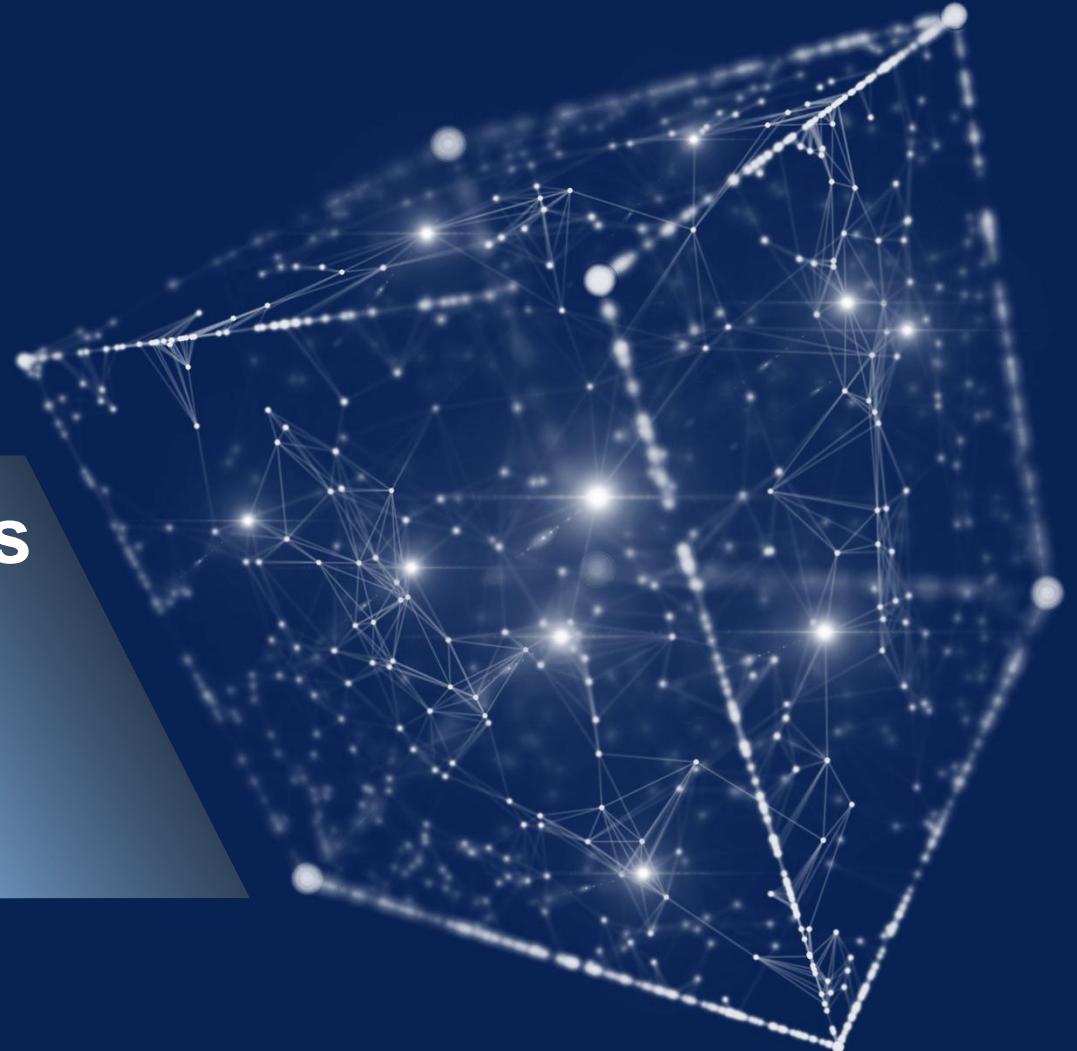


# Overview of Digital Assets and Blockchain

Goldman Sachs (Asia) L.L.C.

November 2021



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- 
- 1 Engaging with Digital Assets and Blockchain Globally
  - 2 How Digital Assets Transform the Financial Infrastructure Space
  - 3 Finding the Opportunities in the Asian Digital Assets Space

## I. Engaging with Digital Assets and Blockchain Globally

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# The Evolution of Digital Assets and Blockchain

## From Digital Assets to Broader Applications

### Digital Assets and Blockchain Rapidly Evolved From Its Infancy, And Has Since Developed into Broader Applications

#### Blockchain 4.0 (2020 Onwards)

- New applications of blockchain emerge e.g. NFTs, play-to-earn games, O2O authentication, metaverse
- Gradual emergence of industry leaders worldwide
- Governments start to consider nationwide cryptocurrency adoptions

#### Blockchain 3.0 (2017–20)

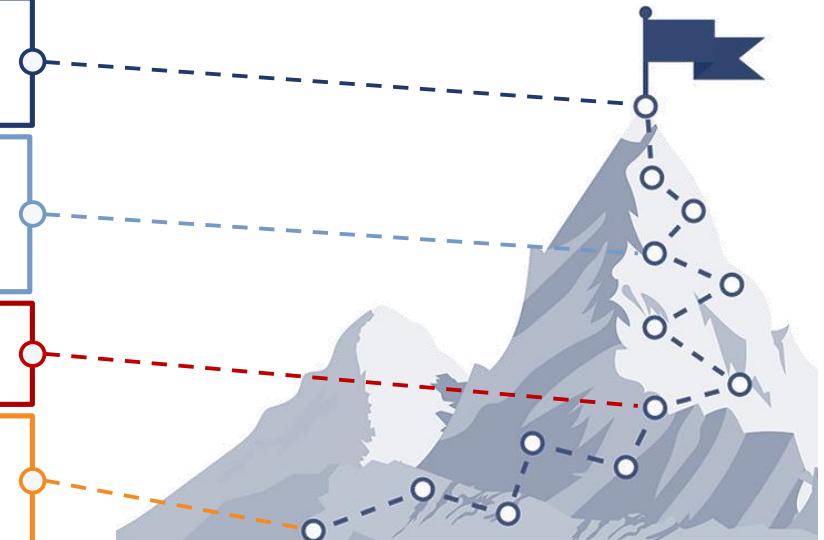
- ICO boom from 2017–2018 marked the transition to Blockchain 3.0
- Consortium blockchain emerged and industry was exploring the commercial potential beyond financial sector
- A number of blockchain platforms were established, with clearer benefit of decentralization
- Evolved from a B2B dominant landscape to an increasingly B2C one

#### Blockchain 2.0 (2013–17)

- Ethereum was invented with smart contract technology
- Blockchain had a wider adoption in financial service industry

#### Blockchain 1.0 (2008–13)

- Satoshi Nakamoto gave birth to the idea of blockchain in Bitcoin in the white paper - “Bitcoin: A Peer-to-Peer Electronic Cash System”
- Industry focuses on cryptocurrency, regarding blockchain as the pure technology infrastructure



### Application Roadmap – From Technology to Commercialization

#### Underlying Technology

Blockchain is a distributed ledger technology that allows multiple copies of data to exist across multiple computers, creating a peer-to-peer network. As the result, there is no central data store or clearing house

#### Platform Infrastructure

Platforms are the infrastructure on which developers build applications to solve business problem. Major platforms include: Ethereum (permissionless, purely public), Hyperledger Fabric (permissioned, private), R3 Corda (permissioned, private)

#### Commercial Application

##### DApps

The decentralised applications ('DApps') that sit on top of the blockchain platforms may have the most interest for investors, either as new business model disrupters to existing process or as future investment opportunities themselves

#### Key Benefit

■ Immutability of record

■ Disintermediation of trust

■ Smart contracts

# Potential Evolution of the Digital Assets Economy

*While many blockchain applications are still digitally native, there are increasing opportunities for more comprehensive usage across the digital assets economy*

Long-Term

## Digital Assets

### Digitally Native

Bitcoin, Ether, BAT

### Stablecoins

Dai, Private (USDC, Novi), Central bank digital currencies

### NFTs

Digital Collectibles, Art, Avatars, Royalty Stream

### Securities (Tokenization)

Equity, Debt, Real Estate, Derivatives, Funds and Hybrid

## Smart Contracts

### Primitive Services

Lending, Borrowing, Insurance, Trading, Derivatives, Synthetic Assets

### Embedded Features

Loyalty dividends, Tenure-based voting

## Distribution (Blockchain)

### Public Blockchains

Bitcoin, Ethereum

### Enterprise Blockchains

Private Networks

### Blockchain Interoperability

Combination of public and private chains

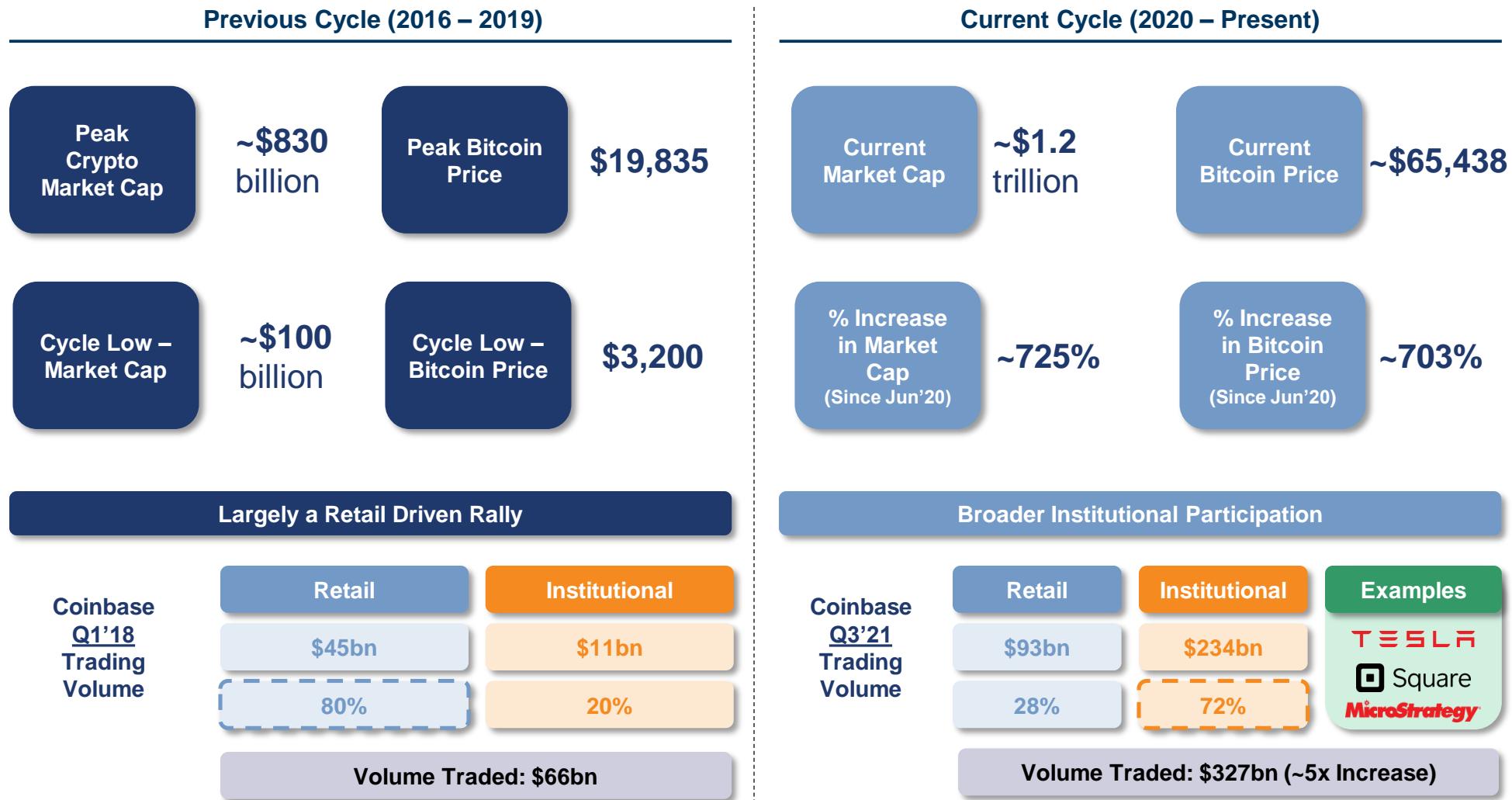
## Settlement and Custody

### Global payment settlement network without intermediaries

### Delivery vs. Delivery

Improvement of collateral mobility

### Settlement of securities



Source: CoinGecko, CoinMarketCap, Coinbase public filings, Chainalysis; <sup>1</sup> East Asia includes China, Japan, Mongolia, and Korea.

