

A PRIMER OF ASIA'S CRYPTO LANDSCAPE[®]

Catalogue

◦ Overview	3
◦ Executive Summary	4
◦ Regulatory Landscape	5
◦ Market Size and Demographics	11
◦ Infrastructure	20
◦ Talent	28
◦ Investors	33
◦ Developers and Operators	38
◦ Future Development and Challenges	50

Overview

This report was a collaborative effort between Foresight News, Coinness, and Blocktempo, three of the top crypto media platforms in the regions covering China, Korea, and Taiwan respectively. A brief overview of the platforms and authors is listed below.

Foresight News

Foresight News is the largest multilingual Web3 media platform in the Asia-Pacific region. Since its establishment in January 2022, it has rapidly grown into one of the most influential Chinese Web3 integrated platforms for media, events & data. Currently, the monthly PV of its Chinese platform has exceeded 2 million. Based on fast and high-quality content, Foresight News has launched nine products, including Foresight Wiki, the most comprehensive Web3 companies/projects database in Chinese; Foresight Calendar, the most widely subscribed Web3 calendar among practitioners; and Foresight Job, a Web3 job aggregation platform, among others. It has become the largest content-driven platform in the Web3 Chinese world.

In December 2022, Foresight News launched Foresight News EN, an independent English website that is aiming to bridge the East and West with Web3 insights of excellence. The content is produced by an overseas team and with new UI/UX to be better suited for Western reading habits. Foresight News EN provides high-quality content in various formats, including ForeCast podcast series, Foresight Interviews, and Foresight Daily. Furthermore, in March of 2023, we launched our Korean official Twitter account (Foresight News KR), and an independent Korean site is on its way to further enhance our cross-lingual, cross-time zone global layout and strive to realize our vision of "Rooted in the East, Connecting the West."

Report Contributors: Vincent Yu (Founder and CEO of Foresight News), Solomon Sheng (Designer of Foresight News), Tony Cheng (Investor at Foresight Ventures), Chelsa Jiang (Investor at Foresight Ventures), Ian Xu (Investor at Foresight Ventures) and special thanks to our interns Jeffrey Chen and Will Zhang.

CoinNess

CoinNess is a distinguished investment information platform focused on the cryptocurrency market, serving as a leading source for breaking news in Asia. Unlike traditional media outlets that offer one-way articles or investment information, CoinNess provides a comprehensive and personalized experience for investors. The platform features diverse content, ranging from news updates to on-chain data, all accessible through a single portal. By utilizing CoinNess, investors can easily design unique combinations of investment information that suit their preferences, enabling them to invest in smart virtual assets.

CoinNess leverages its cutting-edge algorithmic content generation system to scan over 5000 content sources daily, ensuring that investors receive the fastest and most precise information. This system also enables CoinNess to expand its coverage of global information and data, enabling it a go-to platform for investors seeking accurate and up-to-date investment information. With a user base of over 300,000 and over 50,000 daily users on the application, CoinNess is a reputable cryptocurrency media outlet in Asia, providing investors with an indispensable resource for their investment endeavors.

Report Contributors: Seunghwan Lee (CEO and Founder of CoinNess), Soomin Kim (Global BD Lead at CoinNess), Taewan Yu (Content team at CoinNess), Jay Han (Alphanonce Investment Lead), Victor Cha (Alphanonce Investment Analyst).

BlockTempo

BlockTempo provides real-time global industry and market information, conducts in-depth interviews with international blockchain pioneers, and creates exclusive content and news intelligence networks, and promotes local community voices. It manages various blockchain and cryptocurrency communities and promotes Chinese cryptocurrency communities' innovation in the new era.

BlockTempo has been deeply involved in the blockchain industry since its inception and grown rapidly in 2021. With monthly website traffic exceeding 3 million, at least 500,000 active users in its community each month, and online community traffic exceeding 30 million per month, it is now the world's largest Chinese blockchain media.

As an important promoter of industry development, BlockTempo has hosted two international summits, Blockcity and Asia Blockchain Summit, attracting 4,000 guests from 50 different countries. These events were major turning points in the development of blockchain in Asia.

Report Contributors: Ian Yeh (BD at Blocktempo), OxJigglypuff (Chief Editor at Blocktempo), Natalie Wu (Editor at Blocktempo), Will Huang (BD at Blocktempo).

Executive Summary

The purpose of this report is to provide both a qualitative and quantitative view of the Asia crypto ecosystem. With this report, we hope to help readers understand the importance of this region and the future impact that Asia is expected to have in the crypto industry.

We kick off the report with the regulatory landscape of the region. We go into depth on the history of crypto-related regulations in China, South Korea, and Taiwan. Hong Kong is opening up, Taiwan is making clearer rules on crypto regulations and South Korea is still world-leading in regulating the crypto industry. As regulations become an ever more important factor in the growth of the industry, this section lays the groundwork for understanding the future direction of Asia crypto.

The next section deep dives into the market size and demographics of users in the region. We conducted a 5,000 sample survey of China's general population to better understand the current penetration rate of crypto users in China and another 1,000 sample survey of crypto users in China to better understand their behavior and preferences. Insights are also provided on the alt-coin-dominated Korea market and the DeFi-driven Taiwan market.

The infrastructure section talks about the core companies and technologies laying the foundation for the growth of the industry. Korea as a whole has a much larger ecosystem of infrastructure players given its regulated status and the massive trading market. Whereas China has banned its exchanges from doing business in the region.

In the talent section, we list the core schools and institutions that currently train crypto talent. Schools currently are the major sources of talent in all regions while South Korea even has established crypto boot camps that help developers onboard quickly into the space.

Investors section talks about the leading VCs in the region and lists some of the portfolios and core value add they provide to their investments.

Developers and Operators section goes into detail about the developer scene and other types of operating roles in the crypto space. It articulates the detail about all the types of projects in each region and lists the top protocols and application builders.

Finally, we summarize with a view of the outlook of the region. The Asia region is poised to drive the next chapter of growth given its large population, strong spending power, and its affinity towards building large-scale applications. The future of crypto is bright in Asia and will be a core pillar in the next chapter of industry growth.

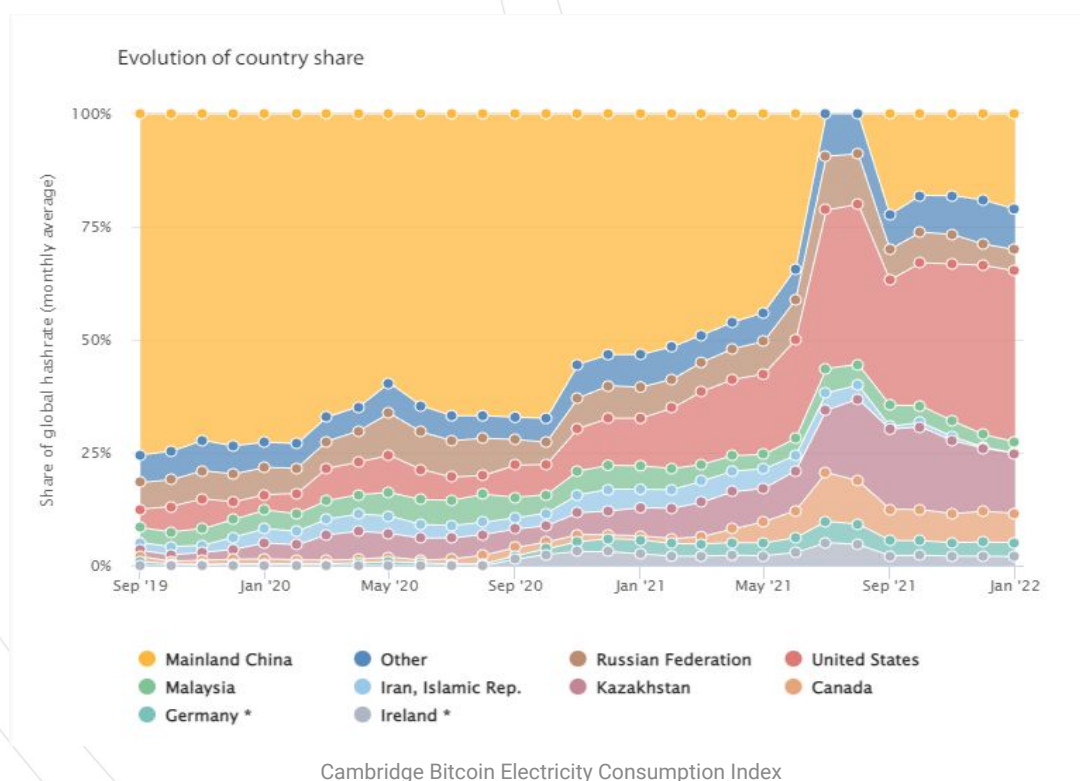
Regulatory Landscape

- China Regulations
- Korea Regulations
- Taiwan Regulations

China Regulations

Regulation has always been a hot topic in China, and historically China has had a much tougher stance on crypto than other superpowers. Below is a quick refresher of the path that China regulators have taken.

- In December 2013, the Securities Regulatory Commission of China began restricting financial institutions from handling bitcoin transactions, with the main arguments being that bitcoin lacked the legal backing to function as a currency and its use for money laundering. The announcement sent Bitcoin down almost 50% from \$1100 to \$600 the following week.
- Following the ICO summer of 2017, the central bank declared initial coin offerings as illegal fundraising activities. One week after the announcement, local exchanges such as BTC China received instructions to voluntarily wind down their operations.
- The official mining ban came in May 2021, as the State Council of China reaffirmed its stance further to restrict mining and trading activities within the country. The statements also deemed all crypto transactions, conducted via both local and foreign exchanges, illegal for Chinese nationals. China's share of the global bitcoin hash rate dropped from 70% to 0% in the following two months but shot back to 21% by the end of 2021, remaining as the second largest hash rate contributor after the U.S.



- In late September 2021, PBOC banned all crypto transactions. This was the nail in the coffin for China crypto. The PBOC cited the role of cryptocurrencies in facilitating financial crime as well as posing a growing risk to China's financial system owing to their highly speculative nature. However, the cryptocurrency ban was also an attempt to combat capital flight from China. Given the decentralized nature of crypto tokens, managing capital flight at scale was near impossible.

However, despite the rocky history between the Chinese government and cryptocurrencies, participation from China has been irreplaceable in propelling the industry to what it is today.

Today, we are witnessing a landmark shift in regulations. After seeing Singapore embrace crypto in 2019/2020 then to denounce the sector after a series of industry mishaps in 2022, Hong Kong is looking to make a comeback as the premier crypto hub in Asia. In 2023 Hong Kong has carried out multiple cryptocurrency-related regulatory actions, of which two major policies stand out.

Exchange policy

In February 2023, The Hong Kong Securities and Futures Commission (SFC) released a consultation paper detailing the proposed guidelines for exchange licenses (Virtual Asset Trading Platforms). All centralized exchanges businesses marketing to Hong Kong investors are required licenses to operate. The guidelines are focused on the following categories:

- **Custody:** Companies must have appropriate measures to ensure that client holdings are safe from theft and separated from the company's own assets.
- **KYC:** Companies must obtain sufficient client information to access risk profiles and comply with anti-money laundering (AML) and counter-terrorist financing (CTF) requirements.
- **Record Keeping:** Companies must maintain transaction details and customer information for at least seven years.
- **Risk Management:** Companies must provide a risk management framework to identify, assess, and manage risks associated with product offerings and liquidity provision.

The official regime will come into effect on June 1, 2023. While the proposed requirements are still subject to change before then, the above guidelines serve as a good starting point for existing businesses targeting Hong Kong to follow.

Stablecoin policy

Hong Kong's proposed stablecoin regulations require issuers to have a locally incorporated entity and restrict algorithmic and arbitrage coins. The HKMA's current stance is that stablecoins must be fully backed by high-quality liquid assets and be redeemable to their referenced fiat currencies at par. The proposed regime would cover entities actively marketing or operating in Hong Kong and increase the number of licenses an issuer needs. A major stablecoin in Hong Kong could significantly improve the fiat on-ramp and off-ramp experience in the region and allow more entrepreneurs to build innovative products in the region.

In addition, the Hong Kong government also proposed a \$6.4 million (HK\$50 million) budget plan to accelerate Web3 development in the region. This includes organizing international seminars, facilitating cross-sectoral co-operations, and setting up educational workshops. Trading rules are also being discussed, allowing retail users to trade major tokens which is a significant breakthrough versus the previous ban. As a major financial trading center, all the local securities firms are thinking about how to capture the crypto opportunity in the region.

The bigger narrative is that Hong Kong is a potential sandbox for future regulations in mainland China. As China is looking for avenues of growth to drive economic growth, crypto could be one of the core engines that drive the future. The size of the crypto market in China is just impossible to ignore, even though stringent regulations are being applied today, the future outlook is a bright one. Hong Kong will be the bridge for Chinese talent to expand globally, the time to build that future is today.

Korea Regulations

Regulation against the Korean Crypto market started to be strengthened in 2021 September when ENFORCEMENT DECREE OF THE ACT ON REPORTING AND USING SPECIFIED FINANCIAL TRANSACTION INFORMATION act was implemented. Under the law, crypto exchanges are obligated to report suspicious transactions to FIU (Financial Intelligence Unit), comply with AML, and avoid conflict of interest between exchanges and crypto issuers, etc.

