



# HRDGCoin Blockchain

HRDGCoin(HRDG) is the future of eco-friendly energy.

April 12, 2021

HRDG Blockchain Public Whitepaper [V1.0]



HRDGCoin



Veron Pay



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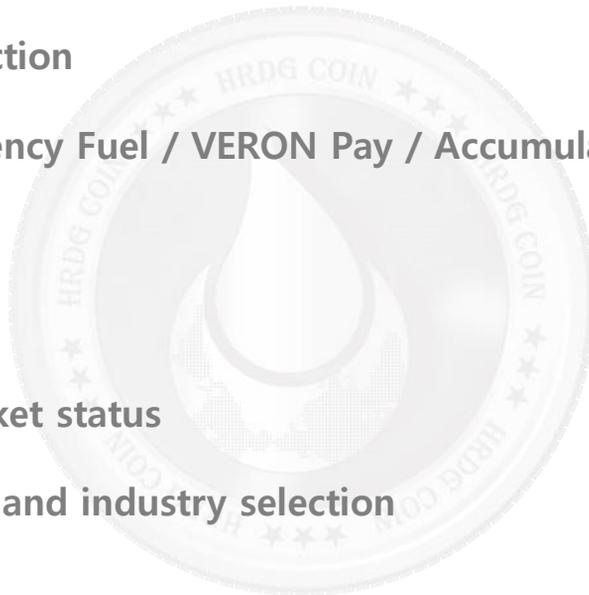
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## 1. Introduction

Thank you for researching the HRDG Blockchain and reading our white paper. This has been the pinnacle of the hard work and dedication of every team here at HRDG Blockchain, and we proudly want to share our vision with you!

We believe that by developing and improving life-enhancing solutions, we can have the greatest impact on the world's sustainability challenges. These core beliefs are at the heart of everything we do here on the HRDG Blockchain; As a leader in providing technology solutions for the eco-friendly energy and payment platform, we know that we must continue to apply innovative technology solutions to make a positive impact on humanity.

Our activities focus on four priority areas: improving people's lives with technology, building trust, improving transparency in the energy value chain, reducing energy waste. So they predict demand based on historical data models and advanced data analytics, providing solutions for future energy safety and payment.

Thank you for the hard work of the dedicated HRDG Blockchain team. Our HRDG Blockchain team is our biggest asset and differentiator. We are passionate about work and are committed to delivering results to our user community. Our leadership team includes skilled people with over 10 years of diverse skills and experience in energy, energy distribution and information technology. We have dedicated our lives to the advancement of the energy supply chain and the development of energy industry by providing technical assistance that guarantees better value for energy.

We ask for your support so that we can make a big difference in the global energy industry by keeping the HRDG Blockchain concept well in the future.



New energy companies around the world are entering the Blockchain field one after another. As the growth of the global economy has slowed and environmental standards have become stricter day by day, traditional oil and energy companies have reached a plateau of development. So, they are now looking for ways to improve industrial processes, promote operational efficiency and safety through digital technologies such as Blockchain, big data and artificial intelligence, and reach sustainable goals such as environmental protection

According to statistics, 72% of oil company executives want to adopt Blockchain technology, and the introduction of Blockchain technology in the real energy and resource field can maximize tangible performance & efficiency and simplify the monitoring process.

Blockchain provides a platform to effectively execute and record energy transactions, and at the same time store a large amount of reliable data that cannot be manipulated. Also, supervisory authorities can access and track it.

Through continuous exploration and demonstration, Saemyeong Energy Tech Group has created the concept of HRDG ECO System and issues HRDG Coins through HRDG ENVIRONMENTAL PROTECTION PTE. LTD..

Saemyeong Energy Tech Group is located in Teheran-ro, Gangnam-gu, Seoul, and operates the HRDG ECO system through branches and partners in Hong Kong, Vietnam, China, Malaysia, Indonesia and the Philippines.

The main business fields are new material eco-friendly lubricants, global payment system, post-pay travel and global mining industry.

## **HRDG Blockchain Team**



## 2. Blockchain

### **4th Industrial Revolution and Financial Industries**

Bill Gates' 1994 statement, "Banking is necessary, banks are not," has become a hot topic. As the 4th industrial revolution, which is becoming hyper-connected and super-intelligent in all areas, opens a data-driven economy. Therefore, a wave of change is flooding the data-based financial industry. Already, the value chain of financial services has begun to break down with the emergence of so-called FinTech, a financial technology company, in all areas of traditional banking, securities, insurance and card business.

### **Differentiation of FinTech and financial industry**

With the growth of the FinTech industry, the financial service industry is diversifying. And, what traditional financial companies used to do in the past can be done separately by dividing the functions of financial companies and FinTech firms. Specifically, the contents of traditional financial service providers' services are changing in payment settlement, insurance, deposits and loans, funding, investment management and market infrastructure. And new FinTech firms are replacing the traditional financial service providers' functions. This unbundling of the financial sector is expected to intensify, which will reduce the economic effect of the size and scope of financial firms and weaken the profit base such as loan margins and payment-related fees.

### **Differentiation of financial services by function**

The most replaced financial services are "payment and remittance", and the FinTech services have already replaced much of it. "Asset management field" develops into collaboration between financial institutions and FinTech firms, and the market is expected to be split across different customer segments. The "deposit and loan" field is expected to remain important for existing bank functions and roles for the time being. Finally, the slowest replacement may be "virtual currency," which is not yet expected to grow to a level that replaces traditional currencies and payment methods. The reason is that problems such as high price volatility, low scalability, and the risk of theft and loss caused by hacking have not been resolved yet.



## FinTech and Blockchain

The biggest function of the Blockchain is the replacement of the arbitrators. It is regarded as a powerful technology to solve the problems of brokerage fees, fraud & corruption, financial inclusion, information monopoly and security by reducing or replacing the role of arbitrators in the transaction of digital assets. Blockchain is the foundation technology for traditional financial companies to resist the challenges of non-financial companies, and it is also considered as an innovation technology for non-financial companies to replace their functions. It is applied as a base technology for private-issued virtual currencies, financial firms or central banks-issued digital currencies. And, , with global financial companies and IT companies at the center, various projects are underway to apply Blockchain technology to financial services such as overseas remittance, transfer, securities issuance and transactions in various fields where transaction information is recorded





### 3. Execution Summary

HRDG ENVIRONMENTAL PROTECTION PTE. LTD, a new energy & global payment startup, and Saemyeong Energy Tech Group, its parent company, have a variety of experiences in energy production, distribution, supply chain management (SCM) and energy industry specialized information technology (IT) in Korea and Vietnam for the past 5 years. We leverage our experience and our vast network of energy developers, energy producers, retailers and consumers to design a portfolio of products and solutions that address the critical challenges facing the energy industry.

HRDG Blockchain is building the first technology platform for the energy supply chain. Using Blockchain technology in distribution ledgers and smart contracts, all stages of energy movement are uniquely tracked in a shared ledger to ensure transparency and lay the foundation for sustainable energy growth and energy security. HRDG Blockchain is currently expanding the market by entering the motorcycle oil market across Vietnam.

We will make this technology platform available to other energy supply chains around the world in our public cloud software as a service (SaaS) applications. In addition to our SaaS offerings, we will provide application programming interface (API) access for developers who want to build their own apps for the platform.

In addition, through the new payment method of the energy platform, we will diversify and broadly expand the ecosystem through global payment and remittance, a new post-pay travel business and global mining industry.

The company's expansion plans will be supported by funding from an Initial Coin Offering (ICO). Our sales outlook for the next three years is based on our current sales success with our target audience in Asia. Initial contacts were made with tens of thousands of oil specialists and retailers across Vietnam, and potential target markets were identified. This plan will result in an even increase in sales by the end of the second year of operation.



## 4. Project Background

Climate change caused by the global greenhouse effect has caused serious disasters such as extreme heat, floods, and droughts around the world in recent years. According to a report published in *The Lancet Planetary Health*, a British publication with the theme of environmental and human health research, "If mankind does not effectively curb the worsening global warming, by the end of the 21st century, about 70%(1.5 billion people) of the earth's urban population will breathe polluted air and at least 800 will die prematurely a day. And every day 150,000 will drink polluted water and a significant number of children will die. In addition, industry, various atomizers, refrigerators, air conditioners, etc. emit 1,500 tons of hydrogen chloride into the atmosphere every day, which is the main culprit in creating holes in the ozone layer."

In addition, 56 million tons of carbon dioxide enters the atmosphere every day and the 'greenhouse effect' is related to this.

Giovanni Forzieri, a scientist at the United Research Center, says more than 90 percent of the population's future disasters are caused by climate change, while the remaining 10 percent are caused by population growth, immigration and urbanization. He also predicted that heat wave damage would be the biggest among the various disasters caused by global warming, and 99% of deaths directly related to climate change were caused by heat waves. Scientists say the heat wave will significantly increase the incidence of cardiovascular, paralytic and respiratory diseases. And if emergency measures do not contain warming, humanity will be severely damaged every year before the end of the century.

In a situation where human life is threatened by severe climate change due to global warming, it is urgent to reduce greenhouse gases as soon as possible. the U.N.'s "Tokyo Protocol" and "Paris Agreement" over the past 20 years are aimed at ensuring humanity's survival and ensuring environmental protection policies suitable for all parts of the world.



The convergence of Blockchain technology and the energy sector has finally reached its 'golden age', from 'wait-and-see' four years ago and 'tasting' two years ago to the present 'explosive investment'. Consulting and market research companies say that the current block chain is acting as a driving force for the energy sector to rapidly advance into the digital economy era. Blockchain investment and applications in the energy sector are also increasing significantly, and Navigant Research, a US research firm, expects that the combined global energy and Blockchain will generate a total of \$19 billion in revenue over the next 10 years, growing at a rate of 66.9% annually during this period. In addition, Alexa Reports, a market research institute, said that it will record an annual growth rate of 82.24% from 2018 to 2025, and that by 2025, the value of the Blockchain (energy application) market will reach \$3.47 billion. At the time of 2016, this data was only \$156.7 million, which is almost consistent with the data released by Global Market Insights. They also predicted that the market value of Blockchain applied in the energy sector will increase to \$3 billion by 2025.

