WHITE PAPER ON ESRCOIN
이에스알코인 백서

Contents

ESR COIN

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ESR Coin English Version 2.0

Global Business E-commerce Payment Coin

1. ESR Coin

1.1 Objective

The modern distribution market is rapidly entering the era of electronic commerce with the borders collapsed due to the activation of the e - commerce market.

The revolutionary way of distribution until now and the patterns of consumption are globalized and individualized, and now competition is not only for one country but also for the world.

ESR Coin builds an optimized global shopping mall ESR platform in the global online market where e-commerce takes the lead In building a network system that is unique in the global e-commerce market by building a strong marketing system that integrates ESR Coin with the global market, Blue Ocean, and it is the fastest encryption currency available in real life. With its various technologies such as merchants,

ATM devices and online payment, the user can use the convenience and assets as the basis for real life use.

1） ESR Shopping Mall is an e-commerce platform created to share superior products produced by small and medium-sized enterprises in Korea to the world. It is operated in the form of memberships and has established branches and corporations in 12 countries and regions, and ESR Coin is introduced into the payment system and used as a payment method.

2） ESR Platform : ESR platform is a platform that provides services by integrating real estate, travel, rental, delivery, communication, mutual aid, finance, entertainment, lodging, medical care, and beauty fields. ESR Coin is used as a payment method.

3） ESR Graphene : ESR, which has been focusing on the development of new and eco-friendly materials since 2010, has researched and developed products in the field of graphene-based nanomaterials and ultra-lightweight high-strength composite materials, and through this research, is already a leader in the application of graphene applications. ESR is a strategic partner with the Russian Institute of Technology. ESR Graphene, which will pioneer new areas with graphene, will dramatically change the future life, and ESR Graphene, Inc., which will pioneer new areas, will become the new protagonists of the Fourth Industrial Revolution.

4） EB Point：EB Point has developed the EB Point which can be utilized equivalent to cash as a global sharing economy platform, and actively promotes the franchise business to increase the scope of use of ESR Coin and support income generation through consumption by global members.

As shown above, the purpose and scope of use of ESR Coin is increasing over time due to the business strategy and achievement of the ESR headquarters.

Thus, there is no coin that can be used in real life right now which is completely protected, and the future of coins without such use will lead to the abolition of listings.

Users have a lot of concerns, such as the loss of a smartphone or the loss of a password in a personal wallet, and are storing cryptocurrency. In fact, it is one of the accidents that are frequently occurring when users cannot use or regain their cryptocurrency for reasons such as loss of an electronic wallet device and deletion of a wallet.

ESR Coin provides a 6-digit Pin and a 12-word paper key.It is a coin with all the security and convenience of use, such as entrusting an asset to a bank from problems such as loss of an electronic wallet device or deletion of a wallet.
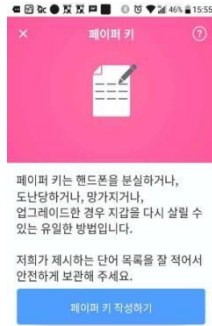
§ ESR Coin Wallet Security Process

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Primary security with PIN code entry

Secondary security through fingerprint recognition

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Provides 12-digit paper key, enables you to recover and protect your wallet from accidents such as loss of
electronic devices and purse purge

ESR Coin is a self-evolving decentralized cryptocurrency with light blockchains and real-life coins with transfer speeds of 30 seconds or less.
The blockchain of the ESR coin is complemented with the
existing block coin of the existing bitcoin, so that it
operates as a lighter and faster block.

In addition, it has a fast transfer rate among cryptocurrency, so it is a
cryptocurrency that can be used as money in real life.
ESR Coin offers a wallet that supports a variety of devices. ESR coin
wallets can be used on any operating system worldwide, including
smartphones as well as PCs (Windows).

(1) What is ESR Contracts?

A contract that runs securely based on a protocol called

Blockchain.