The act also dictates exchanges to file at FIU with specified requirements. The most important and critical part of exchange is the real-name bank account for fiat pairs (KRW pairs). KRW fiat pairs make most of the trading fees revenue for exchanges. To do business, the exchanges are required to have official bank relationships, but like a lot of other countries, the banking industry in Korea is heavily regulated by the government.

Korea is the leading regulator that has applied a broad travel rule for AML purposes to crypto exchanges. This has been a landmark precedent and studied by many regulators across the world for implementation, but one of the core reasons why this is possible is because the number of exchanges to manage is limited and the travel rule can be managed through the top exchanges. Given the current status quo, the government has not been favorable to real-name bank account approval for new exchanges. As a result, the majority of trading volume in Korea occurs on 5 exchanges [Upbit, Bithumb, CoinOne, Korbit, and Gopax] which are authorized to have bank accounts.

These banks allow the conversion of KRW fiat into crypto and make onboarding significantly easier in the space. Korea is a wasteland for stablecoins. There`s no KRW fiat-backed stablecoin. Stablecoin pair trading at CEX is very limited. USDT accounts for less than 1% of Upbit trading volume. Other stablecoins are unlisted except for USDC at Gopax (the 4-5th largest CEX in terms of the trading volume. Binance recently acquired Gopax). The absence of clear regulations hampers Web3 native and financial institution`s ability to develop & adopt stablecoins in Korea. Rather, BoK (Bank of Korea, Central Bank) is experimenting with CBDC that might be able to fill the gap.

Another main aspect of Korean crypto regulation is the STO (Security Token Offering). STO is one of the primary tasks driven by the new administration for financial innovation. So far, there has been no legal framework for STO, but with the new framework suggested in Jan 2023, the business related to STO can operate to a certain extent abiding by the law.

Points of STO can be summarized into 3 bullet points.

- STO transactions must not require specific crypto tokens;
- STO transactions must occur on government-regulated exchanges;
- STO is for entities that need outside capital but find it difficult to meet traditional IPO requirements.

STO discussions are ongoing, and ultimate rules are still to be determined. Even though STO never effectively worked in other jurisdictions, Korea could be an exception to the rule given its broad crypto regulatory framework.

Taiwan Regulations

Compared to China, Hong Kong, and Korea, which have developed clear regulation, Taiwan has had no regulation or taxation on cryptocurrencies in the past, with regulatory authorities like the Financial Supervisory Commission (FSC) taking a conservative approach and classifying cryptocurrencies as non-currency but rather speculative commodities. A brief timeline of Taiwan regulations is listed below.

- In June 2019, Taiwan's Financial Supervisory Commission (FSC) declared that Security Token Offerings (STOs) will be subject to securities law.
- In January 2020, Taipei Exchange published regulations for administering virtual currencies.
- In April 2021, the Anti-Money Laundering Act added regulations for virtual currency platforms.
- In June 2021, the FSC announced that cryptocurrencies are not currency but rather highly speculative commodities.
- In November 2021, foreign investment was permitted, and regulations for security token offers (STOs) were loosened.
- In January 2022, the FSC issued warnings to all Bitcoin ATMs in Taiwan about potential money laundering risks, and they will be expected to rectify all potential issues within a certain period of time.
- In November 2022, overseas exchanges were deemed to be unregulated by the FSC, and it will only focus on preventing money laundering and not retail customer protection.
- In January 2023, the FSC prioritized the development of investor protection and asset separation.
- In March 2023, the FSC called for the full-on regulation of cryptocurrencies, and Huang Tien-Mu became the main regulatory figure.

The FTX accident has raised serious concerns in Taiwan, forcing the government to take it seriously. Taiwan was the fifth most affected area in the world after the FTX accident. According to BlockTempo's research, the anticipated loss to Taiwan ranges between 1.7 and 2.1 billion US dollars, with over 231,000 Taiwanese users affected. The accident also led to the collapse of asset platforms Steaker and XY Finance, which had a significant impact on the regional markets and caused the Financial Supervisory Commission and Central Bank to raise their concerns. This event has led to the ushering in of a new era of crypto regulations in Taiwan.

The Executive Branch declared on March 19 that the Financial Supervisory Commission (FSC) will be the principal regulating agency for virtual assets, with Huang Tien-mu acting as the key regulator. The FSC was selected to manage virtual assets after an agreement with government entities. However, the government and legal experts feel that virtual assets, such as non-fungible tokens (NFT), cover a wide range of forms, making it hard for the FSC to evaluate their values and unsuitable for a single agency to handle.

According to BlockTempo's latest research, the current division of labor among Taiwan's three major virtual asset regulatory organizations (the Financial Supervisory Commission, the Central Bank, and the Department of Digital Development) is as follows:

- The Financial Supervisory Commission (FSC) is in charge of overseeing investment and payment platforms, centralized exchanges, and asset management platforms.
- Central Bank: Managing stablecoin transactions involving fiat currency exchange.
- Department of Digital Development: In charge of crypto-related projects that aren't covered by the other two regulators such as NFT and Web3 on-chain projects.

Taiwan's new regulatory direction clearly has a narrow scope, focused mostly on infrastructure associated with particular CeFi companies. It mainly affects centralized exchanges and asset management platforms. Other areas such as DeFi, Web3 infrastructure, and decentralized projects, are not well defined yet.

After the FTX incident, numerous local exchanges are asking for the government to regulate overseas exchanges, and new future licenses could become much more scarce as well. In the current environment of competition between overseas and domestic exchanges, BlockTempo believes that the current landscape of centralized exchanges will experience a significant change as a result of the FTX incident under the new rules. The present centralized service providers in Taiwan will change, since overseas exchanges will no longer provide new Taiwan dollar deposit/withdrawal services and domestic exchanges will no longer provide derivative services.

Clearer regulations are always a good thing if they don't try to kill off the industry completely. Clearer rules allow for innovation and investment and when competition increases, the market will eventually be left better with superior products.

Market Size and Demographics

- **China**
- **Korea**
- **Taiwan**

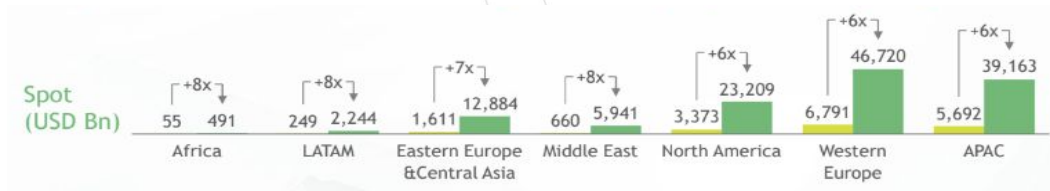
To better understand the opportunity, we must understand the size of the Asia market. For this section, we conducted two surveys, a 5,000+ sample survey spanning many cities and age groups in Mainland China and a 1,000+ sample survey of crypto owners. **We have found that for the population over 15 years old, only 2.6% of people owned cryptocurrency.** Of these crypto owners we wanted to better understand what motivated them and how they invested in crypto. In the following sections of this report, we present these survey results and show how important of a market China is and how much potential there is. This quantitative analysis is something that no other report to date has covered in-depth.

District	Population	Internet Users	Internet Penetration	Securities Accounts	Crypto Users	Crypto Penetration
China	1,412,000,000	1,067,000,000	70.40%	178,560,000	30,000,000	2.12%
South Korea	51,829,023	46,524,678	89.70%	14,000,000	6,900,000	13.31%
Taiwan	23,632,003	21,854,720	92.40%	12,110,000	2,600,000	11.00%
US	332,915,073	317,273,637	95.30%	150,000,000	40,000,000	12.02%

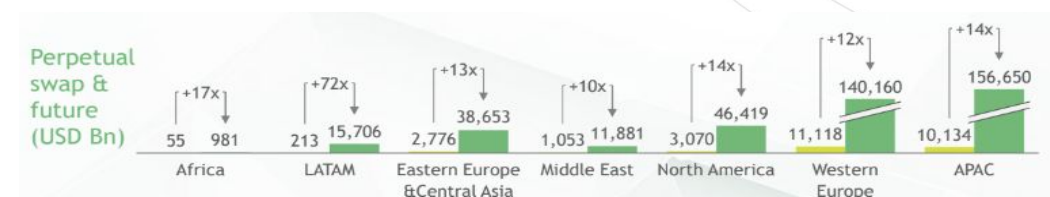
The APAC region is expected to be a significant driver of growth in the next 3-5 years.

Spot and derivative trading volume projection by region

2021 2026E



Key assumptions: As crypto market cap increase, assume emerging markets spot volume grew faster than more matured markets due to higher retail adoption.



Key assumptions: Crypto future trading value will rise as derivative to spot trading ratio continue to increase due to increased institutional adoption benchmarked against traditional equity derivative to spot ratio.



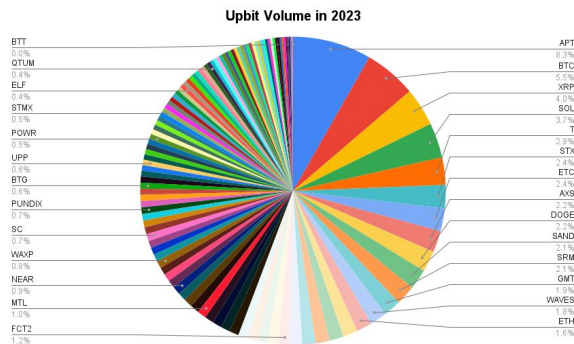
Key assumptions: Option as % of total derivative trading value will increase as market becoming more mature benchmarking against equity future to option ratio globally.

The Korea market is one of the most retail-driven markets in the world. Nearly every stock trader in South Korea has a crypto trading account. Upbit is the second largest spot trading platform in the world, and it is only open to Korean traders. Upbit has no derivatives trading given that derivatives trading is banned in Korea.

	January (Bn)	February (Bn)	March (Bn)	Total (Bn)	Ratio
Total	\$797	\$878	\$378	\$2,054	100.00%
Binance	\$474	\$545	\$224	\$1,244	60.54%
OKX	\$38	\$44	\$23	\$106	5.16%
Huobi	\$12	\$13	\$7	\$32	1.56%
Coinbase	555	\$40	\$18	\$113	5.52%
Kraken	\$17	\$19	\$12	\$48	2.34%
Upbit	\$73	\$78	\$19	\$171	8.33%
Bithumb	\$10	\$9	\$4	\$23	1.12%
Coinone	52	\$2	\$10	\$14	0.68%
Korean CEX	\$86	\$89	\$33	\$208	10.12%

Note: Data as of 2023-03-15 TheBlock

The trading volume on Korean CEX is primarily on 3 exchanges which are Upbit, Bithumb, and Coinone. Among them, Upbit is the leading industry with 82.24% market share in Korean exchange. Bithumb and Coinone are following Upbit with 11.07% and 6.69%, respectively.



The total number of listed tokens supported by the Top 5 Korean exchanges is around 200, fewer than the global exchanges such as Binance (500 tokens) and Huobi Global (400 tokens). This is caused by strict regulation of Korean financial authorities and the exchanges are constantly delisting the tokens issued by problematic projects.

Korea as a whole is very altcoin-centric[i.e. crypto excluding BTC and ETH]. Even though ICO is not allowed, there is tremendous demand for altcoin trading such as APT and STX in recent months. Alts volume composition is high in Korea.

After the LUNA collapse, Upbit has listed APT and SHIB on its KRW market. Also Upbit listed APE, RAY, APT, CHZ-related Fan Tokens, GAL, ASTR, and BLUR on its BTC market. Upbit is cautious to avoid regulatory scrutiny given its history with Luna.

