



# GOLDEN GOOSE®

CRYPTO-CURRENCY MINING CENTER AND  
EXCHANGE CENTER IMPLEMENTATION PROJECT



**GOLDEN GOOSE**®

GOLDEN GOOSE PROJECT

Project for Implementation of Crypto-currency  
Mining Center and Exchange Center

**VER 2.0**

*" The farther back you can look,  
the farther forward you are likely to see."*

*- Winston Churchill -*

GOLDEN GOOSE<sup>®</sup>

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BACKGROUND



# 1

## BACKGROUND

1.1 The Advent of a New Economic System

1.2 Re-Circulation of the Paradigm

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### 1.1 The Advent of a New Economic System

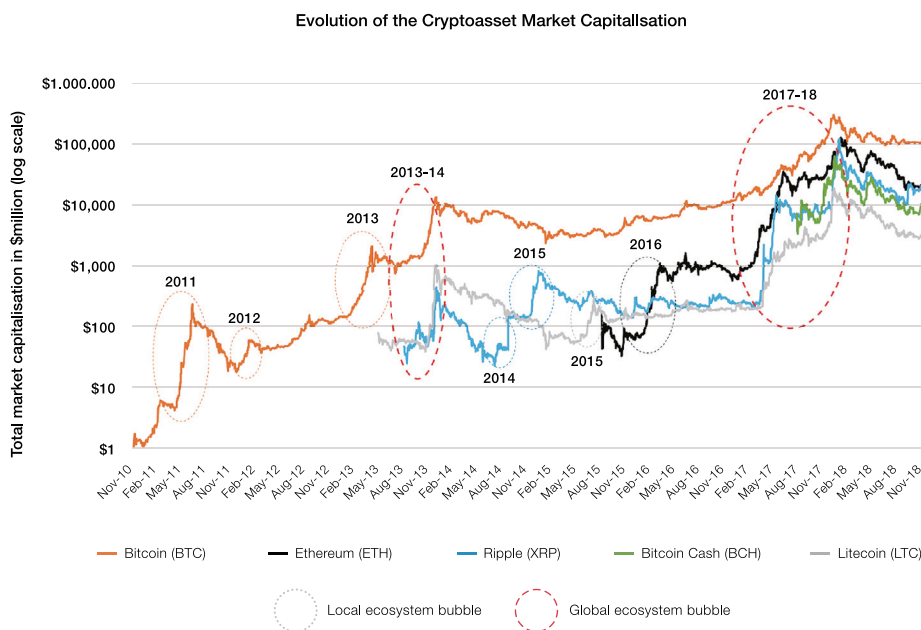
The credit-based currency system forming the basis of the modern economic system has historically led the end of the gold standard system and the associated excessive issue of currency in addition to the greed of a minority, powerful class, which ultimately caused inflation. Such vicious cycle continued when quantitative easing took place to resolve the inflation. The limitations of the credit-based currency system were apparent during 2007-2008 sub-prime mortgage crisis and the collapse of Lehman Brothers that catalyzed the global financial crisis, from which many individuals, countries, and peoples suffered. As an alternative to such ills of the credit-based currency system, Bitcoin<sup>1</sup>, an innovative crypto-currency based on cryptology and a blockchain data structure, was developed, ushering in many studies and experiments on a new economic system that is different from the existing credit-based currency system. Since the advent of Bitcoin, many other crypto-currencies have been made public in various fields, with coins being transacted through various channels including multiple exchanges. This trend has given rise to active studies on concepts such as crypto-economics and token economy, which are differentiated from the conventional economic ecosystem. Such activities are not only vitalizing the economic system, but also engendering new opportunities, potentially providing multitudes of economic benefits to all participants.

**1.2 Re-Circulation of the Paradigm**

From a macroscopic perspective, the credit-based currency system is a centralized hub model in which a single legal national tender represents prices and mediate exchanges of goods and services. Blockchain technology based on cryptology, on the other hand, can bring back the barter system that was in place before the current credit-based currency system. This can be achieved by issuing tokens for all goods and services, which can be organically connected to mediate the exchange of goods and services and enable a decentralized barter system. Such is a potential paradigm shift into the token economy.

The microscopic crypto-currency ecosystem experienced more significant events in 2017 and 2018, compared to the preceding periods.

The price of Bitcoin reached its record high, followed by the skyrocketing values of other crypto-currencies that caught the attention of many people around the world and induced new participants and funds to flow into the crypto-currency ecosystem. As a result, the aggregate market value of crypto-currencies, which was 18 billion dollars in January 2017, reached 600 billion dollars in December 2017 followed by 800 billion dollars at the beginning of January 2018. After a bearish period for 2 years, it soared to 2.9 trillion dollars and now it shows 1 trillion and 255.5 billion dollars.



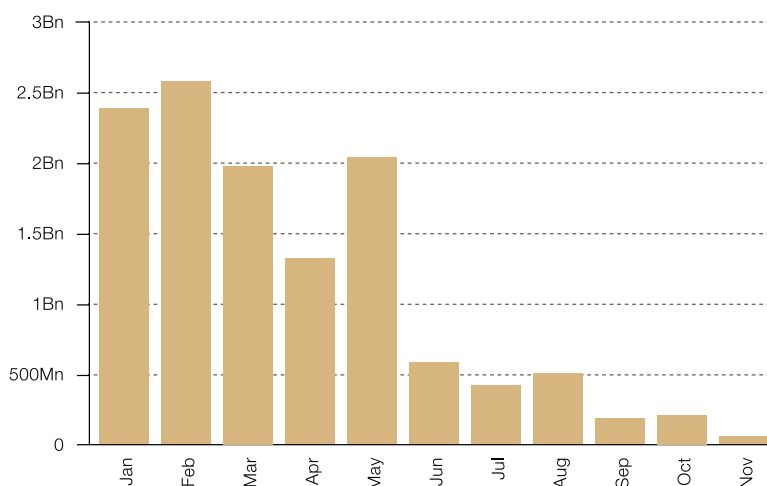
Source : Cambridge Center for Alternative Finance, CoinMarketCap and Coin Dance

Despite such decline in 2018, the year saw the total number of accounts in the crypto-currency ecosystem rise above 139 million, at least 35% of which have been certified by the participants. This is an increase of four times compared to 2017, and a 38% rise compared to the period from the first quarter to the third quarter of 2018. This means that the number of practical crypto-currency users continued to rise<sup>2</sup> although 2018 saw the crypto-currency market fall.

In December 2017, the Chicago Board of Options Exchange (CBOE) and the Chicago Mercantile Exchange (CME) as the largest derivatives market in the world began futures trading based on Bitcoin. As such, 2017 was significant for Bitcoin in that it entered the formal financial market through the futures trading practices.

In addition to the craze of investments into crypto-currencies, there was an explosive growth of the initial coin offering (ICO) market in 2017. Due to the convenience of ICOs in raising funds compared to procuring funding from venture capitals, as well as its potential to raise large amounts of funds, numerous startups executed ICOs. In 2017 alone, ICOs raised a total of 6 trillion Korean won in capital<sup>3</sup>, which was facilitated by the fact that ICOs were accelerated as Ethereum-based crypto-currency ERC-20 tokens made it easier to issue digital tokens. The ICO investment fervor of 2017 continued to the first quarter of 2018 (to 6.7 trillion Korean won)<sup>4</sup>, but this is mostly attributed to the participation of Telegram (TON). The funds raised via ICOs until November 2018 was minimal (at 67 billion Korean won).<sup>5</sup>

2018 Initial Coin Offerings Total Raised



Source : Diar, TokenData

Meanwhile, the explosive increase in ICOs gave rise to side effects, such as mushrooming of reckless ICOs, excessive crypto-currency procurement over the project requirements, and moral hazards in companies executing ICOs, that led to project delays and failures.<sup>6</sup>

The Korean crypto-currency market is unique in that 70% of the global crypto-currency exchanges are conducted by Korean nationals<sup>7</sup>, with 30% of all Korean salaried workers possessing and exchanging crypto-currencies<sup>8</sup>. Such passionate involvements in the market created a phenomenon dubbed “Kimchi Premium,” which unusually spiked up to 50% when the aggregated value of the crypto-currency market reached 800 billion dollars in early January 2018.<sup>9</sup>

Such speculation and unchecked mushrooming of ICOs inevitably caused various regulations. In Korea, the Financial Services Commission (FSC) banned all forms of crypto-currency fundraising in September 2017, effectively stopping all ICOs in the country. In December of the same year, accounts registered with crypto-currency exchanges were mandated to use real names, putting restrictions on new entrants into the market. Which are followed by the restriction under Special Prohibitions Law effective since 2021. In February 2018, the Swiss Financial Market Supervisory Authority (FINMA) categorized tokens into three: payment token, utility token, and asset token in its new ICO guidelines<sup>10</sup> and the United States Securities and Exchange Commission (SEC) put sanctions on security tokens, leading the development of new regulations around the world.

In addition to the regulatory pressure, the crypto-currency market has been declining since the market capitalization hit a high in January 2018, with the negative market trends continuing to this day (December 2018), causing investors' massive financial losses. There are many factors causing the reduction in the aggregate value of the crypto-currency market and falling the prices of individual crypto-currencies, but they are the responsibilities of everyone participating in this market. By delaying or even stopping their projects unlike what they described in their white papers, many companies that executed ICOs have led investors and the market to turn away. Many investors speculated in the market without sufficiently researching or studying individual projects. Of course, the bubble created by the great volatility of crypto-currencies is one factor in all of this, but the key element may be the lack of investors' confidence caused by the poor performance compared to the excessive expectations for crypto-currencies.

In relation to investor sentiment, hot-hand fallacy\* may be an example of many people not being able to make profits during the bullish market in December 2017 and early January 2018. Hot-hand fallacy refers to the error people make by thinking that a certain event would happen next time because that event took place many times before. Most crypto-currency investors missed the chance to realize their profits by misjudging that the bullish market trends of December 2017 would continue.



The long and tedious market decline during 2018 planted a fundamental doubt of crypto-currency investors about this market. As such, it is necessary to examine whether blockchain technology and the crypto-currency market will disappear or remain and be expanded in the future.

1) Even though the aggregate crypto-currency market value of roughly 130 billion dollars in December 2018 declined by more than 80% compared to the peak value at the beginning of the year, when this value is compared with the total quantity of currency in circulation in countries in the world (M1), it is in the 34th place, only after the United Arab Emirates. The aggregate value of Bitcoin alone is placed 49th among the national currencies of the world, making it difficult to ignore crypto-currencies.<sup>11</sup>

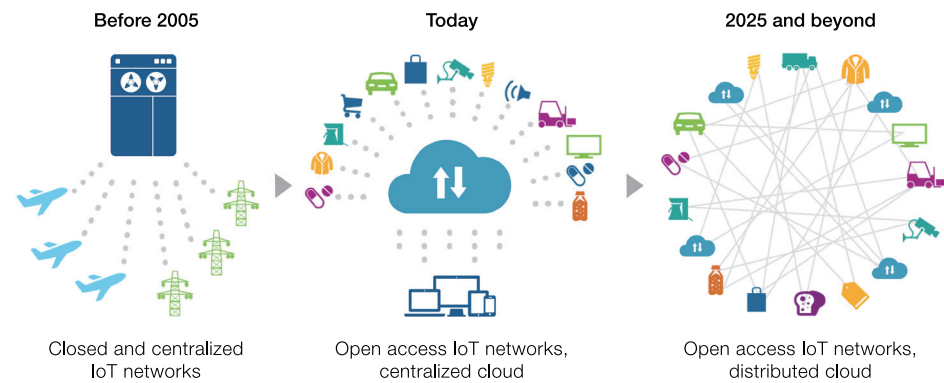
2) To maintain and expand the crypto-currency market, more new participants as well as existing ones must enter, and active participation by the younger generations must be made possible. Blockchain Capital, a U.S. venture capital company, surveyed two thousand Americans over the age 18 last year. In the survey, 30% of respondents between the ages of 18 and 34 answered that they would invest in Bitcoin rather than in national bonds or stocks. The millennials, who are familiar with the digital economy in which the intellectual outputs of information and data are important, quickly understand technological developments and are versatile in their use of social media, games, and online shopping, earning the title “digital natives.” They also have higher interest in crypto-currencies and this indicates that there is a strong support base for the blockchain-based currency system.

3) The 4th Industrial Revolution, which involves autonomous driving, artificial intelligence, internet of things (IoT), NTF, metaverse, and Web 3.0, has been decentralized to advance towards a hyper-connected society in which people and objects as well as objects and objects are connected for more effective control.

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\* Hot-hand fallacy : This idiomatic expression from American basket refers to a streak of good luck. During basketball games, players tend to pass more to the teammate with a “hot hand,” the one who made the most consecutive goals so far. Statistics, however, show that no player had a particular period in which he succeeded in shooting more than the average, and another experiment on free throws also discovered that the results of the first shot do not affect those of the second shot. In conclusion, the “hot hand” phenomenon does not exist.

According to a report by IBM<sup>12</sup>, it is predicted that a hyper-connective society after 2025 will have hundreds of billions of transactions among IoT devices, and that decentralized P2P systems will be applied because it is inefficient to process them on the current cloud infrastructure in terms of costs, etc. Under such systems, each peer acts as a node in the blockchain to process transactions among IoT devices. It is forecasted that the hyper-connected society of the future will be based on cryptology-applied blockchain technology.