# What is Different in this Cycle?

## Adoption of New Applications Across the Digital Asset Landscape

### Previous Cycle (2016 – 2019)

- Emergence of bitcoin as an alternative asset class for retail investors
  - Low volume and high volatility
  - Lack of institutional grade infrastructure e.g. custody, trade execution and credit
- Hunt for the “next bitcoin”
  - Bitcoin hit its all-time high of nearly \$20,000 and Ethereum at nearly \$1400 primarily because of the ICO craze
  - Total capital raised through ICOs in 2017-2018 was in excess of \$15bn
  - Loss of confidence in ICOs as well as news of scam after scam hitting the market led to a massive drop in interest in the funding model



\$500M+ ICO  
No relevant product

\$1.2B+ ICO  
SEC Charges

\$4.2B+ ICO  
Purchased Bitcoin

### Current Cycle (2020 – Present)

- 1 **Bitcoin** widely recognized as an asset class across both retail and institutional investors
- 2 **Ethereum upgraded** by improving its efficiency and ability to scale and can better facilitate DeFi
- 3 **Record trading volume** for exchanges driven by a broader crypto rally
- 4 Rise of **stablecoins** for payments and financial applications
- 5 “**Hunt for yield**” driving growth of Centralized Finance (“CeFi”) and Decentralized Finance (“DeFi”)
- 6 Fast growing **Non-fungible tokens** (“NFT”) landscape

# What's Driving Investor Interest?

## Blockchain is One of the Key Innovations

### Computer

*Machines Can Follow Instructions*



### Internet

*Machines Can Send and Receive Information*



### Blockchain

*Machines Can Send and Receive Value*



Google amazon.com

Microsoft

facebook NETFLIX

Companies

coinbase

BINANCE

Protocols

bitcoin

ethereum

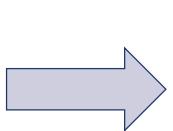
UNISWAP

Compound

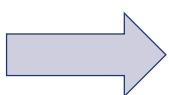
# Transformation of the Financial System

## Evolution of Other Industries Suggests Blockchain Will Be a Catalyst

### Digital Revolution has Transformed Many Industries and Business Models

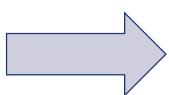


 Spotify  
Subscription services with access to all music in one app



STITCH FIX  


Access to all brands and products on one online platform



### The Technological Breakthrough to Create “Digital Property” will Disrupt Financial Systems



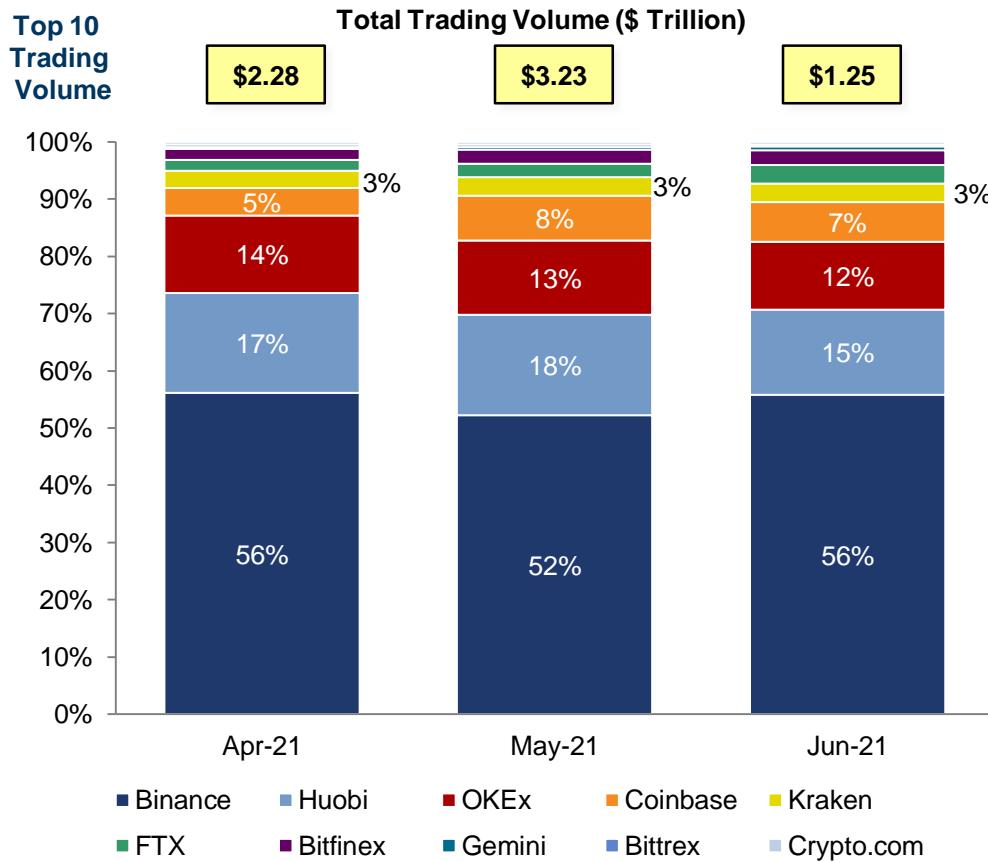
Bitcoin and blockchain technology created something unique: **digital property**. For the first time there was a way to own something digital that couldn't be copied



Potential disruption of the entire lifecycle of financial ecosystem from creation, issuance, transfer, clearing, settlement and auditing

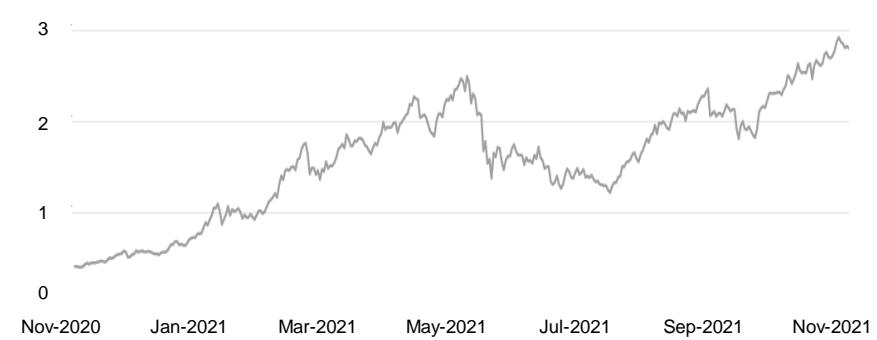
# Record Trading Volume for Exchanges Driven by a Broader Crypto Rally

## Top-10 CEX Trading Volume (Apr – Jun 2021)<sup>1</sup>

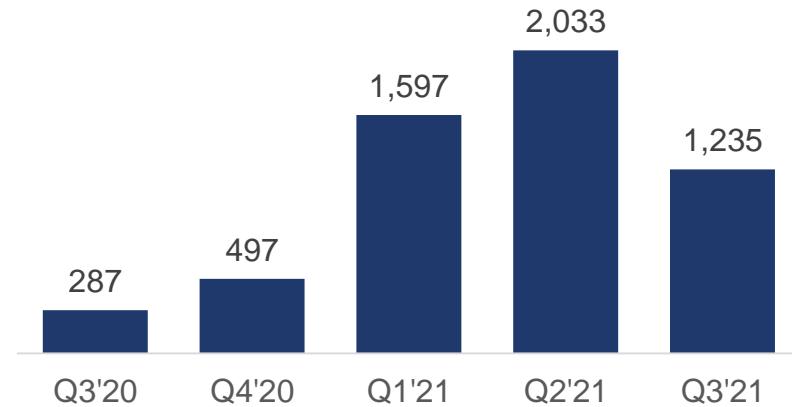


+65% Top-10 CEX Total Trading Volume QoQ Growth in Q2 2021

## Growth in Crypto Market Cap (\$tn)



## Growth in Coinbase Revenue (\$mm)



Source: CoinGecko, Public Filings

<sup>1</sup> Top-10 CEX as of 29-Jul-2021: Binance, Huobi, OKEx, Coinbase, Kraken, FTX, Bitfinex, Gemini, Bittrex, and Crypto.com.

# What Applications Do We See Today?

## Selected Applications

1 “Pure” Cryptocurrencies	2 Utility Tokens	3 Stablecoins	4 NFTs	5 Financial Infrastructure
 <ul style="list-style-type: none"> <li>Digital currency</li> <li>Store of Value and Medium of Exchange</li> </ul>	 <b>ethereum</b>   <ul style="list-style-type: none"> <li>Use blockchain technology to facilitate additional services including:             <ul style="list-style-type: none"> <li>Smart contract platforms</li> <li>Discounts on exchanges</li> <li>Identity verification</li> <li>Distributed file storage</li> </ul> </li> </ul>	 <b>BUSD</b>  <b>USD Coin</b>  <b>DAI</b>  <b>PAXOS STANDARD</b>  <b>tether</b>  <b>celo</b>  <b>GEMINI dollar</b>	   <ul style="list-style-type: none"> <li>Unique, tradable digital tokens representing ownership of a digital good</li> <li>Leverages open-source, decentralized blockchain technology to enforce authenticity and proof of ownership</li> </ul>	    <ul style="list-style-type: none"> <li>Blockchain technology creates opportunities to digitize capital markets (securities, custody, brokerage, etc.)</li> <li>Ability to store historical data on blockchain helps secure origin of goods (e.g. supply chain) or ownership of securities</li> </ul>

# 1 Macro Shifts and Emergence of Bitcoin as an Asset Class

## Use Cases

- Evolving narrative as a digital store of value driven by scarcity, security and brand value (network effects)
  - Especially useful in countries with unstable currencies
- Increasing acceptance as collateral for financial transactions
- Unlikely to be used for commerce and payments
  - Volatility and deflationary design makes it less suitable as a medium of exchange
  - IRS treats exchange of bitcoin as transfer of property and a taxable event

## Current Scale



~100  
million users

## 3 Yr CAGR

50%+

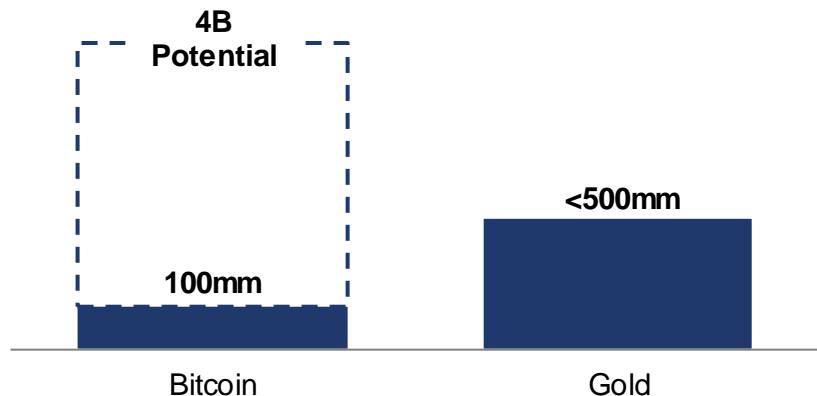


~\$1.2 trillion  
current market cap

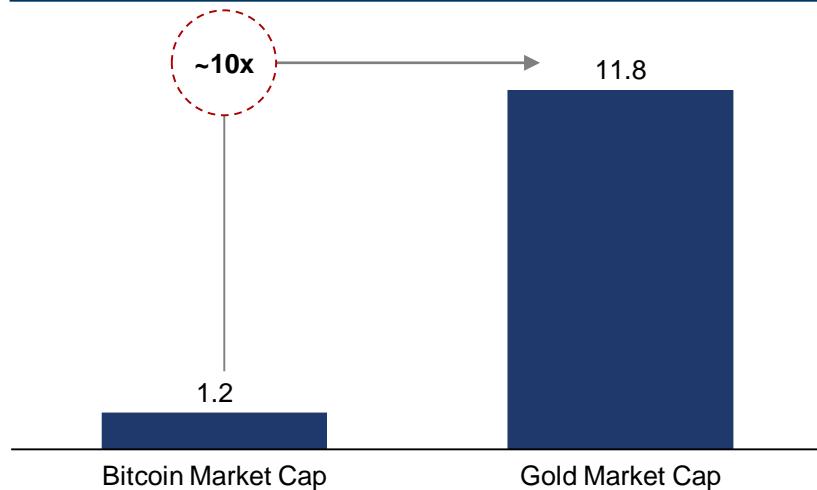
~131%

## Illustrative Market Opportunity

### Bitcoin vs. Gold Global Users



### Bitcoin vs. Gold Market Cap (US\$ tn)



# Exchange Tokens Case Study

## BNB Powers the Binance Ecosystem



### BNB Overview

- BNB was created as part of the Binance exchange through its initial coin offering (ICO) which raised ~\$15m USD in July 2017
- BNB was originally designed to be used to pay discounted fees on the Binance platform and also function as the native token powering the Binance Chain
- When paying in BNB users receive the following discounts on Binance:
  - 25% discount on Spot trading fees
  - 25% discount on Margin trading fees
  - 10% discount on Futures trading fees
- BNB is now an accepted across a growing ecosystem:
  - **Payment:** Pundi X, Monetha, HTC, Coinpayments, CoinGate, Coinify, NOWPayments
  - **Travel:** TravelbyBits, Trip.io, Travala.com
  - **Entertainment:** Decentraland, Loom Network, VIBE, MachiX, Aeron, Axie Infinity, Steemmonster, ADAMANT Messenger
  - **Service:** DENT, BitTorrent, Storm, Canya, MyWish, PureVPN, CenterServ
  - **Finance:** ETHLend, Moeda, LNDR, Nexo, NAGA, Bitcoin Suisse

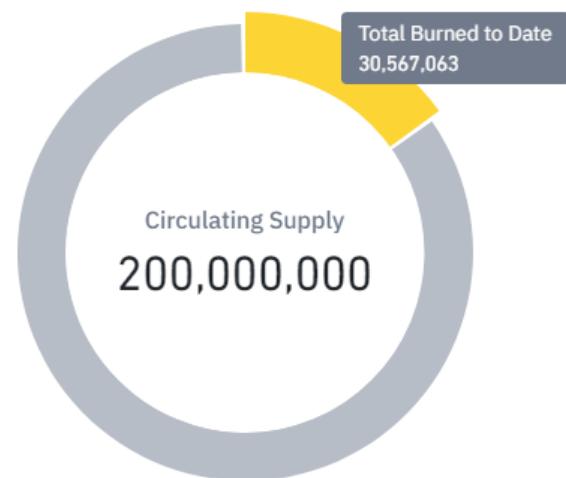
Source: Company Website, CoinGecko  
<sup>1</sup> Per CoinGecko as of 15-Nov-2021.