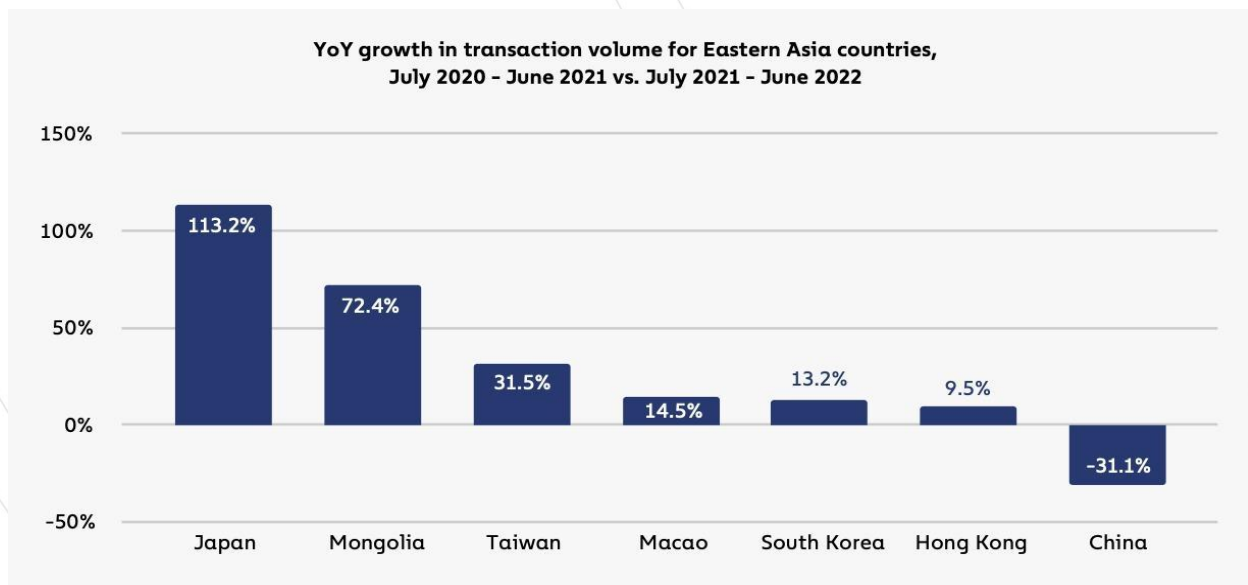
APT	\$12,652,488,880
BTC	\$8,358,804,910
XRP	\$6,104,840,386
SOL	\$5,563,341,298
T	\$4,366,829,248
STX	\$3,687,952,913
ETC	\$3,666,802,257
AXS	\$3,401,405,354
DOGE	\$3,364,120,169
SAND	\$3,222,961,965

Top 5 traded coins on Upbit have been APT, BTC, XRP, SOL, and T among 114 coins listed on Upbit with KRW pair since the beginning of 2023. As we stated above, the Korean crypto market is tilting to altcoin and the recent price appreciation of APT and STX can be highly contributed by Koreans. Here is the specific Upbit volume data of TOP 10 pairs in 2023.

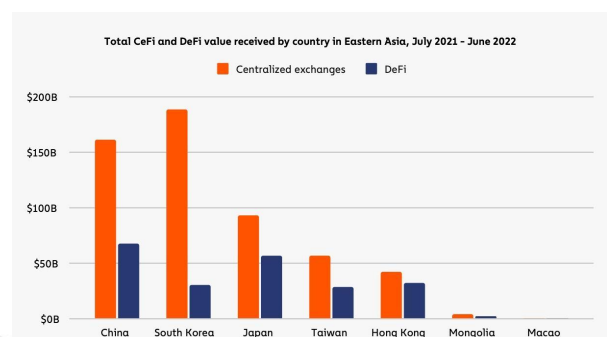
BTC and ETH trading volume represent 5.5% and 1.6%, respectively out of total Upbit trading volume in 2023 YTD. In other words, altcoins takes the majority (92.9%) of total trading volume in Korea.

Korean CEX has listed lots of altcoins which are only listed on a Korean CEX (aka Kimchi coin) and these coins also get significant trading traction. In 1H22, 638 coins were listed on Korean CEX and 391 (61%) were listed on only single Korean CEX among them.

Chainalysis "2022 Cryptocurrency Geo Report" shows that from July 2021 to June 2022, China, Korea and Taiwan respectively received nearly \$220bn, \$220bn, and \$90bn USD worth of cryptocurrency. The annual growth rate of trading volume in Taiwan reached 31.5%, while Korea was only 13.2% and China saw negative growth due to regulations. Taiwan is one of the fastest growing regions in East Asia only behind Japan and Mongolia.



Taiwan's centralized exchanges have received nearly \$60 billion in value of cryptocurrencies, of which nearly half, nearly \$30 billion, is in DeFi, indicating a high acceptance of DeFi in Taiwan compared to China and South Korea.

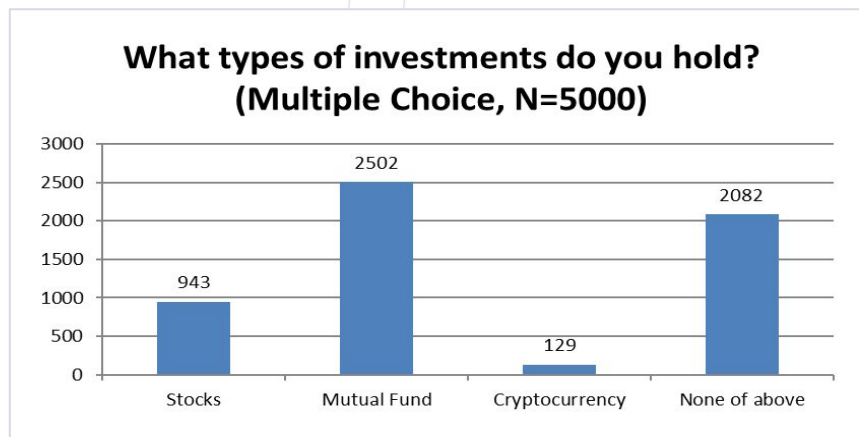


China

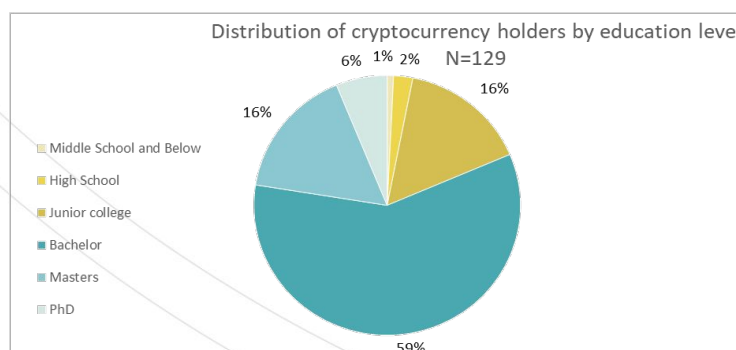
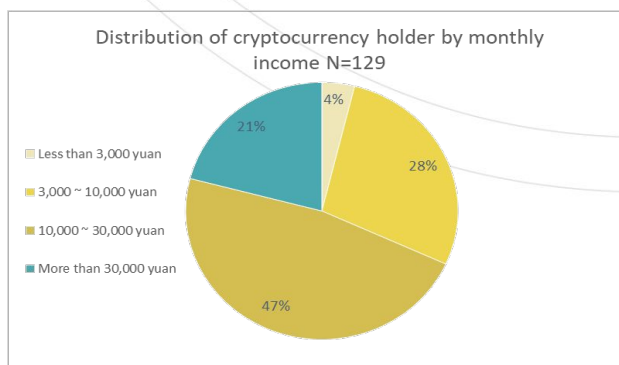
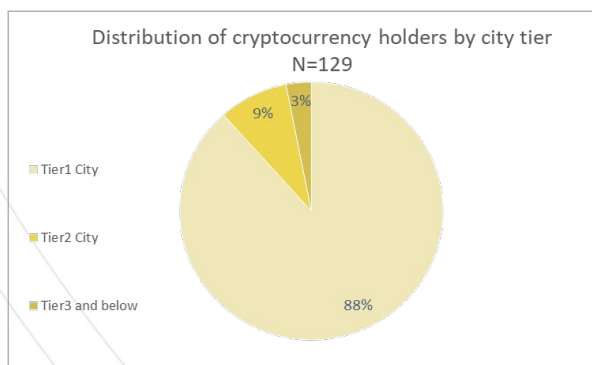
Asia has always been a hotbed for crypto activity and in this section, we wanted to deep dive into the users. We conducted a macro survey of 5,000 samples in China to better assess crypto penetration and then conducted a separate 1,000 sample survey to better understand crypto holders.

From a macro perspective of Chinese crypto-demographics survey of 5,000 sample:

One of the most interesting findings of this survey is that the penetration of crypto holders aged 15 and above in China is only 2.6% of the total population. Compared to more developed countries and regions like the US, Korea and Taiwan which are all around 10%, China still has significant room to grow the total amount of crypto users.

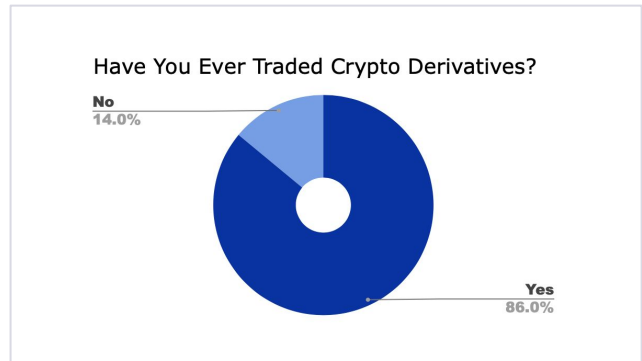
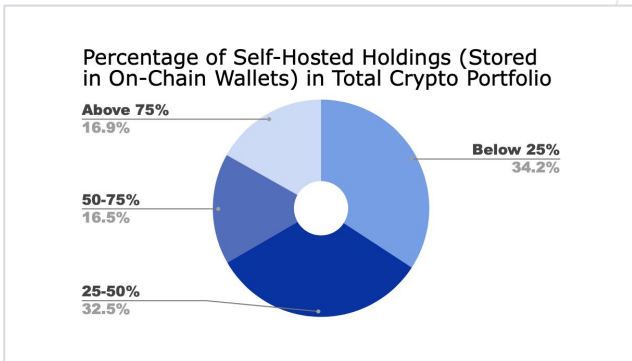


Below are the distributions of cryptocurrency holders by city tier, education level and income. As we can see, most holders are well-educated and live in larger cities that have access to more liberal information. Income in these areas is also on the higher end of the spectrum.



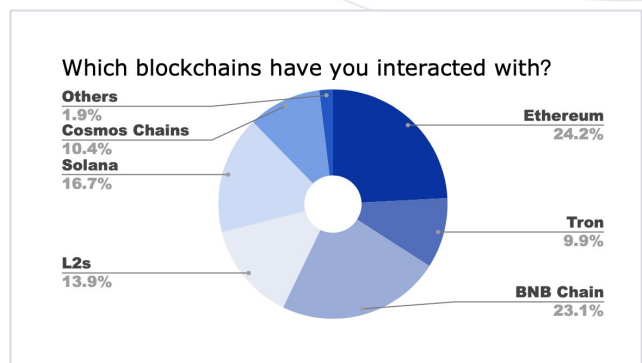
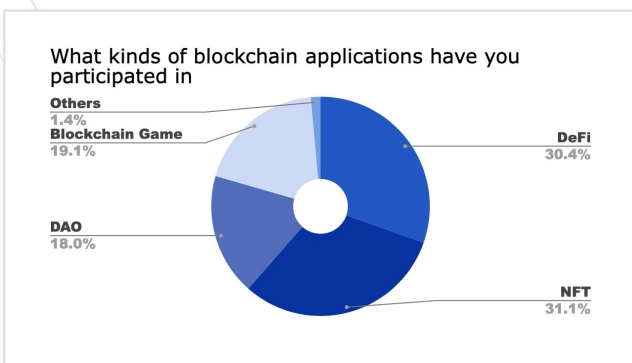
Zooming in the group with crypto investment experience, surveying of 1,000 sample:

- 86.0% of respondents have experience in crypto derivative trading like futures and options. The portion of people with over 30% of their portfolio in cryptocurrency is up to 63.6%. This shows that in China, a large portion of crypto users are intense crypto traders and peoples' conviction in crypto investment is quite strong.

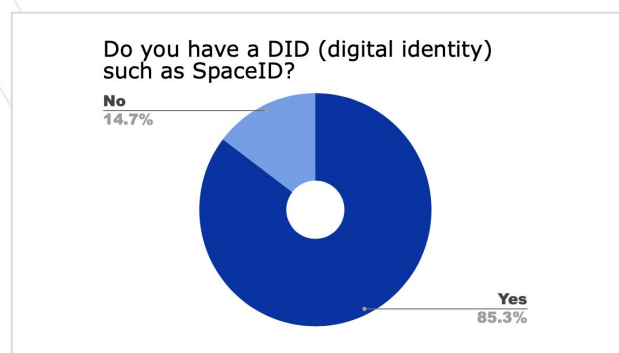
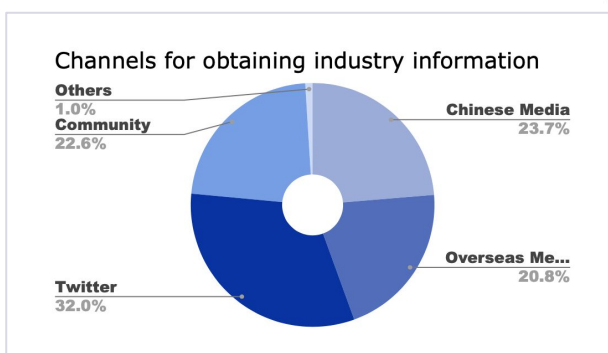
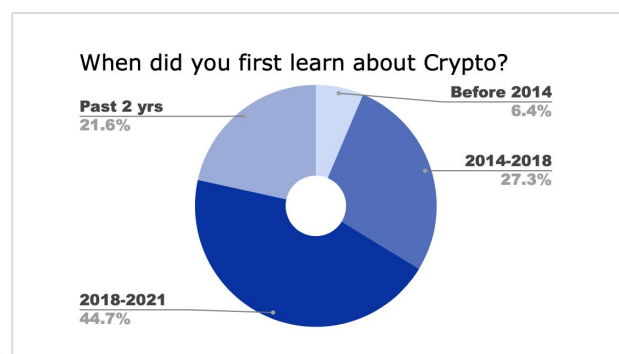
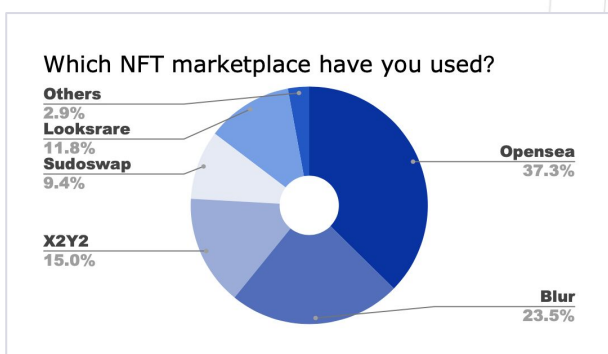
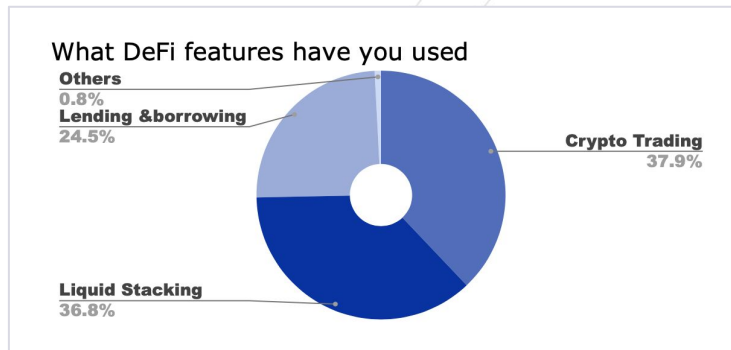


- Aside from pure crypto trading and investing, people are very active in crypto-native applications. DeFi, NFTs and Gaming are all major applications being used by Chinese crypto users.