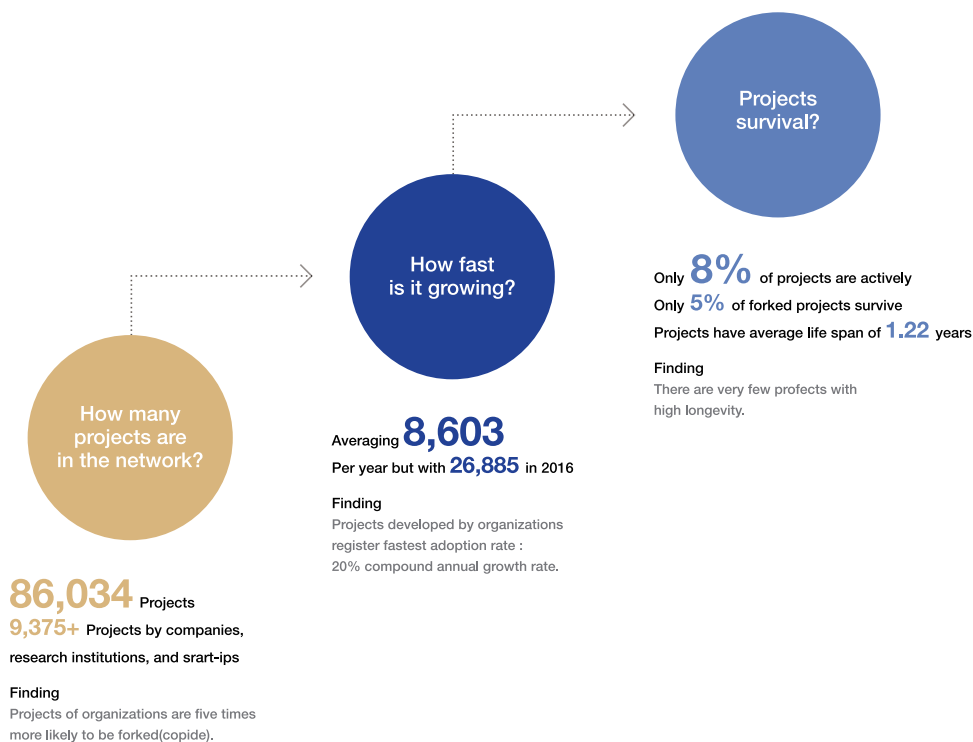


Source : IBM

As it is apparent from the above information regarding the economic scale of crypto-currencies, the support base for the crypto-currency ecosystem, and its role as basic technology for the development of a future society, it seems that the crypto-currency ecosystem will remain and rather be expanded in the future.

Regardless of the declining prices of crypto-currencies, it is highly encouraging that the attempts and efforts to implement blockchain technology in finance, medicine, intellectual property contents, identity authentication, online voting, public services, logistics, distribution, IoT, NFT and metaverse are continuing to this day<sup>13</sup>

Even though the crypto-currency ecosystem is developed and expanded in the future, as can be seen from the lessons learned through the IT bubble of early 2000s, not all crypto-currencies will survive, with many falling into oblivion. Through its GitHub analysis in October 2017, Deloitte found that only 8% of 86,000 concurrent blockchain projects are under active development, and forecasted that only 5% will survive in the future.<sup>14</sup>



Source : Deloitte

Just as FAANG (Facebook, Amazon, Apple, Netflix, and Google) and BAT (Baidu, Alibaba, and Tencent) that survived the IT bubble have grown into tech giants, crypto-currencies that survive the current crisis will experience significant growth in the future. With the limelight on which crypto-currencies will survive, we would like to shift the focus to Bitcoin, which initiated the current crypto-currency trend.

It is important to understand why Bitcoin is the driving force behind the crypto-currency phenomenon despite problems such as limited expandability, concentration of hash and mining, excessive energy consumption, and potential for hard forks. In addition to its symbolic significance as the first crypto-currency, Bitcoin is a verified system by the greatest number of participants for the longest time that maintains the most stable blockchain network over more than 12 years of operation. Bitcoin accounts for more than 45% of the total market value of crypto-currencies, serving as the base currency in the field. In addition to the CBOE and the CME, Wall Street institutions such as Fidelity, Goldman Sachs, Bakkt of ICE, the owner of NYSE, and NASDAQ are creating, or will create, financial instruments based on Bitcoin. As such, it is observed from the macroscopic and microscopic aspects that the paradigms are recirculating.



**GOLDEN GOOSE**®  
PROPOSAL

# 2

## PROPOSAL

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**2 Proposal**

In the previous session, we looked back in 2017 when the public participation and interest in the crypto-currency market increased, and 2018 which showed the opposite trend. The crypto-currency market on a continued decline since January 2018 caused investors to reexamine Bitcoin which is the starting point of the crypto-currency world. It is necessary to understand how to obtain Bitcoin as the reserve currency and driving force of the crypto-currency market. The most common method is that market participants deposit legal tender to accounts at an exchange center and buy Bitcoins. Another method is to directly participate in the Bitcoin network to authorize transactions and generate blocks, acquiring Bitcoins as rewards. This is otherwise known as 'mining.' Mining was possible with PCs owned by individuals during the nascent days of Bitcoin, but it is almost impossible for individuals to mine Bitcoins like the previous method.

The Golden Goose Project aims to obtain Bitcoins through mining. Bitcoin mining is becoming an equipment industry to enhance profitability and reduce costs. Due to the high initial investment costs, the entry barrier is rising. To participate in the industry, investors must closely examine as very important elements for mining costs, a lot of issues, including the power consumption and reliability of power supply, in addition to selecting reliable and superior mining machines.

The most important lessons from the long and arduous market decline of 2018 include making profits even from the market downturn and at least increasing the quantity of crypto-currencies in circulation. One of the representative methods for this is to continuously increase the quantity of Bitcoins through mining, and the other is to generate profits by operating an exchange center (revenues from transaction commissions).

One of the biggest features of the market in the second half of 2018 was the crowding of "mining-oriented" exchanges. Such exchanges distribute the transaction commissions, which are their main sources of revenue, with the unique tokens issued by them, provides discounts for customers using the tokens or pays part of their profits as dividends to token holders to enhance the value of the tokens and stimulate transactions. While such intentions are good, the problem is that this business method gave rise to unchecked flooding of smaller exchanges not equipped with the appropriate transaction systems, leading disadvantages to customers (such as incomplete buy/sell orders due to server failures). Some exchanges even restricted customers from withdrawing and depositing crypto-currencies and isolated customers to make transactions only within their own platforms, creating market pricing disruption that make price differences compared to other exchanges. In addition, there have been many frauds piggybacking on the popularity of "mining-and-dividend-oriented" exchanges, causing financial damages to the investors (e.g., Pure Bit).

However, this manipulation to disturb the market price disturbance will not last a long time, and we will see consolidation of small and medium-sized exchanges in the future. Therefore, this project aims to establish a global crypto-currency exchange after we establish the mining center and reach stabilization.

As such, this Golden Goose project, different from other projects, pursues to minimize losses or provide profits of project participants, especially in a bearish market, and aims to naturally lead to maximization of profits in a bullish market. In addition, we aim to have participants in this project enjoy stable and “continuous income or passive income\*” just by holding the tokens (GOLD).

By constructing a cryptocurrency mining center and participating in the mining industry, we can expand the revenue generated from it as better economic benefits to project participants. On the other hand, we wish to contribute to geographical decentralization of mining to reduce potential risks to the cryptocurrency market and to promote the cryptocurrency ecosystem as well as providing more diversity to the mining ecosystem.

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GOLDEN GOOSE PROJECT



3

**GOLDEN GOOSE PROJECT**

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**3 Golden  
Goose  
project**

The Golden Goose Project is led by the Commons Foundation and actively supported by stakeholders in Paraguay, with the aim of establishing the world's largest crypto-currency mining center and a global crypto-currency exchange in Asunción, the capital city of Paraguay.

The Golden Goose team entered into a contract to establish a Paraguayan joint venture on November 6, 2018 followed by the establishment of the operating entity, COMMONS.PY.SA. in October 2021 in order to proceed to set up a mining site and the exchange. Along with a 300,000m<sup>2</sup> site (see Figure 1). to build the world's biggest crypto-currency mining center and a 100MW substation, in an effort to secure stable and cheaper electricity (6MW/h for test operation), a discussion with National Electricity Administration of Paraguay is in progress to enter into the biggest electricity contract ever in Paraguayan history for 100MW/h. In particular, Hugo Velázquez Moreno, the Vice President of Paraguay showed his expectation and commitment to supporting Paraguay's new industry through the Golden Goose Project of Commons Foundation (see Figure 2). In addition, Golden Goose Project has been presented to the Minister of Finance, the Minister of Industry and other administrative authorities (see Figure 3) and secured strong support.

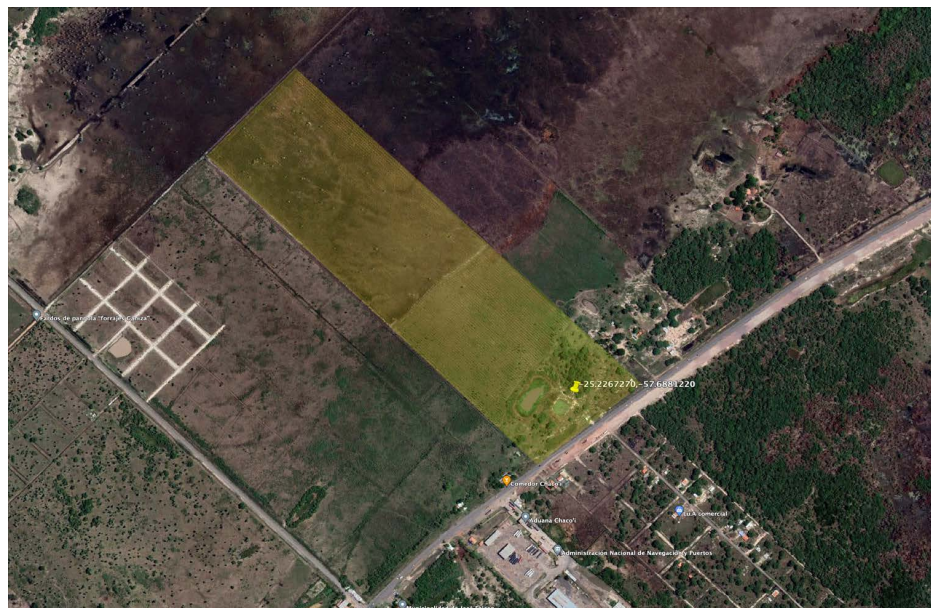


Figure 1.30 hectares of contracted mining site in Paraguay





Figure 2. Chairman Yongkwan Choi (left) and Vice President Hugo Velázquez Moreno (right)



Figure 3. Finance Minister Oscar Ramos-Diaz (right) Chairman Yongkwan Choi (center) Lee Haeseok COMMONS.PY.SA CEO(left)

A photograph of a business meeting in a modern office. Several people in business attire are gathered around a large table, looking at documents and pointing at them. The background is slightly blurred, showing office equipment and lights.

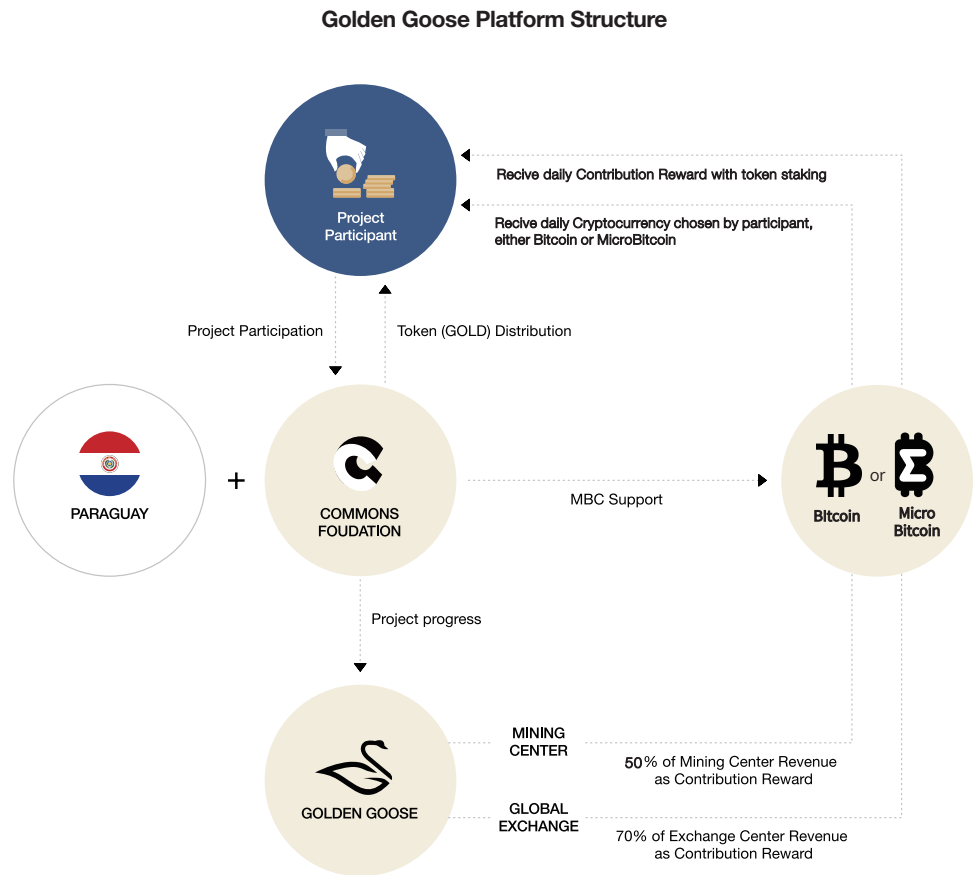
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STRUCTURE OF THE Golden Goose PROJECT

# 4

## STRUCTURE OF THE GOLDEN GOOSE PROJECT

4 Structure of the Golden Goose Platform



**1. Commons Foundation**

- The Commons Foundation, working closely with stakeholders in Paraguay and capitalizing on its rich knowledge of the crypto-currency ecosystem, supervises this project to establish and implement a crypto-currency mining center and a global crypto-currency exchange.
- The Commons Foundation is a non-profit organization located in Singapore, executing various projects other than the Golden Goose Project, including MicroBitcoin(MBC) Open Source Project.
- The foundation is composed of advisors renowned in their respective fields (refer to the foundation website at <https://commons.foundation/page/family>)

**2. Paraguayan Stakeholders**

- The Paraguayan stakeholders are supporting the project to secure a 300,000m<sup>2</sup> site for the mining center and a substation along with infrastructure, and the stable and constant supply of clean and affordable electricity generated by the world’s largest hydro power plant. Also,necessary legislation activities are being performed to pass the laws in May 2022.
- The local operating corporation for Golden Goose Project, COMMONS. PY.SA., was established in October 2021.