Bitcoin, Etherium and many other virtual currencies are

virtual currencies that can not be used in real life due

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to the slow transfer rate. The ESR coin, which is the lightest and fastest blockchain of virtual currency, is a virtual currency that can be used in real life.

(2)The Concept of Cryptocurrency

first. Reliability from risks such as hacking
and counterfeiting

second. Quick transfer (billing) speed

third. Stability of property preservation

fourth. Do you have a franchise that you can use in your
life?

And so on.

ESR Coin is a coin that can be used in real life with all
four requirements. It is an offline merchant that can use ESR Coin, a
blockchain where hacking and counterfeiting
are not possible at all, a transmission speed of less than
30 seconds, And security that can be stably stored is
applied.

§ Password Currency Trading

Centralized Ledger   Distributed Ledger
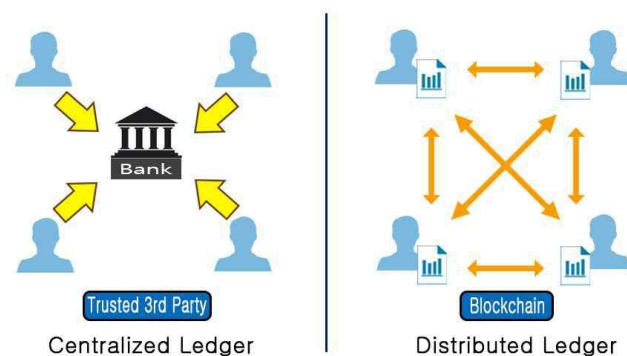
(3) ESR PAY SYSTEM

The ESR Coin Technical Team has developed ESR Pay System,
which is easy to use anywhere in the world, in connection
with ESR members passbook and Visa card. With the goal of
using ESR Pay system in September 2019, Beta test is in

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progress.

- System that provides convenient Wallet function by displaying real-time balance and exchange rate, outputting QR code of users account
- IC chip card that provides secure, universal, multi- currency cash payment to financial standards
- Support secure settlement security mode for payment only when connecting with ESRCoin electronic wallet
- QR code function for password exchange wallet address for P2P transmission
- ESRCoin exclusive electronic wallet 6 digit PIN code support security enhancement
- Access to ESR PAY visa cards worldwide
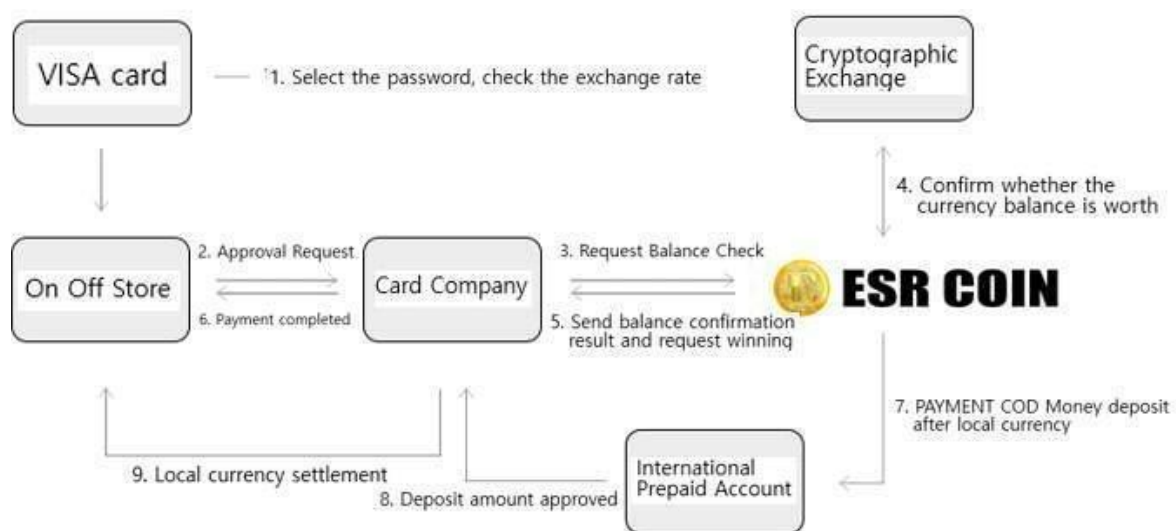
§ Understanding the ESR PAY SYSTEM