### Select Statistics

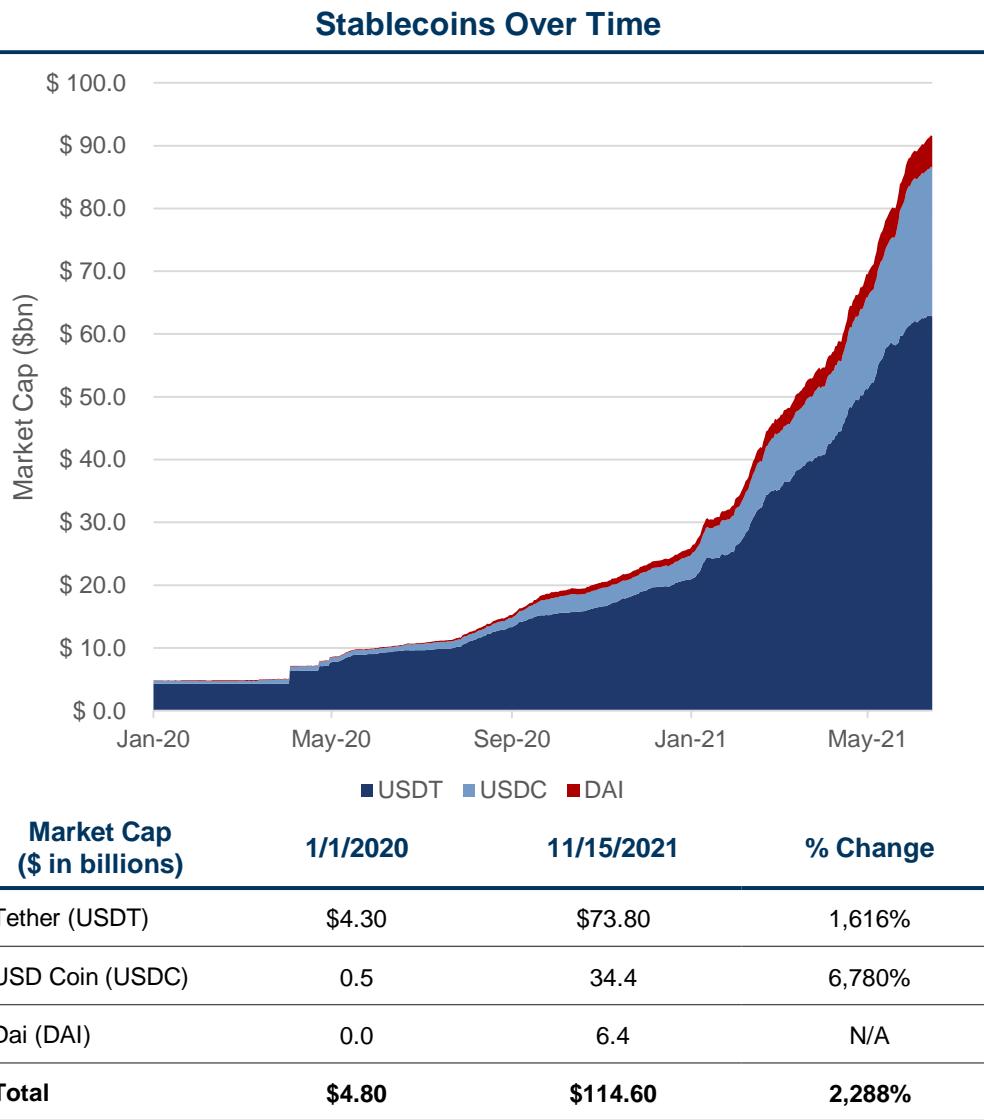


### Quarterly BNB Burn

- Binance schedules quarterly burns of BNB to permanently reduce the supply of BNB until a total of 100mm BNB has been destroyed, which represents 50% of the total BNB supply



### 3 Rise of Stablecoins for Payments and Financial Applications



Growth in stablecoins driven by:

- **Payments** (OTC desks who convert large fiat-based buy orders to stablecoins in order to better route orders around exchanges)
- **Yield** (multiple retail products offering 6-12% yield on USD deposits)

#### Recent Central Bank Digital Currency News

*Accenture and Digital Dollar Foundation to trial United States CBDC this year (May-21)*

*Rolling up the sleeves: China's tech giants drive digital yuan adoption (May-21)*

*"Jerome Powell remains resolute in the position that the U.S. will not enter into a CBDC race with China. According to Powell, the Fed is more concerned with getting it right than rushing to play catch up with China."*

*England's central bank moves ahead with CBDC with 7 job postings (May-21)*

## Entertainment and Content Creation are Thriving in the NFT Space

**NFTs prove ownership of a digital item, as its pieces of digital content are linked to the blockchain – they are unique and not mutually interchangeable, which means no two are the same**

### Social Tokens



Sports and Creator Economy

### Collectibles

CHRISTIE'S



Sotheby's



WARNER MUSIC GROUP

Art, In-Game Items, Digital Avatars, Domain Names

### Media and Gaming



CryptoKitties



Play to Earn, Royalty, Limited Edition, Moments

### VR, Metaverse, Exhibits



Decentraland



SuperRare

Virtual Real Estate, Digital Economies, Entertainment

# Animoca Brands: A Leader in NFTs & Gaming

## Disrupting the ~\$150 billion gaming business

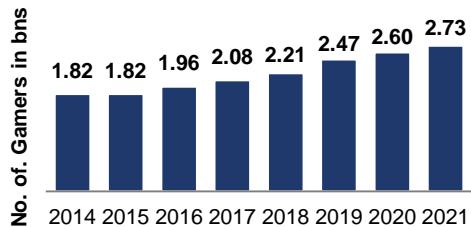


### What is Animoca Brands?

- Animoca Brands leverages **gamification**, **blockchain**, and **artificial intelligence** to develop and publish **digital entertainment products** including original games as well as products based on popular intellectual properties
- Delivering property rights to the growing **2.5 billion** gamers while creating a **new asset class**
- Leader in the emerging digital assets market with a mission to drive **mass blockchain adoption**
- Partnerships with the biggest brands in the world, with **10 million monthly active users**

### The Global Gaming Market

#### Number of Active Gamers Worldwide from 2014-2021



The video gaming industry is huge and shows no signs of slowing down. While there were about 2.5 billion video gamers across the world in 2019, this figure is expected to further rise to more than 2.7 billion gamers in 2021.

### Animoca Brands: Key Facts

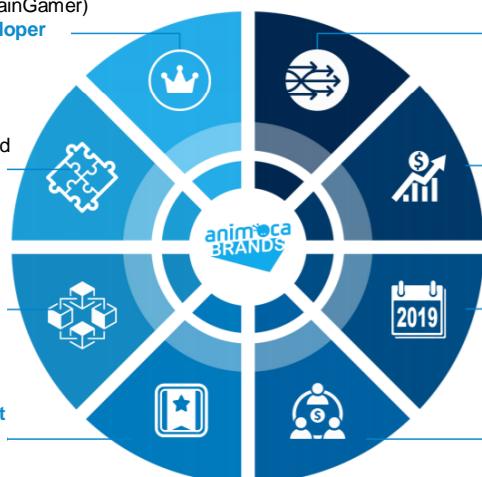


A **Top 5 Blockchain Game Company 2020** (BlockchainGamer) and **Top 50 Global Developer** (PocketGamer)

**Multiple game business lines:** development of original games, branded games, and games for third parties; publishing and distribution services

Leader in **adoption of blockchain and AI** for digital assets and games

Partnered with some of **the most respected brands** and **game developers** in the world



Excellent track record in **global deals** and a **world-class technical team** of designers and engineers

Pipeline of **high-value opportunities**

In **2019** the Company recorded cash receipts from customers of ~A\$25 million

Investors include some of **Asia's best-known technology investors**

### Asia Pacific

**1.2Bn**  
Gamers

**\$72.2Bn**  
Revenue

**X2**  
Market Size of  
North America

Asia Pacific represents more than **double** the revenue generated in the second largest region, North America

### The World

**2.5Bn**  
Gamers

~2.5 billion video gamers around the world in 2019

**66%**  
of Population

66% of the U.S. population are gamers, up from 58% just 5 years earlier

**46%**  
Female

Female gamers made up 46% of the U.S. gaming population in 2019, up from 38% in 2007

### United States

### Synergies: Blockchain and Gaming

#### ■ Gamers understand the value of virtual items and currencies

- Virtual currencies have been used in video games for decades
- Gamers are well habituated to virtual / fiat currencies (e.g. "Gold farming" in *World of Warcraft* was a black market employing thousands)

#### ■ Blockchain has significant benefits for gamers

- Reduces transaction costs thanks to use of cryptocurrency
- Allows gamers to own their personalized/unique in-game items
- Provides gamers the opportunity to earn money by trading virtual items in the gaming economy

#### ■ Additional blockchain revenue opportunities

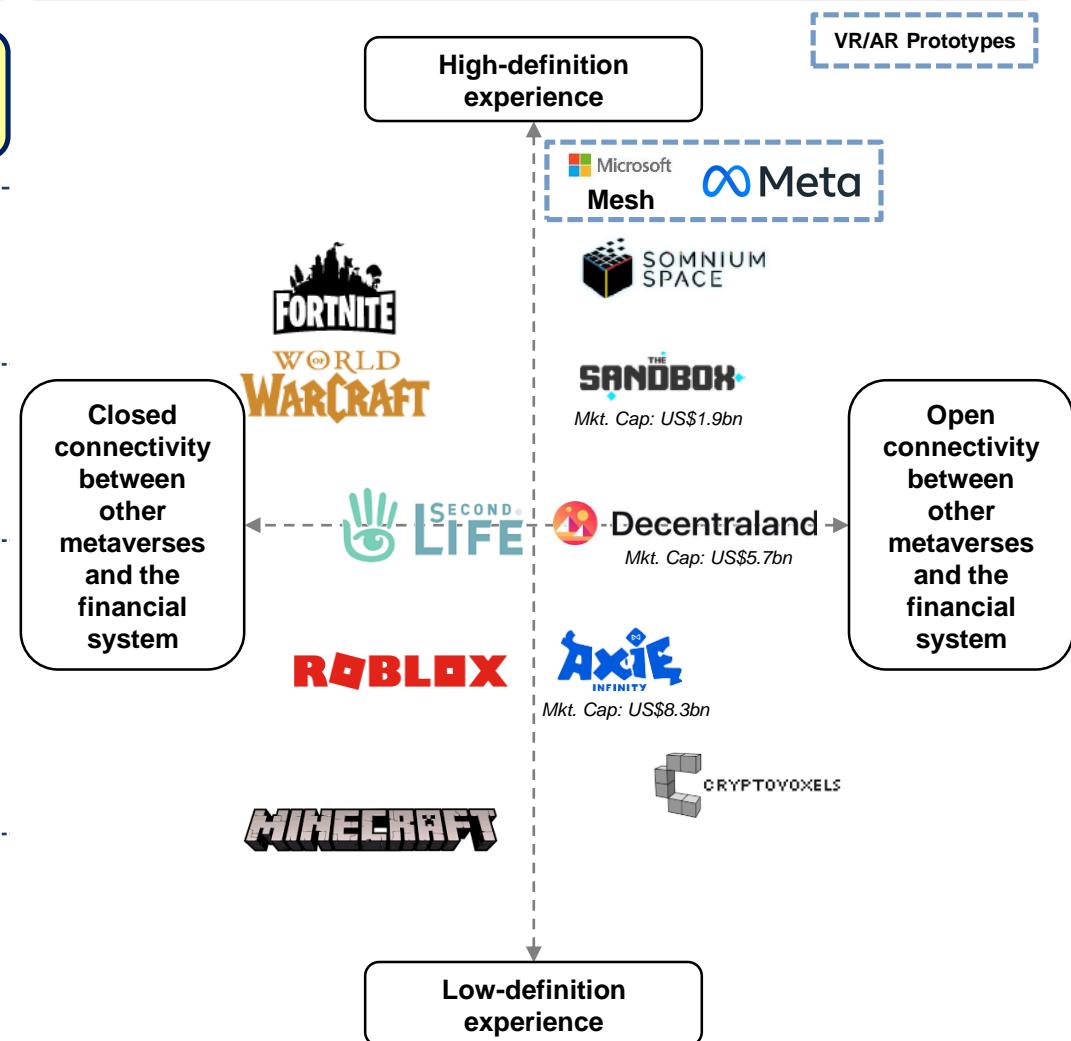
- (Pre) Sales of in-game assets (e.g. items, utility tokens)
- Percentage of transaction fees based on volume of digital items traded
- True economies being built on virtual grounds

## What is the Metaverse?

Metaverse – a virtual ecosystem where users can interact, experience, transact, and generate value together

- (M) The concept of metaverse is not new. In fact, early open world games such as World of Warcraft are already closed metaverses where users can interact with each other
- (E) A metaverse ecosystem is not only applicable to games – further human-based ecosystems can be built within them, where people can work and societies can create their own rules and financial systems
- (T) The metaverse is currently propelled by two technological developments:
  - **Performance / Experience:** 5G and AR/VR developments help increase the quality of experience within metaverses
  - **Blockchain:** increasing financial connectivity allows tokens / currencies used within a metaverse to transfer value across ecosystems, and from the virtual to the physical world
- (A) Further unlocking the metaverse is a huge milestone as the gradual reduction of differences between the virtual and physical worlds ramps up

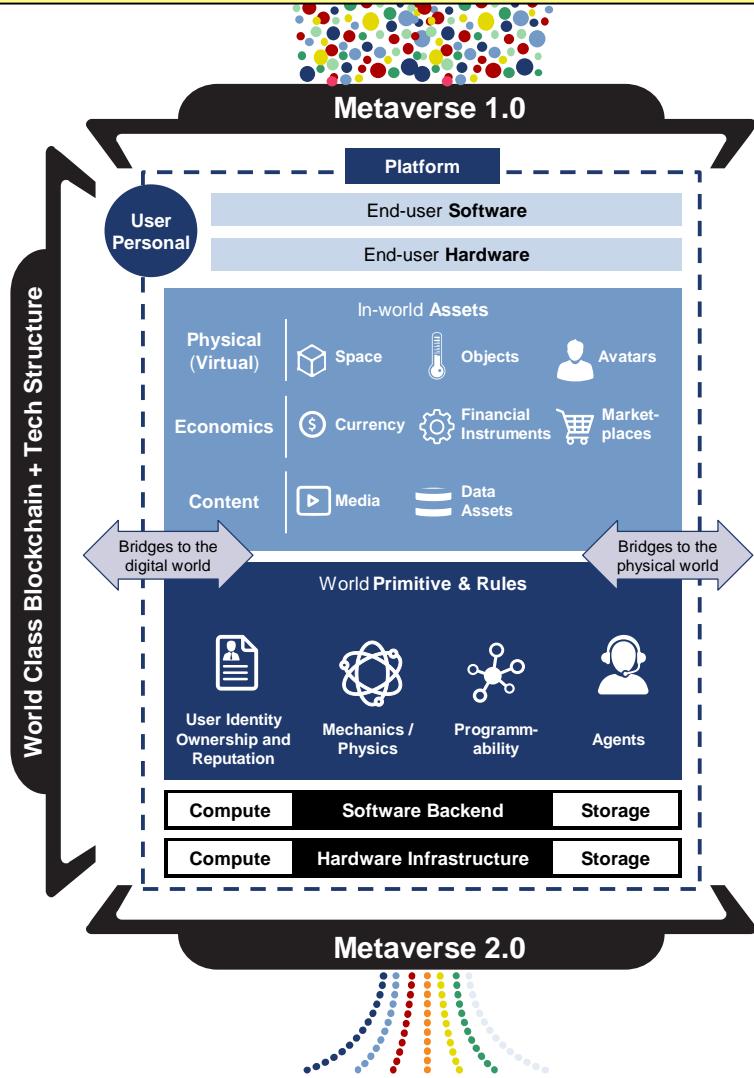
## The Current Metaverse Landscape



# Development and Resurgence of the Metaverse

## Blockchain has Brought Forward the Next-Generation Metaverse

- Blockchain and cryptocurrencies enable value within a Metaverse to be transferred out of the virtual world and into fiat currency
- This allows for the creation of a financial ecosystem, which is the main difference between Metaverse 2.0 and Metaverse 1.0
- Impact of building sophisticated financial systems within the Metaverse cannot be understated