### 3. Golden Goose Project

- The Golden Goose Project aims to provide the token holders participating in the platform with contribution rewards that can be checked and predicted reliably on a real-time basis. In addition, the platform seeks to offer investments and jobs in a future-oriented high value-added industry.
- Different from other crypto-currency platform, the Golden Goose Project implements and operates a crypto-currency mining business and a global crypto-currency exchange, which will enable profit generation even under declining crypto-currency market conditions. Under the structure, 50% of the daily revenue from the mining center and 70% of the commissions received by the global crypto-currency exchange will be paid to the token holders either in Bitcoin (BTC) or MicroBitcoin (MBC) as contribution rewards on a regular basis.
- The contribution rewards will be paid to the token holders regularly, which will minimize the volatility in the currency. This means that the token holders will receive the rights to dispose of their contribution rewards every day, which will enable agile responses to the high volatility of the crypto-currency market.

### 4. Project Participants

- Individuals, organizations, corporations, institutions, and other entities in the Golden Goose Project are collectively referred to as project participants.
- The project participants will participate in the Golden Goose Platform with the crypto-currency offered by the Foundation and receive the number of tokens (GOLD) in proportion to their participation.
- When they stake their tokens (GOLD), they will receive their share of both of 50% of the revenue of the mining center and 70% of the revenue of the global crypto-currency exchange as contribution reward in proportion to their staking on a regular basis.
- The contribution rewards will be paid either in Bitcoin (BTC) or MicroBitcoin(MBC).
- As mining is not commenced and the exchange is not operated as of today, GOLD tokens are paid as rewards for the staking on Golden Goose Project homepage.

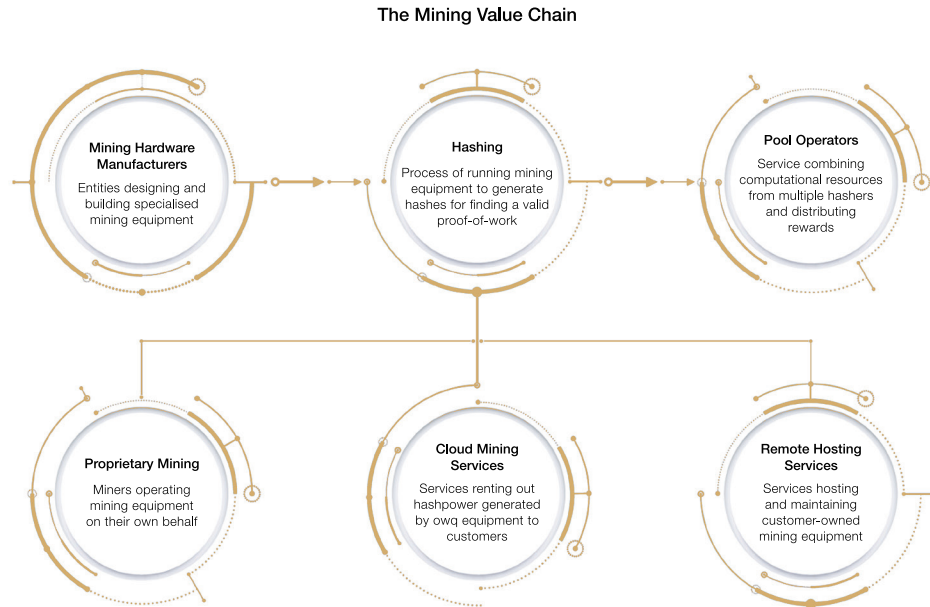
# 5

## ANALYSIS OF PROJECT ENVIRONMENT

- 5.1 Analysis of Mining Industry
- 5.2 Analysis of Exchanges Industry
- 5.3 Analysis of Paraguay

5.1 Analysis of Mining Industry

The following is a representation of the mining industry value chain :

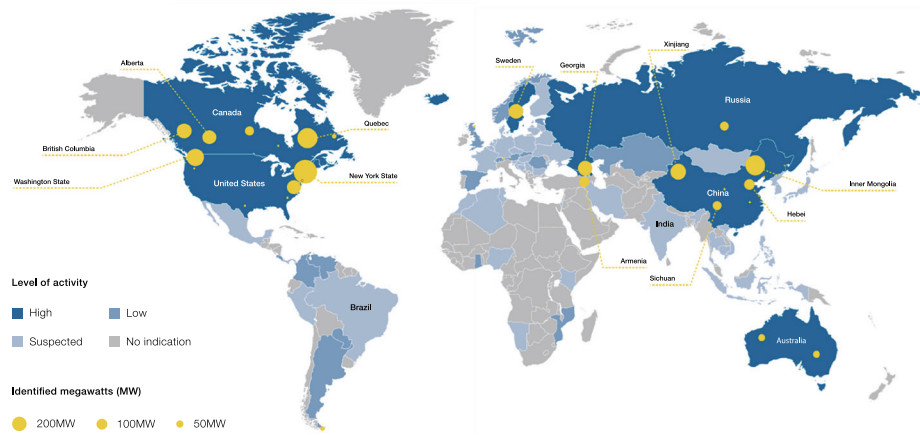


Source : Cambridge Center for Alternative Finance 2018, University of Cambridge

The proof of works (PoW) mining method, in which mining machines are used to produce hashes, is categorized into cloud mining that requires the miners to own their own equipment and customers can rent the hash power to mine the tokens, and mining in which customers' mining machines are used and managed by a mining entity.

Theoretically, to mine crypto-currency, anyone in the world can download a mining program to their device and mine coins by running that software. In fact, during the nascent years of Bitcoin mining, individuals could mine coins with PCs, but as the competition has been intensified and the mining has become rapidly and seriously difficult, it is now prohibitively difficult for individual users to mine coins. Today, specialized machines such as ASIC must be used to mine. With this trend, crypto-currency mining is undergoing continued concentration and enlargement. The following map shows the distribution of mining facilities worldwide:

## Global Geographical Distribution of Crypto-currency Mining Facilities



Source : Cambridge Center for Alternative Finance 2018, University of Cambridge

As seen in the geographical distribution of the mining facilities, most mining activities are concentrated in China, North America (U.S. and Canada), and Northeastern Europe (Russia and Georgia). More than half of all crypto-currency mining facilities were installed in China by 2020, and due to the governmental regulation in China, North America and Central Asia are becoming to a major hub since 2021. Strong regulation by the Chinese government resulted in the relocation of the mining facilities to foreign countries, which was led to suspension of mining in 2021.

Outside of China, the U.S. (Washington State, New York State), Canada (Quebec, British Columbia, Alberta), and the Scandinavian region (Iceland, Norway, Sweden) show rapid growth of mining activities. South American countries (Argentina, Colombia, Venezuela) as well as those in Western Europe (France, U.K., Switzerland) are also seeing more mining facilities. In sum, the stronger regulations by the Chinese government since 2017 is pushing out some crypto-currency mining activities to North America and Scandinavia. This is positive for the crypto-currency ecosystem, because the geographical distribution of mining facilities reduces risks to suspend the mining activities caused by economic factors (spikes in power tariffs or excessive taxation on mining profits) and political factors (political instability, sanctions on the mining industry). However, it is evident that mining still heavily depends on the electricity produced from fossil fuel energy, which accompanies carbon emissions.

As such, it can be found that larger crypto-currency miners are located in certain regions. This indicates that such large mining facilities require locations satisfying certain conditions. Therefore, it is imperative to understand which factors are important to decide where to install new mining facilities :

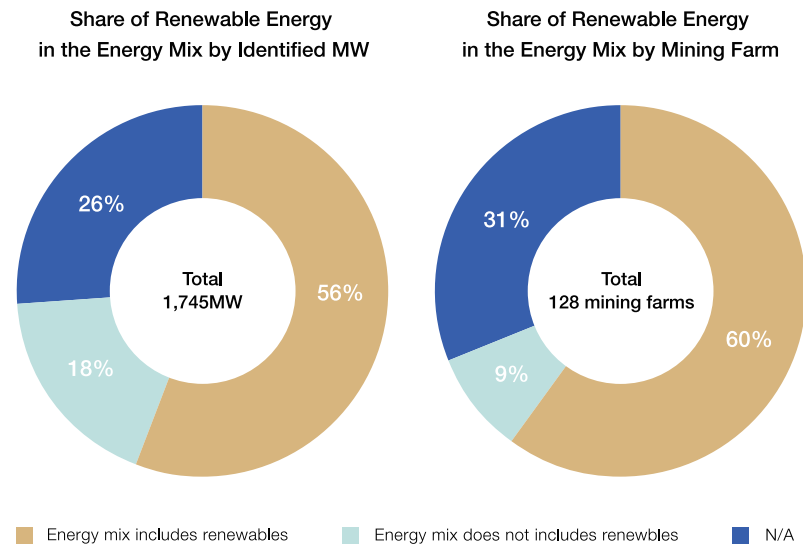
- 1) An area available for affordable electricity with no carbon emissions
- 2) Regulatory landscape favorable to the crypto-currency market including the mining industry
- 3) Political stability
- 4) Fast and reliable internet connection
- 5) Cold weather (to reduce cooling costs for mining equipment)

The five factors above must be considered to select the optimal location for crypto-currency mining.

Another frequently-mentioned issue regarding the crypto-currency mining industry is the excessive energy consumption for mining.

The following graph is the comparison of energy consumption by country and Bitcoin mining.





**Note :** data is based on a dataset of 128 hashing facilities around the globe  
Megawatt figures are available for 93 facilities.

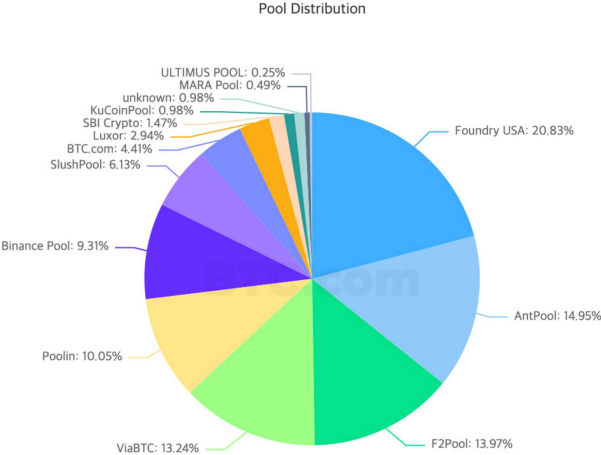
Source : Cambridge Center for Alternative Finance 2018, University of Cambridge

Hydropower is the most common form of renewable energy used in the crypto-currency mining industry. This is partly why certain regions with high hydropower generation (e.g. northeast and northwest of the United States, southeast of Canada, and Paraguay and Venezuela in South America) in the above image titled “Global Geographical Distribution of Crypto-currency Mining Facilities” have clusters of crypto-currency mining facilities.

The argument that crypto-currency mining increases CO2 emissions, contributing to global warming and environmental pollution is unreasonable. Some argue that mining gold requires less energy than mining Bitcoin but others argue that under different assumptions of the former argument, mining gold might consume by twenty times more energy than mining Bitcoin. It is because the production and circulation of gold, such as smelting, transportation, vault storage, and transaction require massive amounts of energy.<sup>15</sup> Such supporting data provide legitimacy to establishing a crypto-currency mining center by the Commons Foundation.

In the value chain of the crypto-currency mining industry, a mining pool (or a mining combination) refers to the network of multiple mining machines that work as one supercomputer. Mining pools are voluntarily formed cooperatives of global mining companies, whose objective is to increase the success rate of mining. When joining a mining pool and successfully mining, participants of the mining pool receive their share of rewards calculated by the hash rate contributed to the pool.