(4) Purpose of ESR PAY SYSTEM

Cryptocurrency has opened the ground for innovative business solutions as transparent, secure and distributed call technology becomes available. Through this, many companies have created tremendous wealth and groups that are tied to cryptocurrency.

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However, it is difficult and inconvenient for the cryptographer to use the cryptogram in real life, and the process of transfer and exchange is complicated and slow.

Many companies have begun to solve practical usability problems. However, while seemingly approaching using a logical cryptographic solution, use cases are limited to only a few cryptographic transactions and only a small number of merchants accept cryptographic transactions.

ESR developed the ESR Pay System to access the "Money" approach, which is the basic purpose of cryptocurrency, in cooperation with VISA cards rather than each merchant, accessing the merchants that VISA cards have, and using VISA cards anywhere in the world I want to be able to settle in the place where it is. ESR provides an innovative user experience and solves the usability problems of traditional cryptocurrency.

§ ESR PAY SYSTEM flow

(5) Pow → Pos Conversion

Bitcoin uses the SHA-256 method to create a nonce, a random number

that increases by 1 until it finds a hash value that satisfies the condition. The more computing power, the more favorable it is to mining. This mining organization is called a mining pool, and the problem is that if mining pools from global mining companies are combined to occupy more than 51% of the total network computing power, there is a risk that Bitcoin's security may collapse.

In order to solve the above problems, PoS and proof-of-stake create blocks through stakes that they have, not computing power, so that computing power and power waste can be avoided.

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-If the attacker attempts a 51% attack, the attacker must pay a much higher cost than PoW (billions for PoW and trillions of won for PoS)

-In order to create a block, it is possible to prevent dumping because the stake is collateralized.

(6)   Future Technical Support

The ESR Coin Technical Team is based on opening the ESR Coin blockchain and all source code, and is constantly developing and upgrading for the development of the encryption currency. It will lead the encryption economy and the fourth industrial revolution.

3.3 Introduction of Cryptocurrency

a. Background

Blockchain was first conceptualized in 2008 by Satoshi Nakamoto's paper"Bitcoin: A Peer-to-Peer Electronic CashSystem"and implemented as Bitcoin's core technology the following year.

(1) Bitcoin uses block-chain technology as a financial transaction ledger where individuals publicly record money transfer information.

Bitcoin is the first example of using a blockchain to solve a double payment problem.

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Despite the lack of a centralized manager, Bitcoin has

successfully supported more than 200 million peer-to-peer

transactions and is now achieving a market cap of over 300

trillion won.

Following the success of Bitcoin, a number of systems have

emerged that use block-chain technology.

Hundreds of ciphers are currently in competition, and

according to a recent IBM report, over 90 of banks are

now investing in block-chain technology

(2) Although currency trading is the most common application

of block-chain technology, attempts to manage other digital

assets, such as financial products and services, logistics

information, property ownership, and identity information,

using block- . In 2016, the encrypted currency Ethereum received a lot of

attention.

Ethereum "is a blockchain with a full-fledged Turing-

complete programming language that can be used to create

contracts";that can be used to implement

arbitrary state transformation functions and aims to

provide Smart Contracts to the blockchain.

The goal is to allow the user to write any kind of program

(or contract) into the blockchain. Like Bitcoin, Ethereum

uses a blockchain and a consensus mechanism to ensure

that if a malicious node attempts to falsify the contract,

the fake contract is eventually removed from the block

chain. Bitcoin completely guarantees the amount of bitcoin

transferred between accounts.

