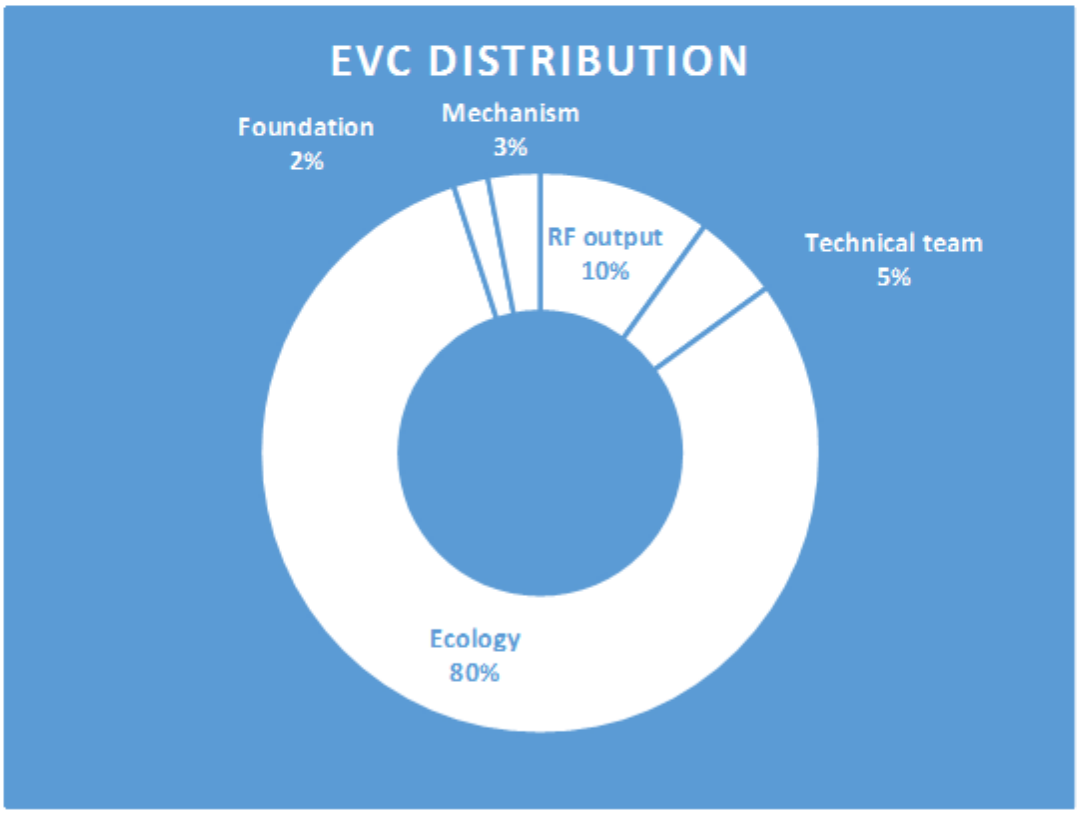
Issue Name: EVC (Eleent Vlaue Chain)

Number of issues: 10 billion

Issue type: erc20

The distribution of the certificate: the output of radio frequency is 1 billion, the technical team is 500 million, the foundation is 200 million, the organization is 300 million, and the ecological incentive is 8 billion.

Release rules: RF output is a circulation token, which requires an early eco player to participate in RF acquisition.The technical team began to release the lock after one year, releasing 50% each year, and the release was completed in two years.The Foundation's EVC is locked and the community needs to be unlocked.The institution locks the warehouse for one year, and releases 10% per month after one year, and the 10-month release is completed.

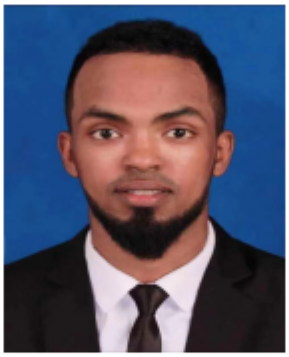


Six, team introduction

Jacob Rask

Ceo & co-founder

Graduated from the National Seoul National University of Korea, the early Bitcoin player has participated in the design of the Schrödinger Stock game of the South Korean blockchain company LIST GAME.In March 2019, he founded the Babylonian Fund company and began to participate in the early design of EVC.



Luke Amdor

Cto& co-founder

He graduated from Stanford University in the United States with a degree in computer science. He worked for blockchain company LIST GAME, served as CTO and was responsible for the development of two blockchain games.In April 2019, he joined Babylonian Fund as CTO and is currently responsible for the technical development of EVC.

Niels Lad

Coo & co-founder

He graduated from Seoul National University with a major in international trade and is currently responsible for the community building and marketing promotion of EVC.

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(b) You are not making any decision to purchase any EVC in accordance with any of the statements in this white paper;

(c) You will and at your own expense to ensure that all applicable laws, regulatory requirements and restrictions (as the case may be) are applicable to you;

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