Blockchain new energy is expected to significantly dominate the Asia Pacific region over the next six years. Although developed countries such as the US, UK and Germany introduced Blockchain relatively early in the energy field, the industry is arguing that the Asia-Pacific region will emerge as a new powerhouse from 2020. In addition, each local government in China is actively moving to expand support policies for the block chain industry. In addition, since Blockchain and new energy itself are considered as key pillars of policy support, the China Development and Reform Commission reorganized the policy in 2017 to support direct transactions of decentralized energy between individuals and select relevant pilot areas.



## 5. Project introduction

HRDG ENVIRONMENTAL PROTECTION PTE. LTD and Saemyeong Energy Tech Group mainly produce eco-friendly products needed by modern society and the world. We have developed not only eco-friendly lubricants that do not generate fine dust but also natural fertilizers that prevent the pollution of soil and water with improvement of the quality and flavor of various crops. In addition, through multi-year research, we are making a big issue with the innovative combustion catalyst product that increases energy efficiency by 10% to 15% when burning coal, oil or slag, and reduces emissions of fine dust and soot by more than 40%, saving resources and protecting the environment around the world. As the products of the HRDG ecosystem attract worldwide attention and increase consumer satisfaction, we are being reborn as an eco-friendly company whose ultimate goal is to contribute more to environmental protection. On November 27, 2020, Saemyeong Energy Tech Group was awarded the Jang Young-sil Science Award (the Grand Prize from environmental safety technology sector), which boasts the highest authority in the Korean science field. And, we will continue its journey for environmental protection without stopping here.

### VDS High Efficiency Fuel

This product, which has the chemical characteristics of a multi-purpose VDS high-efficiency fuel agent with perfect combustion function, is a high-tech, low-carbon, multi-purpose, high-efficiency fuel agent with perfect combustion function completed by highly enriching it with nanoparticles. The characteristics of the VDS high-efficiency fuel system are multi-purpose in various fuel standards, and in particular, it is the world's only eco-friendly, high-efficiency fuel system that reduces toxic sulfurous acid gas, the main cause of environmental pollution, by up to 90%. The greatest strength of the VDS high-efficiency fuel system is energy saving as well as reduced carbon emission. When heat is applied, the high-efficiency fuel system penetrates into the coal and becomes an oxygen source, promoting combustion more efficiently than externally supplied oxygen. In this way, it is a high-tech, low-carbon, multi-purpose, high-efficiency fuel agent with high-efficiency combustion function that has been completed by highly enriching the combustion molecules of fuel into nanoparticles. The state-of-the-art VDS high-efficiency fuel system is applied for multiple purposes based on liquid fuel, and it is an eco-friendly product that significantly reduces toxic sulfite and nitrogen oxides, the main causes of environmental pollution. VDS high-efficiency fuel system is a high-performance, high-efficiency product with excellent thermal conductivity. It has characteristics and advantages close to complete combustion while increasing thermal conductivity and preserving heat compared to conventional solid fuels in the state of fusion of heat.



## **Energy saving + Carbon emission reduction + Extension of equipment life by removal of slag**

Effect and principle of use: VDS high-efficiency fuel system with energy saving (thermal efficiency improvement), emission reduction (air pollution reduction) and slag removal (equipment life extension) effect removes sulfur dioxide in a solid state and then reduces soot emissions by reducing carbon monoxide generation ultimately through complete combustion. It also reduces naturally occurring dust and scattering dust.

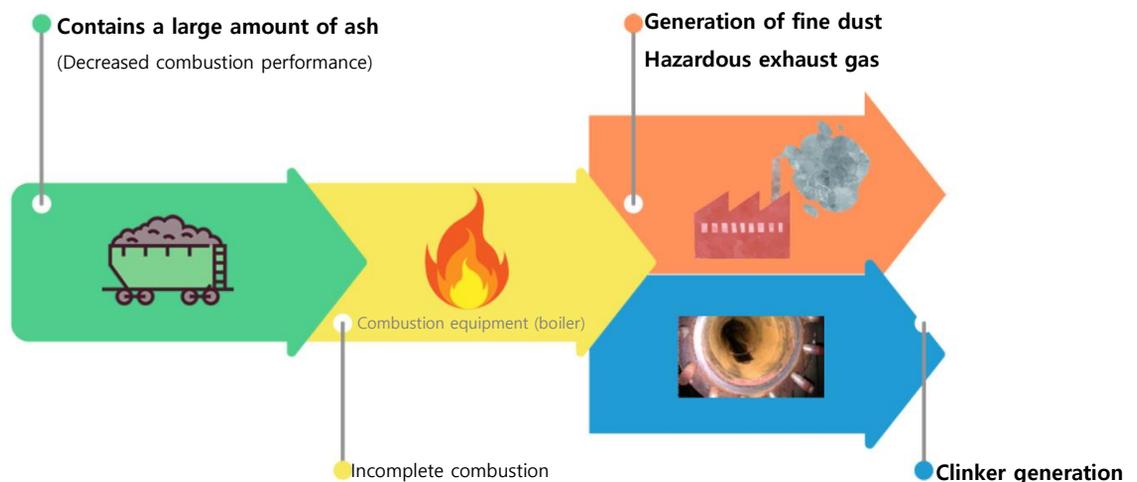




When the VDS high-efficiency fuel system is used, as the combustion speed increases, soot carbon emission is reduced and dust is removed. When the scale melts in the process of being exposed to a temperature of 800-1200°C for more than a certain time in the boiler furnace, it is attached to the furnace wall (600°C) with a relatively low temperature. At the same time, the clinker's growth continues as the phenomenon of fusion of coal which is not completely combusted is repeated.

Clinker removal and formation method, combustion equipment, extension of life of accessory equipment, SO<sub>2</sub> degassing.

It reduces the emission of SO<sub>2</sub> gas into the atmosphere by inducing gaseous SO<sub>2</sub> into a solid through the combination of high-efficiency fuel agent and SO<sub>2</sub>. In other words, if ash is analyzed, it can be seen that sulfur dioxide exists in the form of SO<sub>2</sub>, SO<sub>3</sub> and SO<sub>4</sub> in the ash. In the compounds of the High Molecular Compound, it is converted to the carbon polymer carbohydrates, leaving the final product as a carbohydrate, where it is converted from -CHO to H<sup>+</sup> ion-reducing substances.



It is the cheapest among the existing energy resources and is widely used worldwide as it is rich in heat. Thermal efficiency is relatively low, air pollution occurs due to incomplete combustion and periodic facility maintenance is required.

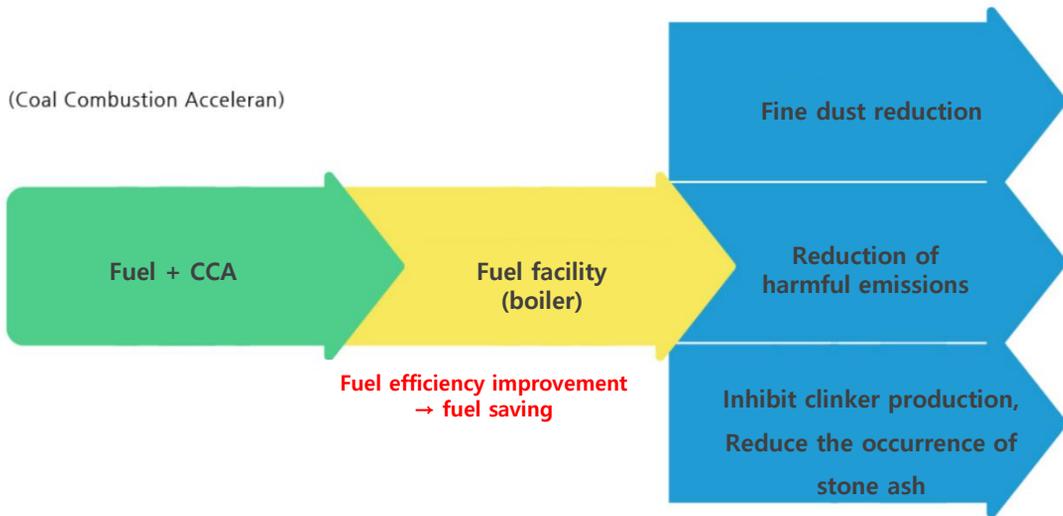


By improving combustion efficiency with a combustion accelerator (CAA)

- Possible to save fuel, reduce harmful exhaust gas and lower facility maintenance cost.