Similarly, Ethereum must also ensure the integrity of

the executed contract.

Smart Contracts has the potential to become a paradigm

shift in de-centralized application development.

You can run the same logic anywhere, even if the program is

not on the centralized server. Smart Contracts can be used

for projects such as decentralized markets, currency

trading platforms, and Golems for the purpose of developing

a decentralized global supercomputer.

However, the freedom and flexibility provided by the

Turing-complete language on which Ethereum is based is a source of

some serious problems. Ethereum attempted to

overcome this problem by applying the cost (gas) for the

calculation work. However, problems inherent in the language

itself used to develop and run Smart Contracts have

inevitably created a series of security vulnerabilities and

caused failed projects such as The DAO.

b. suggestion

The ESR coin aims to develop a platform to complement the shortcomings of existing virtual currencies and take advantage of them to enable smart contract IOT as well as real money to be used in real life.
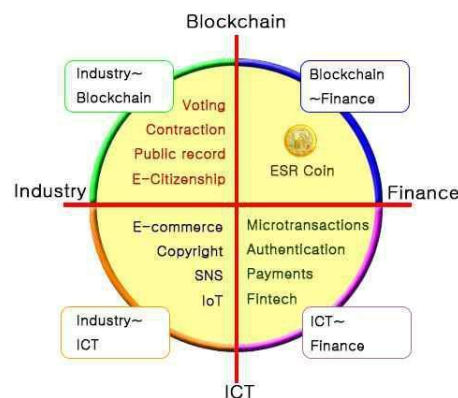
§ Application of blockchain technology

In addition, through ESR Coin, we are trying to solve common repetitive problems with cryptocurrency. Decision-making and decentralization systems lack a systematic decision-making process.

In the world of cryptocurrency, there were cases where there were various problems such as confusion in the absence of the decision-making process, and significant financial loss.

Through these proposals, ESR Coin has prepared a significant amount of public budget that can be used to develop the entire ESR Coin ecosystem.

Algorithm for Centralization Prevention.

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Cryptocurrencies such as Bitcoin, which use only a PoW-
type consensus protocol, are experiencing problems arising from the
inability to separate economic incentives and political incentives.
To solve this problem, we will bring in tens of millions of servers from
around the world to the PoW, leading to a
stable agreement.

By purchasing a large number of mining equipment, users
can increase the control (political aspect) of the block
chain and at the same time increase the mining import
(economic aspect).

ESR Coin overcomes this problem by using a consensus
mechanism that separates economic incentives and political
incentives. To gain political power or financial resources, invest in
systems.

The user can increase the number of votes by increasing the number of
nodes or the user can maximize mining income by investing in deposit
compensation and block generation
compensation (rewards given in proportion to the amount of
coins tied to the node).

In addition, the agreement protocol used here is energy
efficient and faster.

Application ecosystem. In many cases, decentralized money
tends to become a hotbed of speculation due to limited real usage. We
believe that monetary value is essentially linked to the fact that money
is being used, so the ESR Coin team will launch a variety of
applications that use ESR Coin.

1.4 Cryptocurrency Comparison

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a. Summary

ESR Coin wants to use powerful PoW, PoS technology. The architecture is designed to extend the power of expression while maintaining determinism to support the safe and accurate execution of contracts, based on the stable algorithm Scrypt hash algorithm.

b. Background

There are two basic approaches to developing contracts

in the blockchain.

One is to use a flexible programming language on a virtual

machine and the other is to use a domain-specific language

that is somewhat less flexible but deterministic.

The ESR Coin team chose the second method. Unlike

cryptocurrency based on virtual machines, the reasoning

engine is based on Semantic Web technology, so it can

infer information from code before it is executed.

The contract has the possibility of determination, and the outcome of the

contract is clearly confirmed.

This is a key concept in building a secure, sustainable currency with

contract functions.