Distribution of Mining Pools by Bitcoin Hash Rates, 2022

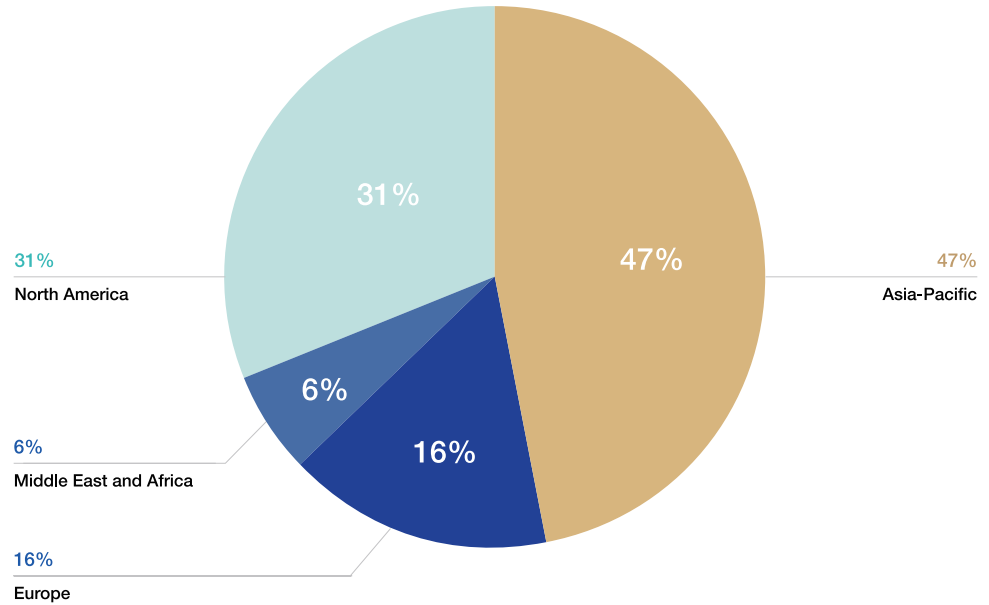


Source : BTC.com

Source : BTC.com

According to a report published by a Cambridge University research center, a majority of such companies other than few mining equipment manufacturers who also produce their own chips produce customized mining machines using chips and hardware products available in the market. It can be found that Asia and North America have concentrations of global mining equipment manufacturers.<sup>16</sup>

Geographic Distribution of Mining Hardware Manufacturers



**Note :** the analysis is based on a sampled of 30+ manufacturers derived from a combination of survey data and public available data.

In particular, compared to Europe and North America, which have only 14% and 19% of all ASIC manufacturers, respectively, Asia has 62% of such companies, 75% of which are based in China. 50% of all GPU producers are in North America, especially in the U.S., while Asia and Europe only have 25% and 13%, respectively.<sup>17</sup>

Bitmain Technologies, Canaan Creative, Halong Mining, Innosilicon Technology, GMO Internet, Ebang Communication, and BitFury attract much attention as manufacture of mining hardware which is one of the components of the mining industry. The following table shows the features of key mining hardware manufacturers<sup>18</sup> :

### Features of Major Mining Machines Manufacturers

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#### **Bitmain Technologies**

1. The best-known mining machine manufacturer
  2. Established by Jihan Wu in China in 2013 with branches around the world
  3. Representative ASIC model: Antminer S19 (2021)
  4. 2 mining pools (BTC.com, Antpool)
  5. High technology and reliable supply recognized
  6. Monopoly on ASIC manufacturing, SegWit upgrade delay, Bitcoin cache support, boost utilization mining scandals causing criticism
  7. 70-80% share in the ASIC market – great success in the cryptocurrency market
- 

#### **Canaan Creative**

1. Established in Beijing by N.G. Zhang in 2013;
  2. Began by producing FPGAs;
  3. Applied for listing in the Hong Kong stock exchange in May 2018, but returned
  4. Mentioned that 20% Bitcoin hash rate is required for high profit rate for stock listing;
  5. Second largest ASIC manufacturer with a strength in rich experience of electronic design manufacturing; and
  6. NASDAQ listing in November 2019
- 

#### **Halong Mining**

1. New company without much information;
  2. Released Dragon Mint T1, a strong model, in early 2013;
  3. Maintains deadlines and regulates performance despite doubts in the Bitcoin community; and
  4. Under the limelight because 1) Samsung manufactured the mining chips used in Halong ASIC and 2) the developer is BTCDrak, an anonymous core developer of Bitcoin.
-

### **Innosilicon Technology**

1. Has design teams in China and U.S.;
  2. Proud of providing low-cost, high-efficiency, and customized solutions;
  3. Entered the mining industry with strengths in multimedia, mobile, and consumer electronics; and
  4. Terminator series is the main lineup, with Terminator T3 as the latest model.
- 

### **GMO Internet**

1. As a large Japanese company, released a miner recently;
  2. Launched a crypto-currency exchange;
  3. Signed a mining business and cloud mining contracts;
  4. Supplied Miner B3 in July; and
  5. Opened board of directors meeting on December 12 and announced that it will no longer develop, manufacture, and sell mining equipment.
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### **Zhejiang Ebang Communication**

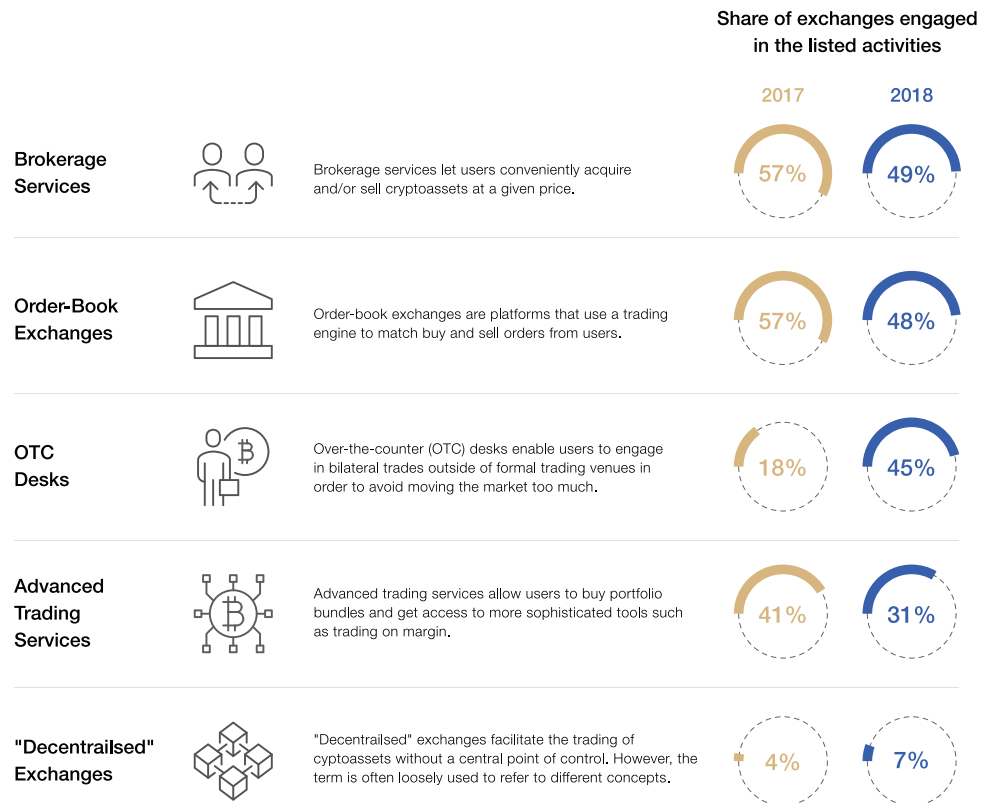
1. Conducts R&D, manufactures, and sells optic communication equipment;
  2. One of the largest ASIC manufacturers; and
  3. Manufactures Ebit branded products
- 

### **BitFury**

1. A veteran hardware and software manufacturer;
  2. Founded in 2011;
  3. Operates a large-scale mining facility;
  4. 2.3% hash rates for Bitcoin network;
  5. Sells BlockBox AC including 8PH/s and 176 miners; and
  6. The products are adequate for large-scale mining facilities.
-

**5.2 Analysis of Exchanges Industry**

The exchanges industry has played a crucial role in rapid increase and expansion of crypto-currencies and their ecosystem. Exchanges have been the easiest channel for customers to obtain crypto-currencies. They are the most numerous business entities related to crypto-currency, and are also creating the most jobs. Even in the future, the exchanges industry is expected to maintain an important position in the crypto-currency ecosystem.



Source : Cambridge Center for Alternative Finance 2018, University of Cambridge

The above image shows the comparison of the shares of exchange activities in 2017 when the market value spiked and in 2018 when it continuously declined. As shown in the image above, the share of brokerage services and order-book exchanges decreased in 2018 due to the market decline, while the OTC market grew during the same term. The growth of decentralized exchanges is another point to note.

Actual profits in the crypto-currency economy are from the mining industry and the exchanges industry. In particular, the revenues of exchanges rapidly rose during the market boom in 2017. According to the business report published by Vidente in April 2018, as an example, the revenue of BTC Korea in 2017 was 333.4 billion Korean won, with its net profit during the term reaching 534.8 billion Korean won. BTC Korea's revenue in 2016 amounted to 4.3 billion won and the net profit during that term was 2.5 billion won. In 2017, the company grew 77 times in terms of revenue and 214 times in terms of net profit from a year earlier. BTC Korea has the larger net profit during the term than the revenue due to the commissions-centered profit structure as well as its accounting standards. When the revenue is calculated, the commissions for crypto-currency are based on the market price at the time, but when calculating the net profit during the term, the appraised profit from the crypto-currency received as commissions is added to the net profit. Since the prices of crypto-currencies rose rapidly during the year, the appraised profit also rose, thereby making the net profit during the term exceed the revenue.<sup>19</sup> During the declining market in 2018, however, the revenue from commissions also fell as the transaction amount contracted sharply dropped. Therefore, the revenue during the first half of 2018 was 303 billion won and the net profit was 39.3 billion won, exhibiting a rapid decline<sup>20</sup>. Despite the slowing market in 2018, Bithumb was profitable compared to 2016, and Upbit, the second largest exchange in Korea, also seems to have been profitable. Other than the top two players, most exchanges, of course, did not make any profit or even saw losses. As a way to respond to the falling transaction quantity in the current market decline, overseas market players established mining-oriented exchanges (e.g., FCoin Exchange) that issued their own tokens (FT), whose prices shot up as much as sixty times in a short period. Following this trend, many similar exchanges sprang up in Korea and gained much popularity. Due to the limited influx of new customers in the stiffening global regulatory landscape, however, such mining-oriented exchanges cannot grow indefinitely. In addition, there have been frauds associated with the unchecked burgeoning of new exchanges (e.g., Pure Bit).