	Metaverse 1.0	Metaverse 2.0
Connectivity	Closed	Open
Structure	Centralized	Decentralized
Financial Currency	In-Game Tokens	Cryptocurrencies, with the ability to convert to fiat
Transferability of Financial Currency / Value	Limited	Unlimited
Embedded Potential of Financial Ecosystem	Limited	Unlimited, with potential to turn into a sophisticated system similar to the physical world
Main Use Case	Gaming	Gaming, AR/VR Worlds, Broadcasting, Creation of User-Generated Content

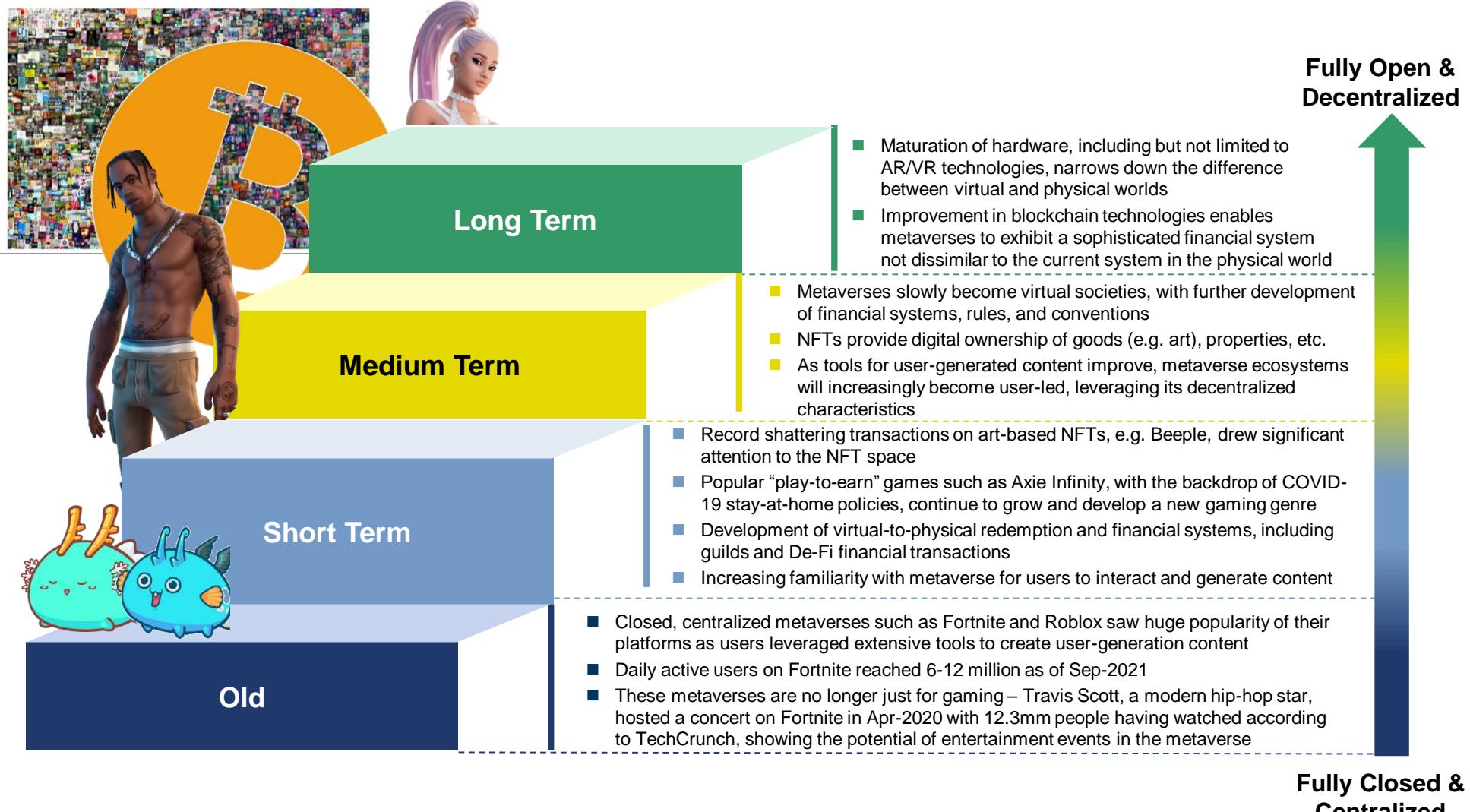
Building Blocks of a Metaverse Financial System	
Internet Money, e.g. Bitcoin	De-Fi, e.g. guilds, smart contracts, decentralized transactions
Sovereign Virtual Goods, e.g. NFTs	Digital to Physical Redemption, e.g. Boson Protocol
Decentralized Governance	Self Sovereign Identity & Verifiable Claims
Self Custody – Wallet and Applications	

# 4 The Future of the Metaverse

## Potential Trajectory

Beeple sold an NFT for \$69 million

Through a first-of-its-kind auction at Christie's



Source: News articles, PlayerCounter

Engaging with Digital Assets and Blockchain Globally

## Traditional Social Media Evolution to Metaverse

### FACEBOOK



### Meta

- Enabled by the internet and mobile devices, traditional social media platforms changed the way we socialize and conduct business with each other
- The Metaverse will be the successor to the mobile internet, and will slowly emerge as different products, services, and capabilities integrate together
- Now re-branded as Meta, Facebook's investment in augmented and virtual reality technology including Oculus will help the company to further re-define the future of these social and economic interactions

## Legacy Payment Processors Look Ahead to Metaverse

- Just as Visa and Mastercard successfully navigated their businesses from legacy cash- and check-based transactions to the mobile- and digital-based transactions of today, both companies are looking ahead to the Metaverse with investments in and partnerships with a variety of cryptocurrency and blockchain companies



**"Enabling secure commerce** is what we do [...] and that extends to new forms of digital commerce that unlock access. [...] We're thinking deeply about this space and how we can apply our expertise in enabling **seamless and secure digital payments** to make NFT-commerce **accessible and useable** for buyers and sellers."

– Cuy Sheffield,  
Head of Crypto, Visa

**"Mixed reality will be increasingly accessible to businesses and consumers**, transforming our lives over the next few years. We will move through these hybrid worlds with different experiences in different dimensions in a paradigm shift enabled by a **tsunami of tech changes** over the next decade."

– Keith Jordan, VP of Innovation,  
Mastercard's Labs as a Service

## The Battle for In-Metaverse Transactions

**Early Metaverse platforms are driving the growing number of alternative digital marketplaces and capturing significant value**

- The ongoing legal developments between Epic Games (creator of Fortnite), Apple, and Google highlight the **potential value at stake** in the Metaverse
- In August 2020, Epic Games added an alternative payment option to Fortnite on iOS and Android to avoid the **30% cut of in-game purchases** that goes to Apple and Google. Both companies removed Fortnite from their platforms on the same day
  - Apple in particular has substantial market power due to its 55% control of transactions in mobile gaming
- Over the 30 months since Epic launched Fortnite on Apple's App Store in 2018, users spent almost **\$1.2 billion** on Fortnite, generating revenue of about **\$354 million** for Apple according to Sensor Tower estimates



- Many cryptocurrency-driven companies are already acting more like Amazon or Apple App Store-style marketplaces as they race to create the Metaverse
  - With a market cap of over US\$40bn, Roblox takes as much as **75% of revenue** from and pays its developers using its in-game currency, Robux
  - Epic's own Epic Games Store charges a **flat rate of 12%** for developers selling there
- In the anticipated Metaverse era, these cryptocurrency-driven platforms could provide not just the company's own products but entire ecosystems in which other businesses could sell their products as well

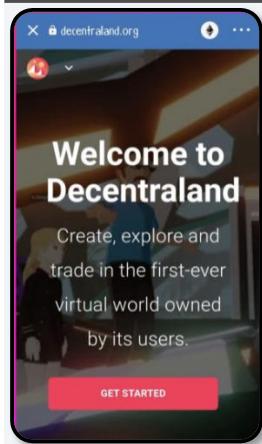
## Physical Collectibles -> Digital Collectibles

***"Funko will Combine Its Collectible Figures with NFTs"***  
(April 1, 2021)

- Funko plans to combine Pop vinyl figures with digital tokens using the Wax platform. Funko will offer an NFT each week starting at \$10, and will make the "rarest" tokens with exclusive Funko Pop figures
- Funko acquired a majority ownership stake in TokenWave, the developer of TokenHead
- TokenHead is available on iOS and Android, and currently displays over 10 million NFTs and has more than 100,000 visits per day



## Metaverse and VR



- Decentraland is a decentralized VR platform that enables users to buy and trade land, play games, and interact with one another
- Decentraland is the biggest virtual world in the NFT space
- It's a unique blend of top games like Fortnite and Minecraft, where users can buy and trade parcels. These parcels are 16 x 16 portions of land with unique coordinates

## B20 Token and Tokenization of NFTs

- The ownership of The Beeple 20 Collection has been fractionalized into the B20 tokens. The bundle itself is immutable, unless bought out entirely, by anyone with the requisite DAI and B20 tokens
- The B.20 bundle can be bought out by anyone, with a minimum bid of \$12 million, in which case all B.20 holders receive the proceeds, pro rata



Total Supply: **10 Million**  
B.20s Sold: **3.8 Million**  
Proceeds (in DAI): **1276364**  
Keymasters as on launch: **557**

## Royalties Generated by EulerBeats

### EulerBeats Generate \$1.1 Million in Royalties in First Week

Ethereum-based music NFTs EulerBeats are already bringing their holders serious returns.

- Holders of Ethereum-based, non-fungible tokens (NFTs) EulerBeats earned roughly \$1.15 million in royalties in the first week after the project was launched
- Mark Cuban owns at least two EulerBeats and called them "the most genius idea ever"
- The project was created by blockchain startup Treum and backed by Ethereum development studio ConsenSys

Source: Company Websites

**Implications for Market Structure****1 Clients**

- Reduction of costs in capital markets dealing and securities servicing
- With guaranteed execution on open markets, retail and wholesale investors may transact more among themselves

**2 Dealers**

- Primary value will be in price setting, advising on transactions, and execution management, rather than in providing market access

**3 Private Trading Companies**

- A near real-time settlement process would have major implications for private trading companies, particularly market-makers and high-frequency traders
- Trading could move to pre-trade validation of ownership prior to the asset being sold

**4 Venues**

- The cryptographic signature data formed at the time of a transaction would serve as the data required for settlement, increasing the value of the role provided by venues

**5 CCPs**

- No longer a need to clear transactions centrally (as both sides have pre-trade transparency that their counterpart will be able to meet the terms of the transaction, and settlement happens almost instantly)
- However, transactions with a longer lifecycle (such as derivatives) still need the advantages of CCP innovation

**6 Custodians**

- Distributed asset ledgers with flat accounting structures could remove some of the role that custodians play today

**7 CSDs**

- The need remains for coordinated oversight of asset issuances and ensuring orderly functioning of the market
- Traditional CSDs could play the role of operational governance: coordinating the evolution of ledger protocols, managing the introduction or cancellation of tokens on the ledger, regulator interface, etc.

**Benefits of Adoption****Pre-Trade**

- Transparency and verification of holdings
- Reduced credit exposures
- Simpler KYC via look-through to holdings

**Trade**

- Secure, real-time transaction matching
- Immediate irrevocable settlement
- Automatic reporting and more transparent supervision for market authorities

**Post-Trade**

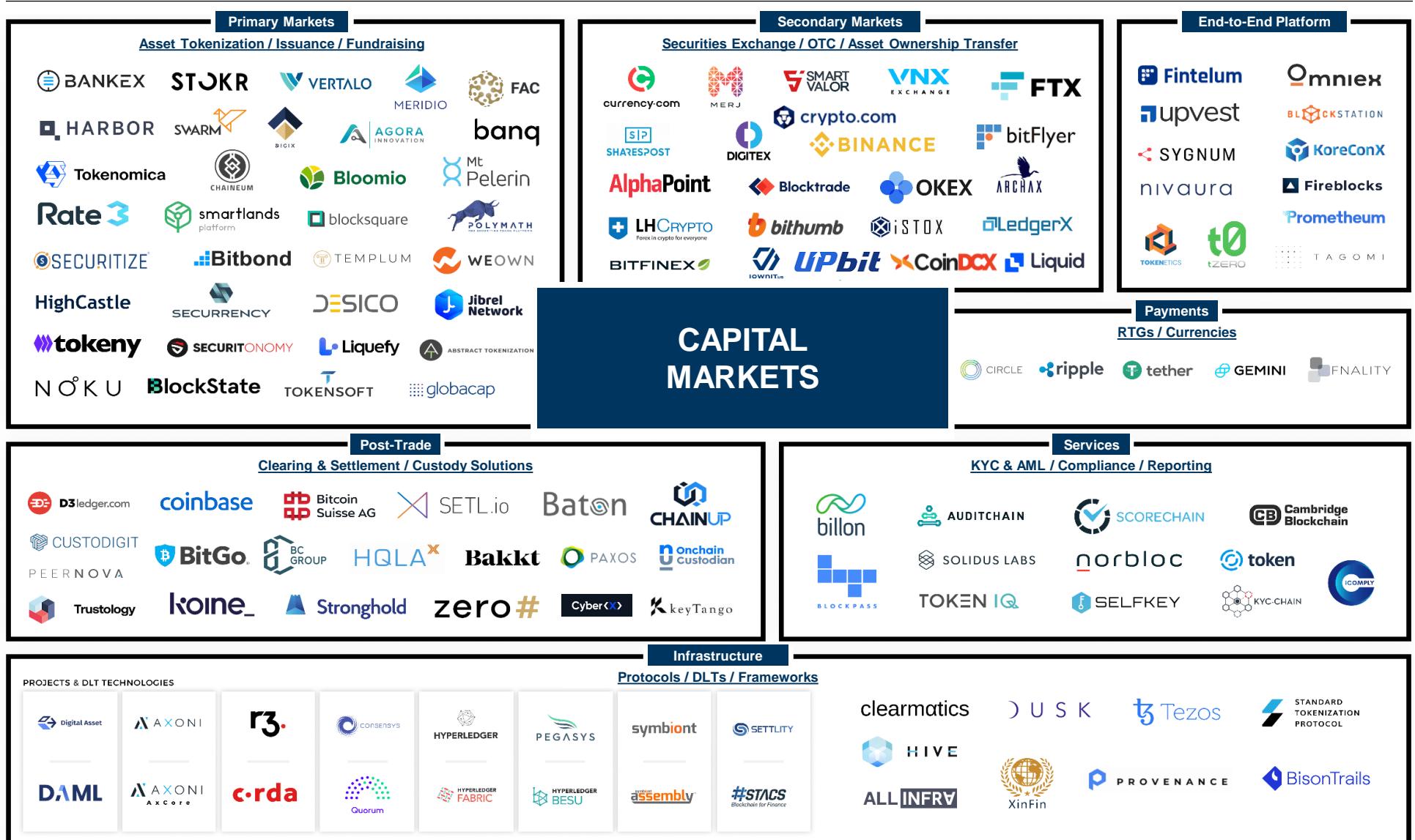
- No central clearing for real-time cash transactions
- Reduced margin / collateral requirements
- Fungible use of assets on blockchains as collateral
- Auto-execution of smart contracts