(Coal Combustion Acceleran)



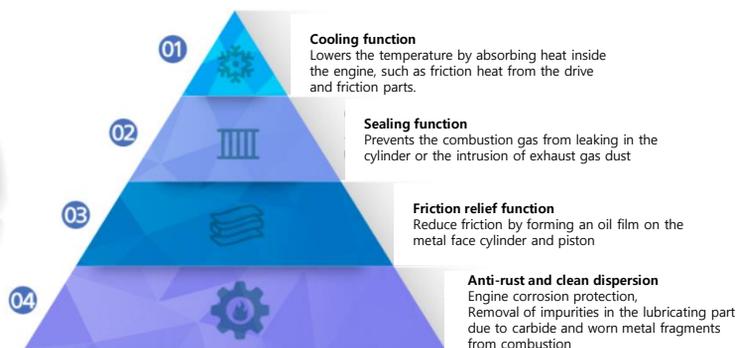
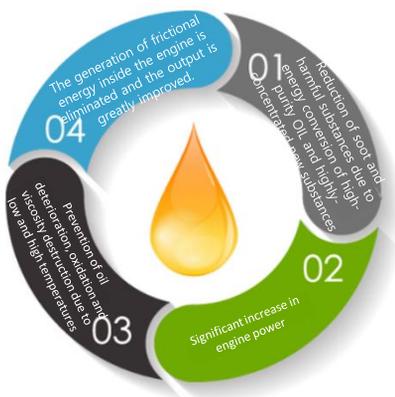
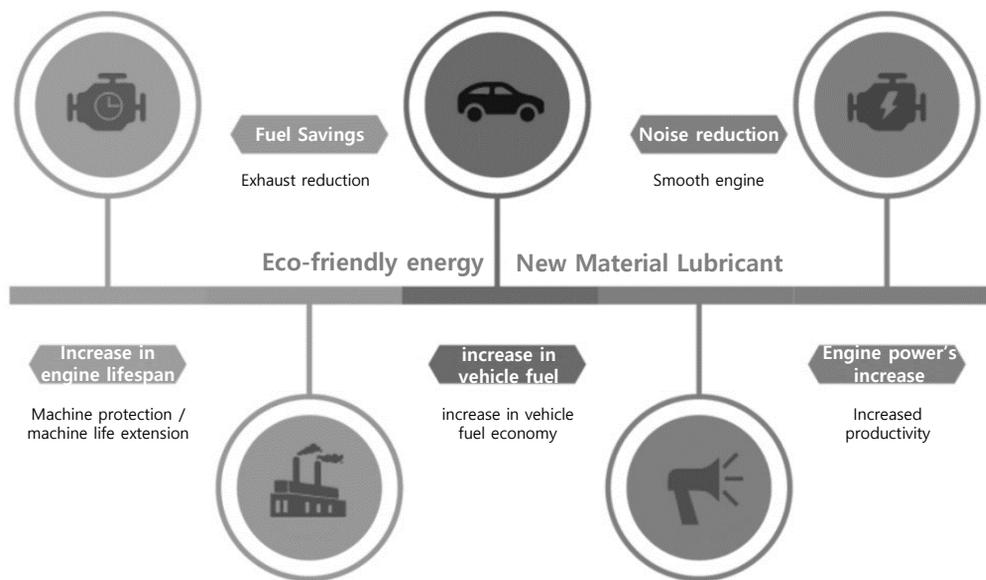
- Compounds that release a large amount of oxygen molecules and high-solute compounds are added to fuel to increase combustion efficiency (about 20%)
- The role of reducing and suppressing the generation of clinker and decomposing & destroying clinker attached to the furnace wall through secondary combustion
- The additionally generated alkali ions combine with harmful gases to significantly reduce air pollutants
- Prevention of corrosion inside the furnace due to reduction in sulfuric acid production, and extension of equipment life by reducing Sox
- Minimize carbon monoxide (CO) generation by increasing combustion efficiency, and reduce bottom-ash remaining from burning coal

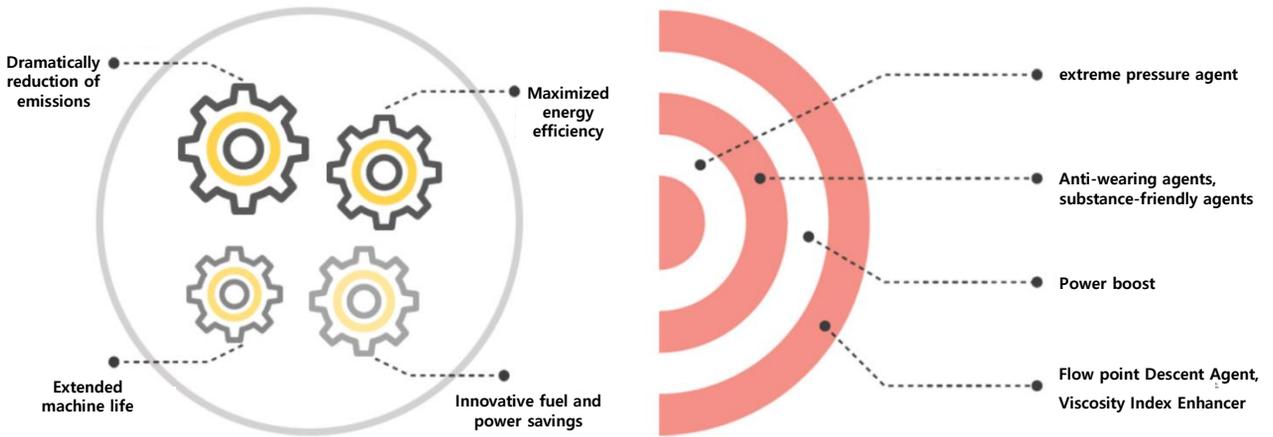


## Eco-friendly lubricant

The lubricants of the HRDG ecosystem are very innovative products and have succeeded in converting from sliding friction to rotational friction by modifying the molecular structure of existing lubricants. Micro-rotating particles are uniformly dispersed in the base oil using state-of-the-art vacuum micro-rotation technology to form micro-particles with smaller particles and excellent dispersion.

Through more than 10,000 experiments, it has been proven that our lubricants, which incorporate the world's best aviation micro-rotation technology and synthesize imported undiluted solutions, effectively reduce soot particles. In addition, it has been confirmed that it helps to increase fuel efficiency, reduce noise by 70% and increase horsepower by 5%, as well as extend the life of mechanical equipment. Due to this innovative effect of HRDG lubricants, if all cities use the eco-friendly lubricants developed by HRDG, it will be possible to bring back a clear and clean sky to mankind in just 90 days.





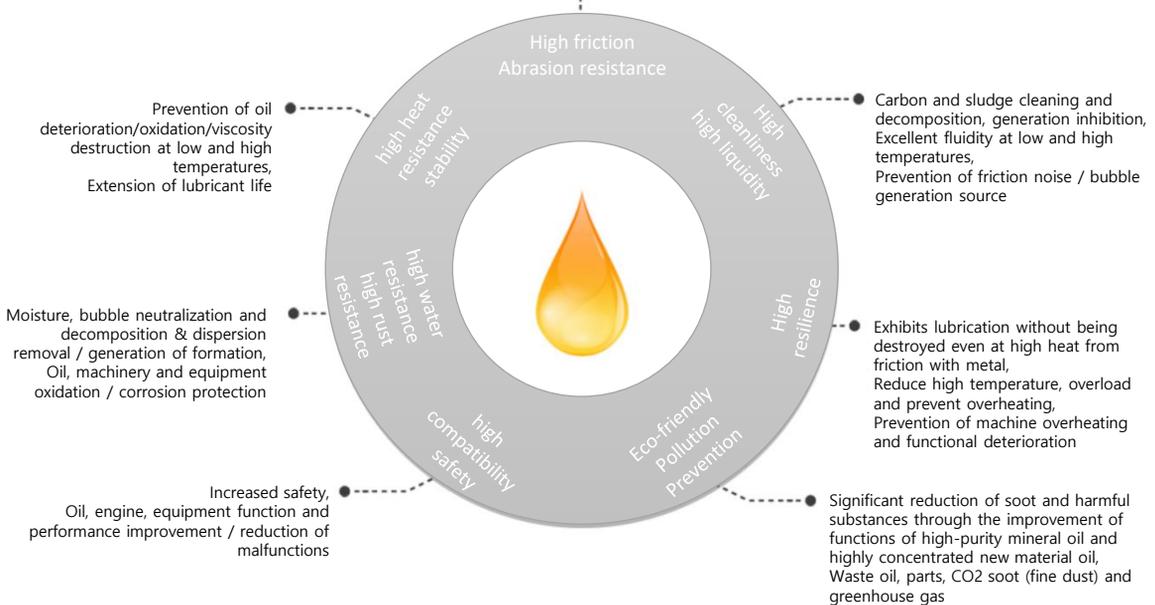
General lubricant  
Grease lubrication film



Eco-friendly new material lubricant  
Grease lubrication status



Prevention of metal friction, abrasion and fusion  
Friction 0.0005% machine, equipment life extended significantly





## Natural fertilizer

The categories of natural fertilizers include nano-silicic acid protein fertilizers, amino acid organic fertilizers and mineral liquid fertilizers. In the days, when technology was not as advanced as it is today, all natural fertilizers were used. Although chemical fertilizers have appeared at present, it is difficult to completely replace the excellent efficacy of natural fertilizers.

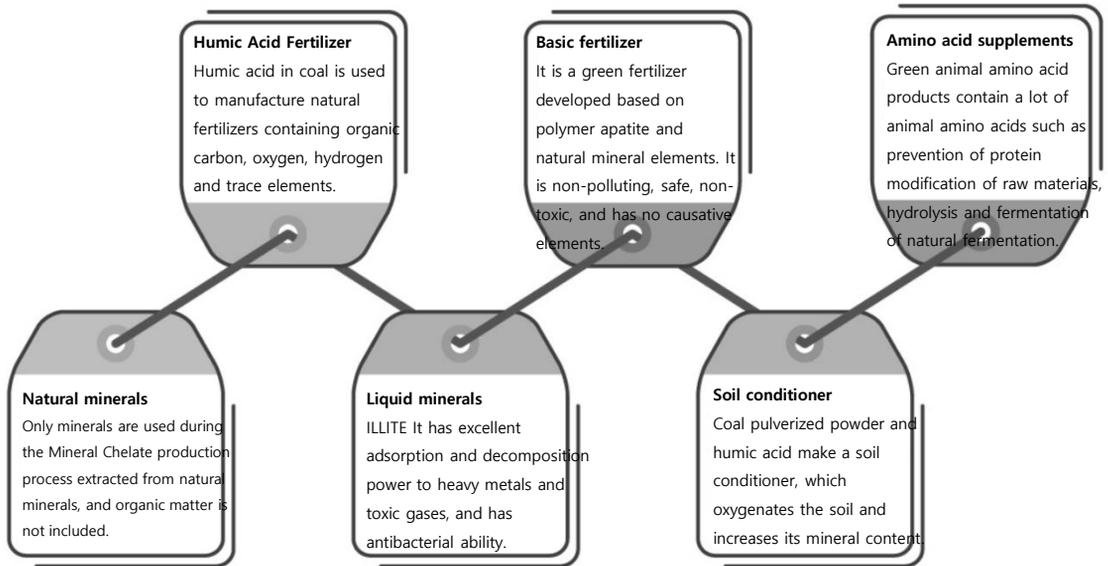
As is commonly known, at the time of the agricultural society, natural fertilizers were used as a foundation because the efficacy of natural fertilizers lasted for a long time, providing the maximum amount of various minerals and nutrients necessary for plant growth and helping them to be absorbed for a long time.