- The top-2 popular chains among crypto users are Ethereum (93.8%) and BNB Chain (89.5%), while the rest of the following public chains are Solana (64.60%), other L2s(53.8%), Cosmos Chain (40.5%), and Tron (38.4%). This engagement distribution shows a good adoption trend that increasing crypto users start to interact with newer and more diverse chains in addition to the 'blue chip' ones.



Below you can find the rest of the survey which shows some interesting data points on Chinese crypto users on NFT platform usage, DeFi activity, digital identity, media preference and time in the industry.



Web3-native communities are also burgeoning on the ground of China, and one of the most famous ones is Dali Hub:

- Founded in Nov 2020, Dali Hub is a community for digital nomads located in the city of Dali, Yunnan Province, in southwestern China. The hub provides a collaborative workspace and a community of like-minded individuals who work remotely and embrace the digital nomad lifestyle.
- Till 2022, Dali Hub has gradually become the place for holding high-quality Web3 events and established a close partnership with well-known domestic DAOs like SeeDAO, PlanckerDAO, and other Web3 communities.
- One of the big events back in 2022 at Dali Hub is the Summer of Wamo, where inclusive events ranging from panels (topics including tokenomics, ETH 2.0, DAO), decentralized tribes of digital nomads, and electronic music parties were held. More than 500+ people minted POAP.

Korea

The data below is based on the survey of Korean crypto exchanges executed by the Korean Financial Services Commission. Total eligible unique crypto users were 6.3M, which is 13% of the total Korean population, 52.1M, in 1H22.

Detailed demographic composition is as below:

	20s or less	30s	40s	50s	60s or more	Total
Male	1.2M	1.5M	1.2M	0.6M	0.2M	4.7M
Female	0.4M	0.6M	0.6M	0.4M	0.1M	2.2M
Total (Ratio)	1.7M (24%)	2.1M (31%)	1.8M (26%)	1.0M (15%)	0.3M (4%)	6.9M

Among them, users who have more than \$100K is 91K (0.4%), users who have more than \$10K is 470K (7%), users who have more than \$1K is (27%), and users who have less than \$1K is 5M (73%).

More detailed demographic composition by age and account balance is as below.

	non	< \$500	\$500 - \$1K	\$1K - \$5K	\$5K - \$10K	\$10K - \$100K	\$100K - \$1M	> \$1M
20s	190k (12%)	1.2M (68%)	100k (6%)	170k (10%)	40k (2%)	30k (2%)	2k (0.1%)	200 (0.01%)
30s	180k (8%)	1.2M (58%)	160k (8%)	330k (16%)	100k (5%)	120k (6%)	8k (0.4%)	400 (0.02%)
40s	180k (10%)	0.9M (50%)	140k (8%)	320k (18%)	100k (6%)	150k (8%)	10k (1.0%)	300 (0.02%)
50s	110k (11%)	0.5M (45%)	80k (8%)	190k (18%)	70k (6%)	100k (10%)	9k (1.0%)	200 (0.02%)
60s	40k (13%)	0.1M (43%)	20k (7%)	50k (18%)	20k (6%)	30k (10%)	3k (1.0%)	100 (0.03%)
Total	700k (10%)	3.9M (56%)	500k (7%)	1,060k (15%)	330k (5%)	440k (6%)	32k (0.4%)	1000 (0.01%)

Taiwan

According to an internal statistical report by BlockTempo, there are approximately 2.07 million cryptocurrency exchange and platform users in Taiwan, with the majority of sources coming from centralized institutions. The penetration rate of cryptocurrencies is slightly lower than 10%.

However, considering the rapid rise of NFTs and digital art, as well as DeFi products in Taiwan, the rough Web3 penetration rate may reach about 11-12%.

From a demographics perspective, Taiwan has all the characteristics of a high crypto penetration country. With a majority of the population situated in first-tier cities that account for nearly 70% of the population, innovation hubs are more likely to arise.

High internet penetration and high education levels are also very significant drivers of high crypto penetration given the affinity of these users to try new things.

Infrastructure

- **China**
- **Korea**
- **Taiwan**

China

From a crypto perspective, given regulations, there is practically no infrastructure in China for crypto. But digital payments and CBDC has been a strong local initiative that has been put forth by the government.

Digital payment has been the major driving force behind fintech innovations in China over the last decade. China's push into digital currency has been motivated by its global trade settlement inspirations for Chinese Yuan.

Unlike mainstream stablecoins that currently exist on the blockchains such as USDT or USDC, CBDCs are directly issued by the central banks and counted towards the monetary base instead of pegging to another currency or commodities. In fact, PBOC had started testing e-CNY since 2019, specifically focusing on brick-and-mortar businesses in four major cities, and officially launched public testing in April 2021. In June 2021, the government distributed 40 million e-CNY through a lottery in Beijing to incentivize user adoption.

After making a huge wave in the 2022 Winter Olympics, there were roughly 13.61 billion e-CNY in circulation by the end of the year, which amounts to about 0.13% of China's M0 outstanding monetary supply. Once again, during the holiday season of early 2023, the government distributed 180 million yuan (\$26.6 million) in the form of e-CNY to stimulate spending during the spring festival season. The program included subsidies, consumption coupons, and other activities.

However, e-CNY has not gained significant mainstream adoption apart from users using it for subsidies. Digital payment penetration historically has been high in China making any other type of digital currency less attractive as an option. Trade settlement applications are still in development and are only accepted by very limited partners.

Even though a lot of CeFi exchanges have Chinese roots, given their unregulated nature we don't count them as core China infrastructure. CeFi as a product has been very mature in China given the emphasis on UI/UX by Chinese developers. As crypto grows as a market, we expect to see continued innovation at the application layer, especially super-app wallets like Bitkeep.

Korea

The Korean Crypto market is very developed from a regulatory standpoint thus we see a very established ecosystem of players providing crypto-related infrastructure services.

1. In South Korea, major commercial banks provide bank accounts to crypto trading platforms to allow deposits and withdrawals of virtual assets. This practice makes the country one of the world's easiest places to transfer virtual assets.
2. South Korea is introducing various licensing systems such as the information security management system (ISMS) and virtual asset service provider (VASP) to crypto enterprises. These systems led to the development of business-to-business (B2B) services such as custody and anti-money laundering (AML) solutions, which helps crypto companies run their businesses legally.
3. Traditional banks, venture capitals, and internet service providers are actively investing in crypto services. More and more crypto service providers in South Korea are going global.
4. South Korea has one of the highest proportions of retail investors in the crypto industry compared to other markets. However, a strong focus on large platforms and initial coin offering (ICO) projects left crypto-related services relatively unattended. Given its trading volume, the Korean market has significant potential to become one of fastest-growing countries in the crypto service industry.

Korean Banks That Provide Accounts to Crypto Exchanges

NH Bank

It is one of the major banks whose asset size is more than 450 trillion KRW. It is providing bank accounts to crypto exchange Bithumb. NH Bank is ranked second among state-designated banks.

KBank

Established in 2016, KBank is an online bank with an asset size of more than 13 trillion KRW. Since July 2020, it's been providing accounts to Upbit, the country's largest crypto exchange.

KakaoBank

It is an online bank established by Kakao, one of Korea's top mobile service developers. With an asset size of more than 50 trillion KRW, KakaoBank has been providing its accounts to crypto exchange Coinone since 2022.

Jeonbuk Bank

It is the largest bank in Jeonbuk Province, a region located about 200 km south of Seoul. With an asset size of more than 20 trillion KRW, Jeonbuk Bank signed a contract to provide bank accounts to Gopax, a Korean crypto exchange that was acquired by Binance.

Crypto Asset Service Providers

Delio

Since 2019, Delio has been providing storage, trading, and management services of digital assets such as Bitcoin, Ethereum, and non-fungible tokens (NFTs). In 2021, Delio developed STO Swap, a decentralized platform for security token trading, and completed its test operation. Its accumulated staking and lending of digital assets amounts to 2.4 trillion KRW.

KLAYSwap

KLAYSwap is a decentralized exchange that is responsible for more than half of the Klayton network's token value locked (TVL). It uses an interchain bridge called Orbit Bridge to attract external assets into the Klayton ecosystem.

KLEVA

KLEVA is a DeFi protocol launched in January 2022 by Wemade, a famous game developer and an issuer of the WEMIX token. Recently, KLEVA revealed Kurrency, a service that mints crypto dollars through collateralized debt positions.

Heybit

Heybit is a crypto asset management service provided by Uprise. It provides customized investment instruments through quant algorithms. Heybit offers digital asset staking and DeFi investment intermediary services.

Crypto Asset Payments Solutions

PayCoin

Created by Korean payments solution provider Danal, PayCoin is a digital asset that facilitates payments. PayCoin has accumulated users of 3.2 million and is accepted by around 150,000 retailers. Its token is listed on exchanges such as Upbit, Bithumb, and Coinone. To further expand its business, PayCoin has offered discounts to users who make transactions at well-known retail chains. Meanwhile, its recent inability to secure real-name bank accounts from domestic banks has prompted PayCoin to shift its business model to focus on overseas transactions.

Crypto Asset Custody

KODA

KODA is a crypto asset custody service provider co-founded by KB Kookmin Bank, Haechi Labs, and Hashed. It also offers other services such as circulating supply monitoring.

Cardo

Cardo is a crypto asset custody service firm jointly funded by NH Bank, Hexlant, Korea Information and Communications Corp. (KICC), Galaxia Moneytree, and Aton.

KDAC is a crypto asset custody provider co-established in March 2020 by crypto exchange Korbit, blockchain tech company Blocko, and research firm Fair Square Lab. In January of this year, KDAC received a strategic investment from Shinhan Bank.

Travel Rule Solutions

CODE

CODE is a travel rule solution built by crypto exchanges Bithumb, Coinone, and Korbit. On R3's Corda blockchain platform, the system enables member companies to comply with travel rules.

VerifyVASP (VV)

VerifyVASP is a travel rule solution developed by Lambda 256, a subsidiary of Dunamu, which is the operator of Korea's largest crypto exchange Upbit.

Investment Information Providers

Xangle

Launched by CrossAngle in 2018, Xangle provides various crypto-related information, including disclosures, assessments, and blockchain analytics data. Xangle cooperates with major exchanges and crypto asset issuers to publish disclosures.

CryptoQuant

CryptoQuant is a global on-chain data and analysis provider with users of more than 1 million across some 200 countries.

CoinNess

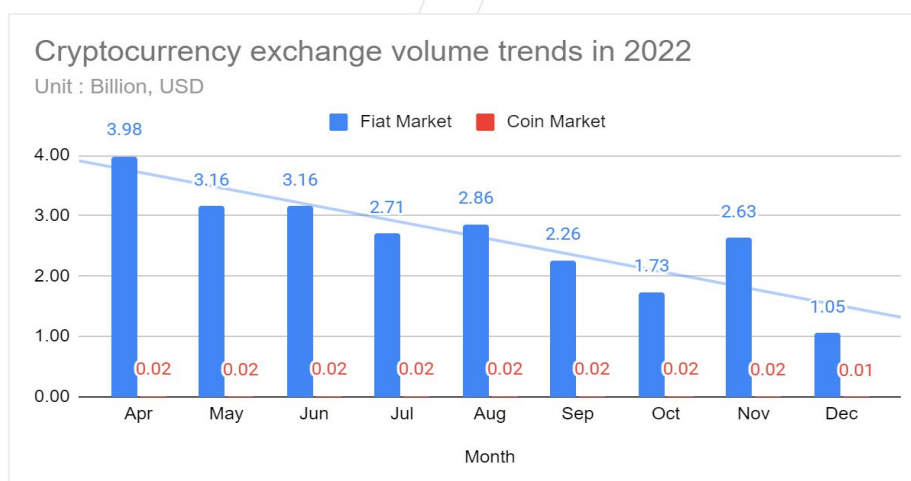
CoinNess is an instant crypto news provider. It provides live crypto news to about 30 different platforms, including South Korea's largest search engine Naver.