**Custody & Servicing**

- Primary issuance directly onto a blockchain
- Richer central datasets with flat accounting hierarchies
- Fund subscriptions / redemptions processed automatically on the blockchain
- Simplification of fund servicing and administration

**Hurdles to Adoption****Scalability of the technology****Regulation and legislation: Fitness for purpose****Need for a robust cash ledger****Common standards of governance****Operational risks of transaction****Managing anonymity**

## Distributed Ledger Technology Projects by Use Case



Source: Blockdata (a CB Insights company)

## II. How Digital Assets Transform the Financial Infrastructure Space

## Blockchain Technology Solved 2 Key Problems

How to prevent making infinite copies of a digital assets (like the ability to save an email attachment any number of time)? –

**Double Spend Problem**

How to facilitate value exchange between multiple parties without requiring a trusted third party? – **Distributed Trust**

## Challenges

Anonymous participants who don't know or trust each other on the network

Communication channel for information and **value exchange is not secure**

There is **no trusted third party** / intermediary acting as a clearing agent

## Blockchain Solution

*Double spend problem* is solved by using cryptography, and recording each transaction and coin ownership in a **public distributed ledger** shared by each participant on the network

*Problem of Distributed Trust* is solved by a **consensus mechanism** known as *proof-of-work* which ensures all transactions made on the network are agreed upon by the majority of participating parties

Network participants are **incentivized to verify transactions** because of the promise of a potential economic reward (i.e. mined bitcoin)

*Digital currency ethos believes in a more transparent and inclusive financial services industry*

## Themes

- ✓ Real time payments
- ✓ Open network
- ✓ Smart contracts
- ✓ Decentralized

## What May Hold the Industry Back

- Lack of clear regulation
- Volatility
- Security and fraud fear

# Traditional Financial Institutions are Beginning to Focus on Digital Assets and Crypto

**Financial services companies are prioritizing their crypto strategies**

*"And I would say that **this [crypto] is a space that we are leaning into in a very, very big way and I think are extremely well positioned**...So converting a digital currency to a fiat on a Visa credential, which then makes those funds available for shopping at any 1 of the 70 million Visa merchants and gives immediate utility to the digital currency. And we're the clear leader here. **We've got over 35 digital currency platforms and wallets that have chosen to work with us.** Coinbase, Crypto.com, BlockFi, Fold, Bitpanda are just some examples"*



Alfred Francis Kelly, Chairman & CEO  
April 27, 2021

*"The exponential pace of asset digitalisation provides immense opportunities to reshape capital markets. For Singapore to become even more competitive as a global financial hub, we have to prepare ourselves to **welcome the mainstream adoption of digital assets and currency trading**. DBS is committed to accelerating the **development of a fully integrated ecosystem** to facilitate this. We believe that this is the first of its kind integrated offering, which is differentiated in many ways."*



Piyush Gupta, Group CEO  
December 10, 2020

*"We recently also announced the establishment of a **new digital assets unit, which is building a multi-asset platform that will allow us to custody traditional as well as digital assets, including cryptocurrencies in a new and creative way**. The growing client demand for digital assets and improved regulatory clarity presents an opportunity for us to extend our current service offerings over time through this emerging field."*



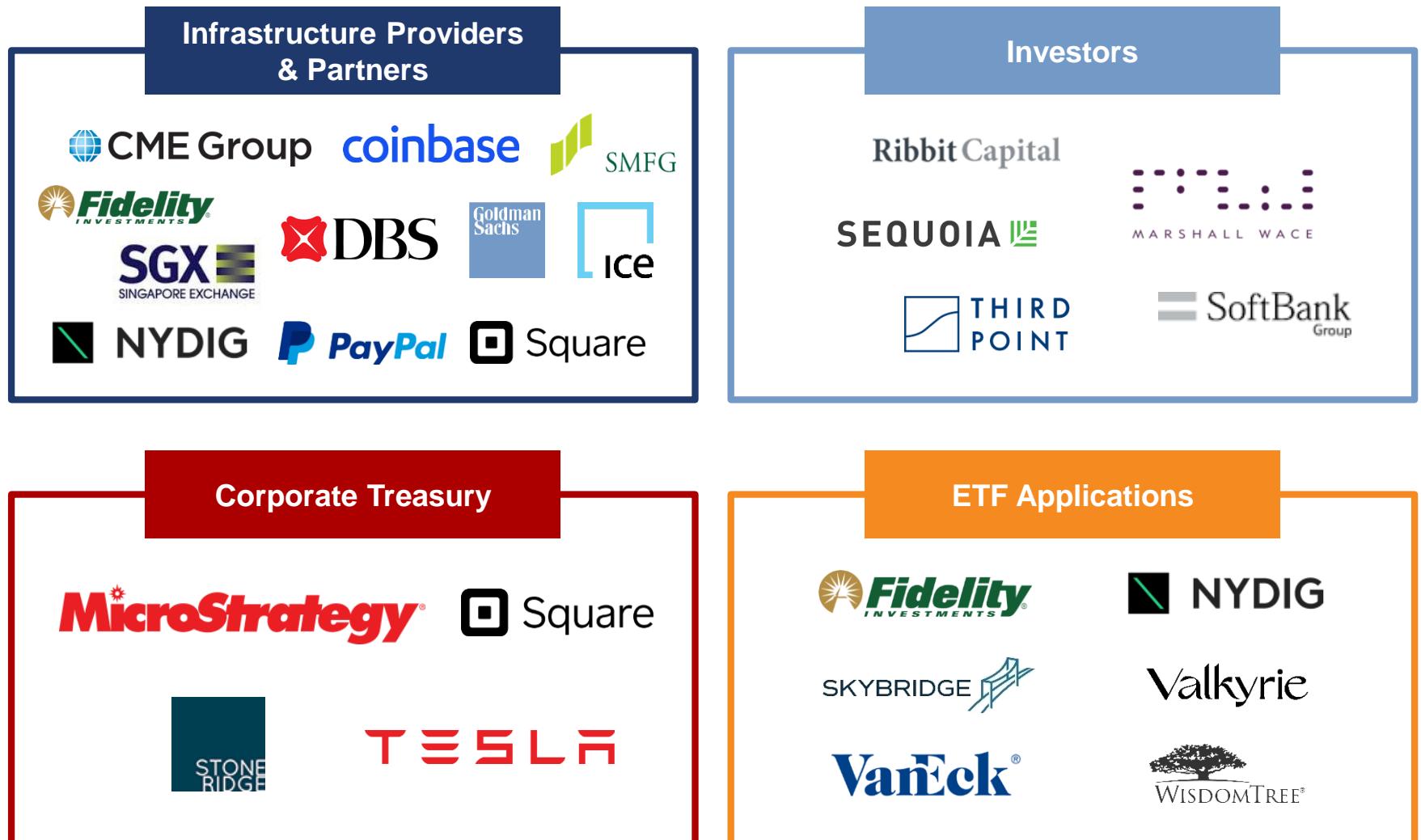
Thomas P. Gibbons, CEO & Director  
April 16, 2021

*"We believe **digital assets are an important part of the future landscape of financial services** and we are pleased to be a part of its evolution as we seek to serve the growing needs of our clients. NYDIG is at the forefront of the industry from a regulatory and security perspective which makes them the perfect partner as **we seek to help bring Bitcoin solutions into the mainstream**. Today's announcement marks an important step towards establishing ourselves as one of the first Bitcoin-friendly regional banks in the country."*

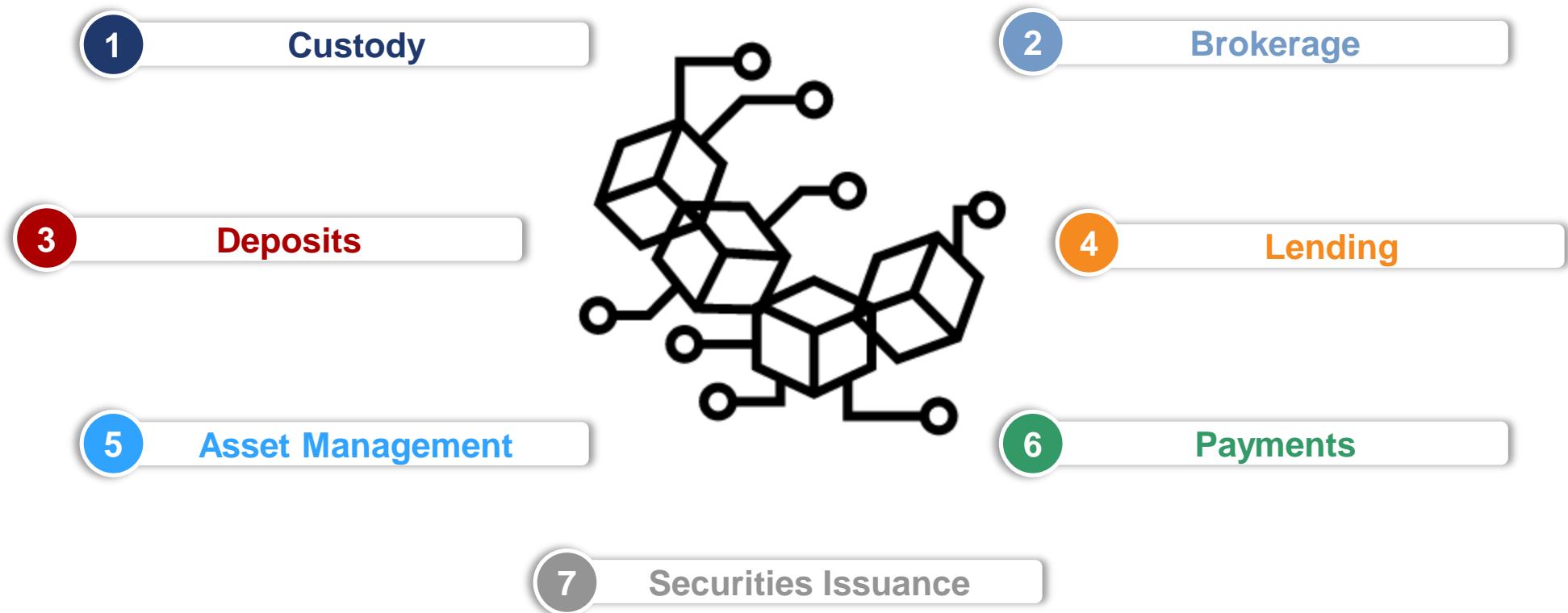


Scott F. Kavanaugh, CEO  
April 20, 2021

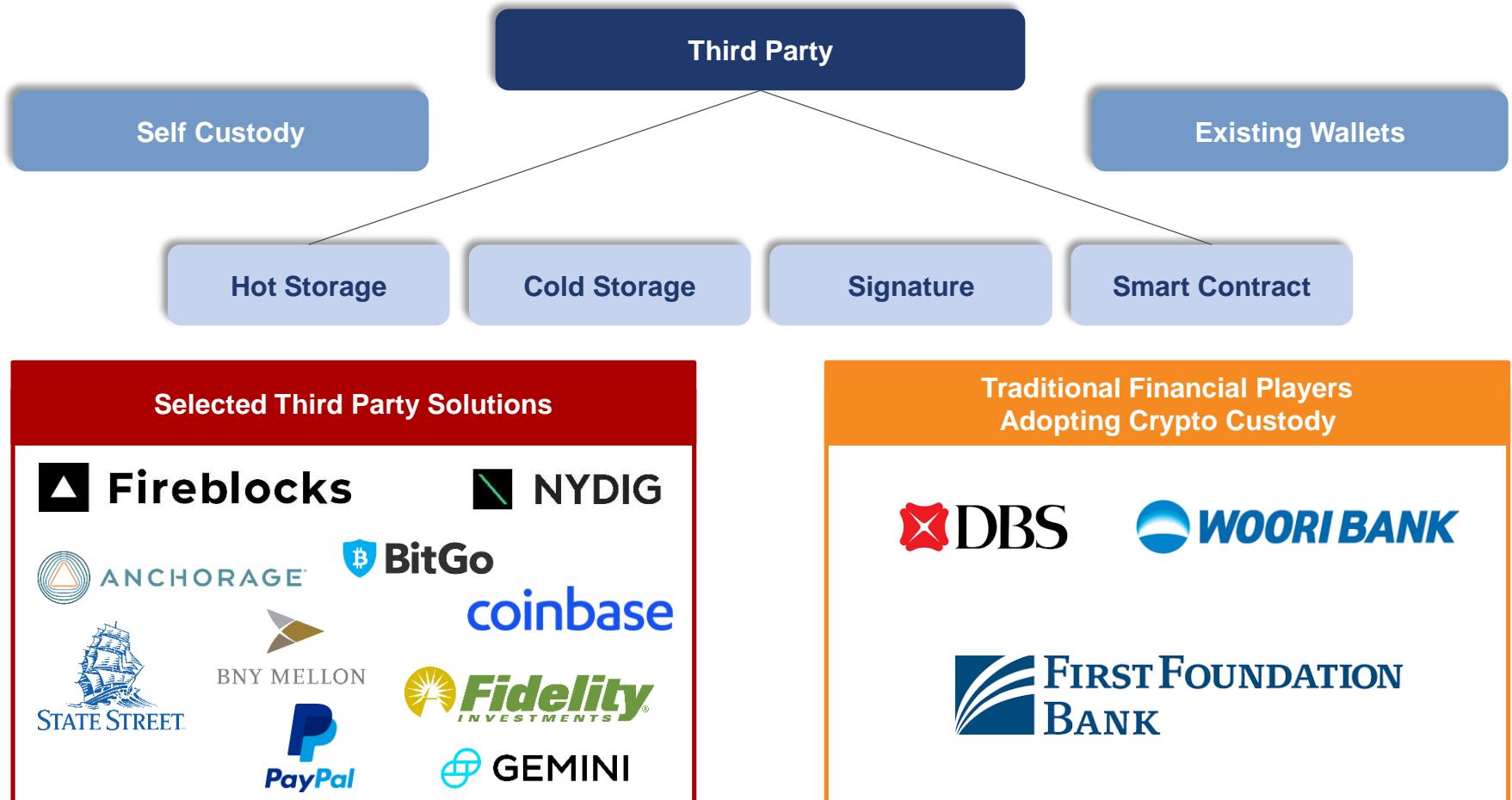
# Broader Institutional Participation



- The rapid growth of the digital asset economy is creating opportunities for incumbent financial institutions



***Institutions and high net worth clients are seeking to safeguard digital assets while maintaining easy access to borrowing, trading, record keeping and other services***



Source: Investopedia.