Natural fertilizers also play a role in improving soil quality. Long-term use of chemical fertilizers may cause soil hardening or other side effects. However, proper use of natural fertilizers can alleviate these problems and improve soil physicochemical properties by increasing the activity of organic matter and microorganisms in the soil. .

In addition, it enhances porosity, permeability and fertility to form a soil in which crops can grow better. Another advantage of natural fertilizers is that they are inexpensive.

In the past, farms generally used natural fertilizers. This is because natural fertilizers could easily become self-sufficient in the course of human production and life without any extra effort.

For example, livestock farmers raising chickens, cows, sheep and pigs can easily obtain high-quality natural fertilizer, which can be used for cultivation immediately after natural fermentation and humus. On the other hand, chemical fertilizers are disadvantageous for increasing economic profits by increasing farm production costs due to higher costs. Natural fertilizers contain a variety of nutrients, have a long duration with various advantages such as increasing fertility by improving soil quality.



Point 01

### Abundant world coal reserves

Coal is one of mankind's three major energy resources, and 8,915 tons of coal are stored around the world, which can be used for about 114 years. After being buried by plants, coal is converted to combustible rock through heat and pressure, and contains mostly organic matter.



Point 02

### Global interest

China and India are devising various ways to use coal to protect the environment. Developed countries set limits on the use of chemical fertilizers and encourages the use of natural fertilizers.



Point 03

### The culprit of global warming

When coal is burned, large amount of carbon dioxide are produced. It is more damaging to the environment than oil or natural gas. The use of acidifying chemical fertilizers in soils around the world has a major impact.



Point 04

### Market outlook

The global agricultural material (fertilizer, pesticide, etc.) industry is worth 112 billion dollars per year. The global organic fertilizer market grew at a CAGR of 12.08% in 2017 and is expected to reach approximately USD 11.2 billion by 2022.

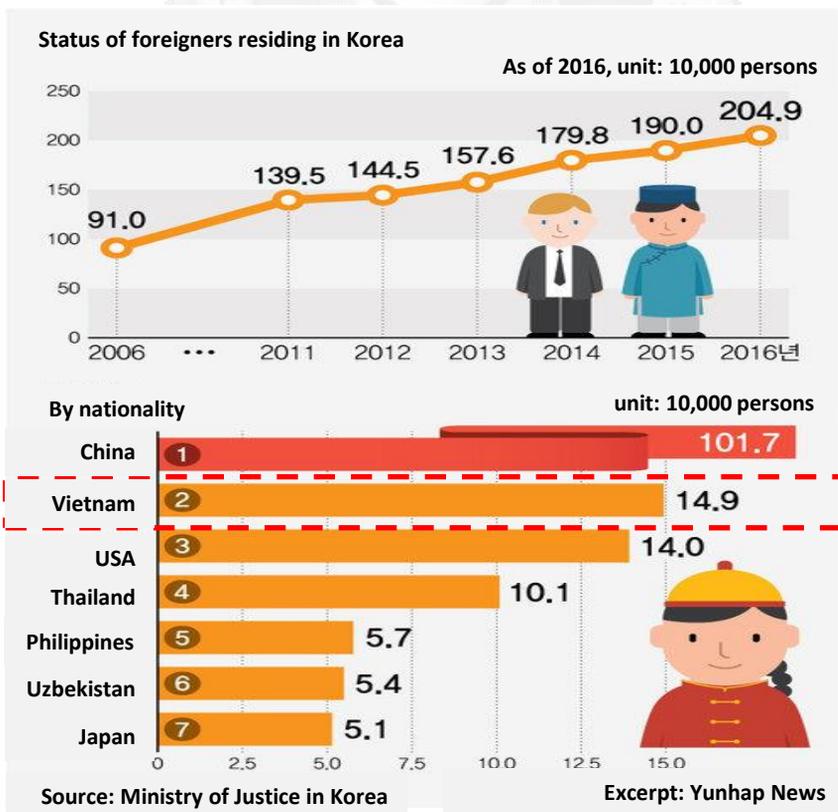


## VERON Pay

In order to expand the HRDG ecosystem and make it easier for users to use, HRDG ENVIRONMENTAL PROTECTION PTE. LTD, subsidiary of Saemyeong Energy Tech Group, issues HRDGCoin, which was independently developed so that global agents and general consumers can easily purchase products.

The advantages and conveniences of the most recent Blockchain have been applied to the payment stage, making it possible to provide more convenient and efficient products to consumers. Profits generated from this process will be used to build schools and health centers, and provide education and medical benefits to help more low-income people realize economic independence. We are confident that we will protect the global environment through continuous R&D and strengthening our core competencies, and will emerge as a world-class eco-friendly company that provides new values for consumers.

In addition to global transactions through HRDGCoin, we issue VERON Pay for more convenient use and payment, and promote the use by Vietnamese workers through partnerships with Vietnamese banks.

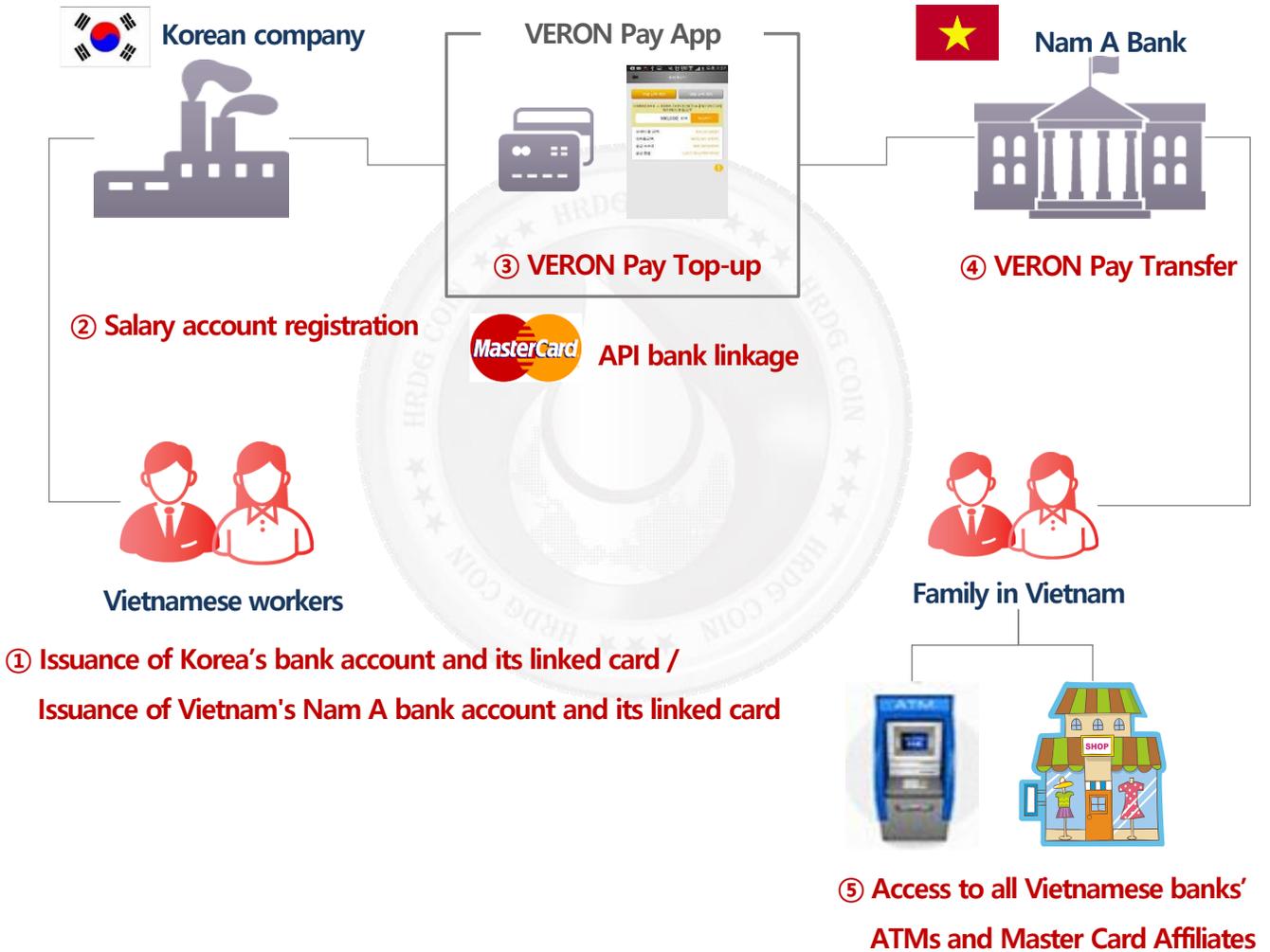


There are about 150,000 Vietnamese workers residing in Korea, and 70-80,000 workers are replaced each year as their work visas expire every three years.



Workers usually remit their wages to Vietnam through a Korean bank, but due to the high remittance fee and the remittance period that takes about 3 days, they are exposed to the list of abnormal currency exchange, tax evasion, and money laundering using private currency exchange offices.

We provide a convenient deposit and withdrawal service through the VERON Pay App by issuing a global card linked to HRDGCOIN to Vietnamese workers and foreigners using Vietnamese banks.