NFTBank

NFTBank provides prices of more than 5,000 NFT collections. The platform developed its own machine learning-based statistical algorithms to estimate NFT prices based on bottom prices, rarity, and trade demand request distributions.

Crypto exchanges

In order to conduct a crypto business in South Korea, operators must register as a VASP (Virtual Asset Service Provider) with the government. As of February 28, 2023, there are 36 VASPs in South Korea, including 27 crypto exchanges. In Korea, there are only five exchanges that allow users to trade using KRW, these trades are called the Fiat Market, while the other crypto trades based in USDT, USDC or WETH are called the Coin Market. Retail trading in KRW dominates in Korea on the five fiat-enabled exchanges with Upbit being the main leader.



In the second half of 2022, crypto exchanges totaled \$409.8B in trading volume, with an average daily volume of \$2.3B. In November 2022, there was a temporary rebound in trading volume due to the bankruptcy of crypto exchange FTX, followed by a decline due to US.

Federal Reserve tightening, the war in Ukraine, and the Luna event.

Number	Service Name	Trading Volume(\$)	Trading Volume(%)
1	Upbit	1,633,342,290	74.53%
2	Bithumb	439,902,657	20.07%
3	Coinone	105,017,078	4.79%
4	Korbit	7,352,747	0.34%
5	Gopax	4,258,297	0.19%
6	Coin market Exchanges	1,724,146	0.08%
7	Total	2,191,597,215	100.00%

According to CoinMarketCap's data on March 10, 2023, the five KRW exchanges account for 99.92% of the total market, while Coinmarket's share is 0.08%. Among South Korean exchanges, Upbit dominates with 74.5% of the trading volume. This is followed by Bithumb with 20.1% and Coinone with 4.8%.

Unlike the US, the Korean crypto market is heavily driven by retail. According to Coinbase 4Q22 shareholder letter, institutional trading volume was \$663B and consumer (retail) trading volume was \$167B. In other words, institutional took 80% of total volume on Coinbase. In terms of revenue, institutional and consumer generated \$119M and \$2.2B, respectively. In Korea, institutions are not allowed to open accounts on centralized exchanges at the moment. Only retail can open accounts, so all the volume on Korean exchanges is generated by retail. Korean retail investors tend to prefer risky assets and crypto fulfills speculative investors' demand.

In terms of other infrastructure, institutional adoption in Korea is still immature. Bitcoin future ETF which is approved in the US and HK is not approved in Korea yet. Instruments for institutions which require custody and compliance such as CME Bitcoin Future and GBTC are also not allowed in Korea.

Below are some of the leading exchanges in the region.

Upbit

Upbit launched its beta service on October 24, 2017, and opened a marketplace for trading KRW, Bitcoin, Ethereum, and Tether as fiat currencies. Although it started a little later than other exchanges, it has absorbed the majority of the trading volume due to its convenient UI and service provision linked to KakaoTalk, South Korea's representative SNS. As of March 20, 2023, it lists more than 190 cryptocurrencies and has more than 300 markets.

Bithumb

Bithumb was founded in January 2014 and opened its Bitcoin exchange in 2015, rebranded as Bithumb and began offering cryptocurrency exchange services. Since its opening, the exchange has developed with the goal of listing various types of cryptocurrencies and has focused on expanding its infrastructure. For customer service and investor protection, the company has been operating an offline customer center since 2017, and has been making continuous efforts to secure customer information by obtaining ISMS certification. It currently offers 227 trading pairs.

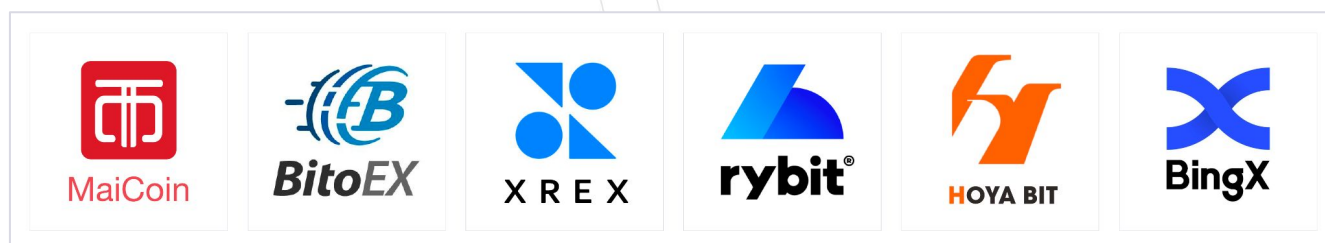
Taiwan

Taiwan's own CBDC is now being evaluated by Taiwan's Central Bank. According to Governor Yang Chin-lung, Taiwan CBDC experiment will be completed by September 2022. Former Premier Chen Chun claimed in March of this year that Taiwan's CBDC was strategic. However, governor Yang Chin-lung said on March 20th that Taiwan's CBDC would not be ready for at least three years, and that it could not be introduced until 2026.

In terms of Taiwan's cryptocurrency infrastructure, most users trade on international exchanges, such as Binance and FTX. In contrast, the local exchange is mostly used for exchanging fiat currency. As a result, after depositing funds in local markets, people immediately transfer funds to overseas exchanges for trading.

The main reason for this is because local exchanges cannot trade derivative financial products such as perpetual contracts due to regulations. Therefore, many users just use it as a channel for depositing and withdrawing funds.

Cryptocurrency Exchanges



Talent

- **China**
- **Korea**
- **Taiwan**

China

Like all other markets, talent in crypto is largely coming from the top universities.

A total of 6 universities in mainland China are ranked on Coindesk's Best 100 Universities For Blockchain in 2022, of which crypto atmosphere is cementing and burgeoning, in the form of DAO, papers, patents, and education:

PKU Blockchain

PKU Blockchain is a student-led organization at Peking University, one of the top universities in China, dedicated to promoting blockchain technology and education.

The organization was founded in 2016 and has since grown to become one of the largest and most active blockchain communities in China. PKU Blockchain aims to bridge the gap between academia and industry, and to provide a platform for students to learn about and participate in the development of blockchain technology.

PKU Blockchain hosts regular events, workshops, and hackathons to promote blockchain education and development. They also collaborate with industry partners and academic institutions to provide opportunities for students to engage with real-world blockchain projects and applications.

- Tsinghua University Blockchain Association (THUBA)

Tsinghua University Blockchain Association (THUBA) is a student-led organization at Tsinghua University, one of the top universities in China, dedicated to promoting blockchain technology and education.

THUBA DAO is a decentralized autonomous organization (DAO) that was created by THUBA members as a way to further explore the potential of blockchain technology and decentralized governance. The DAO is designed to be a community-driven platform where members can propose, discuss, and vote on initiatives related to blockchain technology, such as research projects, hackathons, and education programs.

THUBA DAO is built on top of the Ethereum blockchain and utilizes smart contracts to govern its operations. The DAO is governed by its members, who hold THUBA tokens that give them voting rights in the decision-making process.

Tsinghua University Blockchain Association (THUBA) is a student-led organization at Tsinghua University, one of the top universities in China, dedicated to promoting blockchain technology and education.

- Shanghai Jiao Tong University

In 2021, SJTU partnered with Hainan province to establish Shanghai Jiao Tong University (Hainan) Blockchain Research Institute. Earlier this year, it worked with Wuxi, a city in eastern China, to build a new research institute, covering research topics including blockchain architecture, blockchain system construction and common key technologies, and application demonstrations in key areas of blockchain. SJTU scholars have published 191 blockchain-related papers, more than from any other institution in mainland China.

Korea

In Korea, most blockchain talent enters the industry after studying blockchain in university/grad school. Others enter the industry through boot camps. In recent years, there has also been a significant movement of high-level bureaucrats going into the crypto sector. Coding education will be mandatory in Korea from the age of 14 in 2025, which is expected to help lay the foundation for the development of future blockchain talent. Below are some of the leading schools and boot camps in the region.

Graduate Schools

• **Computer Security Engineer, Department of Computer Science, College of Information, Korea University**

The Graduate School of General Studies at Korea University, a top-tier university in South Korea, provides basic and advanced education to foster blockchain talent. The Department of Computer Science aims to foster advanced manpower in the field of SW research and development of basic and applied technologies, and education for the 21st century. The computer security major aims to provide education and research to foster advanced security experts to creatively solve security problems in the emerging Information and Communication Technology (ICT) convergence industry.

• **Major in Technology Finance, Graduate School of Management of Technology, Korea University**

It is a field-oriented specialized graduate school that combines management and engineering with the goal of fostering the best technology management professionals in Korea. It trains experts in developing new businesses and new types of technology, as well as experts in technology commercialization. Company-participatory lectures are provided, and a specialized education system in the blockchain field is established to enable students to complete the blockchain strategy expert course. It aims to foster experts who will lead the development of Korea's financial and blockchain industries and stand at the center of new growth industries.

• **Sogang University Graduate School of Information and Communication Major in Blockchain**

The curriculum, which consists of a blockchain engineering track and a blockchain business track, aims to train blockchain experts to lead Korea.

• **Blockchain Engineering Track**

This major track covers how blockchain works and its main technologies. Students develop the ability to creatively utilize blockchain and learn how to model real-world environments and solve vulnerabilities in blockchain-based systems in relation to blockchain security.

• **Blockchain Business Track**

To create financial services based on ICT technology, students learn financial theory and technologies specialized in the fintech field such as blockchain and digital currency.

•Hanyang University Graduate School of Engineering, Department of Blockchain Convergence

The Department of Blockchain Convergence at Hanyang University aims to foster talented individuals who can serve as top leaders in the field of blockchain and crypto tokens in this era of transition.

More than 20 faculty members from various majors such as the College of Engineering, College of Business Administration, MOT, Law School, College of Natural Sciences, College of Medicine, and the Department of Industrial Convergence have gathered to prepare the best curriculum consisting of a technical track and a business track.

•The Department of Computer Science at the Korea Advanced Institute of Science and Technology (KAIST) 'Web3 @ KAIST'

KAIST announced that it will open a 'Web3 @ KAIST' class to develop web 3 applications in the spring semester of 2023. It is the first course opened by KAIST, and it is conducted as an online lecture so that not only KAIST Computer Science students but also students from other departments and external auditors can take the course. Classes are conducted in English. The training content introduces the basics of blockchain technology and business, and covers technology, planning, and overall business for developing Web3 apps.

Boot Camps

•Codestates

CodeStates is Korea's leading blockchain bootcamp, making a significant contribution to the development of talent. It operates on a batch system and currently has nine batches of members. Each class provides 24 weeks of training. After graduation, they are offered 'The Code', a job application program exclusively for graduates. It provides the fastest access to job postings from CodeStates' partners. There is also a networking support program for graduates called 'Code Island'. Code Island is a community where graduates can collaborate on side projects with other graduates from various fields other than blockchain, as well as various programs, lectures, and networking events.

•Learnfree

Founded in July 2022, Learnfree is a platform that shares IT/SW education information such as free coding bootcamps and conferences fully supported by the government and companies. It handles only IT training information supported by 11 government ministries and local governments, and uses the K-Digital Training public data API of the Korea Employment Information Agency of the Ministry of Employment and Labor to provide information. All registered trainings are free, and only free trainings can be registered. The training program is designed to help you learn the Solidity language for developing smart contracts and dapps in the Ethereum ecosystem and the SDK for developing bapps in the Klaytn ecosystem. In addition, Hashed, a venture capital firm specializing in blockchain, will provide seminars and special lectures on the latest trends in blockchain technology.

Taiwan

Taiwan has an abundance of technical talents, mainly focused on semiconductor and software development to support its massive semiconductor and hardware-software integration industry. In terms of non-technical talents, Taiwan has significant experience in marketing and sales. However, due to a lack of significant funds and dominant international brands, local niche brands have struggled to break cultural barriers (unique cultures in the surrounding major markets such as China, Korea, and Japan) in Web2. As a result, there have been rare successes in bringing products or services into the international market.

Currently, there is a lack of specialized education in blockchain in most Taiwanese schools, with only a few universities offering relevant programs, courses, and student groups focused on blockchain. However, academic communication is increasing, and efforts to organize activities in higher education continue. Here are a few examples:

- National Taiwan University develops Taiwan's public blockchain - OurChain.
- Blockchain Law and Policy Research Center established by National Tsing Hua University.
- "Technology Management and Blockchain Research Center" set up by National Yang Ming Chiao Tung University.
- Success University establishes the "Blockchain Distributed Ledger Laboratory" (IOTA).
- National Development Council (NDC) leads the establishment of the Blockchain Alliance.