## 2 The Opportunity in Brokerage

### NYDIG's Growing Crypto Partnership Network

**NYDIG has announced several deals geared toward enabling traditional financial institutions to access cryptocurrency**

#### Easy Access to Bitcoin via Fiserv and NYDIG

- Partnership will allow consumers to manage bitcoin transactions directly within their financial institution's online and mobile banking portals
  - Provides users an easy way to buy, sell and hold the popular digital asset through their trusted financial institutions
  - Enables banks to meet growing mainstream interest in bitcoin, retain and grow their customer base, and increase non-interest income opportunities
  - California-based First Foundation Bank is already working with Fiserv and NYDIG to bring these capabilities to market
- Fiserv and NYDIG are also working toward implementing additional functionality, including the ability for banks to implement bitcoin-based rewards programs

#### Deal with NCR Enables More Banks to Offer Bitcoin

- Enterprise payments company NCR struck a deal with NYDIG that will enable 650 U.S. banks and credit unions to offer bitcoin purchases to millions of customers
  - Partnership will provide estimated 24mm customers the ability to trade the cryptocurrency on mobile applications developed by their payments providers
  - Financial institutions include First Citizens Bank, (over \$50 billion in assets), and Bay Federal Credit Union (over \$1.4 billion in assets)
- Financial institutions will be able to use NYDIG's custody services to offer customers the ability to access Bitcoin
- In addition to custody services, NYDIG will charge cryptocurrency transaction fees and provide additional investment services

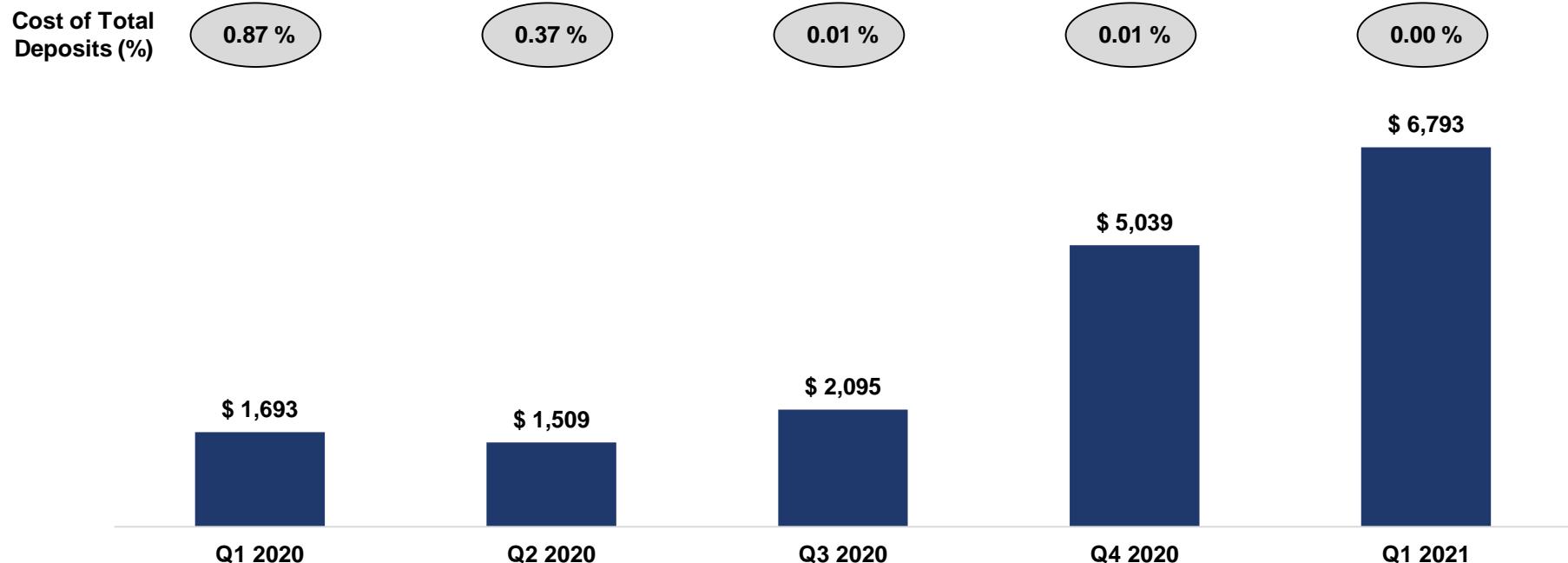


Source: Public filings.

## Digital Assets Deposit Growth (\$ in millions)

- Crypto firms continue to be a low-cost source of deposits for the few banks that serve the industry
- Signature Bank's digital currency deposits now total over \$10bn, or approximately 15% of total deposits
  - Signature added \$4.4bn in new deposits from digital currency customers in Q1 2021
  - SBNY's total cost of deposits in Q1 2021 was 0.33%

Silvergate Digital Currency Deposit Trend

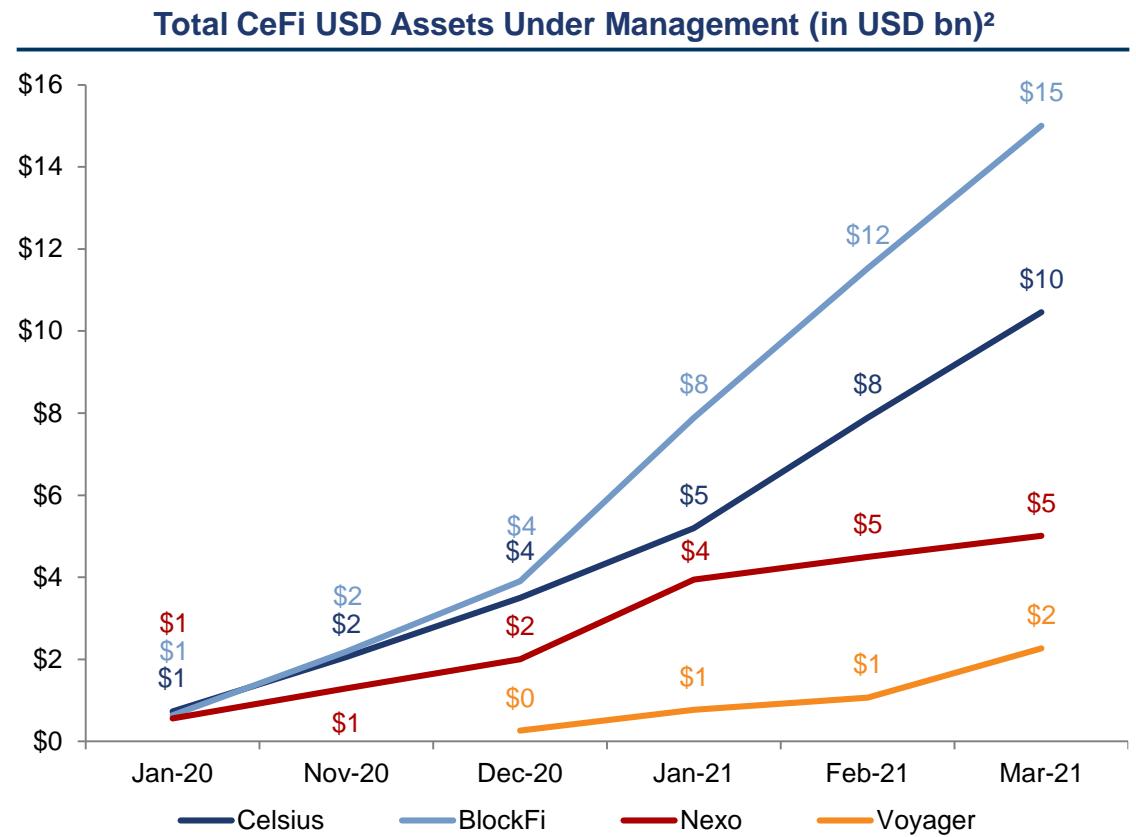
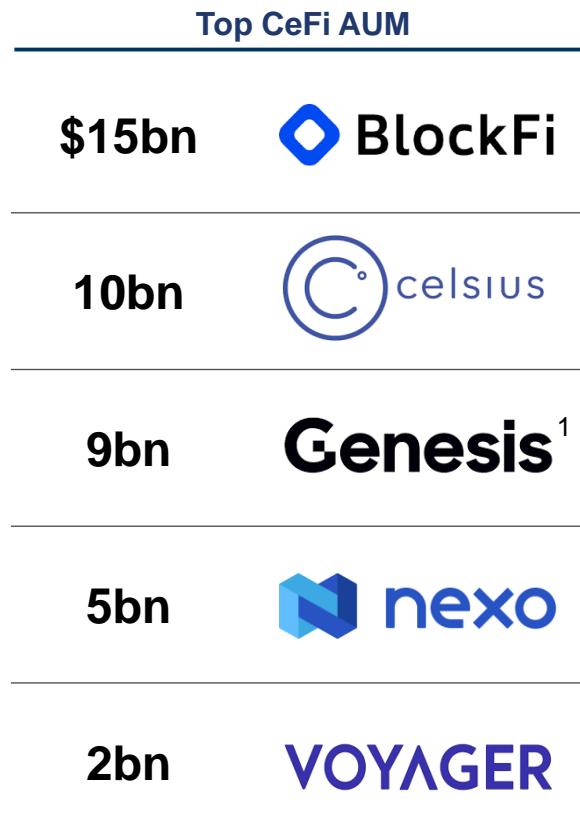


Source: S&P Global Market Intelligence, Company documents.

## The Opportunity in Lending (1/2)

### CeFi AUM has Experienced an Explosive Growth Trajectory

- Centralized finance, or “CeFi,” allows individuals to earn interest or borrow funds through a centralized corporation using cryptocurrencies as collateral
- Corporations act as lenders and bear custody of their clients’ funds/assets while they put them to use to provide interest for the lenders
- Unlike in DeFi lending protocols, lenders transfer risks to these corporations



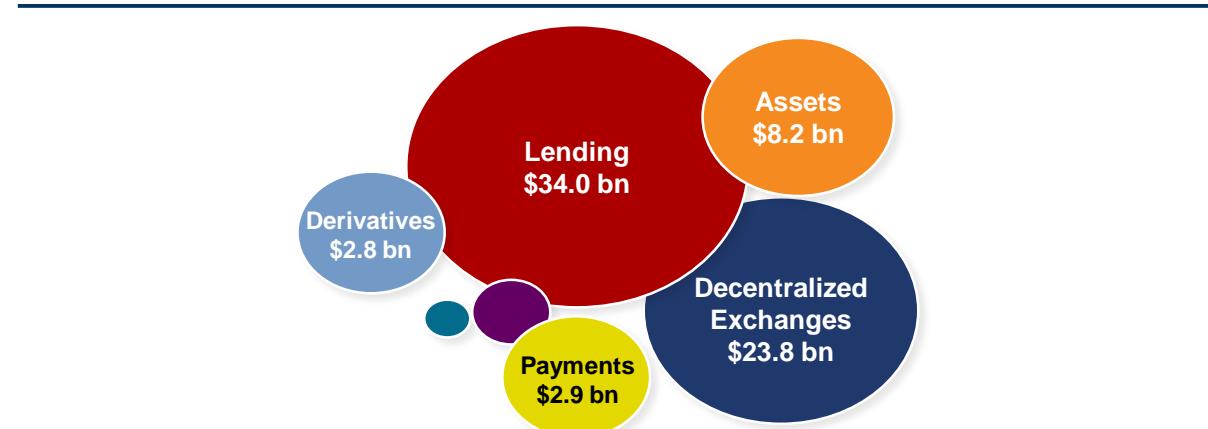
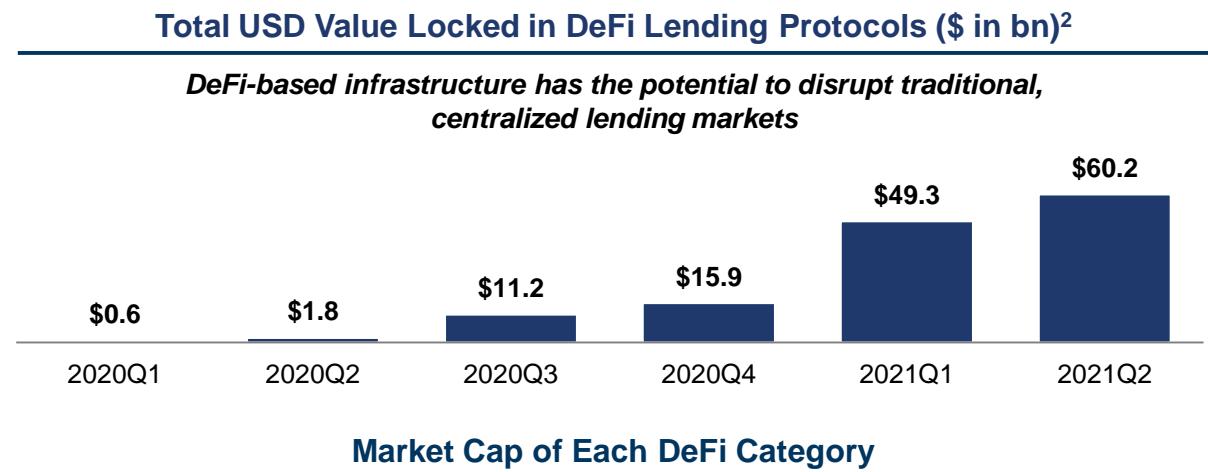
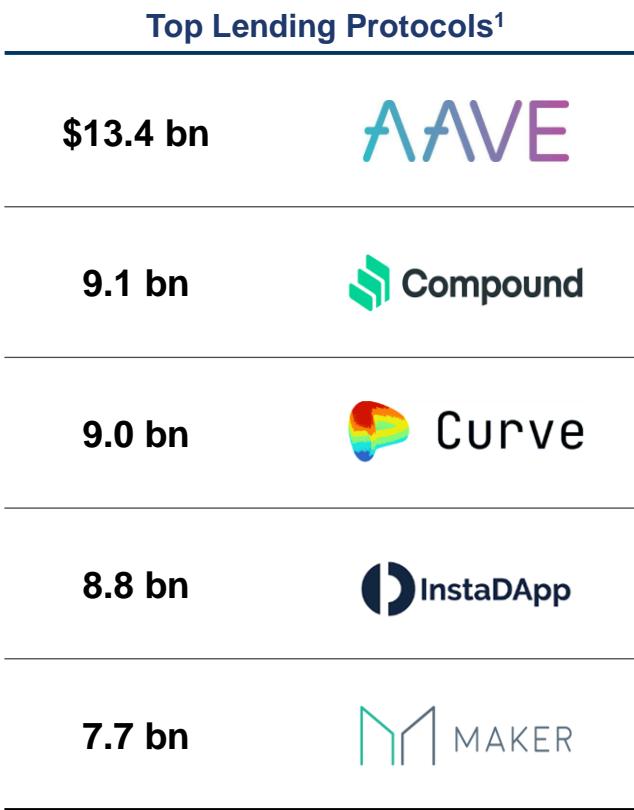
<sup>1</sup> Source: Genesis, AUM as of Q1 2021.