Classification	Existing Methods	VERON Pay
Time/Space	Time and geographic constraints	Online 24-hour service
Fee	About 5~7% of the remittance amount	About 1.5~2% of the remittance amount
Language	Local language unavailable	Local language available
Use scalability	Domestic: Only for 1 bank Overseas: Only for 1 bank	Domestic: Affiliates with banks&credit card Co., Overseas: Affiliates with banks & Master card
Remittance time	About 3 days after remittance	Real time
Transaction Confirmation	After visiting the bank, possible to check the details	Possible to check always



## Accumulated post-pay travel

### Business background

According to US credit card company Visa's "Global Travel Intentions Study" report on global travel trends in 2017, 91% of Vietnamese travelers have traveled to Asian countries in the past two years. Among them, Thailand, Singapore, Korea, and Japan are the most popular destinations.

In addition, Vietnamese are planning to travel abroad 5 times in the next two years, which has greatly exceeded 3.5 times in the last two years. And the average travel expenditure is expected to increase to 1,100 USD in the near future, although the average expenditure is about 880 USD.

Although overseas travel is currently suspended due to the coronavirus, Vietnamese travel abroad is the shortest overseas trip in the world, with 74% staying 4 nights or less, well below the average of 7 nights in the Asia Pacific region.



#### **Increasing income of Vietnamese people**

Economic growth rate of over 7% per year



#### **Improvement of travel environment**

Visa-free agreements with ASEAN countries and the emergence of low-cost airlines



#### **Rapid growth of MAC population**

More than one-third of the total population is middle-class and wealthy (MAC), increasing by 12% annually

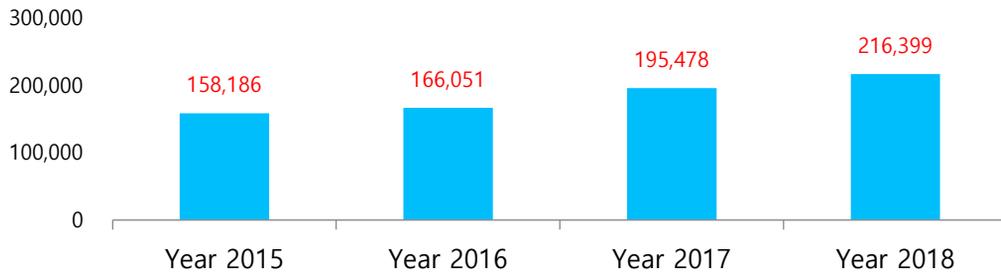
Vietnam's tourism industry is expected to grow by an average of 26.5% annually over the past five years, reaching VND 628 trillion (\$28.6 billion) in 2018, while Vietnam's tourism industry maintains growth in both inbound, outbound and domestic tourism sectors. In particular, domestic tourism sales rose 60% in 2017 compared to five years ago, accounting for 49.3% of the total tourism market's contribution, similar to inbound (50.7%).

(Source: Flaticon, Tourism Association (WTTC) Annual Report)



## Vietnam's domestic tourism market size

(Unit: USD 100,000 )



Source: VNAT, Vietnam National Administration of Tourism

As of 2017, the number of domestic tourists was 73.2 million, and smart tourism rapidly developed with 83% of customers using search engines before purchasing travel packages, with 60-70% of Vietnamese tourism workers developing their business online.

Sales in Southeast Asia's online travel market are expected to quadruple from \$21.6 billion in 2015 to \$90 billion in 2025, with Vietnam accounting for 10% of the total worth about \$9 billion.

We aim to lead the local economy and travel industry through new travel methods and job creation by introducing a new business called accumulated post-pay membership travel to Vietnam.

Accumulated post-pay membership travel can boldly file claims if a member is dissatisfied with the travel environment and travel. And it creates store-less jobs in an easy and convenient way to generate profits just by introducing the trip.

Starting from Vietnam, we aim to secure 5 million members by servicing Southeast Asian countries such as Thailand and Laos, and we will leap into a comprehensive membership group that provides services such as mutual aid and rental in addition to travel.

01

### Planned trip

A member can enjoy the trip as planned by selecting the products of Vietnam's all travel agencies including Anynew's travel products.

02

### A trip without a lump sum of money

A member can travel with advanced support of up to 100% of the member's accumulated amount.

03

### 100% responsibility system

100% responsibility will be guaranteed in case of non-performance as quoted (airline, accommodation, meals).

04

### Possible to transfer

Possible to transfer from/to another person (1 account per person)

05

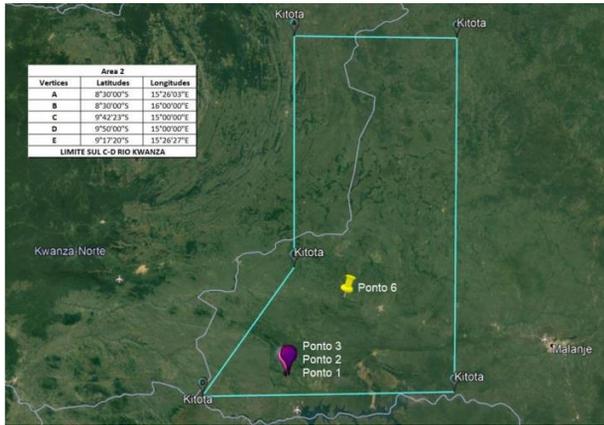
### ESCROW

50% of membership payment is deposited in banks(SACOM, POST, VP) and stored safely.



# Global Mine

We are developing the manganese mine located in Maranje Province in the northwestern Republic of Angola. The mine is 15km wide to the south and is 268m high with a minimum of 840m above sea level and a maximum of 1108m above sea level. The direction of the main ridge is northwest-southeast, and gradually changes to the north-south direction to the east, with gentle hills in the middle and high mountains in the north. The total mining area is 576km<sup>2</sup>



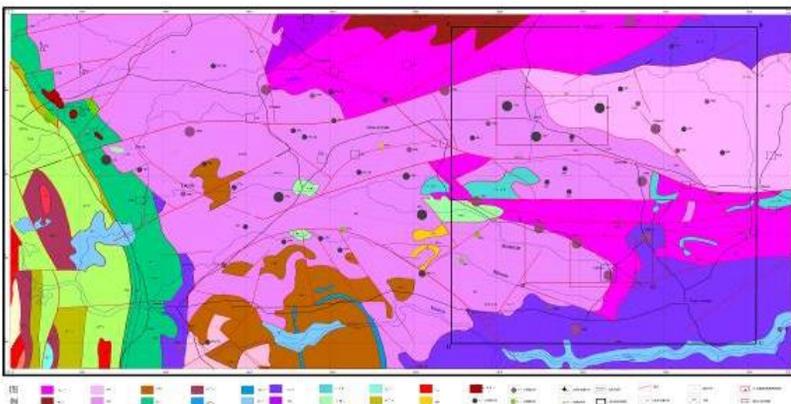
Metamorphic rocks of the old ancient system, an old basal primordial system, and the sporadically distributed Mesozoic Cenozoic strata. The strata are the old basal and cover layers, respectively, from old to new layers.

Ancient lower rock cluster (Ag1)1): Contains manganese granitic gneiss, ileal gneiss, metamorphic rock and forms iron manganese deposits related to sedimentary alteration. It is the main layer of the manganese oxide mine in Angola.

Ancient upper rock Cluster (Ag1)2) : It is composed of Baegun 2 gneiss, granite gneiss, schist, amphibole and magnetite quartzite. As a result, the growth of quartz rock, which is a lithotropic magnet, became common. And iron ore deposits related to the drying of silicate were formed frequently, reflecting the main stratum of Angola's iron ore and manganese carbonate ore.

The old ancient lower rock cluster(Pt1)1): gneiss, layered ansan basalt.

The old ancient upper rock Cluster (PT1)2): Rock formations are mainly composed of clasts and carbonate rocks, and are major deposits of nonferrous metals such as Angola copper, sedimentary iron and manganese deposits. This rock was found to form mixed granite due to the occurrence of mixed rocks in different amounts within the premises.



In the stratification, the main system (K) - the tertiary system (N) - the quaternary system (Q) are mainly distributed sporadically. Among them, the Cretaceous period and the Tertiary period are carbonate rocks and clasts, and the carbonate rocks are Angola cement which is the main producer of gray rock.



## Target market

HRDG Blockchain will be the first to launch our solution in Korea, one of the world's 10 largest economies and the fastest growing countries, and Vietnam, an emerging and developing powerhouse.

HRDG Blockchain has built a network for its growth with Vietnamese workers, energy agents and consumers in Korea, and agents and consumers in Vietnam. We have entered into agreements with several small businesses, organizations, energy retailers, oil companies and other companies to provide green energy and global payment services. And they are reaching out to more & more consumers and energy services providers every day in order to ensure safe, healthy and fresh services.

Demand for energy and the global Fintech business are expected to increase significantly by 2030. HRDG Blockchain's solution is a necessary step in the right direction to plan green energy production for the future by limiting wastage of energy and providing data intelligence. Combining the promise of eco-friendly energy with the promise to better manage safety, the market is bound to expand exponentially.



## 6. Our advantages

- Existing network

We are supported by suppliers who have been in the energy business for a long time and have built a network of many consumers, producers and distributors.

- Our team

Our team has extensive experience in energy production, energy supply chain and innovative technology solutions.

- Advantages of the first mover

We are building a global platform for energy traceability to address some of the issues declared a priority by the World Energy Organization.

- Innovation solution

Hyperledger, a truly decentralized transparent security platform based on a trusted Blockchain suite, and a simple mobile application for participants

### Blockchain innovation

Blockchain basics

Satoshi Nakamoto, the father of Blockchain technology, evaluated it as a peer-to-peer electronic trading system. Technically, the Blockchain is publicly available as a shared database that maintains a distributed ledger. In terms of business, Blockchain is a network for peer-to-peer asset transactions without an intermediary. Legally, Blockchain adds trust and transparency while trading assets between previously unknown companies.