The blockchain talent pool in Taiwan mainly comes from the top universities in Taiwan. In addition to blockchain courses offered by universities, many well-known universities have research teams of scholars studying different blockchain technology and applications:

For example, National Taiwan University (NTU) is developing Taiwan's public blockchain - OurChain, aiming to solve efficiency, security, and decentralization issues.

National Chengchi University (NCCU) is a research powerhouse for Ethereum in Taiwan. Previously, Dr. Chen Chang-woo, the first official researcher of the Ethereum Foundation in Taiwan, served as a part-time professor, teaching blockchain technology. Vitalik Buterin has been invited to speak at NCCU several times. The NCCU Business School has set up a Financial Technology Experimental Center that has established related laboratories for blockchain innovation, blockchain applications, and smart contract applications to engage in innovative research, industry-academia cooperation, and to cultivate interdisciplinary financial technology talent.

National Tsing Hua University founded Asia's first professional blockchain law and policy research center, and National Chiao Tung University established the "Technology Management and Blockchain Research Center."

National Cheng Kung University (NCKU) has opened a Blockchain Distributed Ledger Laboratory that uses the distributed ledger technology - IOTA, and has developed its own identity verification system - TangleID, to record students' learning history.

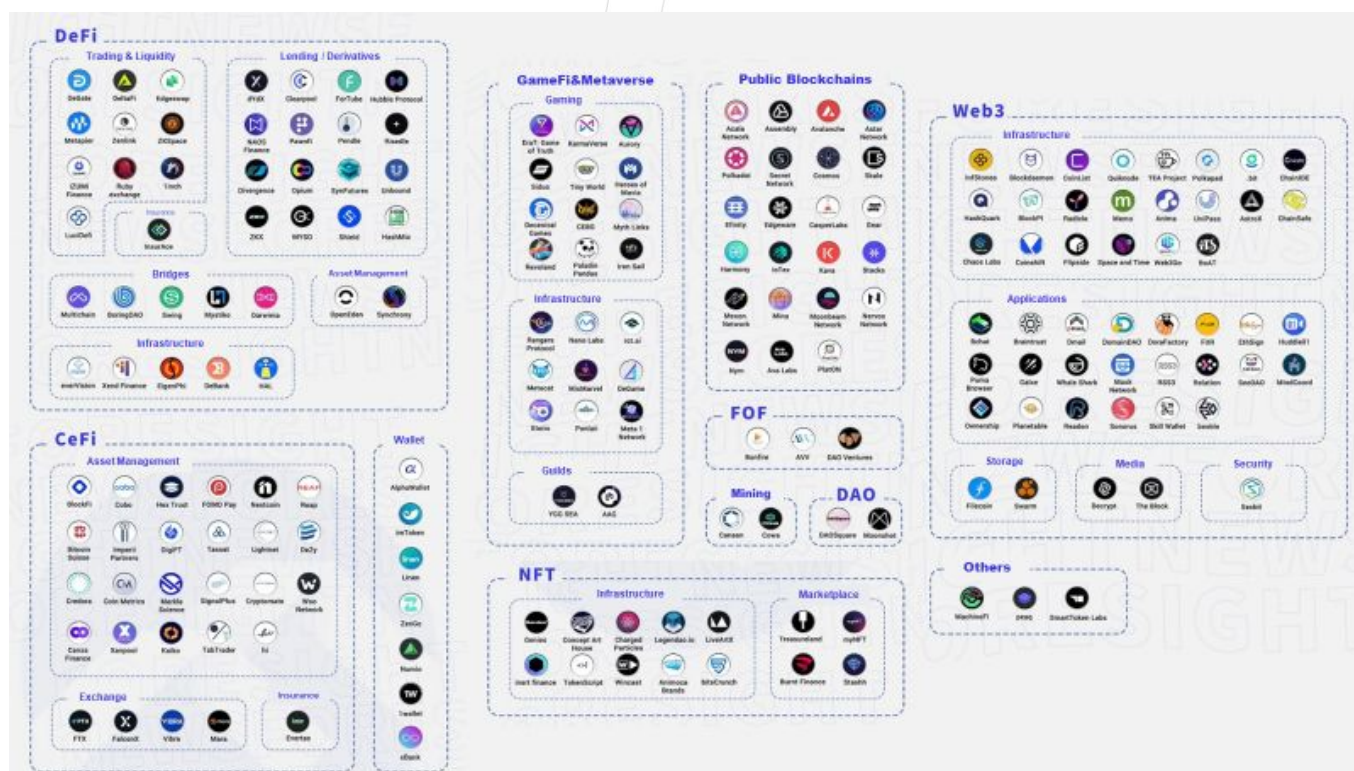
Investors

- **China**
 - Hashkey Capital
 - Dragonfly
 - Foresight Ventures
- **Korea**
 - Alphanonce
 - Hashed
 - 100&100 Venture Capital

Investment is the accelerator for Web3 builders and a significant indicator of the prospective direction of Web3's future. In this article, we introduce the investing landscape of the current Web3 industry, drawing from the portfolios of leading crypto venture capital firms.

China

Hashkey Capital

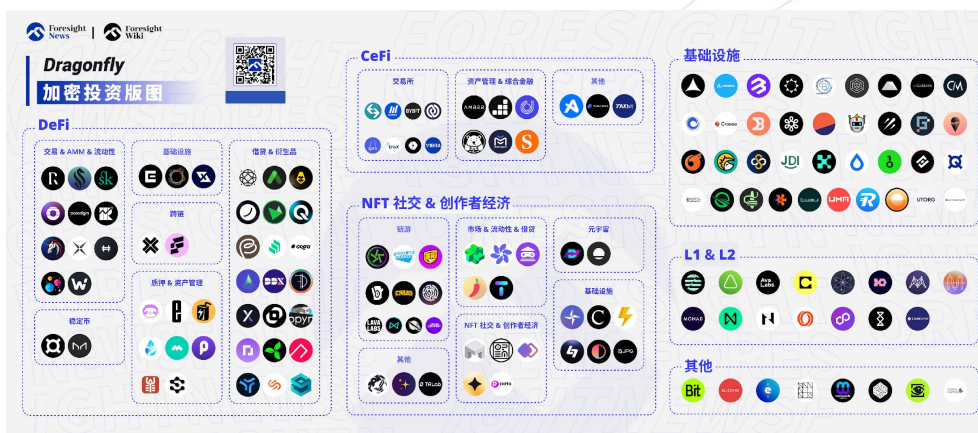


Hashkey Capital is among the earliest institutional players in the blockchain space since 2015, particularly in the Ethereum ecosystem.

Over the past years, Hashkey has executed a significant number of deals, with their most successful bets stemming from Layer 1s during the ICO boom of 2017.

In addition to investing in related projects like Cosmos, Polkadot, and CoinList, Hashkey is also active in other sectors of the industry, such as CeFi and general Web3 infrastructure. As one of the earliest investors in Ethereum, Hashkey has played a vital role in promoting crypto in Asia.

Dragonfly

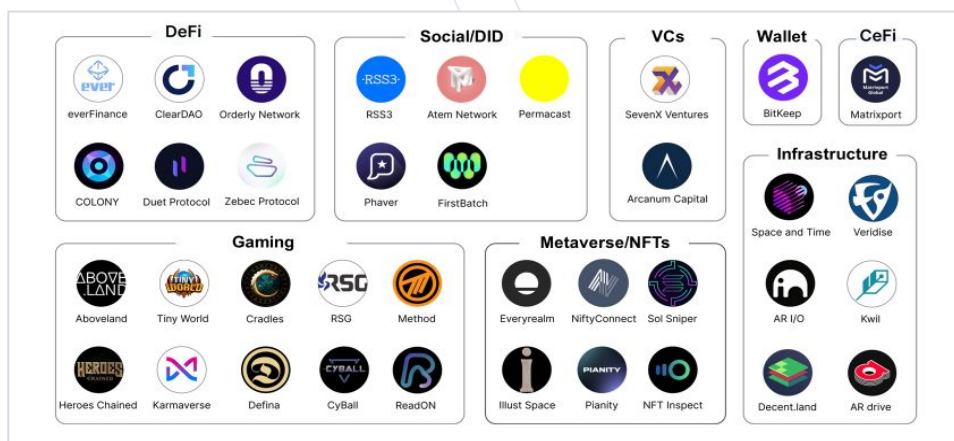


Founded in 2018 by Bo Feng and Haseeb Qureshi, Dragonfly has since grown into a global crypto investment firm with a strong Asian background.

The firm currently operates through three divisions: Dragonfly Ventures (VC), Dragonfly Liquid (LP), and the recently acquired Metastable (Hedge Fund), one of the longest-running crypto hedge funds in the space, founded by Naval Ravikant in 2014.

Dragonfly gained recognition through early investments in projects such as MakerDAO, dYdX, and ConsenSys, and has since expanded its portfolio to various sectors within Web3, including DeFi, CeFi, infrastructure, NFTs, and L1/L2s.

Foresight Ventures



Foresight Ventures is a rising star in the investment industry.

Founded in 2021, it has quickly gained attention due to its unique approach to research and fresh perspectives. Its comprehensive ecosystem, which includes Bitget, Bitkeep, Foresight News, and Foresight X, has helped establish it as one of the leading funds in the region.

Foresight Venture's all-encompassing thesis covers both infrastructure and applications at all stages of innovation, allowing Foresight to invest in early trends like data infrastructure and social applications, as well as late-stage projects like WalletConnect and Matrixport.

With strong roots and resources in the Asian market, Foresight excels at bridging the gap between Asian and Western projects, assisting them in understanding, participating in, and engaging with local communities.

Korea

Alphanonce

Founded in 2018, Alphanonce is a crypto-native trading and investment firm. Alphanonce provides full-stack solutions, including acceleration, investment, liquidity provision, and trading, to a diverse range of clients and counterparties. Alphanonce believes crypto innovates the process of value creation and value transfer.

Hashed

Focusing on the primary market and accelerating early-stage projects, Hashed is a team of blockchain experts and builders based in Seoul and Silicon Valley. Hashed believes that decentralization holds the power to transform not only the global economy but also the very fabric of the internet. As one of the largest players in crypto in Korea, Hashed boasts an extensive portfolio that includes some of the biggest projects in the space.

100&100 Venture Capital

100&100 Venture Capital is an investment firm dedicated exclusively to venture projects involving blockchain technology, cryptocurrency, and related assets.

The firm manages its own \$38 million Web3 game investment fund. Since 2017, it has been investing in promising blockchain projects. Notable investments include PlayDapp, Tokamak Network, IOST, ICON, Wemix, Content Protocol, BitTorrent, and CosmoChain.

Developers and Operators

- **Core Developers in China**
- **Core Developers in Korea**
- **Core Developers in Taiwan**

Core Developers in China

China has a large developer base. According to the Chinese Developer Status Survey, by the end of 2021, there were over 73 million developers in China, ranking second only to the U.S. The number of developers in China is growing rapidly, with a growth rate of over 40% in 2020 and 30% in 2021. According to statistics from CSDN, developers under the age of 30 account for 78% of all Chinese programmers, while 19% are aged between 30 and 40 years old. Developers above 40 years old make up only 3% of all programmers.

From the programming language perspective, Java remains the most widespread language in China. In 2022, Java developers accounted for 50% of all Chinese programmers. However, the number of Java developers has been decreasing in recent years. Python is the most popular language in China, with the number of Python programmers ranking in the top 3. As for IDE, VS Code is the most popular choice.

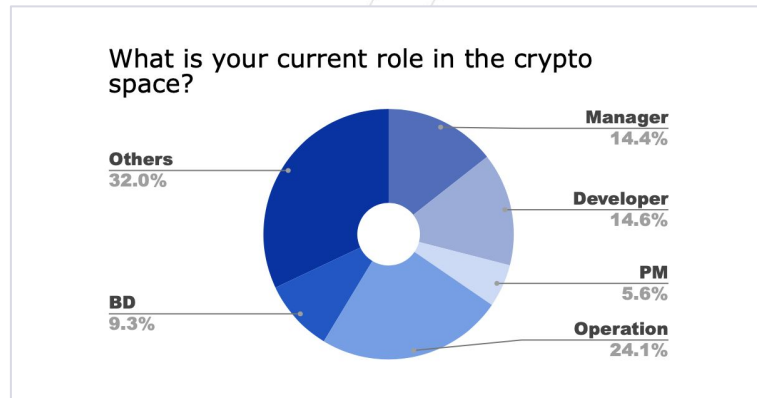
In general, developers' annual income has increased year by year. In 2022, 76% of programmers earned more than \$1,200 per month, while 20.5% of developers' monthly salaries ranged between \$2,500 and \$4,500. Developers working for internet giants receive even higher salaries. The average monthly pay in Alibaba and ByteDance is over \$4,800, and the average salary in Tencent, Kuaishou, Meituan, and Baidu is above \$4,400.

According to the CSDN report, 57.23% of programmers began writing their first line of code during high school or college, marking the start of their careers. Additionally, more developers are targeting management roles. In 2022, over 51.9% of developers indicated that they want to become managers, and in fact, 20% of developers aged above 40 work as technical managers.