<sup>2</sup> Source: Decrypt, PRNewswire, Coindesk, BlockFi, Voyager, Forbes, Yahoo Finance, Block Crypto; AUMs as of Q1 2021.

# The Opportunity in Lending (2/2)

## DeFi Lending Protocols have Accelerated Despite Complex User Experience

- DeFi broadly refers to smart contracts and protocols that provide decentralized access to traditional instruments like lending and yield products
- DeFi protocols are a category of decentralized applications built on top of smart contract-enriched blockchains – primarily the Ethereum network
- These protocols inherently democratize and open access to a credit and rates markets for retail and institutional entities worldwide, often with little barrier to entry or arbitrary regulations



Source: DeFi Pulse; Medium

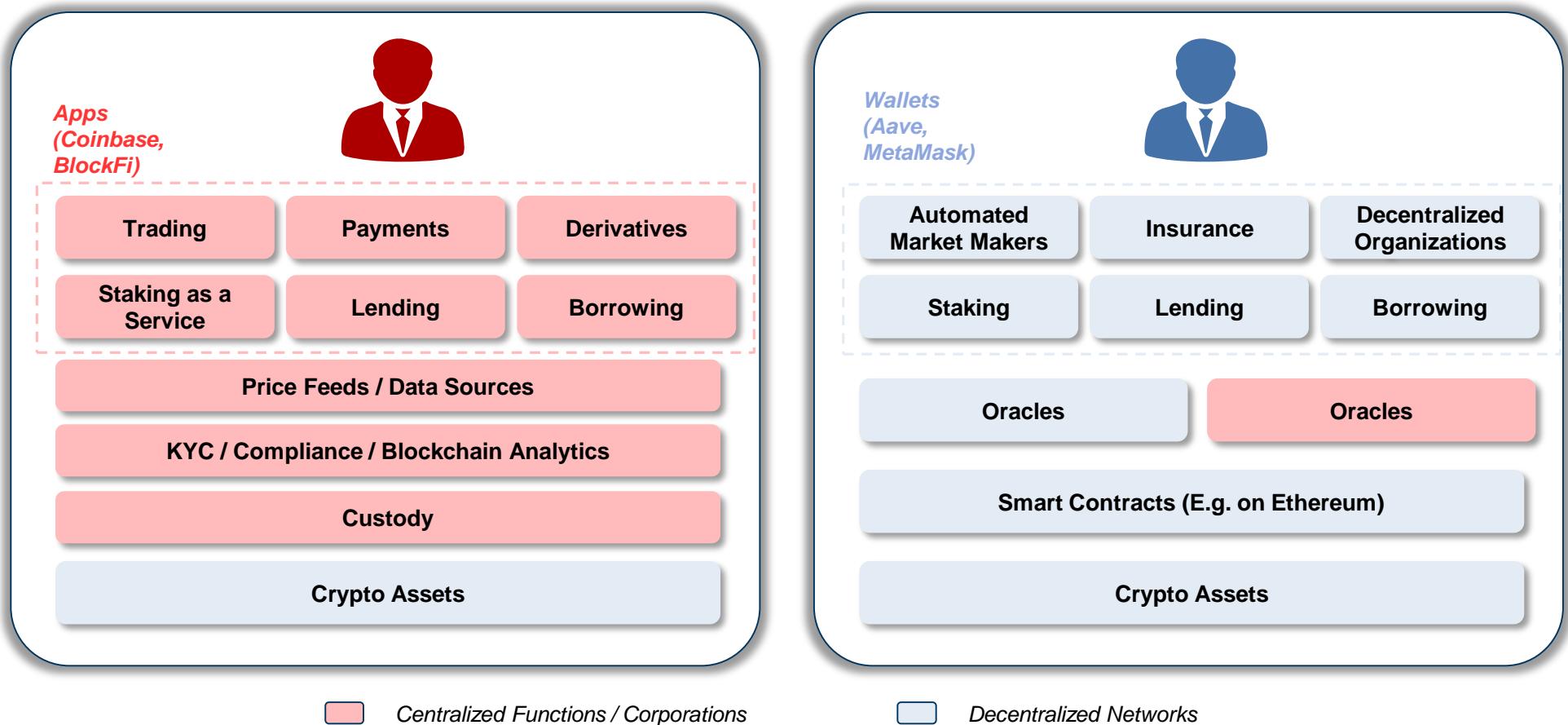
<sup>1</sup> Lending protocols data as of 1-August-2021.

<sup>2</sup> Values taken at the end of each quarter.

# Centralized vs. Decentralized: A Comparison of the Financial “Stack” for Digital Assets

## Financial Services for Cryptocurrencies (“CeFi”)

## Programmable Finance or Decentralized Finance (“DeFi”)



# The Opportunity in Asset Management

*Asset management platforms are simplifying the process of purchasing crypto, custody services, and record keeping*

## Largest U.S. Digital Asset Managers Crypto Holdings

**\$40bn**



**4bn**

PANTERA

**1bn**

Bitwise

**800mm**



**500mm**

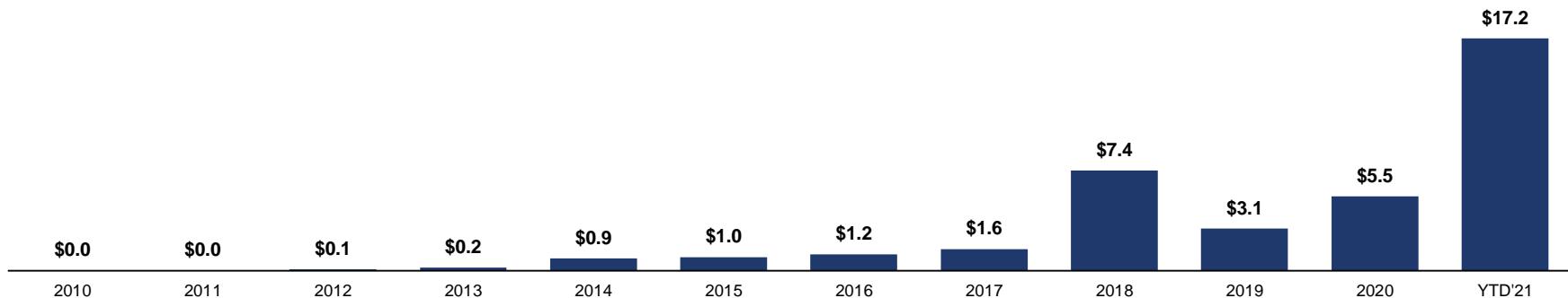


## Bitcoin ETF applications



Bitwise

Venture Investing Into Crypto Companies Has Accelerated in 2021<sup>1</sup>



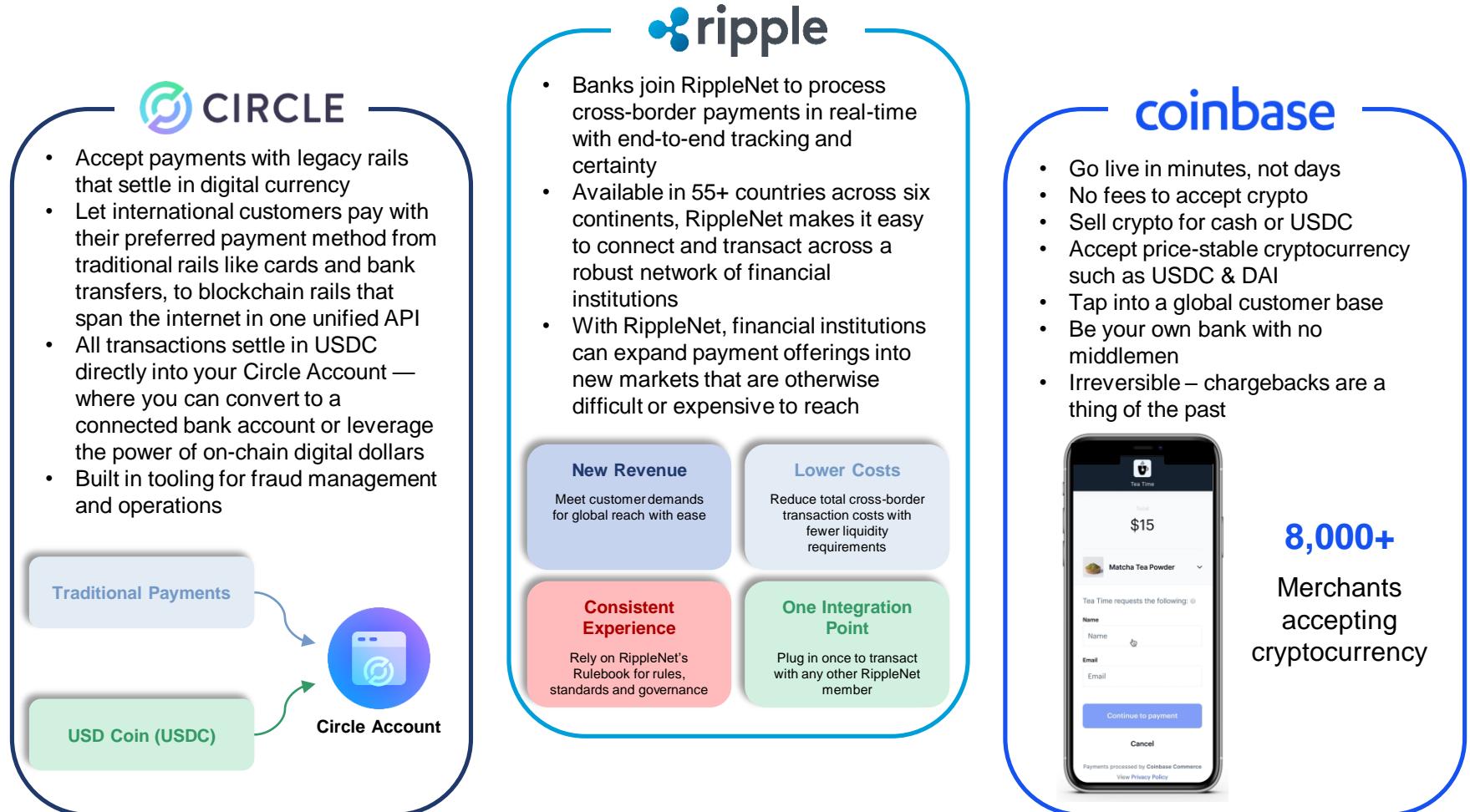
Source: Bloomberg, Cointelegraph, Investopedia.

<sup>1</sup> Data as of 18-Jun-2021.

# 6 The Opportunity in Payments

## Accelerating Use Cases

***Bitcoin and other cryptocurrencies are becoming an increasingly popular payment option among many companies***



Source: Company websites.

# First Public Digital Issuance on Ethereum Public Blockchain

## European Investment Bank €100 Million 2-Year Digital Bond

Goldman Sachs Served as Joint-Lead Manager and Joint Structuring Advisor | 28-Apr-2021

Transaction Terms	
Pricing Date:	27-Apr-2021
Settlement Date:	28-Apr-2021 (T+1)
Maturity Date:	28-Apr-2023
Issue Size:	€100 mm
Coupon:	0%, annual (ACT / ACT ICMA)
Re-offer Yield / Price:	(0.601)% / 101.213%
Governing Law:	French Law
Joint-Lead Managers:	Goldman Sachs International, Société Générale, Santander
Listing / ISIN	None / FR0014003521

### Transaction Highlights

- ✓ First public digital issuance on Ethereum public blockchain
- ✓ First ever multi-dealer digital issuance
- ✓ Digitally native tokenization for both securities and cash (CBDC)
- ✓ T+1 settlement
- ✓ Third party investor participation

### Transaction Overview

- On 28-Apr-2021, the European Investment Bank (EIB), rated Aaa / AAA / AA successfully issued and settled its first ever digital bond, using blockchain technology
- The €100 mm 2-year bond, placed with key market investors, represents the market's first multi-dealer led, primary issuance of digitally native tokens using blockchain technology
- The project was also selected by Banque de France (BdF) as part of their central bank digital currency (CBDC) experiment. The transaction therefore settled on-chain vis-à-vis the issuer in delivery vs payment using a CBDC provided by BdF
- The bond was issued under French law, for two main reasons: 1) the partnership with BdF and the CBDC component and 2) France was one of the first countries to authorize the registration and transfer of unlisted securities using blockchain technology (DLT Ordinance of 2017)
- The notes are issued in fully registered form, and the Ethereum public blockchain will act as the registry to record ownership and transactions

**First Public Digital Issuance on Ethereum Public Blockchain**  
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**Linklogis' US\$1.03bn Initial Public Offering on HKSE**

**Goldman Sachs Served as Joint Sponsor, Joint Global Coordinator, Joint Bookrunner, Joint Lead Manager and Stabilizing Manager**  
**Priced on March 31, 2021 (HKT)**