Ethereum has applied the pricing to complexity to solve this problem

using market mechanisms, but we believe that tighter OWL and TAL

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approaches will provide a safer environment for developing blockchain-based contracts.

c. Development

When developed based on standard Web technologies such as JSP, PHP, HTML, HTTP, HTTPS, RDF, PY, Javascript, and OWL, which are used to provide Web pages, As shown in FIG. Both OWL and RDF can be used to create an unambiguous, structured data classification scheme. Using these characteristics, we proposed the concept of ESR Contracts, which is a contract associated with all of the payment systems.

Although OWL and RDF have similar characteristics, the RDF standard does not currently support P-Time completeness. However, using Reasoners, a tool to deduce logical results from a set of previously presented facts or axioms, OWL standards ensure P-TIME complexity.

This means that the time it takes to execute the contract can be determined in advance.

This is a key reason why OWL was chosen as the base language for Peace Contracts.

OWL DL (Description Logic) is a sub-language of OWL. "It is designed to provide the maximum expressive power possible while maintaining the completeness of the calculation."

1.5 Consensus Algorithm

a. Summary

The consensus algorithm is the core of a blockchain-based currency or system. The algorithm tries to answer the question "How can I prove that all distributed databases have the same set of information?"

ESR Coin decided to use a modified FBA (mFBA) agreement algorithm based on Stellar"s agreement protocol (FBA) for this question.

Consensus Algorithm Comparison

Mazieres defines the core function of the FBA protocol as follows.

● Decentralized control. Anyone can participate and achieve consensus without the permission of the central manager.

● Low latency. A node can actually arrive at an agreement between the time a person actually waits for a web or a payment transaction (e.g., up to a few seconds).

● Flexible trust. The user can freely select a combination that is considered appropriate. For example, even a small non-profit organization can play an important role in ensuring that larger institutions maintain their trust.

●Asymptotic security. Security depends on digital signatures and hash families, which can be realistically adjusted to protect against adversaries with enormous computing power.

● Decision-making function. Voting functions related

to voting and operations

It is included as an additional function in the locale.

Bitcoin's consensus mechanism and traditional Byzantine-based

protocols must be unanimously agreed by all network participants.

However, the FBA does not require all participants to unanimously agree,

and in addition each node can choose which node to trust. This enables

faster growth while enabling organic growth without losing the integrity of

the financial network.

The FBA has implemented a mechanism whereby nodes can unanimously

agree by forming a group with a team (quorum). Once the transaction is

made, information is sent to everyone in the group.

Instead of waiting for the entire network to agree on the data state, if the

node hears enough messages from the trusted node a sufficient number of

times, the node assumes that the information is correct. When nodes

overlap or loose node associations occur, they will create different nodes

with different teams that agree on the same transaction.

This leads to a system-wide consensus without unanimous consent for

each transaction block.

1.6 Coin Issuance

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● Confirmation Rewards: Confirmation rewards are monetary rewards that are paid to a node at random for a published

block (every 30 seconds).

As compensation is distributed randomly, as the number of nodes increases, the probability of one node getting compensated decreases.

● Coins Generated Per Day : Converted to PoS

1.7 ESR Coin Trading

ESR Coin is used as a main payment method in ESR platform of global shopping mall. ESR Coin can easily purchase and sell on various international currencies through convenient buy and sell options at international cryptocurrency exchanges.

In addition, an international exchange is being established in Laos, Thailand, Singapore and the Philippines, and it will be used as a major transaction base coin for 10 ASEAN countries.

We will build a new global business system that will lead the global online e-commerce market and integrate the world into one based on the worldwide ESR platform.