Transaction Volumes of Digital Currencies

24-hour transactions : \$67,837,489,305

| #  | Name                | Exchange Score | Volume(24h)                    | Avg. Liquidity | Weekly Visits | # Markets | # Coins | Fiat Supported             | Volume Graph (7d) |
|----|---------------------|----------------|--------------------------------|----------------|---------------|-----------|---------|----------------------------|-------------------|
| 1  | Binance             | 9.9            | W7,747,133,430,826<br>↓ 41.8%  | 848            | 22,060,223    | 1676      | 395     | AED, ARS, AUD and +43 more |                   |
| 2  | Coinbase Exchange   | 8.2            | W1,075,269,959,215<br>↓ 47.81% | 702            | 2,191,082     | 509       | 176     | USD, EUR, GBP              |                   |
| 3  | FTX                 | 8.2            | W1,095,541,550,401<br>↓ 55.04% | 697            | 4,718,412     | 467       | 326     | USD, EUR, GBP and +7 more  |                   |
| 4  | Kraken              | 7.7            | W271,648,700,070<br>↓ 56.68%   | 736            | 1,661,405     | 557       | 175     | USD, EUR, GBP and +4 more  |                   |
| 5  | KuCoin              | 7.4            | W907,604,303,089<br>↓ 41.6%    | 544            | 2,554,651     | 1314      | 709     | USD, AED, ARS and +45 more |                   |
| 6  | Gate.io             | 7.2            | W928,742,977,968<br>↓ 46.3%    | 472            | 3,363,357     | 2405      | 1430    | KRW, EUR                   |                   |
| 7  | Bitfinex            | 7.0            | W169,658,676,948<br>↓ 36.4%    | 611            | 702,718       | 381       | 175     | USD, EUR, GBP and +3 more  |                   |
| 8  | Huobi Global        | 7.0            | W1,064,465,990,093<br>↓ 38.82% | 490            | 964,449       | 1092      | 541     | ALL, AUD, BRL and +47 more |                   |
| 9  | Gemini              | 6.9            | W43,401,520,631<br>↓ 56.69%    | 665            | 426,379       | 121       | 98      | USD, GBP, EUR and +4 more  |                   |
| 10 | Binance.US          | 6.9            | W105,422,432,953<br>↓ 46.73%   | 591            | 565,896       | 237       | 107     | USD                        |                   |
| 11 | Bitstamp            | 6.7            | W54,281,010,998<br>↓ 75.04%    | 598            | 336,448       | 157       | 64      | USD, EUR, GBP              |                   |
| 12 | Coincheck           | 6.7            | W20,826,239,465<br>↓ 58.23%    | 632            | 679,073       | 1         | 2       | JPY                        |                   |
| 13 | Crypto.com Exchange | 6.7            | W409,093,951,952<br>↓ 16.24%   | 640            | 1,958,403     | 406       | 208     | --                         |                   |
| 14 | FTX US              | 6.6            | W96,509,328,930<br>↓ 63.28%    | 723            | 1,158,261     | 54        | 28      | USD                        |                   |
| 15 | Poloniex            | 6.6            | W39,411,552,509<br>↓ 30.13%    | 588            | 218,283       | 472       | 307     | --                         |                   |
| 16 | bitFlyer            | 6.6            | W34,561,394,141<br>↓ 63.07%    | 591            | 597,683       | 10        | 9       | USD, JPY, EUR              |                   |
| 17 | Bybit               | 6.5            | W337,091,809,545<br>↓ 47.31%   | 583            | 4,366,717     | 341       | 233     | USD, EUR, GBP and +3 more  |                   |
| 18 | LBank               | 6.4            | W2,264,181,433,148<br>↓ 5.33%  | 503            | 1,285,719     | 484       | 472     | --                         |                   |
| 19 | MEXC                | 6.4            | W881,689,664,986<br>↓ 53.79%   | 545            | 1,375,821     | 1703      | 1435    | --                         |                   |
| 20 | OKX                 | 6.3            | W730,826,815,471<br>↓ 2.75%    | 511            | 1,608,359     | 732       | 363     | AED, ARS, AUD and +43 more |                   |
| 21 | Liquid              | 6.2            | W38,468,802,363<br>↓ 63.37%    | 501            | 93,709        | 258       | 152     | USD, JPY, EUR and +3 more  |                   |
| 22 | Bittrex             | 6.1            | W63,350,470,853<br>↓ 0%        | 449            | 193,070       | 833       | 277     | USD                        |                   |
| 23 | Coinone             | 6.0            | W104,076,619,899<br>↓ 30.68%   | 382            | 373,374       | 203       | 201     | KRW                        |                   |
| 24 | Bithumb             | 6.0            | W608,915,524,695<br>↓ 28.56%   | 297            | 528,843       | 295       | 214     | KRW                        |                   |
| 25 | Upbit               | 6.0            | W1,957,011,799,495<br>↓ 39.7%  | 473            | 2,148,074     | 262       | 177     | KRW                        |                   |
| 26 | Korbit              | 6.0            | W13,139,083,207<br>↓ 23.5%     | 481            | 49,648        | 108       | 110     | KRW                        |                   |
| 27 | ZB.COM              | 6.0            | W1,042,508,429,358<br>↓ 13.12% | 476            | 475,947       | 217       | 131     | AED, CNY, RUB and +9 more  |                   |
| 28 | Okcoin              | 5.8            | W30,120,776,500<br>↓ 41.76%    | 623            | 110,991       | 84        | 75      | USD, EUR, SGD and +1 more  |                   |
| 29 | WhiteBIT            | 5.7            | W1,662,582,522,095<br>↓ 38.14% | 496            | 3,539,553     | 203       | 155     | USD, EUR, UAH and +1 more  |                   |
| 30 | BitMart             | 5.7            | W1,279,751,491,912<br>↓ 49.03% | 591            | 732,091       | 678       | 598     | USD, EUR                   |                   |

Source : CoinMarketCap (June 03, 2022)



## 5 Analysis of Project Environment

The above image shows the top 30 exchanges in terms of transaction volume. Among the exchanges in Korea, Coinone is ranked at 23rd, followed by Bithumb (24th), Upbit (25th) and Corbit (26th). It is notable that bitFlyer and Coincheck, which handle fewer coins, are ranked at the upper part in the list and Binance takes 1st place after it acquired CoinMarketCap.

The table below shows key risk factors that must be considered for the exchanges industry to continue growing.

### Respondents scored these categories on a 1-5 scale

Lowest average score: Highest average score

| Category                   | Small |      | Large |      |
|----------------------------|-------|------|-------|------|
|                            | 2017  | 2018 | 2017  | 2018 |
| IT Security                | 3.93  | 3.81 | 3.17  | 4.20 |
| Fraud                      | 3.50  | 3.48 | 2.08  | 3.83 |
| AML/KYC Enforcement        | 2.64  | 3.17 | 2.75  | 3.40 |
| Regulatory Burden          | 2.89  | 3.78 | 3.50  | 3.84 |
| Risks Competition          | 3.00  | 3.21 | 2.58  | 3.29 |
| Negative Publicity         | 2.93  | 3.30 | 2.75  | 3.52 |
| Bank Relationship          | 3.79  | 3.48 | 2.67  | 3.54 |
| Entering Bank Relationship | 3.79  | 3.69 | 2.67  | 3.63 |
| Lack of Talent             | 2.52  | 3.48 | 2.33  | 3.83 |

Source : Cambridge Center for Alternative Finance 2018, University of Cambridge

Security, fraud, identity authentication, government regulations, relationships with banks, and lack of talents are key risk factors in operating crypto-currency exchanges, and most of large and smaller exchanges agree that such risk factors increased in 2018 compared to in 2017. The largest risk factor among them all is the security issue. This is followed by the regulatory burden, lack of talent, and fraud. Hacking against exchanges is a critical problem to which even Upbit, Bithumb the largest exchange in Korea, has been exposed. To establish and operate a crypto-currency exchange, project teams should prioritize security, regulation, and procuring talents.

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### 5.3 Analysis of Paraguay

Dubbed “America’s Heart,” Paraguay borders Brazil, Argentina, and Bolivia and has an area of 406,752km<sup>2</sup>, with a population of seven million. The capital is Asunción and the legal tender is Guaraní (PGY). Paraguay is a young country with the average age of all Paraguayans being 27 years old and 72% of the population reside in major cities.

#### 1) Investment Environment <sup>21</sup>

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##### Political Stability

Internally with a democratic system strengthened since 1993, Paraguay as a member of MERCOSUR and UNASUR is closely cooperating with other South and Central American countries, and this means that there is practically no chance of armed conflicts with neighboring countries.

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##### Open Policies

The government maintains an open policy that does not discriminate domestic and foreign entities. Foreign investors who have basic requirements made by the government can get the same tax benefits as domestic ones.

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##### Low Tax Burden

Paraguay has lower tax rates than neighboring countries such as Brazil, and provides various tax benefits depending on the investment type and size. The income tax is 10% (35% in Argentina, 34% in Brazil, and 25% in Uruguay) and the VAT is 10% (21% in Argentina, 25% in Brazil, and 23% in Uruguay). It takes 30 days to create a new company (32 days in Argentina, 152 days in Brazil, and 43 days in Uruguay). Other import tariffs for capital goods as well as the VAT and overseas remittance tax for capital goods are 0%.

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##### Stable Macroeconomy

According to the Central Bank of Paraguay (BCP), the economic growth was 3.0% in 2015, 4.0% in 2016, and 4.3% in 2017 and to grow 4.5% in 2018. For the past several years, the treasury has been balanced. With the foreign reserves increasing, and the inflation rates staying stable, other macroeconomic indicators are stabilized and such trends are expected to continue.

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### **Rich Electrical Resources**

Paraguay is jointly operating Itaipu, the second largest hydro power plant in the world, with Brazil, which provides abundant power. Paraguay is supplying 97% of national power consumption only with 5% of its Itaipu shares (50%) and sells the surplus power to Brazil for a royalty.

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### **Rich and Inexpensive Lands and Low Wages**

Most of the land in the country is fertile, and the price is relatively lower than in neighboring countries including Brazil. The wages are also lower than in fellow MERCOSUR member countries such as Brazil, Argentina, and Uruguay. It is a particularly favorable country for the advance of the labor-intensive industry.

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### **Geographical Advantages**

Paraguay is a landlocked country located at the heart of South America, bordering Brazil, Argentina, and Bolivia. Along with the regulation of the country of origin (4/6), tariff exemptions among regional countries, and other benefits in the region are guaranteed, making it easy to be expanded to other countries.

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### **Young Population**

The average age of the population is 23, with most people in their youth in working ages. The country is abundant in labor that can be trained.

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### **Disaster-Free Environment**

There are disasters such as earthquakes, storms, and large-scale floods.

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### **Government Investment Policies and Foreigner Priority Policies**

Paraguay is open to domestic and international investments (in mining, agriculture, communication, and electricity telecommunication), without formal restrictions, and guarantees equal treatment for domestic and foreign investors (as per code 117/91). In Paraguay, foreigners can make investments without any special restriction under the names of natural persons (Persona Fisica) or corporations (Persona Juridica). The country also has the regime of Maquila ([www.maquila.gov.py](http://www.maquila.gov.py), Regimen de Maquila, code 1067/97).

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**Support for Foreign Corporations**

Tax benefits are provided for domestic and foreign investments as per code 60/90 investment promotion act.

**Continued Rise in National Credit Ratings**

Paraguay Credit Rating

| Fitch   |    | S&P    |              | Fitch   |     |
|---------|----|--------|--------------|---------|-----|
| 2018.4  | BB | 2018.6 | BB(Stable)   | 2018.4  | BB  |
| 2017.12 | BB | 2017.6 | BB(Stable)   | 2017.12 | BB  |
| 2016.12 | BB | 2016.6 | BB(Stable)   | 2016.12 | BB  |
| 2015.1  | BB | 2014.6 | BB(Stable)   | 2015.1  | BB  |
| 2014.8  | BB | 2012.8 | Stable       | 2014.8  | BB- |
| 2014.1  | BB | 2011.8 | BB- (Stable) | 2014.1  | BB- |

Source : Moody's, S&P, Fitch

### 2) Analysis of Investment-related Laws and Incentives

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#### **Basic Investment Act (Ley 117/91)**

##### **1. Equality**

Foreign investors receive the same treatment as domestic investors. There are no discriminatory treatments or benefits for foreign investments.

##### **2. Ownership**

Domestic and foreign investors can possess assets without limit as per the Constitution.

##### **3. Freedom to Move Capital**

As long as it is not in violation of tax codes, all inflow and outflow of all capital, profits, interest commission, technical transfer, and all other overseas remittances are allowed.

##### **4. Free Trade**

- Freedom to produce and commercialize general goods and services.
- Freedom to import and export goods and services as long as it is not in violation of laws
- The activities must not violate tax laws, labor laws, and social welfare laws

##### **5. Universality**

- Foreign investments are welcomed in all economic fields.
- This does not apply to forestry, telecommunication, mining, and hydrocarbon industries that require legal approval, permission and government concession.

##### **6. Automatic Implementation**

- Except for the above fields, foreign investors may invest without special pre-approval.
- Investors must receive approvals for those requiring pre-approval

##### **7. Foreign Exchange Policy**

- The freedom of foreign exchange is guaranteed, and the foreign exchange rates are determined as per the principles of demand and supply.
  - Contracts and legal actions in foreign currencies are recognized, and businesses may be conducted in currencies agreed upon by contracting parties.
-

### **Foreign Investment Act (Ley 60/90)**

#### **1. Purpose**

- Increase in wealth and goods
- Creation of jobs
- Expansion of exports and replacement of imports
- Increase in productivity and resource efficiency in addition to technical combination of labor and energy
- Investment and reinvestment of capital goods

#### **2. Incentive Areas**

Tax exemptions for capital procurement, support in mining, hoteling, rent, air transportation, offshore transportation, ground transportation, travel industry, healthcare, radio, television, newspaper, communication, academic research, warehousing, and broadcasting

#### **3. Incentive Procedures and Providers**

With an investment plan, an application is submitted to the Paraguayan Ministry of Commerce for investment incentives to get incentive benefits from investments. When the application for investment incentive is received, it is reviewed by the monthly held meeting of the Committee on Investments. Final approval is determined by authorization of the commerce and finance ministers.

#### **4. Companies with tax exemption and incentive committee**

##### **approval receive the following tax benefits**

- Exemption of national and local taxes on registration, application, and reporting of a company
- Complete exemption from tariffs and domestic taxes for raw materials, financial assets, and consumption goods posted in investment plans
- Over 5 million dollars of investments borrowed from foreign countries are exempt from taxes related to payment and transmission of interest, commission, and capital remittances to the overseas bank or financial institution
- In case of the investment of 5 million dollars or greater, profits and dividends from the project are completely exempted for at most 10 years.
- Starting in the year following the approval of project based on code 70/68, all taxes on capital formation are exempted for 5 years.
- All stamps and service taxes on contracts, receipts, and bonds are exempt.
- Taxes for contract signing, payment and receipt of payments, and bond issuance are exempt.

#### **5. Effective Period**

- 10 years for investments in priority development areas or for capital returned from overseas
- 7 years for investments through local capital

### 6. Processing Period

- At most 5 months

### 7. Cost

- No administrative costs
- 

## Maquila Regime (Regimen Maquila – Ley 1064/97)

### 1. Overview

Investors through the Maquila Regime can import capital, products, and services in Paraguay, and include the sign “Made in Paraguay” when exporting them after assembling, modification, improvement, refinement, and processing. Paraguayan laws do not restrict goods and services provided through the Maquila Regime. Such activities are determined and managed by the Maquila Export Industry Committee (CNIME). Corporations, natural individuals, citizens, foreigners, and residents can benefit from this regime.

### 2. Benefits

- Unless natural disasters are destroyed and any law is violated, a Maquila-certified company or plant may be set up in the whole land of Paraguay.
- If subcontractors are required for the operation and procurement of parts or production process other than the Maquila-certified company, it may be possible to contract with domestic subcontractors.
- Taxes related to all imports, exports, and loans from Paraguay required to complete Maquila projects are exempt.
- No minimum investments designated.