From a technical perspective, 75% of programmers say they are interested in new technology concepts and are willing to actively learn during their careers. Attending online courses is one of the most popular ways for coders to learn new knowledge, with 57% of developers choosing to learn new languages or technologies online, and 48% of programmers willing to spend 1 to 5 hours per week studying independently for new infrastructures or tools.

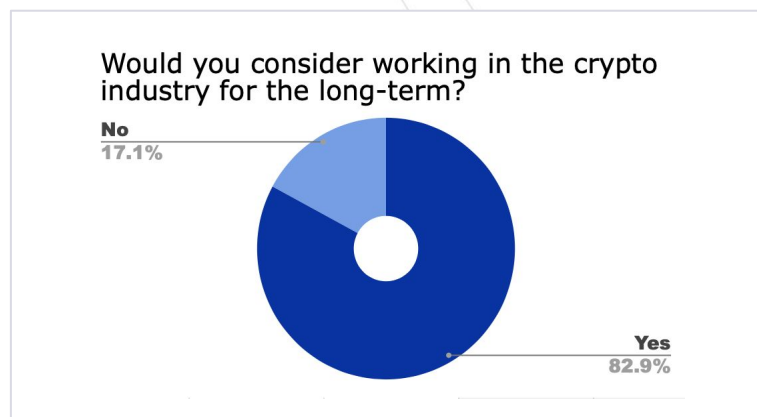
One reason that prevents Web2 developers from entering the Web3 industry is that blockchain is not well-regarded in China, and most programmers lack a basic understanding of crypto. Developers lack a systematic approach to the Web3 industry. At the same time, many Web2 programmers worry that working in the Web3 industry is unstable or illegal in China. Open-source software is widely used among Chinese developers, with more than 90% of developers using it, yet less than 30% of programmers contribute. Companies tend to protect their achievements and ensure code security by not publishing their code, which runs counter to the idea of blockchain. A core initiative moving forward is to improve education for crypto knowledge in the developer ecosystem. Only with a better understanding of the space can we encourage more developers to enter the industry.

Despite these challenges, the Web3 industry continues to grow organically, with many operators making long-term commitments to the space.



Among these crypto workers, 82.9% consider working in the crypto industry long-term. Such a strong commitment from builders showcases the conviction of people who have jumped into this space.

This is a trend we are seeing across Asia, as the younger generation strongly resonates with the ideals that crypto stands for: decentralization, freedom, and hope.



Core Developers in Korea

In the current Korean market, several development teams are actively engaged in the implementation of next-generation blockchain technology. These efforts can be broadly categorized into mainnet development, technology advancement, and wallet development.

Mainnet

- XPLA Chain is a Layer 1 blockchain that focuses on digital entertainment content, developed by a team with over 20 years of experience in gaming and entertainment. XPLA currently offers a variety of DApps and protocols that make Web2-based content easy to access in Web3, including 'XPLA GAMES', a blockchain gaming platform that comes with an SDK to help connect Web2 games to Web3. XPLA Chain utilizes the Tendermint blockchain engine based on Byzantine fault-tolerant consensus, which provides robustness against double-spend attacks and is tolerant against up to one-third of nodes failing. XPLA Chain is built with Golang and Rust, and it will also be compatible with smart contracts coded in Solidity due to EVM compatibility. The XPLA Chain and the foundation team behind it are fully committed to transparency and fairness.
- Superblock is developing a new blockchain called Over, which provides lightweight nodes, enabling anyone to run their own node. With Over, people no longer have to rely on other full node services. The founders created blockchain clubs in South Korea, including Decipher. Developers worked in various fields such as AI, web, and commerce, but were attracted to blockchain to create a new world. Superblock is interested in building the most decentralized blockchain with high security and stability. Furthermore, by having nodes host applications, they aim to decentralize web servers and create a new web, known as Web3.
- Ground X is a blockchain subsidiary of Kakao, Korea's largest mobile platform, and is a blockchain developer that develops Klaytn, a scalable blockchain platform with practical blockchain services. Various DApps can be operated on the Klaytn platform. Ground X was created by deriving the alphabet X from the words "ground," experimental, and experience. Ground X believes in the possibility of blockchain and the decentralized future, and aims to research and develop blockchain technology and apply it to the real world to industrialize it.
- Sigma Chain has a development team of blockchain experts, led by CEO Kwak Do-young, who developed Cyworld as a software engineer at Max Automation, and Hwang Jung-kyu, a 20-year development director of blockchain engine development. The Sigma Chain uses graphene toolkit technology, the mainnet code is C++ using boost library, and the web api communicating with the mainnet is nodejs express with excellent scalability. In addition to the language used for development, Sigma Chain's blockchain technology provides 150 APIs already developed by applying DAPI, enabling developers to connect directly to decentralized networks with development languages they are familiar with.

Tech Development

- Lambda256 is a blockchain technology development and service provider of Dunamu, the operator of UPbit, Korea's largest virtual asset exchange. It is concentrating on commercializing blockchain technology through its own blockchain infrastructure and web3 development platform 'Luniverse'. It provides development solutions to companies that want to provide services such as NFT, WEB, and STO.
- Onther is an Ethereum blockchain focused research and development tech company, providing a decentralized, scalable, and UX/DX improved Plasma sidechain. It could be a next-generation BaaS which is a Plasma-based sidechain platform for the mass adoption of decentralized applications and cryptocurrency.
- Blocko is a blockchain managed service company that launched Aergo Mainnet in 2018 to develop blockchain solutions that help the public to use blockchain in various ways from enterprises to the general public. Blocko was founded in 2014 by database experts who were looking for technology beyond the limits of existing databases, fascinated by blockchain. Blocko is a blockchain MSP company that focuses on the use of blockchain technology and is launching and testing various functions and services one after another.
- Ozys proposes standardized specifications for fragmented blockchain systems through cross-chain technology while establishing a transparent and decentralized trust-based autonomous financial system.
- DSRV builds multi-purpose blockchain infrastructure with a user-friendly interface to enable anyone to participate in the crypto economy and successfully onboard their ideas into the blockchain. DSRV's main products are 'All That Node' and 'Data Analytics.' All That Node is an all-in-one multi-chain development platform that supports over 20 protocols from a single platform, providing users with a one-stop solution. Data Analytics is the tool to access on-chain data which extracts and analyzes the entire history of a blockchain.

Wallet

- D'Cent is a cryptocurrency wallet developed by IOTrust. Its services are divided into a fingerprint-recognition cold wallet and a card wallet. Development company IOTrust's Wallet Key hardware safe storage technology and its underlying operating system (OS) development technology used for it are their core competitiveness.
- Haechi Labs, a South Korean blockchain security and wallet company, has raised approximately \$100 million in a Series A funding round at a \$2 billion valuation, with participation from investors such as Anaplan, SpringCamp, and Wemade. Haechi Labs offers security audit, wallet, custodial, and brokerage services, and recently launched a B2C wallet for general users called "Face Wallet."

Core Developers in Taiwan

Taipei Ethereum Meetup(TEM) is Taiwan's largest developer community, boasting over 6,000 members. They hold weekly study groups, hundreds of meetups, seminars, and conference events, with attendance ranging from 50 to over 100 people per event. All gatherings are broadcasted live. This is a group dedicated to discussing the theory, practical application, and implementation of Ethereum technology.

In addition to the Ethereum community, there are also public chain developers in Taiwan such as TON (The Open Network), Solana, ThunderCore, and IOTA.

In terms of DeFi ecology, there is Perpetual Protocol; for wallets, there are imToken, Blocto, and others; NFT platform developers include Oursong, Lootex, and some entrepreneurial communities such as Bu Zhi DAO and government-participated organizations like g0v:

TonX Studio

TonX Studio is a technology research and development company for Layer 1 "The Open Network (TON)" based in Taiwan. Founded by early contributors to The Open Network, the company is dedicated to building significant infrastructure for the TON blockchain, including network, validation, storage, DNS, and lightning network systems.

Perpetual Protocol

The world's largest DeFi derivative protocol, V2 version, has been released on Optimism, featuring the first-ever automated market maker (AMM) smart contract tailored for perpetual contracts.

Lootex

One of the largest NFT auction markets in Taiwan, expanding the GameFi ecosystem with over 80,000 active users per month.

Oursong

American music icon John Legend is one of the co-founders who completed a \$7.5 million seed round of financing in the first half of last year, with lead investments from Infinity Ventures and Animoca Brands.

Bu Zhi DAO

Bu Zhi DAO (BZD), a group of Taiwanese and overseas Chinese entrepreneurs in the Web3 space, includes top industry professionals from Coinbase, Avalanche, Solana, Opensea, and others. Centered in Taiwan and not concerned with politics, we are passionate about promoting the Web3 ecosystem and culture in Taiwan.

g0v(gov-zero)

"Gov 0" (g0v) is centered on "information transparency, open outcomes, and open collaboration," aiming to use grassroots power to care for and participate in public affairs, and is committed to developing information platforms and Web3 tools for civil participation in society. It is one of the world's largest citizen technology communities.

Core Sectors and Projects

In this section, we hope to present the core narratives and projects in each region. Mainly to highlight what has been driving growth and speculate what the future could look like.

China Operators

In terms of startup communities in China, we can broadly split them into 2 categories.

Infrastructure developers who are passionate about the underlying tech and are interested to solve underlying scalability issues and improve performance. They closely follow the latest developments in the crypto space, starting from Ethereum, Polkadot, Cosmos, and so on. Within this group, developers tend to belong to different tribes depending on their preferences, such as those who prefer Rust going into Polkadot, and others who stick with Ethereum. They keep a close eye on the latest advancements in technology and continuously explore ways to improve TPS, cross-chain capabilities, storage, and other related areas.

As a result, many developers started building new layer ones trying to tackle scalability and performance issue with their own solutions or architecture. Some notable examples of successful blockchain projects that were developed by Chinese developers and have gained market traction include Ontology, a DID focused public blockchain project that conducted a \$40 million airdrop to its community members in 2018, VeChain, a blockchain platform for supply chain management with partnerships with several major companies in China, TRON, a blockchain platform for decentralized applications and smart contracts that raised over \$70 million in its ICO in 2017, QTUM, a hybrid blockchain platform that combines elements of Bitcoin and Ethereum and raised over \$15 million in its ICO in 2017, and Bytom, a blockchain platform for asset digitization and management that raised over \$20 million in its ICO in 2017.

Application developers is another group trying to build the decentralized versions of existing consumers apps or experiment with new types of possible applications. This group has a lot of experience in developing user-facing technology, optimizing user experience, and presenting products in appealing ways. This is particularly evident in the success of consumer applications such as Tencent, Alipay, Baidu, and Meituan. These developers have transferable skills that make it easier for them to develop applications in the blockchain space, as they do not need to have a deep understanding of the underlying technology of blockchain design, peer-to-peer systems, etc. In particular, Ethereum's smart contract feature and expansive tools and libraries has freed developers from needing to understand the technical details of the Ethereum blockchain and allows them to focus on creating gambling, casual games, and other consumer-focused applications on the blockchain.

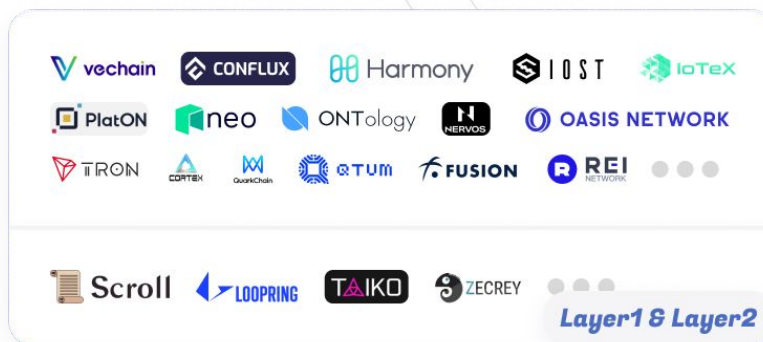
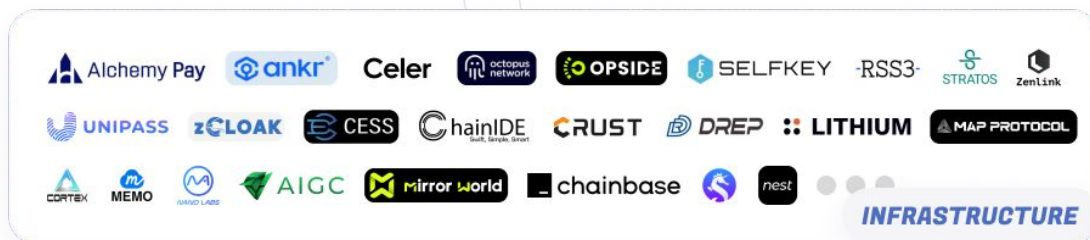
Given the progress of underlying blockchain development and consolidation across different chains, many layers ones have gradually died down and blockchains like Ethereum grow to dominant positions with developers joining the ecosystem rather than competing against existing developer communities. Therefore, more developers choose to spend time creating applications for consumers because it's seen as easier to onboard users than to tackle fundamental problems in blockchains.

There can be many types of use cases for consumers and here we will highlight the most popular sectors chosen by developers:

Infrastructure

During the ICO phase in 2017, infrastructure like trading platforms and wallets were much needed by the market. Entrepreneurs and developers alike saw this huge demand and started creating infrastructure like CEX and wallet to support and facilitate both trading and on-chain activities.