In particular, ESR Pay provides an optimized solution for the payment sector of unattended settlement systems, which is the key to automation in the distribution sector.
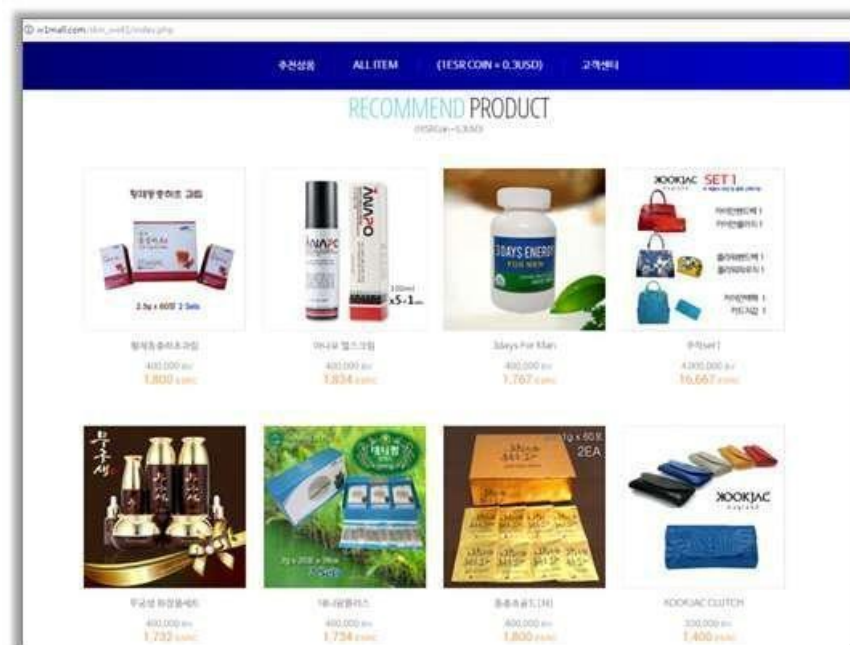
§ Global Shopping Mall W1Mall

2. Conclusion

The ESR Coin team aims to overcome the technical and operational problems inherent in various cryptocurrency. PoW aims to create value for coins while curbing the centralization of power.

The Scrypt hash algorithm enables energy-efficient and fast transactions.

The ESR coin blockchain will provide the lightest and fastest framework with determinability and accessibility to generate and execute the contracts above.

The ESR Coin team is aiming to achieve these goals while leveraging the security and integrity that can be achieved with block-chain technology.

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ESR Coin strives to provide the solutions for the problems above and be a cryptocurrency with real life utilizations.

3. ESR Coin Specifications

*PoW to PoS Conversion

ESR COIN Technical Specification

Coin Name	ESR Coin
Coin Abbreviation	ESRC
Coin Type	Pure PoS
Hashing Algorithm	scrypt algorithm
Time Between Blocks	30 seconds
Block Reward	0.01
Premine Amount	72,000,000 (50%)
Total Coins	144,000,000개
Coins Generated Per Day	7,200Ea
Total Block	28,800,000 Block

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4. Roadmap

2016

March: Established global e-commerce system Nudge G1 Mall
April: Development of ESR coin, joint venture between Korea, the US and Japan
May: E-commerce partnership with China and Thailand
August: Established the world's first video commerce platform
December: BIT ESR established as a global reverse direct e-commerce corporation

2017

January: Established global integrated e-commerce system W1 Mall
February: Started to build a global integrated marketing system RPS
November: Completed the development of the world's first global RPS computing system
December: Launched cutting-edge payment coin ESR coin

2018

February: ESR Coin payment started at W1 Mall of global e-commerce
March: Listed on the international exchange C-CEX
April: Listed on the Korea Exchange COINCHEL
April: Listed on the international exchange MYCRYPTOEXE
August: China, Indonesia, Vietnam, Thailand branch established
September: ESR Foundation established
    -Global leaders participate as members
    -ESR business revenue distribution
    -Welfare projects: school, hospital establishment, poor, socially underprivileged
October: Global e-commerce W1 Mall sales reached 10 billion won
December: Laos international cryptocurrency trading system beta version released