### In a nutshell, Blockchain is a game changer...



#### Saves time

Transaction time from days to near instantaneous



#### Removes cost

Overheads and cost intermediaries



#### Reduces risk

Tampering, fraud & cyber crime



#### Increases trust

Through shared processes and recordkeeping

\*\* Courtesy IBM Corporation #IBMBlockchain



In short, a Blockchain is a transaction ledger that can be used once it is listed on the ledger, but cannot be modified or deleted. Unlike traditional databases, transactions are stored in blocks, and each block stores a cryptographic link to the previous block in the chain. Because of this, changing any block in the chain will invalidate all subsequent blocks. To be safer, the fact that the ledger is decentralized means that it is not just stored on one node (or server), it is replicated to all nodes participating in the Blockchain, making it almost impossible to tamper with the transactions stored on the ledger. Finally, most Blockchains have a consensus mechanism to ensure the validity of every new block added to the chain.

### **Public / Private Blockchain**

**Public Blockchain:** This is a fully open decentralized network, meaning anyone can join and participate in the network. The more participants, the more secure and decentralized, and all nodes have the same privileges. Before a transaction can be considered valid, it must be approved by each constituent node through the chain's consensus protocol. Public Blockchains are primarily useful for asset management (including initial creation and distribution) and for displaying unreliable timestamps in transactions.

Advantages:

- Democratization: Anyone can trade on the chain.
- Reliability: A single party in the group does not have control.
- Transparency: Anyone can create and monitor transactions.

**Private Blockchain:** This is also a distributed network, but it is authorized and not fully public. This imposes restrictions on who can join and participate in the network as well as on transactions that can be accessed. These rights can be managed by the gatekeeper or according to predefined rules. Members are responsible for maintaining the shared ledger in a distributed manner and implementing agreements.

Blockchain with ceremonial licenses are good for consortiums and the industries that do business among them.

Advantages:

- Faster speed: Transaction processing speed is faster.
- Privacy: Use of privileged access.
- One level above the existing database.



## Blockchain platform dedicated to hyperledger

Hyperledger is an open source collaboration effort created to advance Blockchain technology across industries. Hyperledger is designed to help organizations build and run industry-specific Blockchain applications, platforms and hardware systems that support their own business transactions. In general, Hyperledger is used by industry regulations and intellectual property issues to prevent the use of public Blockchain platforms.

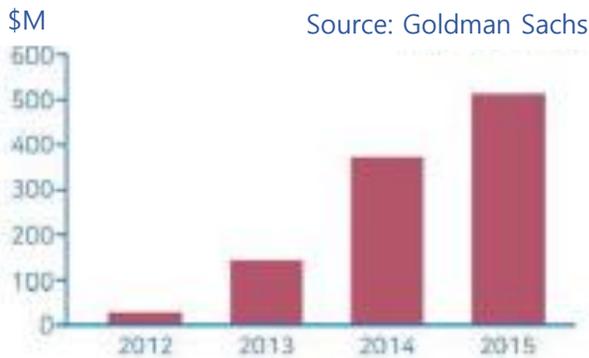
Some of the reasons for choosing Hyperledger for the HRDG Blockchain platform are as follows:

- Hyperledger provides standard benefits of Blockchain such as decentralized networks and immutable transactions (non-changeable).
- Open Source: Hyperledger is the Linux Foundation's open source platform.
- Hyperledger is well suited for building supply chain platforms where unrelated entities can gain a high level of trust.
- Smart Contract: It supports smart contracts to define the rules of engagement between companies participating in the chain.
- Privileges: The platform has built-in privileges to set access controls for participants.
- No proof of work: Hyperledger doesn't need a computer to troubleshoot day and night.

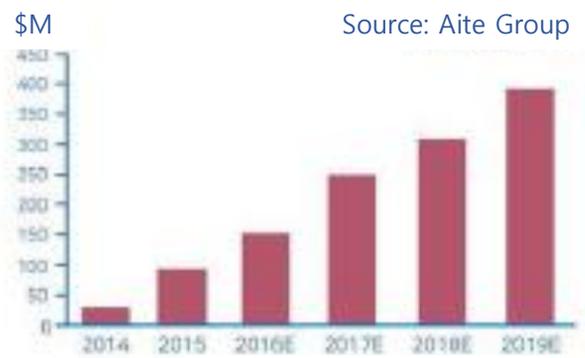


## 7. Blockchain market status

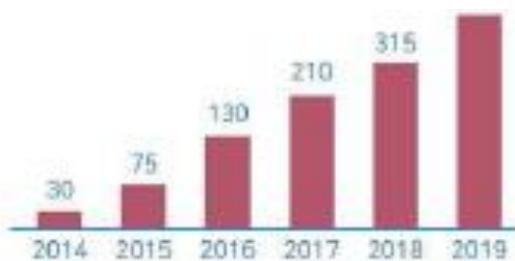
The size of the Blockchain market is estimated at \$500 million in 2020. However, the amount of investment put into the actual Blockchain market is estimated to have exceeded \$170 billion in 2017 already, so it is possible to predict the size of the potential market. Among them, the core value of Blockchain is building a Blockchain platform. And many companies are trying to build a platform with enormous capital.



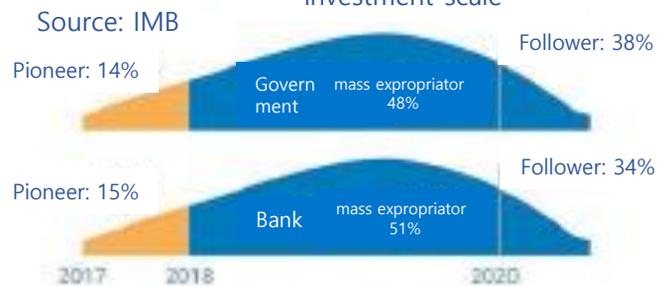
Blockchain venture capital investment scale



Blockchain technology investment scale



Blockchain market scale (\$B)



Blockchain introduction prospect

Currently, most of the whitepapers on virtual currency and cryptocurrency based on Blockchain technology do not present a realistic and specific business model that will activate the use of currency. Companies presenting only a splendid rosy future with an abstract concept which is far from reality in the target industry are conducting meaningless ICOs for the purpose of avoiding responsibility.



P1: 2018 ~2021  
The emergence of a few unspecified business success models that are difficult to predict

P2: 2022 ~2026  
Large-scale intensive investment and the emergence of multiple business success models

P3: 2027 ~2030  
The emergence of a business success model with world-class economic added value

Source: Garther(2017). [Forecast: Blockchain Business Value, Worldwide 2017-2030]

In such an environment, as demand for indiscriminate speculative growth has increased rapidly, concerns about social side effects are also rising. However, Blockchain technology, which is the basis of cryptocurrency, has a very unrivaled position in terms of security and practicality. So, when combined with various pre-sale businesses, all financial companies and research institutes believe that a very great synergy effect can be expected.

As of 2020, the business value of Blockchain cannot be specified because there is no clear success case. But a tangible value scale is expected to be derived in 2020 due to the growth rate of the market and the concreteness of the business.

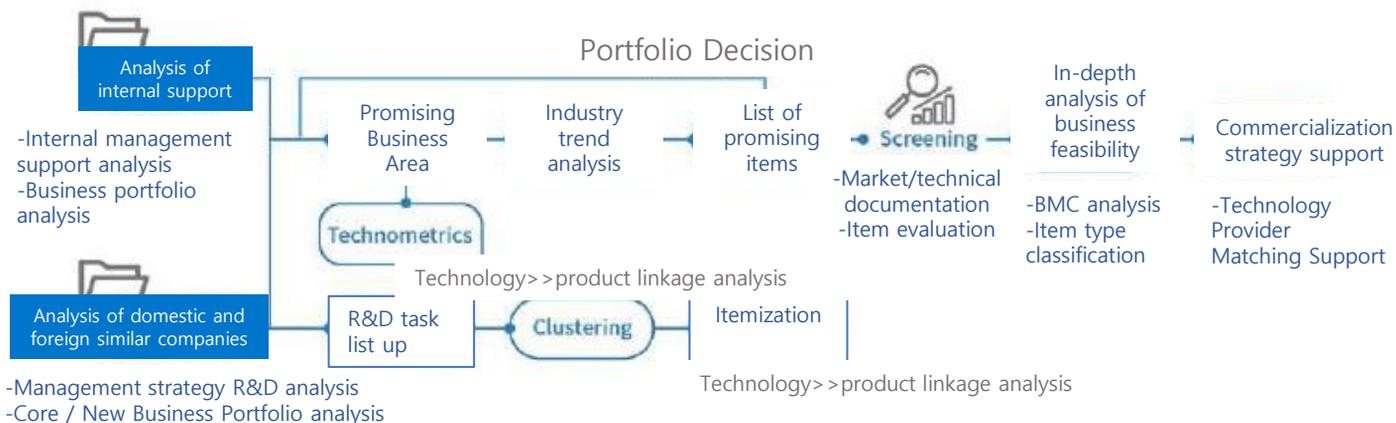
HRDGCOIN started developing its own block chain platform to serve as a leader to overcome the reality of such an unstructured market. And it created a future block chain ecosystem that is superior to any coin technology in terms of speed, security and convenience, especially payment-specific HRDGCOIN.

HRDGCOIN is a technology developed by faithfully to the natural function of the Blockchain in order to proactively respond to future strategies for cryptocurrency of Central Banks and international settlement banks in each country. HRDGCOIN's ecosystem construction project will also demonstrate its value in the field of information exchange, management infrastructure and finance & payment using it.



## 8. business sector and industry selection

In accordance with the technical and business functions of the HRDG Blockchain, HRDGCOIN established and specified strategies by selecting fields and industries through structural algorithms in the ecosystem construction strategy. HRDGCOIN carefully reviewed the business purpose, domestic and overseas market status, business development direction, strategic meaning and internal capabilities for the business item selected with the above algorithm. And the investment patterns are divided into two types: direct business and participatory projects that promote the business through partnership.