#### - 1% single taxation

All assets and service contracts purchased domestically are tax exempt, and only 1% of the total price charged to the final customer. **All taxes except for the 1% single tax are exempt.**

- National and foreigner individuals and corporations residing in Paraguay can receive all benefits from the Maquila Act.
  - There is no restriction on establishing Maquila-certified corporations, and the administrative procedures are simple.
  - There is no regulation or obligation to hire local residents for size of investment.
  - As a developing nation, Paraguay receives tariff benefits when exporting to ALADI and EU.
  - 10% of total production is allowed to be sold in Paraguay
  - Companies with a head office in overseas may set up a branch in Paraguay or contract with an existing domestic company to make joint investments to work as a head office in Paraguay. Branches and joint investment companies using the Maquila Regime are called Maquila-certified companies.
-

As shown in the above tables, it can be found that Paraguay is friendly and open towards foreign investors.

### 3) Itaipu Hydro Power Plant

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Itaipu Hydro Power Plant is located in Ciudad del Este, the second largest city in Paraguay where many multinational hotel chains are planning to open their branches. The Hilton Hotel is set to open its first branch in Paraguay with the investment of 50 million dollars. It will build a hotel, offices, theaters, cinemas, restaurants, and other facilities. Sheraton and Bourbon are also planning to invest around 10 million dollars in Ciudad del Este, and a World Trade Center is also set to be built in the city.

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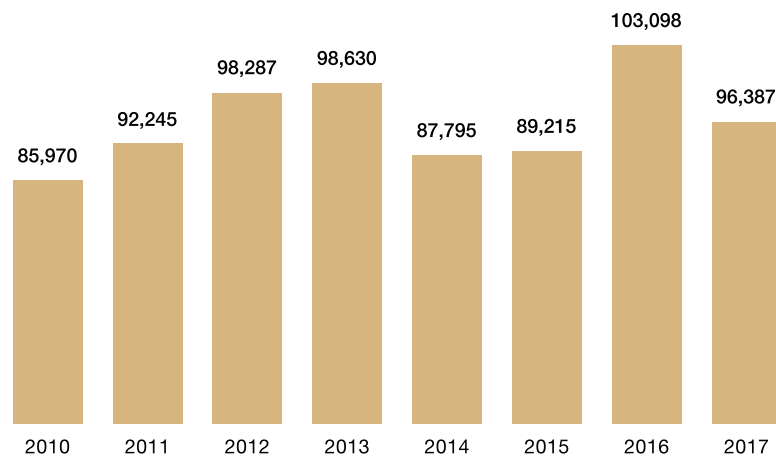
## 5 Analysis of Platform Environment



Source: Website of Ministry of Foreign Affairs of Paraguay ([www.mre.gob.py](http://www.mre.gob.py))

Paraguay is generating power through its hydro power stations including Acaray Power Station operated by its national corporation (ANDE), Itaipu Hydro Power Plant operated jointly with Brazil, and Yacyreta Power Plant operated jointly with Argentina. Of power produced in Itaipu and Yacyreta, 89% is exported to Brazil and Argentina, instead of being consumed domestically. The ratio of the revenue from the sales of power to the Paraguayan GDP was 10.5% in 2016 and 8.7% in 2017. The ratio is expected to be 8.8% in 2018. Itaipu Hydro Power Plant generated 100,000,000 MWh in 2016, which is the highest figure in its history. The power generation volume reached 93,000,000 MWh in 2017, which is the fourth highest in record.

### Annual energy production - Gwh



Source : Itaipu Binacional

The Itaipu Hydro Power Dam is located on the Parana River, 14 km upstream from the Bridge of Friendship connecting Ciudad del Este in Paraguay and Foz do Iguacu in Brazil. The dam is 196 meters high (or the height of 65 floors) and 8 km wide, with the reservoir having the length of 200 km. It is the second largest single hydro power plant in the world, with an installed capacity of 12.60 million kW, composed of 18 turbines individually capable of producing 700,000 kW. (Each of Paraguay and Brazil owns 9 turbines).

## 5 Analysis of Project Environment

| Power plant         | Country         | Started operating in | Accumulated production (billion MWh) |
|---------------------|-----------------|----------------------|--------------------------------------|
| Itaipu              | Brazil-Paraguay | 1984                 | 2.6                                  |
| Guri                | Venezuela       | 1978                 | 1.4                                  |
| Grand Coulee        | United States   | 1941                 | 1.2                                  |
| Sayano-Shushenskaya | Russia          | 1978                 | 1                                    |
| Churchill Falls     | Canada          | 1971                 | 1                                    |
| Three Gorges        | China           | 2006                 | 1                                    |
| Tucuruí             | Brasil          | 1984                 | 0.8                                  |
| Volzhskaya          | Russia          | 1980                 | 0.8                                  |
| Ust-Ilimsk          | Russia          | 1980                 | 0.8                                  |
| Robert-Bourassa     | China           | 1979                 | 0.8                                  |
| Krasnoyarsk         | Russia          | 1971                 | 0.8                                  |
| Tarbela             | Pakistan        | 1976                 | 0.4                                  |

Source : Itaipu Binacional

The above table shows the accumulated power production of major hydro power plants around the world. The Itaipu Plant has generated the most accumulated power in the world, the figures exceeding those of the Three Gorges Hydro Power Plant in China (with 2.6 billion MWh).

## 5 Analysis of Project Environment

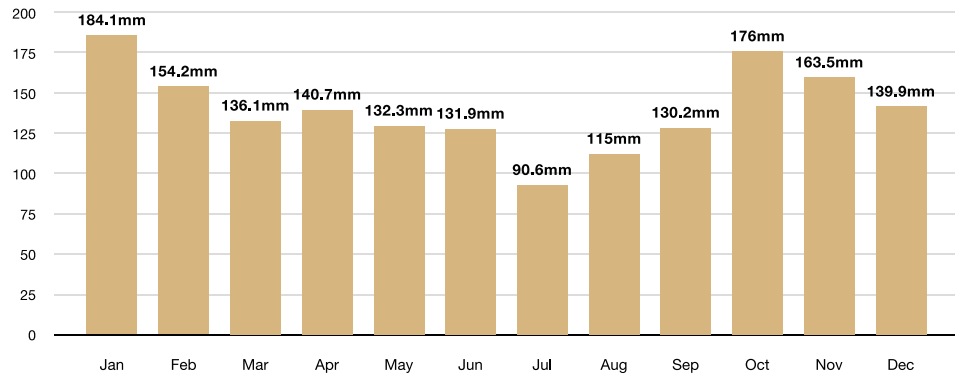
| Power plant                  | Capacity  | Raito versus Itaipu |
|------------------------------|-----------|---------------------|
| Three Gorges (China)         | 22,400 mW | 160 %               |
| Itaipu                       | 14,000 mW | 100%                |
| Guri (Venezuela)             | 10,000 mW | 74%                 |
| Tucuruí (Brasil)             | 8,379 mW  | 60%                 |
| Grand Coulee (USA)           | 6,809 mW  | 49%                 |
| Sayano Shushenskaya (Russia) | 6,400 mW  | 46%                 |
| Krasnoyarsk (Russia)         | 6,000 mW  | 43%                 |
| Robert-Bourassa(Canada)      | 5,616 mW  | 40%                 |

Source : Itaipu Binacional

The above table compares the power generation capacities of major hydro power plants around the world. The Three Gorges Hydro Power Plant in China has 60% more capacity than Itaipu, which has the second largest capacity in the world.

### Average rainfall Ciudad del Este, Paraguay

Rainfall (mm)



Source : [www.weather-atlas.com/en/paraguay/ciudad-del-este-climate](http://www.weather-atlas.com/en/paraguay/ciudad-del-este-climate)

The annual average rainfall in Ciudad del Este, where Itaipu is located, is as shown above. To supply electric power to a mining center, the combination of power sources must be considered in areas with seasonal factors such as drought, but Ciudad del Este seems to have sufficient annual average rainfall.

As such, the analysis of the status of Paraguay can give a tip to gauge the adequacy of the location for the future mining center. A recent report published by Cambridge University laid out the following items to consider when a new mining facility is constructed :

## 5 Analysis of Platform Environment

### Respondents scored these categories on a 1-5scale

1 : Not important at all 2 : Not important 3 : Neutral 4 : Somewhat Important 5 : Very important

Lowest average score  Highest average score

| Assessment Factors for Setting up a New Mining Facility | Small Miners<br>(incl. Individuals) | Large Miners |
|---|-------------------------------------|--------------|
| Stable political environment                            | 4.37                                | 4.63         |
| Friendly regulatory environment                         | 4.37                                | 4.75         |
| Presence of skilled labour                              | 3.32                                | 3.75         |
| Cold climate  | 3.11                                | 4.25         |
| Good internet connectivity                              | 4.32                                | 4.38         |
| Easy access to substantial electricity supply           | 4.37                                | 4.88         |
| Low electricity cost                                    | 4.47                                | 4.88         |
| Cheap land  | 3.58                                | 3.75         |
| Special incentives for mining-related activities        | 3.95                                | 4.13         |
| Low crime rate  | 3.63                                | 3.38         |

Source : Cambridge Center for Alternative Finance 2018, University of Cambridge

## 5 Analysis of Platform Environment

### Respondents scored these categories on a 1-5scale

1 : Not concerned at all 2 : Not concerned 3 : Neutral 4 : Somewhat concerned 5 : Very concerned

Lowest average score  Highest average score

| Concerns  | Small Miners<br>(incl. Individuals) |      | Large Miners |      |
|---|-------------------------------------|------|--------------|------|
|   | 2017                                | 2018 | 2017         | 2018 |
| Centralisation of hashpower in a particular geographic area(location)         | 3.70                                | 3.89 | 3.11         | 3.69 |
| Centralisation of hashpower in the hands of a few(control)                    | 3.89                                | 4.41 | 3.30         | 4.00 |
| Centralisation of mining equipment production in a particular geographic area | 3.35                                | 3.70 | 2.10         | 3.50 |
| Risk of state-sponsored attack on a cryptoasset system                        | N/A                                 | 3.37 | N/A          | 2.92 |
| Unfavourable global regulation related to cryptoassets                        | N/A                                 | 3.25 | N/A          | 3.15 |
| Unfavourable global regulation related to cryptoasset mining                  | N/A                                 | 3.33 | N/A          | 3.00 |
| Criminal use of cryptoassets  | N/A                                 | 3.20 | N/A          | 2.77 |
| Popularity of pre-mined/'mining-less' cryptoassets                            | N/A                                 | 3.07 | N/A          | 2.77 |
| Too many cryptoassets in the market   | N/A                                 | 3.11 | N/A          | 2.08 |

### Respondents scored these categories on a 1-5scale

1 : Not concerned at all 2 : Not concerned 3 : Neutral 4 : Somewhat concerned 5 : Very concerned

Lowest average score  Highest average score

| Operational Risks   | Small Miners<br>(incl. Individuals) |      | Large Miners |      |
|---|-------------------------------------|------|--------------|------|
|   | 2017                                | 2018 | 2017         | 2018 |
| Sudden increase in energy prices                                    | N/A                                 | 3.09 | N/A          | 3.54 |
| Intensive competition among miners of the same cryptoasset          | 3.17                                | 3.33 | 3.30         | 3.23 |
| Cyber attacks (e.g. DDoS)   | 2.77                                | 3.07 | 3.00         | 3.31 |
| Lack of immediate availability of state-of-the-art hardware         | 2.94                                | 3.35 | 2.40         | 2.46 |
| Declining popularity of the cryptoasset you mine                    | N/A                                 | 2.95 | N/A          | 3.00 |
| Unexpected change to protocol                                       | 2.52                                | 3.00 | 1.64         | 3.38 |
| Increased taxation of mining profits                                | N/A                                 | 3.16 | N/A          | 2.85 |
| Regulations creating barriers to mining                             | N/A                                 | 3.31 | N/A          | 2.92 |
| Government seizure or shutdown of your mining-supporting facilities | N/A                                 | 3.55 | N/A          | 2.38 |