2019

January: US branch established
February: Launched EB Point, a global sharing economy platform
March: Laos International Exchange open
March: Established branch offices in China and Japan
November: ESR Pay released
December: W1 Mall / ESR Coin/ ESR Pay linked W1 ESR Mall open
December: March: ESR Graphene Graphene-based nano materials and ultra-light high-strength composite materials business launched

2020

May: Interworking with VAN / POS companies
May: Released EB Point Merchant Business System Version 2
June: Joined as a member of Korea Blockchain Association
June: ESR International Cryptocurrency Exchange opened
September: Global finance/communication/education/travel/entertainment business activation
November: Support for international organizations such as UNICEF
December: ESR Graphene IPO (Initial Public Offering) in Korea and Vietnam

2021

February: ESR Graphene IPO (Initial Public Offering) in the US and Thailand

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March: Graphene textile, paint, lubricant, construction materials business activation
April: Established international cryptocurrency exchange in Singapore and Thailand
May: Achieved 1,000 EB Point affiliates.
October: Achieve 10 million ESR e-commerce platform members

2022

February: ESR Graphene IPO (Initial Public Offering) implemented in Japan
May: Established branches in India, Mexico, Middle East, Brazil, Argentina, Peru and Chile
July: International cryptocurrency exchange established in the United States
September: ESR Global Social Welfare Foundation established
      -Donation and business participation to solve epidemics, hunger problems, etc.
      -Support for international organizations and global volunteer organizations
      -Welfare projects: Supporting schools, hospitals, poor and underprivileged in underdeveloped
countries

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5.Team

Brief History

Born in 1961

Completed GCA course at College of Education, Seoul National University Sales Director, Hansung Life Insurance Co., Ltd.

Chairman, Winpia Co., Ltd.

Chairman, ESR Holdings Inc.

Responsible Developer : Chairman, Honggyun Lee

Based on the long experience of the distribution industry, he can actively respond to the flow of the distribution market with creative and innovative ideas in the field, and suggest the practical direction of the coin market in the future.

Brief History

Born in 1960

MBA, Hankuk University of Foreign Studies

Worked in Sambo Computer Inc. (System Analysis / Development)

International Unix Systems Analyst

Served as policy advisor to the Ministry of Information and Communication

Project Manager: System Analyst, David Ryum

Brief History

Born in 1971

Graduated from Daejeon University

Working with the Taxation Team at the National Tax Service's Data Management Office

LG CNS, LG Chem Research Institute

New cooperative next-generation financial internet banking development

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Integrated CRM project PM of the Korean Intellectual Property Office
Navy ASTT strategic strategy training system management
System Engineer and Development: Min Byeong-cheon

Blockchain Developer Byeongcheon Min

Blockchain core developer, application software development field

Experienced, innovative approach and deep technical understanding,

As a creative expert, we are developing the core core of ESR Coin.

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ESR Blockchain Institute

The ESR Blockchain Lab is a team of experienced engineers, blockchain specialists, distribution specialists, programmers, experienced marketing professionals and business experts who are committed to innovating future technologies and making a better life.

6.Other (legal considerations, etc.)

This is a summary of the legal considerations, risks and disclaimers that must be read in advance.

I have written this white paper to provide more specific information to those who have a lot of interest and affection for the ESR platform. Therefore, this White Paper

is not intended to be an invitation to invest in ESR Coin or Platforms, and it has nothing to do with it.

In addition, the ESR team does not guarantee that any white papers, including conclusions, are accurate up to the future, as this White Paper was written at the time of writing. The ESR team makes no representations or warranties of any kind with respect to this white paper, and assumes no legal responsibility for it. For example, the ESR team

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2, whether the white paper is commercially valuable or useful,

3, whether the white paper is appropriate for the specific purpose you have,

4, does not guarantee the contents of the white paper, and so on.

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