HRDGCOIN plans to carefully verify the promising and expandability of business areas and items in the selection work of continuous alliance projects to build an ecosystem. And anyone can easily have the opportunity to use the HRDGCOIN Platform for the selected fields and items. We plan to apply it to the payment platform first and spread the platform.

In all businesses, HRDGCOIN intends to pay two compensations: the member benefit at the time of coin use and the return on investment from the increase in the value of HRDGCOIN. All projects promoted by HRDGCOIN will be selected and promoted for the purpose of generating long-term business profits. And they will be managed for the profits of HRDGCOIN investors.



## 9. HRDG Token

HRDG Blockchain has issued a HRDG token (ERC-20 standard token). HRDG Token is the fuel for the HRDG Blockchain ecosystem used by customers, stakeholders and third-party partners around the world. HRDG tokens are publicly tradeable digital assets that will be used for each activity conducted through our platform.

### Use of the HRDG token

- Producers, distributors and Packagers pay monthly subscriptions to the Producer mobile app by using HRDG tokens.
- Distributors will use HRDG tokens to connect with producers who fulfill orders by paying monthly dues for platform access.
- Carriers will use HRDG tokens to pay monthly dues to take advantage of the energy distribution route and grow their business.
- Retailers, distributors and energy service customers pay for a subscription to the Customer Service app and receive notifications of upcoming service offering.

### HRDG token demand's increase

HRDG Blockchain will make HRDG tokens available to some major cryptocurrency exchanges within 2-4 weeks after successful crowd sales or IEO (Initial Exchange Offering).

Subscriptions for various software solutions (web portals and apps) provided on the HRDG Blockchain platform are paid by using HRDG tokens. These HRDG tokens can be purchased through a token exchange of your choice. When a member decides to pay for membership using fiat currency instead of HRDG token, the Exchange will add a 20% premium to the high price on the day. This will encourage members to use HRDG tokens to pay dues.

We will provide Energy Membership, which can only be purchased through HRDG tokens.

More and more distributors, producers, transporters and consumers will join the platform to take advantage of eco-friendly energy, quality services and acquisition of membership.

It continues to grow on the HRDG Blockchain platform, and the demand for HRDG tokens is expected to increase accordingly.



## 10. Token Sales

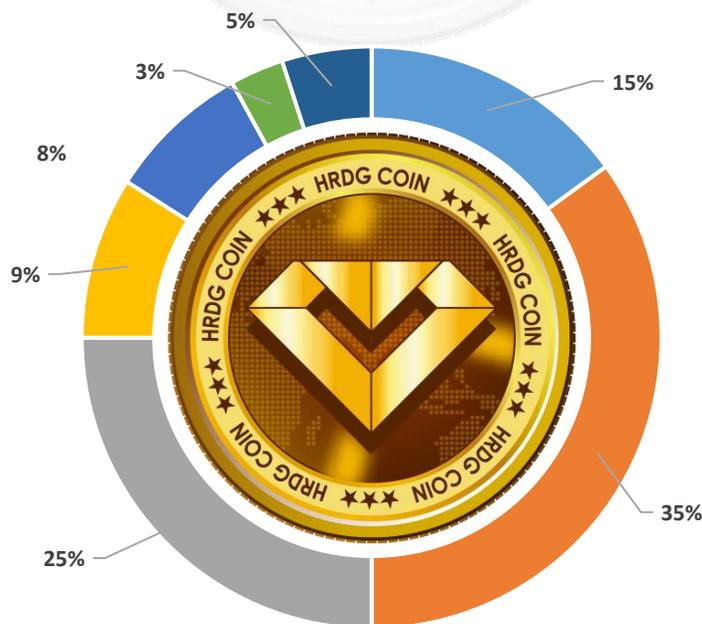
HRDG Blockchain launches an Pre-Sale or an Initial Exchange Offering (IEO) to fund development plans according to the roadmap presented here. These include the development of the market footprint (first in Southeast Asia, then gradually expanding to Asia, Africa and the Americas), the introduction of advanced technology platforms, support tools (web portals, mobile apps and future technologies), incremental tokenization of the company's ecosystem for Blockchain and more. It also activates the community and optimizes operating costs.

### Fundraising goal

The main goals of the token sales are financing for Blockchain platform development, platform access tool (mobile app) development, phased global implementation of the platform and platform support.

We are developing a global marketplace MVP and eco-friendly energy producer mobile app MVP. Some of the funds will be used to increase adoption of these platforms and build energy tracking traction for Blockchain products.

The soft cap of the ICO is set at \$2 million in Ethereum, and the hard cap is set at \$9 million. When the hard cap is reached through the token sales, the HRDG Blockchain provides the liquidity necessary to operate and maintain the Blockchain platform in PPP (Public-Private Partnership) mode for the first 2-3 years of operation, and the team develops a long-term sustainable revenue model to support the platform.



■ Private Sale ■ Pre Sale ■ R&D and Future Business ■ Company ■ Team ■ Advisors ■ Bounty



The fixed supply of HRDG tokens is 2 billion as defined in the Ethereum smart contract.

The distribution is follows:

- Private-Sale: After 15% of tokens are allocated to institutions and first-time participants, unsold tokens are burned after the end of the sale.
- Pre-Sale: After 35% of tokens are allocated to general participants, unsold tokens will be burned after the sale ends.
- R&D and Future Business: 25% of tokens are used for future business in the HRDG ecosystem.
- Foundation: 9% of tokens will be allocated to and held by the Foundation.
- Team: 8% of tokens will be allocated to the founder and the team (including reserve for future members). It is subject to a one-year lock period.
- Advisors: 3% of tokens are used for global advisors.
- Bounty: 5% of tokens are used for various events.

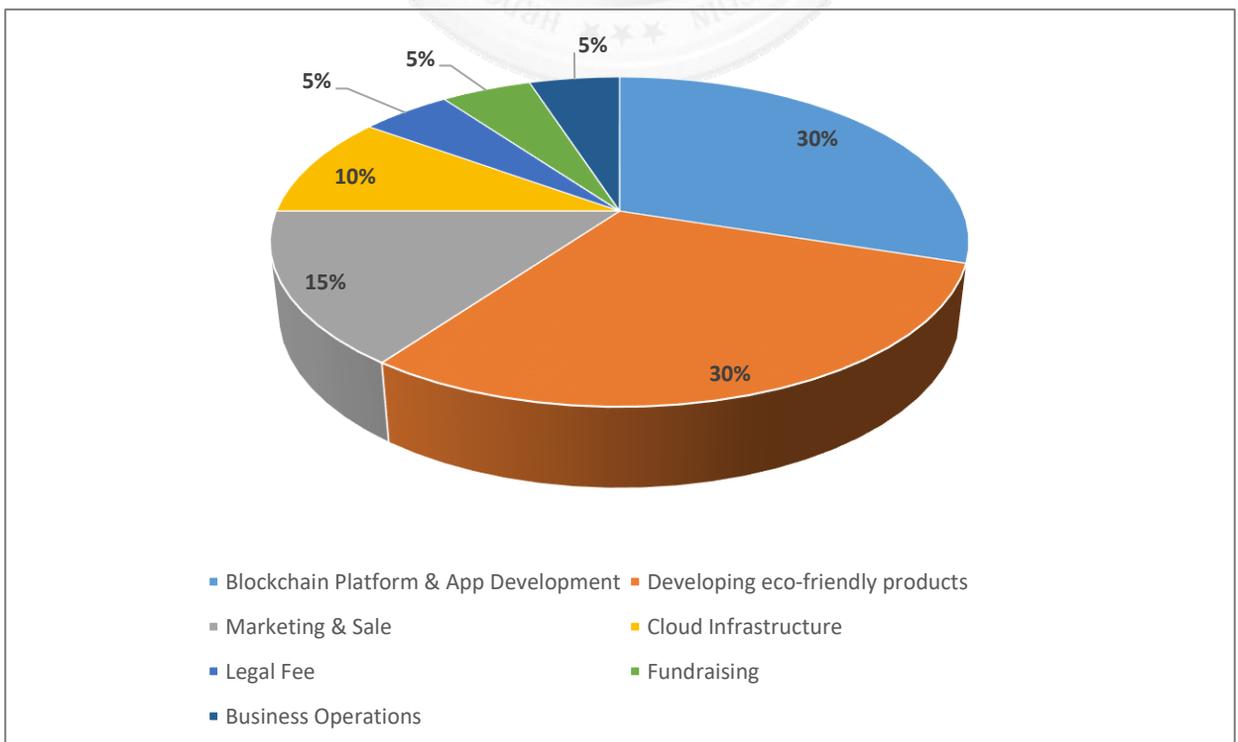




## 11. Fund Allocation

Funds collected through the token sales will be used to realize confirmed milestones and support operational, marketing & legal activities.

- ▶ Platform and tool development - 30% of the fundraising amount will be invested in the development of the HRDG Blockchain platform and the ecosystem supporting apps & portals.
- ▶ Marketing and Sales - 15% of the raised funds will be used to promote awareness of the project, marketing activities and sales.
- ▶ Cloud Infrastructure - 10% of the funds will be used to run blockchain nodes and APIs in the cloud.
- ▶ Legal Fees - 5% of the funds will be credited towards legal fees, accounting and indirect costs related to government compliance.
- ▶ Fundraising - 5% of funds will be allocated when raising the platform fee, payment gateway fee, etc.
- ▶ Eco-friendly product development – 30% of the funds raised will be used for development of sustainable eco-friendly products, oils, organic fertilizers, soil conditioners, catalysts, etc. and market expansion.
- ▶ Business operations and support services - 5% of the fundraising will be used for HRDG Blockchain platform, operation support and customer support service for platform users.