Source : Cambridge Center for Alternative Finance 2018, University of Cambridge

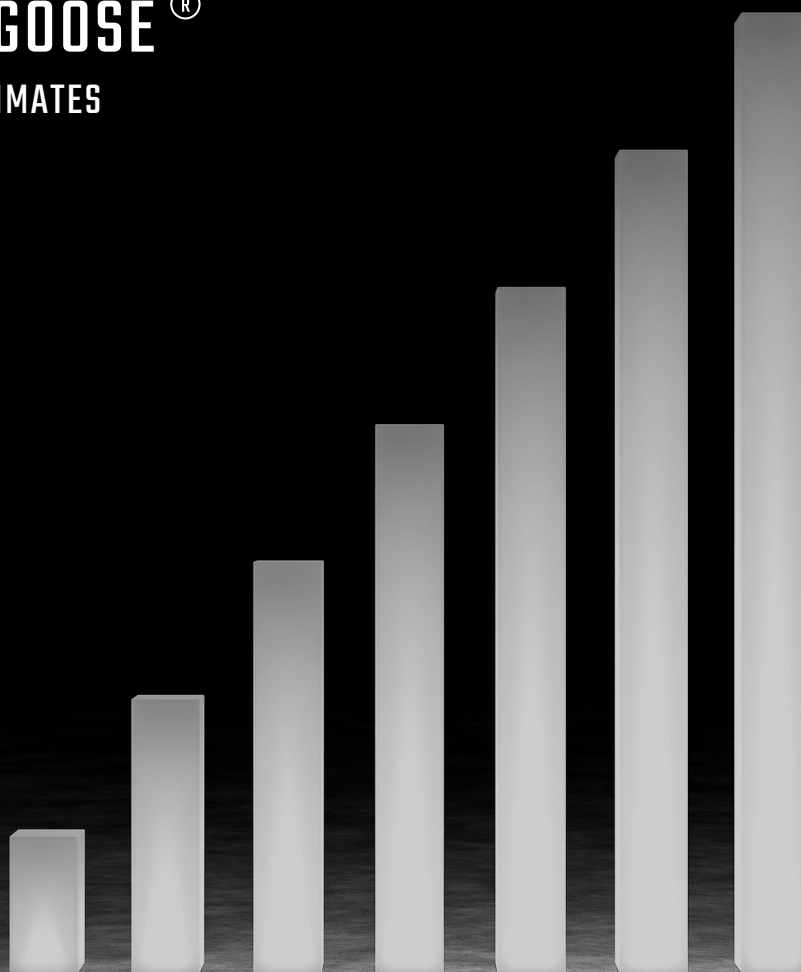
## 5 Analysis of Project Environment

As shown in the above table, to install small, particularly large mining facilities, easy access to electricity, and the inexpensive supply of power are the most important factors. The Itaipu Hydro Power Plant is a reliable source of inexpensive power and satisfy all other appraisal factors including a stable political environment, a favorable regulatory environment, affordable land prices, and good incentives for foreign investment. Furthermore, Paraguay can help to ameliorate the global centralization of crypto-currency mining facilities which is one of the concerns in the existing mining industry, thereby contributing to distributing the hash power. Also, establishing a mining center in Paraguay can bring stability, as there is low chance of a sudden rise in electric charges, confiscation by the government, and stoppage of operation in the country. In conclusion, Paraguay is the most optimal location for building the Golden Goose Mining Center



# GOLDEN GOOSE<sup>®</sup>

FINANCIAL ESTIMATES



# 6

## FINANCIAL ESTIMATES

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## 6 Financial Estimates

The lesson from the crypto-currency market fluctuation from 2017 to 2018 was that it is better to participate in projects that provide the ability to make realistic predictions and increase the number of tokens—albeit minimally—in declining market conditions, rather than ones that require participants to realize profits at an adequate point or require much time for implementation. The Golden Goose Project is designed to generate more profits under a bullish market condition, but also to enable realistic profits or increase the quantity of tokens under a declining market condition, by establishing a crypto-currency mining center and a global crypto-currency exchange.

In order to estimate the profits predicted to be generated through a mining center, it is necessary to understand how cryptocurrencies (e.g., Bitcoin) are mined.

The following formula indicates the number of Bitcoins mined a day :

$$BTC\_Mining\_Number = \frac{Block\_Reward \times Hash \times 10^9 \times Sec}{Difficulty \times 2^{32}}$$

Block\_Reward : Block reward for mining (12.5 BTC) + Transaction commission

Hash : Hash rate (hashes / second = GH/s)

Sec : The number of seconds in a day (Sec = 60 x 60 x 24 = 86400 secs)

Difficulty : Mining difficulty

As shown in the above formula, the fixed hash rate of the miner enables the calculation of Bitcoins mined a day. As such, the mining center should be implemented with mining machines that show the highest hash rates. High hash rates alone, however, do not guarantee good results; durability and sustainability must also be comprehensively considered in selecting mining equipment. The following simple calculation shows the breakeven price of the mined Bitcoins :

***BE(Break\_Even)Price***

$$= \frac{\text{Unit\_price} + \text{Electricity\_cost} + \text{Cooling\_cost} + \text{Cooling\_unit\_cost} + \text{PSU\_cost}}{\text{BTC\_Mining\_Number} \times 365}$$

BE(Break\_Even)Price : Breakeven price

Unit\_price : Mining equipment price

Electricity\_cost : Cost of electricity

Cooling\_cost : Cooling cost

Cooling\_unit\_cost : Cooling equipment cost

PSU(Power\_supply\_unit)\_cost : Power supply unit cost

BTC\_Mining\_Number : Number of Bitcoins mined in a day

The above formula is a simple formula for calculating the breakeven price of Bitcoins mined annually, and does not include the costs of labor, land, and rent. Adding such costs will increase the breakeven price of Bitcoin

Also, as shown in the above formula, the costs of mining equipment and electricity have the largest impact in the breakeven price of Bitcoin. Accordingly, a reliable mining equipment supplier as well as a sustainable and reliable source of electricity must be selected for the success of this platform. The power to be consumed by the Golden Goose Mining Center will be reliably and sustainably supplied in Paraguay at very low rates (**\$ 0.035 or less per kw/h**)

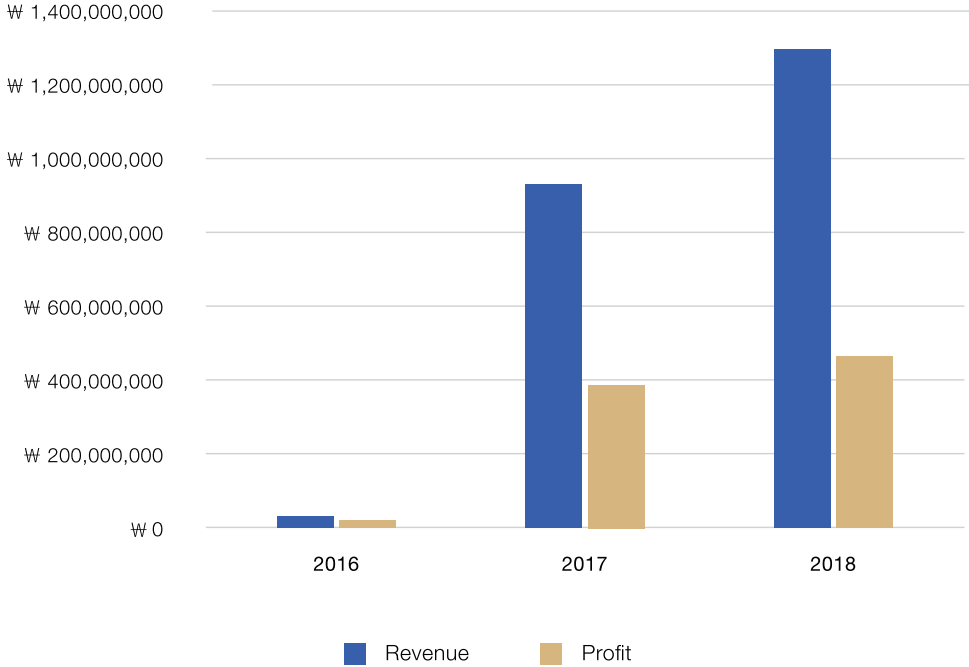
The below image is the costs of Bitcoin mining by country published by EliteFixtures.com in February 2018<sup>22</sup> in a comparison with the Bitcoin price chart. The image shows that the mining cost is too high in Korea for mining to be feasible; and that major mining clusters in China, Canada, Russia, U.S., and Georgia are areas with relatively high mining competitiveness. Of course, it can be shown that Paraguay is one of the most optimal places to mine Bitcoins. It is notable that the mining cost in Paraguay is lower than the lowest Bitcoin price (approx. USD 3,194) in 2018, which makes mining profitable in a large-scale market crash like the one in 2018.



To estimate the profit and loss of the proposed Golden Goose Mining Center, it may help to benchmark existing exchange centers first. However, since the crypto-currency ecosystem is still fledgling, there is a dearth of reliable data, which sometimes indicate that the net profit is higher, in unprecedented levels not seen in traditional industries (e.g., Bithumb’s revenue of 333.4 billion and net profit of 534.8 billion in 2017). As such, in selecting benchmarked exchanges, it is important to exclude “market manipulating” exchanges and mining-dividend exchanges using “beehive accounts” – corporate accounts with scores of users’ virtual accounts attached. We will use Coinbase and Bithumb, which have reliable data for our purpose.

In the table below, it can be identified that Coinbase had rising revenue and operating profit despite the declining market in 2018. However, while the revenue increased by 40% in 2018 compared from a year earlier, but the operating profit is expected to have decreased by 6%, compared to 41.2% in 2017 to 35.3% in 2018. This is probably due to the increased labor costs, as the number of employees was doubled to 500 in 2018, compared to 250 in 2017.<sup>23</sup>

Coinbase revenue and profit

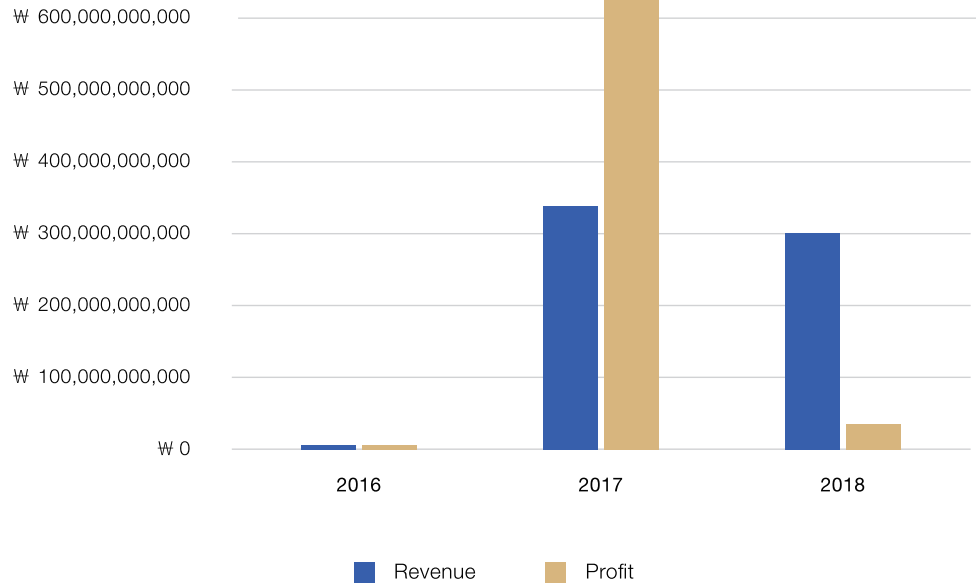


| Year  | Revenue          | Profit         | Profit Margin |
|-------|------------------|----------------|---------------|
| 2016  | \$ 17,000,000    | \$ -16,000,000 | -94.1%        |
| 2017  | \$ 923,000,000   | \$ 380,000,000 | 41.2%         |
| 2018* | \$ 1,290,000,000 | \$ 456,000,000 | 35.3%         |

\* projected

Source : Bloomberg

**Bithumb revenue and profit**



| Year  | Revenue           | Profit            | Profit Margin |
|-------|-------------------|-------------------|---------------|
| 2016  | ₩ 4,300,000,000   | ₩ 2,500,000,000   | 58.1%         |
| 2017  | ₩ 333,400,000,000 | ₩ 534,800,000,000 | 160.4%        |
| 2018* | ₩ 303,000,000,000 | ₩ 39,300,000,000  | 13.0%         |

\* First half of 2018

In the table above, Bithumb's profit in 2017 was higher than its revenue because the appraised profit of its crypto-currencies rose to an unusual level. Accordingly, the average profit rates of 2016 and the first half of 2018 except the figures in 2017 is 35.6%, which is very similar to the profit rate of Coinbase in 2018, which is 35.3%. This paper assumes that the future operating profit for the Golden Goose Exchange would be 35% upon the calculation of the estimated profits and losses.

Thus, we have estimated the 70% of Bitcoin from the mining center and 30% of the commissions from the exchange as revenue from the operation. Holders staking Golden Goose tokens (GOLD) will receive their share of both of 50% of the revenue of the mining center and 70% of the revenue of the exchange as contribution reward in proportion to their staking on a regular basis either in Bitcoin (BTC) or MicroBitcoin (MBC).

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**ISSUANCE AND DISTRIBUTION OF THE TOKENS (GOLD)**



**7**

**ISSUANCE AND DISTRIBUTION  
OF THE TOKENS (GOLD)**

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### 7 Issuance and Distribution of the Tokens (GOLD)

A total of 2.5 billion Golden Goose tokens (GOLD) have been issued. Detailed information regarding GOLD, an Ethereum Request for Comments 20 (ERC20) token, is as follows, and it can be confirmed in the Ethereum (ETH) network.

**Contract ID : 0x40d1f63b5d2048e67e9bedb1b4c2f1a9fb4b6817**

**TxHash :0xc0d64d7086f3c34bd78272e784089582c65cc8276a3e261f6a5fffb73da9db86**

**Ethereum Block # : 11430686**

**Total volume issued : 2,500,000,000 GOLD**

**Agreed algorithm : POS**

Among 500 million GOLDS allocated for the entire participants out of 2.5 billion, 150 million have been allocated for private sales, pre-sales and public sales. 200 million are for Paraguayan local stakeholders while 150 million go to marketing, public relations, developers and contributors for the business and contracts. 2 billion are under lock up for investment attraction or capital loan, most of which are available for recollection.

Those participants in Golden Goose Project have transmitted Bitcoin (BTC), Ethereum (ETH) or MicroBitcoin (MBC) to the address of Crypto-currency wallet. The prices of Bitcoin, Ethereum and MicroBitcoin will be determined by the Golden Goose team based on the posted prices on their official websites and the Coin Market Cap price (<https://www.coinmarketcap.com/>) to be converted to USD. The payment will be made after the number of tokens per USD is calculated in each phase of the Golden Goose Platform. However, the number of GOLDS will be rounded down to the nearest tenth (e.g., 500.7 -> 500).