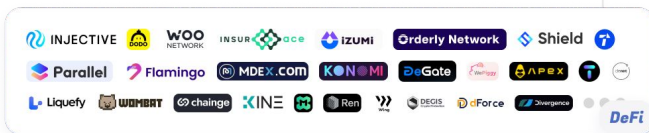
Tours in China from founders like Vitalik and Gavin Wood has sparked much interest from developers to look into blockchain and the underlying infrastructure. Numerous talented developers have been captivated by the challenges of improving blockchain's scalability, performance, and security. With a large number of developers coming from esteemed universities such as Tsinghua University, Beijing University, and Zhejiang University, as well as technology companies like Tencent, Baidu, and Alipay, the community has grown significantly. These developers and early traders closely follow the advancements in blockchain technology, including plasma, zk, and rollups, in their journey of learning and developing new solutions. Through this process, they have found a way to leverage their talents and technology to create innovative blockchain projects



DeFi

The reason why DeFi is a popular area is mainly due to its easy-to-implement product/market fit and the large market demand. Additionally, China has a large number of smart contract developers and companies with strong technical capabilities, which makes it easy to develop low-threshold DeFi projects.

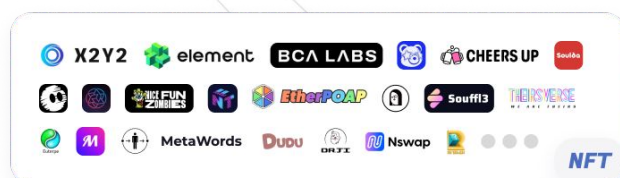
Furthermore, DeFi is a model that is easy to find product/market fit, making it easier to achieve profitability. The main DeFi products include decentralized exchanges, lending, and yield aggregators. For example:



NFT

NFTs were a phenomenon that gained popularity, especially among young university students and younger generations. They were fascinated by the meme-like culture and community building aspects, which made them feel connected through NFTs and helped them find their community. Additionally, there were many opportunities for seemingly unsophisticated trading, leading to many stories and PFP NFTs spreading like crazy during the NFT summer.

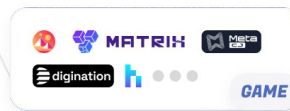
Given the huge market, many tools and projects were created to help illuminate and facilitate the discovery, analysis, and trading aspects of NFTs. Moreover, many didn't stop there and went on to explore the underlying technology, pushing frontiers in NFTFi and exploring potential new use cases, business models, and asset types possible in NFTs.



Gaming

China has a large number of casual and large game developers who can quickly understand the core of play-to-earn and NFTs as a new revenue model. These developers quickly enter the market to develop new games and assets, utilizing NFTs as a profitable monetization channel.

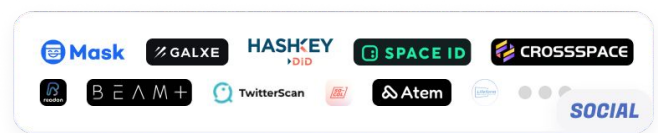
As Stepn has demonstrated with its paradigm-shifting move-to-earn business model, many builders with experience in gaming or application development have seen the potential of on-chain gaming and have quickly pivoted to blockchain gaming with their transferable skills in game design and user acquisition experience in their previous projects. However, there is still a certain gap between these companies and as a result, there are tooling projects being developed by those who saw the demand in the market to help traditional developers create on-chain games.



Social

From a Web2 development standpoint, Chinese technology companies such as Tencent, Tiktok, and Alipay have demonstrated their ability to capture user attention through social activities and monetize the traffic and attention they have generated on their platforms. Many engineers who have worked with these companies or have experience building social platforms understand the immense opportunities within this field.

Additionally, Chinese companies and their engineers have adapted more effectively to the mobile version of the internet in modern society and have accumulated experience in attracting and retaining users on mobile platforms.



Emerging highly impactful projects indicate the fastly-growing pace of the whole Web3 industry. Here, we introduced typical core projects in different key sectors:



Conflux

Conflux is a public, high-capacity layer one blockchain developed by the Shanghai Tree-Graph Blockchain Research Institute, which was founded under the support of the Shanghai municipal government in 2018. The team comprises top scholars and researchers from the mainland including chief scientist Andrew Chi-Chih Yao, the only Chinese Turing Award winner to date for his study on randomized algorithms.

The Conflux Network leverages its Tree-Graph consensus to allow the parallel processing of multiple blocks and maintain a TPS of 3000-6000 without compromising ownership, openness, or security.

- Competitive Advantage - Conflux is so far seen as the only regulatory-compliant L1 that has come out of China, and it has certainly taken on a different business strategy compared to public blockchain ecosystems of the West alongside the government's rising interest and loosening regulatory landscape.
- Instead of self-subsidizing developments on the mobile front, Conflux was able to capture the first-mover advantage in its own territory.
- Recently partnered with China Telecom (BSIM) to tap further into the mobile population of China (390 million subscribers EOY 2022)

Alchemy Pay

Founded in 2018, Alchemy Pay is an off-and-on ramp service provider that is gradually moving into NFTs and the general mobile payment sector. Alchemy Pay currently supports crypto purchases in more than 170 countries and recently added support for Google pay on-ramp.

The platform's native token, ACH, is used for transaction fees, rewards for network use, lowering transaction costs, and staked by business partners during the onboarding process based on projected volume. ACH currently has a circulating market cap of over \$177 million and a fully diluted market cap around \$350 million.

Animoca Brands

Founded by Yat Siu in 2014 and headquartered in Hong Kong, Animoca Brands has been deemed as a pioneer of digital ownership in the metaverse narrative. The company currently has over 390 holdings that specialize in developing and publishing a wide range of products relating to both blockchain and traditional games, as well as infrastructures for digital ownership development.

Besides some of the well-known holdings of Animoca Brands, including Axie Infinity, OpenSea, and Dapper Labs (NBA Topshot and Flow), the company is perhaps best known for Sandbox, the decentralized metaverse that has attracted over 200,000 monthly active users at its peak. Sandbox allows users to invest in virtual lands and items that can be turned into game scenarios through its VoxEdit tool and game maker.

Certik

Founded by Prof. Ronghui Gu and Prof. Zhong Shao, two graduates of Tsinghua and the University of Science and Technology of China, Certik has been the leading firm in blockchain security and smart contract audits.

As of the time of writing, Certik has supported over 3600 clients in discovering more than 60,000 vulnerabilities in their smart contracts, which totaled a cumulative market cap of \$364 Billion. In addition, Certik provides real-time monitoring for on-chain activities using AI and formal verification methods, and security consultation with Web3 projects.

Korean crypto projects are primarily driven by 2 Big Tech and large Web2 game corporations. In Korea, large corporations have aggressively entered into Web3 space via utility tokens (fungible tokens) and NFT. Almost every Web2 based company in Korea has been exploring the Web3 market.

Klaytn

Kakao, the largest messenger company in Korea, launched Klaytn, a blockchain project, in 2019. The Klaytn Foundation, which split from the founding team to create a more decentralized and transparent governance structure, has decided to burn a significant portion of \$KLAY, the native cryptocurrency of the platform, to increase its scarcity and value. This move may help to reinvigorate interest in Klaytn.

LINE

Line, a subsidiary of Naver, has launched a project targeting L1 to become the center of the digital value chain. Its recent announcement of a zero-reserve policy and the launch of its own mainnet Fishcha indicate a strong commitment to fostering mass adoption of its platform. Overall, Line's efforts to position itself as a central hub in the digital economy and its proactive approach to building out its platform suggest that it is taking steps to establish a strong foothold in the market.

Others

Alongside the two L1s, the Web2 gaming sector is also a major player in the Korean Web3 ecosystem. WEMIX (Wemade), MBX (Netmarble), BORA (Kakao Games), and XPLA (Com2us) are trying to enter the Web3 game market based on solid track records in the Web2 game market. Web2 companies are extremely adept at monetization and adding a token to the mix could create interesting models of monetization driving future growth.

Web2 Internet Platform

- Klaytn of Kakao, L1
- LINK of LINE, L1

Finance

- Neopin of Neowiz (DeFi)

Retail

- PuuvillaSociety of Shinsegae, NFT community
- BellyGom of Lotte, NFT community

Game

- Wemix of Wemade, L1 / L2
(initially gaming platform on Klaytn but pivoted to L1/ L2)
- Marplex of Netmarble, Gaming platform
- Xpla of Com2us, L1
- Nexon, Gaming platform

		Big Tech		
	Symbol	MC	FDV	Equity Market Cap
Kakao	KLAY	\$746,581,720	\$746,581,720	\$20,299,511,521
Naver	LN	\$264,107,529	\$264,107,529	\$23,186,175,115
		Game		
	Symbol	MC	FDV	Equity Market Cap
Wemade	WEMIX	\$400,529,932	\$1,572,698,516	\$1,300,460,829
Netmarble	MBX	\$70,963,768	\$1,652,698,649	\$3,690,322,581
Com2us	XPLA	\$110,774,597	\$1,515,725,855	\$679,870,968
Neowiz	NPT	\$31,200,276	\$1,150,867,284	\$715,861,751
Nexon	NA	NA	NA	\$20,019,944,700
		Retailers		
	NFT	Floor	Supply	Equity Market Cap
Shinsegae	PuuvillaSociety	\$84	10,000	\$2,016,801,843
Lotte	BellyGom	\$155	10,000	\$1,777,235,023

Taiwan

Layer 1 Chain Community



Bitcoin core developers, AwesomeDoge (Chinese Bitcoin Community), Ethereum Native Community, Taipei Ethereum Meetup, IOTA Chinese Community, TonX Studio, TonStake, TonRun, TonDaddy, Ton.How, TonFura, Solana, SolMeet, Dappio, ThunderCore.

DeFi



Perpetual Protocol, Cream Finance, Hakka Finance, XY Finance

SocialFi



Passion Labs

Metaverse



High Street

NFT



Oursong, Lootex, Fansi, Beatday, Jcard

Wallet



Blocto, KryptoGo, imToken, CoolBitX, SecuX

Quantitative Trading



SUDO, Bincensive, Kronos Research

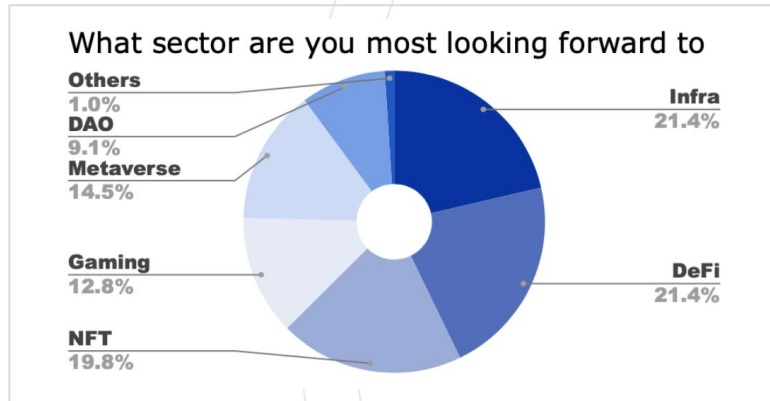
Other NPOs



Bu Zhi DAO, g0v(gov-zero)

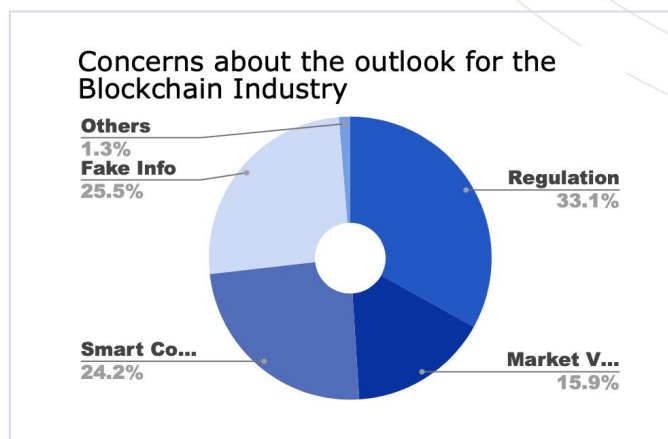
Future Development and Challenges

The future of crypto in Asia is a bright one. Regulations in Hong Kong are becoming much clearer to accept crypto as a regulated asset and users are upbeat about the future of crypto. Moving forward we continue to be bullish on the strength of developers in this region and the innovative projects that they will come up with, especially as we move into the application layer. Our survey results also align with this as most of the crypto users are more looking forward to applications than infra.



Asia developers are getting better educated and moving into the space en mass, it will only be a matter of time before we see a lot of Chinese developers move into the space and contribute to the growth of the broader ecosystem.

US is in a bad place right now from a regulatory perspective, while Asia is marginally opening up the regulations on the crypto market. South Korea and Taiwan have an established framework and Hong Kong is in the process of setting one up. Mainland China is a bit further away but Hong Kong at least gives us hope for the future.



Asia users are some of the most hard-working players in the game, they will be the ones testing, advocating and using new innovative protocols. We strongly believe that Asia will be a driving force for crypto in the future.

Long Crypto, Long Asia.