## **Marketing plan**

The funds raised through the token sale will provide the liquidity necessary for the HRDG Blockchain to implement the platform in the PPP model.

### **Market access in developing countries:**

To reach potential markets in emerging countries, we plan to attend exhibitions and conferences. We will also do a lot of B2B and B2A marketing activities in our target markets. We follow strong social medias and plan to use them to reach out to potential customers. Our past experience with awareness campaigns related to the energy industry will give us additional benefits to use this platform to expand our user base.

Our dedication to improving energy safety has sparked social goals and repercussions for various governments, and we are in contact with various government agencies and NGOs to integrate our solutions with existing logistics.





## 12. History & Roadmap

- 2018. 11** ● Establishment of Saemyeong Energy Tech Group
- 2019. 03** ● Establishment of Remex Lubricating Oil Plant, a joint venture in China
- 2020. 08** ● Implementation of business model and logic, establishment of HRD model and burning plan
- 2020. 09** ● Establishment of Dowoon Energy Tech Group
- 2020. 09** ● Project drafting and official launch, team formation completed, Establishment of HRD China Regional Office
- 2020. 11** ● Conducting market sale in Vietnam market with Changchun Limais Lubricating Oil Manufacturing Co., Ltd, Preparatory work started for user recruitment and community expansion in the Chinese market
- 2020. 12** ● Network synergy creation for building nodes in each region of China
- 2020. 12** ● Listing on Global Exchanges WBF, DCOIN, PROBIT
- 2021. 03** ● Establishment and operation of an eco-friendly lubricant manufacturing plant
- 2021. 05** ● VERON Pay platform planning, Branches' installation completion of 500 oil injectors for Vietnam's motorbikes, Completion of 2000 branches' contracts
- 2021. 06** ● Business alliance with Nam A Bank in Vietnam
- 2021. 10** ● Launch of VERON Pay platform, a global Fintech
- 2021. 12** ● Launch of the global energy HRDG Energy platform  
Planning of listing on major Global Exchanges
- 2022. 06** ● Partnership with 2,000 eco-friendly energy partners



## 13. Team

CEO Wen Guang Can	CCO JINMEITING	CFO PanYong Jang	CTO Meitao
			
CMO KyoungJun Chun	Director JeongCheol Jeong	Developer MyungKwang Choi	Developer MunHwa Bae
			
Developer OkHwa Park	Developer Sa Lim	Developer HyoSeung Moon	Developer DongHo Seo
			
Developer KyeBong Choi	Marketing Sermpon Tilakul	Marketing Samuel Pham	Marketing Tran Thi My Linh
			



## Advisors

HuiSu Park  
Chairman of Saemyeong  
Energy Tech



NamJung Hong  
Chairman of Veron Asset



JaeKwan Moon  
CEO of Veron Asset



Aaron Jin  
CEO of EveryCoin



DongWook Jung  
Ubiquitous leadership



JongGeun Oh  
President of International  
Trade Association



YeonSu Kim  
CEO of Dudumax



MyungChul Shin  
Saemyeong Energy Tech  
Planning Team Leader



MyungSun Lee  
Head of HanVe Language  
Institute



KyuJin Cho  
Chairman of Hanul  
Agriculture Industry



JongGil Park  
President of the  
Australian Core Group





## 14. Risk

The given whitepaper document is intended to post information about the HRDGCOIN project to potential participants of the platform and those wishing to contribute to the development. The information set forth above may not be complete and does not imply a contractual relationship. Since the sole purpose of this document is to provide information to potential Coin owners, it can be used for the purpose of project analysis to acquire HRDGCOIN based on this. No part of this whitepaper shall be deemed to constitute an investment prospectus or investment lien, nor in any way related to the purchase limit or offer of securities in any jurisdiction.

This document has not been prepared in accordance with, and is not subject to, the laws or regulations of any jurisdiction for the purpose of protecting contributors. Certain statements, estimates and financial information contained in this whitepaper constitute forward-looking information. Such forward-looking statements or information may be considered risks and uncertainties that could cause materially different results than the forecast results.

This whitepaper is the official source of information regarding the HRDGCOIN project and coin launch. The information contained herein may be translated into other languages or used to establish a means of written or oral communication with potential partners or project participants. Some information contained herein as a result of translation may be missing, damaged or misrepresented. In the event of a conflict between the translated version or communication and the English version of the official whitepaper, the content of the official whitepaper in Korean will be considered the original and take precedence.

The HRDGCOIN project team reserves the right to change the contents of this whitepaper. In the event of conflicting differences between the various versions of the whitepaper, the latest version of the whitepaper published on the website will take precedence and all previously published versions will be considered invalid. The information provided through this whitepaper and website is of a descriptive nature only, is not legally binding, and does not constitute the conditions of the coin creation event (hereinafter "Terms and Conditions"). In particular, it is important to be aware that purchasing HRDGCOIN carries a high level of risk.



Distribution of this document to the public and the provision and sale of HRDGCOIN may be restricted by law in certain jurisdictions, and may result in violation of the restricted law. Currently, HRDGCOIN is not registered under the US Securities Act of 1933 (the "Securities Act") or with the securities supervisory authority of any state or other jurisdiction within the US territory. HRDGCOIN may not be offered or sold to citizens and permanent residents of the United States of America (taxpayers and others), or to individuals with primary residence in the United States, including Puerto Rico, the U.S. Virgin Islands, or other U.S.-owned territories. HRDGCOIN cannot be offered or sold to citizens and permanent residents of Singapore (taxpayers and others), or to individuals with primary residence in Singapore.

We do not provide any warranty that the above conditions will be met, and we are not responsible for them. It is the sole responsibility of the reader and potential participant of this document to ascertain whether the applicable laws in the region of residence or country of residence prohibit participation in the coin sales.

### **Legal considerations for HRDGCOIN tokens**

HRDGCOIN does not grant token holders the right to take part in the control, direction or decision-making of the company's ownership, interests or management of the company. Individuals, companies, and other organizations should carefully consider the cost, risks, and benefits required when acquiring HRDGCOIN. We make no promises regarding the future performance or value of HRDGCOIN. This includes the promise of the intrinsic value of HRDGCOIN, the promise of continuous payment, and the promise that the value of HRDGCOIN will not decline or will hold a certain value. HRDGCOIN is non-refundable. HRDGCOIN buyers must take full responsibility for the risks involved in purchasing HRDGCOIN, and acknowledge that the HRDGCOIN platform is currently in development and subject to significant changes.

1. HRDGCOIN is not purchased in anticipation of a profit for its potential value. HRDGCOIN is purchased by related parties, publishers, other network participants, or their service providers to secure services on the HRDGCOIN platform in advance.
2. HRDGCOIN does not constitute an investment contract that expects profits from other people's corporate or management efforts.
3. HRDGCOIN is not for investment or exchange speculation, and HRDGCOIN reserves the right to refuse to sell coins to buyers who do not demonstrate their actual intention to purchase Coins for their intended purpose.



All investment decisions are made by the person who intends to purchase HRDGCOIN independently of other HRDGCOIN owners or HRDGCOIN platform officials.

### **Legal restrictions in Canada, Singapore and Hong Kong**

Singapore, Canada and Hong Kong all have legal restrictions on coin sales. In July 2017, the Singapore Monetary Authority (MAS) stipulated that coins fall under jurisdiction when they constitute products regulated under the Securities and Futures Act. Some offers may be subject to SFA, but others may not. Therefore, the MAS announced officially that issuers of digital coins, intermediaries that facilitate or advise the provision of digital coins and platforms that facilitate digital coin transactions must seek legal advice and consult with the MAS as appropriate to ensure compliance with all applicable laws.

In August 2017, the Canadian Financial Supervisory Commission (CSA) issued Notice 46-307 to the Initial Coin Offering (ICO) referring to the Howey Test to determine whether a coin falls under the definition of a security.

In early September 2017, the Hong Kong Securities and Exchange Commission (SES) announced that coins issued through ICOs could be classified as securities.

### **Korean legal restrictions**

At the end of September 2017, the Korean Financial Supervisory Service prohibited domestic companies from participating in the initial coin offering. HRDGCOIN's management reserves the right to stop providing HRDGCOIN in the Republic of Korea if the financial regulator in Korea prohibits residents of Korea and Korean citizens residing abroad from participating in coin sales. HRDGCOIN is issued based on smart contracts on the Blockchain platform. Smart contracts are digital tools for contract fulfillment based on programming algorithms.

HRDGCOIN smart contracts must strictly comply with all applicable laws and regulations and must comply with legal requirements regarding the confidentiality of information.

In order to sell and purchase HRDGCOIN on the HRDGCOIN platform, you may need to provide personal data. Personal data is information that is used to identify an individual. Examples of personal data collected include name, address, e-mail address, telephone number and fax number. Personal data may be collected in a number of ways, including application via the project website, letter, telephone, fax and e-mail.



We protect personal information by applying the privacy policy and complying with the terms of use. In general, individuals may require banks to delete data related to transactions in the banking system. Blockchain does not allow the deletion of data on executed transactions. Therefore, users who conduct transactions through the Blockchain in relation to the sale and disposal of HRDGCoin tokens must be aware of the above and provide a waiver to waive the right to request the removal of such data from the Blockchain. In order to protect users from legal and regulatory risks, we manage risks through consultation and close cooperation with renowned international law firms.

### **Customer identification (KYC) and fraud prevention**

We are making significant efforts on customer identification and anti-fraud issues to provide a safe and transparent business model to our customers and cryptocurrency owners. We will make the following efforts to ensure that our services are not used as illegal materials to motivate criminals.

1. We will legitimately obtain sufficient information about the customer to thoroughly verify the customer's identity.
2. We will conduct detailed audits on all projects underway on the HRDGCoin platform to review transparently and efficiently.
3. We will thoroughly manage customers and transactions suspected of being illegal through continuous monitoring.



# HRDGCoin Blockchain