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CONTRIBUTION REWARD



**8**

**CONTRIBUTION REWARD**

## 8 Contribution Reward

Every participant will receive 50% of the daily revenue from the Golden Goose mining center and 70% of the revenue from the Golden Goose global exchange in Bitcoin(BTC) or MicroBitcoin(MBC). Contribution rewards are paid on a regular basis according to the participant's rate of staking the GOLD tokens on the Golden Goose website.

### Estimated Contribution Reward Table

#### #1

\* This calculation is based on the estimation that the volume of the exchange starts from the size of global top 50 as of January 2022 and increases by 2.5% every month, with the commission fee of 0.15%.

| #1   | Mining Center       |                              |   |               | Exchange Center     |                              |   |               | TOTAL               |                              |   |               |
|------|---------------------|------------------------------|---|---------------|---------------------|------------------------------|---|---------------|---------------------|------------------------------|---|---------------|
| Year | Contribution Reward | Contribution Reward (1 GOLD) | Cumulative Contribution Reward (1 GOLD) | ROI (\$ 0.24) | Contribution Reward | Contribution Reward (1 GOLD) | Cumulative Contribution Reward (1 GOLD) | ROI (\$ 0.24) | Contribution Reward | Contribution Reward (1 GOLD) | Cumulative Contribution Reward (1 GOLD) | ROI (\$ 0.24) |
| 2019 | \$ 3,978,143        | \$ 0.00139                   | \$ 0.00139                              | 0.6%          | \$ -                | \$ -                         | \$ -                                    | 0.0%          | \$ 3,978,143        | \$ 0.00139                   | \$ 0.00139                              | 0.6%          |
| 2020 | \$ 36,740,056       | \$ 0.00722                   | \$ 0.00861                              | 3.6%          | \$ 60,838,389       | \$ 0.01201                   | \$ 0.01201                              | 5.0%          | \$ 97,578,445       | \$ 0.01923                   | \$ 0.02062                              | 8.6%          |
| 2021 | \$ 128,494,525      | \$ 0.02390                   | \$ 0.03251                              | 13.5%         | \$ 81,820,869       | \$ 0.01534                   | \$ 0.02735                              | 11.4%         | \$ 210,315,394      | \$ 0.03924                   | \$ 0.05986                              | 24.9%         |
| 2022 | \$ 224,270,923      | \$ 0.03717                   | \$ 0.06967                              | 29.0%         | \$ 110,039,972      | \$ 0.01829                   | \$ 0.04565                              | 19.0%         | \$ 334,310,895      | \$ 0.05546                   | \$ 0.11532                              | 48.0%         |
| 2023 | \$ 282,193,089      | \$ 0.04216                   | \$ 0.11183                              | 46.6%         | \$ 147,991,529      | \$ 0.02210                   | \$ 0.06775                              | 28.2%         | \$ 430,184,618      | \$ 0.06426                   | \$ 0.17958                              | 74.8%         |
| 2024 | \$ 286,886,259      | \$ 0.03891                   | \$ 0.15074                              | 62.8%         | \$ 199,032,153      | \$ 0.02698                   | \$ 0.09473                              | 39.5%         | \$ 485,918,412      | \$ 0.06589                   | \$ 0.24547                              | 102.3%        |
| 2025 | \$ 291,072,915      | \$ 0.03614                   | \$ 0.18688                              | 77.9%         | \$ 267,676,118      | \$ 0.03322                   | \$ 0.12795                              | 53.3%         | \$ 558,749,034      | \$ 0.06936                   | \$ 0.31483                              | 131.2%        |

#### #2

\* This calculation is based on the estimation that the volume of the exchange starts from the size of global top 50 as of January 2022 and increases by 5% every month, with the commission fee of 0.1%.

| #2   | Mining Center       |                              |   |               | Exchange Center     |                              |   |               | TOTAL               |                              |   |               |
|------|---------------------|------------------------------|---|---------------|---------------------|------------------------------|---|---------------|---------------------|------------------------------|---|---------------|
| Year | Contribution Reward | Contribution Reward (1 GOLD) | Cumulative Contribution Reward (1 GOLD) | ROI (\$ 0.24) | Contribution Reward | Contribution Reward (1 GOLD) | Cumulative Contribution Reward (1 GOLD) | ROI (\$ 0.24) | Contribution Reward | Contribution Reward (1 GOLD) | Cumulative Contribution Reward (1 GOLD) | ROI (\$ 0.24) |
| 2019 | \$ 4,530,893        | \$ 0.00157                   | \$ 0.00157                              | 0.7%          | \$ -                | \$ -                         | \$ -                                    | 0.0%          | \$ 4,530,893        | \$ 0.00157                   | \$ 0.00157                              | 0.7%          |
| 2020 | \$ 48,918,965       | \$ 0.00961                   | \$ 0.01118                              | 4.7%          | \$ 70,194,528       | \$ 0.01385                   | \$ 0.01385                              | 5.8%          | \$ 119,113,493      | \$ 0.02345                   | \$ 0.02502                              | 10.4%         |
| 2021 | \$ 200,967,636      | \$ 0.03732                   | \$ 0.04850                              | 20.2%         | \$ 126,059,287      | \$ 0.02356                   | \$ 0.03741                              | 15.6%         | \$ 327,026,923      | \$ 0.06088                   | \$ 0.08591                              | 35.8%         |
| 2022 | \$ 415,371,858      | \$ 0.06873                   | \$ 0.11723                              | 48.8%         | \$ 226,384,368      | \$ 0.03754                   | \$ 0.07495                              | 31.2%         | \$ 641,756,226      | \$ 0.10627                   | \$ 0.19218                              | 80.1%         |
| 2023 | \$ 619,242,477      | \$ 0.09239                   | \$ 0.20961                              | 87.3%         | \$ 406,553,800      | \$ 0.06057                   | \$ 0.13552                              | 56.5%         | \$ 1,025,796,276    | \$ 0.15296                   | \$ 0.34514                              | 143.8%        |
| 2024 | \$ 749,954,960      | \$ 0.10158                   | \$ 0.31119                              | 129.7%        | \$ 730,112,213      | \$ 0.09877                   | \$ 0.23429                              | 97.6%         | \$ 1,480,067,173    | \$ 0.20034                   | \$ 0.54548                              | 227.3%        |
| 2025 | \$ 906,586,748      | \$ 0.11243                   | \$ 0.42362                              | 176.5%        | \$ 1,311,176,636    | \$ 0.16242                   | \$ 0.39671                              | 165.3%        | \$ 2,217,763,384    | \$ 0.27485                   | \$ 0.82033                              | 341.8%        |

## #3

- \* This calculation is based on the estimation that the volume of the exchange starts from the size of global top 50 as of January 2022 and increases by 5% every month, with the commission fee of 0.15%.

| #3    | Mining Center    |                     |                              |   | Exchange Center  |                     |                              |   | TOTAL            |                     |                              |   |
|-------|------------------|---------------------|------------------------------|---|------------------|---------------------|------------------------------|---|------------------|---------------------|------------------------------|---|
|       | Year             | Contribution Reward | Contribution Reward (1 GOLD) | Cumulative Contribution Reward (1 GOLD) | ROI (\$ 0.24)    | Contribution Reward | Contribution Reward (1 GOLD) | Cumulative Contribution Reward (1 GOLD) | ROI (\$ 0.24)    | Contribution Reward | Contribution Reward (1 GOLD) | Cumulative Contribution Reward (1 GOLD) |
| 2022  | \$ 6,674,592     | \$ 0.00236          | \$ 0.00236                   | 1.0%                                    | \$ -             | \$ -                | \$ -                         | 0.0%                                    | \$ 6,674,592     | \$ 0.00236          | \$ 0.00236                   | 1.0%                                    |
| 2023  | \$ 69,963,412    | \$ 0.01375          | \$ 0.01610                   | 6.7%                                    | \$ 105,291,792   | \$ 0.02077          | \$ 0.02077                   | 8.7%                                    | \$ 175,255,204   | \$ 0.03452          | \$ 0.03687                   | 15.4%                                   |
| 2024  | \$ 275,598,340   | \$ 0.05138          | \$ 0.06748                   | 28.1%                                   | \$ 189,088,931   | \$ 0.03534          | \$ 0.05612                   | 23.4%                                   | \$ 464,687,270   | \$ 0.08672          | \$ 0.12359                   | 51.5%                                   |
| 2025  | \$ 535,589,279   | \$ 0.08895          | \$ 0.15643                   | 65.2%                                   | \$ 339,576,552   | \$ 0.05631          | \$ 0.11242                   | 46.8%                                   | \$ 875,165,832   | \$ 0.14526          | \$ 0.26885                   | 112.0%                                  |
| 2026  | \$ 749,656,680   | \$ 0.11222          | \$ 0.26865                   | 111.9%                                  | \$ 609,830,700   | \$ 0.09086          | \$ 0.20328                   | 84.7%                                   | \$ 1,359,487,380 | \$ 0.20308          | \$ 0.47193                   | 196.6%                                  |
| 2027  | \$ 1,202,143,663 | \$ 0.16332          | \$ 0.43197                   | 180.0%                                  | \$ 1,095,168,320 | \$ 0.14815          | \$ 0.35143                   | 146.4%                                  | \$ 2,297,311,982 | \$ 0.31147          | \$ 0.78340                   | 326.4%                                  |
| 20228 | \$ 1,346,400,902 | \$ 0.16744          | \$ 0.59941                   | 249.8%                                  | \$ 1,966,764,955 | \$ 0.24363          | \$ 0.59506                   | 247.9%                                  | \$ 3,313,165,857 | \$ 0.41107          | \$ 1.19446                   | 497.7%                                  |

- \* Lock-up : 150 million GOLD tokens allocated to those contributors for the contracts and business, development, marketing and public relations are available for staking on to the homepage. 200 million GOLD tokens possessed by the foundation and the local corporation along with interest parties will be under lock-up since June 1, 2021 for proper response to rapidly changing market, in order to expand additional infrastructure or to use for marketing expenses.
- \* Golden Goose Team aims to establish the mining center No. 1 equipped with substation of 100MW and 80 BlockBox AC(BBAC) of Bitfury and future expansion by securing electricity and mining equipments.
- \* The result was calculated based on the estimation that the mining rate per hashrate would fall by 20% each year.
- \* The volume of staked tokens was calculated at 85% of the total volume of available tokens to stake, excluding lock-up and pre-sale volumes.
- \* Staked may verify detailed figures and calculations at Golden Goose homepage.

# GOLDEN GOOSE<sup>®</sup>

## ROADMAP



# 9

## ROADMAP

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**9 Roadmap**

|             |   |
|-------------|---|
| 2021.1      | Golden Goose burn and swap deals completed  |
| 2021. 10    | A Golden Goose project operating company, COMMONS.PY.SA, established                    |
| 2021. 10    | Agreement with (주)헤든, (주)루멘전광 for joint business in Paraguay                            |
| 2021. 11    | Agreement to use 6MW/h electricity – power for pilot projects                           |
| <hr/>       |   |
| 2022. 1~8   | To secure bank accounts and virtual accounts for the exchange                           |
| 2022. 3~7   | Agreement to use land and buildings for 6MW/h electricity                               |
| 2022. 5     | Land sale contract ( 30 hectares)   |
| 2022. 5     | To apply to use 100MW/h electricity and to appoint an agent thereof                     |
| 2022. 6     | To appoint preferred bidder for use of 100MW/h electricity                              |
| 2022. 7     | To enter into an agreement to use 100MW/h electricity                                   |
| 2022. 5~8   | Change token network and redistribute tokens  |
| 2022. 5~8   | Basic design for the 30 hectare site  |
| 2022. 8~10  | To appoint solution companies for the configuration of the exchange                     |
| 2022. 8~10  | Construction works to place transformers for 6MW/h electricity and necessary facilities |
| 2022. 10    | To commence test operations of 6MW/h  |
| 2022.8~12   | Detailed design for 30 hectare site completed based on foundation design                |
| 2022.10~12  | Composition of personnel to operate the exchange and start of test operation            |
| <hr/>       |   |
| 2023. 1     | Electric bills on the market based on blockchain to connect to the exchange             |
| 2023. 1~3   | Evaluation of test operation of the exchange and expansion thereof                      |
| 2023. 4~12  | To diversify the financial products of the Exchange to lead to expansion of liquidity   |
| 2023. 1~12  | To increase the quarterly electricity capability based on 6MW/h test operation          |
| 2023. 1~6   | Basic engineering works and construction of internal roads on the 30 hectare site       |
| 2023. 1~10  | To manufacture and install a 100MW/h transformer  |
| 2023. 10~12 | Electricity works on the 30 hectare site  |
| <hr/>       |   |
| 2024. 1~6   | Building construction works on the 30 hectare site                                      |
| 2024. 1~12  | Investment and operation of 20MW/h facility on 30 hectare site                          |
| 2024. 6~12  | Recruitment and education of 200 people in 1st phase                                    |
| <hr/>       |   |
| 2025.1      | To start gradual operation of facilities  |
| 2025. 1~6   | Recruitment and education of 500 people in 2nd phase                                    |
| 2025~2026   | Investment and operation of additional 10MW/h facility every quarter                    |

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**Exemption from  
Liabilities**

The objective of this white paper is to provide introductory and related information regarding the Golden Goose Project and the crypto-currency token (GOLD) planned by the Commons Foundation.

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