#### Transaction Highlights

- ✓ The 1st supply chain finance technology solutions provider listed on HKEx, largest ever SaaS IPO in APAC, and second largest primary HK listing in 2021YTD
- ✓ High quality cornerstone investors including global top-tier long-only (BlackRock, Fidelity International, Janus Henderson), sovereign wealth fund (Ontario Teachers' Pension Plan), top-tier China fund (Sequoia) and strategic investors (EDB Investment)
- ✓ Successfully priced at mid-to-high end amidst volatile market conditions with book significantly oversubscribed across the range and strong participation from top quality investors

#### Investment Highlights

- **Pioneer and leader in the thriving supply chain finance technology industry**
  - Linklogis is the largest technology solution provider for supply chain finance in China; it processed RMB164 billion supply chain finance transactions in 2020, accounting for 20.6% market share
  - Linklogis is also at the forefront of innovation in supply chain finance and payment, and is committed to transforming the industry with cutting-edge technologies and solutions
- **Purpose-built, end-to-end technology solutions**
  - Linklogis provides software and systems that digitalize the workflow of supply chain financing and optimize the payment cycle of supply chain transactions
  - Linklogis has served and partnered with over 340 anchor enterprises and ~200 financial institutions as of year-end 2020

# The Introduction of CBDCs Could Have Broad Implications for the Banking & Payments System

**Central Banks around the world are exploring the possibility of introducing central bank digital currency (CBDC), with potential to improve the payments system seen as one of the most compelling rationales for implementation**

## Use cases for CBDC have the potential to meaningfully reduce friction in the implementation of central bank fiscal and monetary policy



**Fiscal Policy:** Facilitate instant delivery of stimulus payments, while a more radical structure could permit policymakers to program platform to set tax rates that vary over time or even across geographies in response to economic data



**Monetary Policy:** Wide use would provide better real-time information about economic activity, while interest-bearing CBDC could achieve complete and immediate transmission of monetary policy to depositors, varying interest rates in real-time in response to economic conditions

## Potential Benefits of a CBDC



Faster & Cheaper Payments



Reduce Costs and Crime Associated with Cash



Broaden Financial Inclusion Through Electronic Payments



Programmability and Financial Innovation

## Potential Risks from Implementation



Security Challenges / Risks of Fraud or Error



Payment Network Disintermediation – Broader Access to Interbank Rails



Bank Disintermediation – Displacement of Core Funding

## CBDC could challenge card payment networks by undermining three key advantages over competitors:



**Network Effect:** Broad adoption of CBDC could undermine wide use and acceptance of cards by offering wider range of payment providers access to central bank clearing



**Barriers to Entry:** Central bank or consortium of clearing operators could bare start-up costs of platform-wide services such as security and fraud detection so that new payment providers do not have to



**Brand Advantage:** New competitors could challenge brand popularity by attempting to lure consumers and merchants with more attractive terms and rewards

Strength of incumbency varies by market – likely that CBDC and interbank payment methods that bypass card networks take hold more quickly in markets with lower initial advantage

## Corporate Governance

- What justification is needed to make an allocation?
- How will an allocation impact board/investment committee authorizations?
- What internal prep – controls or technology – is required?
- What risk management frameworks and procedures are needed?
- Is a BTC trading policy required for employees?
- What components should be amended in a treasury reserve policy?
- What is the strategy for hedging BTC exposure?

## Tax, Accounting, and Regulatory

- How will this investment impact corporate tax obligations?
- How do transaction costs impact tax obligations?
- What is the impact to accounting policies (e.g. impairment testing)?
- How will this impact financial statements?
- What state and federal laws are applicable for crypto ownership?
- Is BTC considered a security?
- How do regulators think about BTC and corporations that allocate to it?
- How does this impact any international regulatory obligations?

## Investor Relations

- What is the investor communication strategy?
- How will this impact broader external (and internal) business narratives?
- What do public shareholders think of companies that allocate crypto?
- How should we handle quarterly disclosure and other MD&A topics?

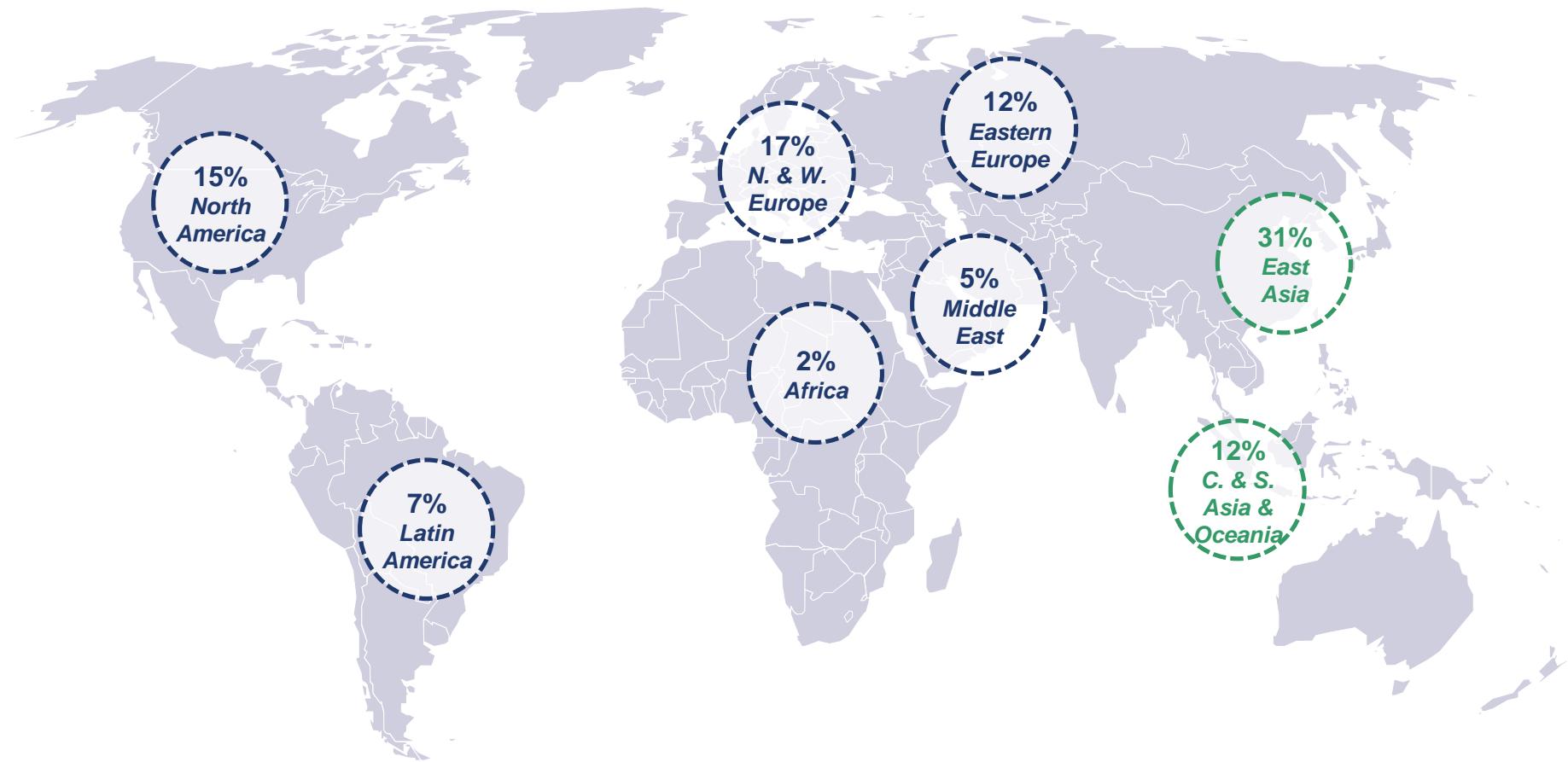
## Digital Asset Service Providers

- What security measures does the provider have?
- What is the regulatory profile of the crypto provider? What licensing or auditing requirements are they subject to?
- What kind of insurance is offered? What are the coverage terms?
- Trading – 24x7 coverage, secrecy, and liquidity depth?
- Trusted counterparty, controls, and instant liquidity?

### III. Finding the Opportunities in the Asian Digital Assets Space

# Asia is the Leader in Digital Asset Adoption Globally

*Asia is the leading region globally by share of all cryptocurrency value sent and received*



Source: Chainanalysis

***The complex and evolutionary nature of crypto has led to differing interpretations and treatment from various regulators globally***



Singapore		<ul style="list-style-type: none"><li>Many see Singapore as a crypto-friendly regulatory environment with strong government support</li><li>Set to grant licenses to “several” digital payments service providers in August 2021, cementing its status as Asia’s leading crypto-financial hub</li><li>Some groups in Singapore, including Binance, have already been given an exemption to provide services to retail and institutional investors while they await a formal license</li></ul>
Hong Kong		<ul style="list-style-type: none"><li>Hong Kong has adopted a stricter stance on digital assets, and has previously said it would forbid licensed platforms from servicing retail investors and was enhancing its anti-money-laundering and counterterrorism financing regulations</li><li>Hong Kong’s Securities and Futures Commission has largely dealt with the issues by limiting access to crypto-based funds to professional investors</li></ul>
Japan		<ul style="list-style-type: none"><li>Permissive toward crypto assets overall</li><li>Strong crypto regulations on crypto platforms and ICOs, caused by high profile exchange hacks (e.g. Mt Gox hack)</li></ul>
South Korea		<ul style="list-style-type: none"><li>In March 2021, South Korea passed new legislation to strengthen the supervision of virtual assets: under the new legislation, all virtual asset management providers (including cryptocurrency exchanges and other virtual asset service providers) must register with the Korea Financial Intelligence Unit (KFIU)</li><li>Reluctance of banks to partner with cryptocurrency exchanges due to negative regulatory comments on virtual assets and the risk of financial crimes</li></ul>
India		<ul style="list-style-type: none"><li>Policymakers continue to debate the status of digital currencies in India; the central bank has said it has “major concerns” about private virtual currencies</li><li>The government was recently rumored to potentially ban cryptocurrencies altogether</li><li>A ban from the Reserve Bank of India on the use of cryptocurrency in the banking sector was lifted in March 2020; however, the court ordered the government to take a position and draft a law on the matter</li><li>The Reserve Bank of India is looking to create its own digital currency</li></ul>
China		<ul style="list-style-type: none"><li>Supportive of blockchain applications in the industry</li><li>Central bank plans to issue digital currency, partly leveraging blockchain technology</li><li>Cryptocurrency exchanges and ICOs are banned</li></ul>

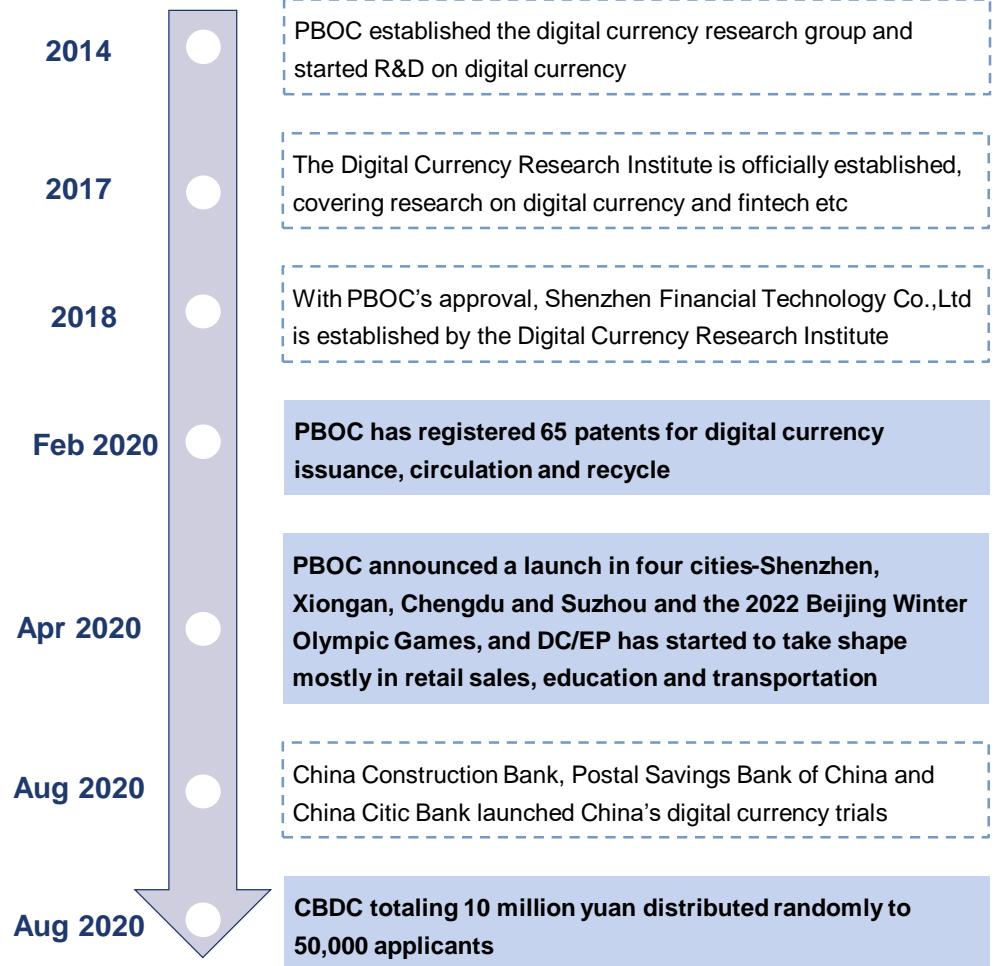


As different central banks globally make progress on rolling out their CBDCs,  
China has moved to the frontier of sovereign digital currency development in 2020

## Overview of CBDC

- A central bank digital currency (CBDC) is “a new form of money, issued digitally by the central bank and intended to serve as legal tender”
- There are two major forms of CBDCs
  - Wholesale CBDCs are used between the central bank and financial institutions only
  - Retail CBDCs are “digital cash” (M0) for general use by households and businesses
- China’s CBDC is known as DC/EP, digital currency and electronic payment, with the primary goal of supplementing or replacing traditional physical cash
- The multi-layered cash circulation system involves substantial cost of issuance, printing, return and storage of banknotes and coins and carries the risk of money laundering and other illegal activities. As digitalized fiat money, DC/EP is an alternative liability of the central bank with potentially greater convenience and lower cost.
- According to remarks in April from PBOC Governor Yi, the PBOC’s CBDC aims to satisfy people’s demand for legal tender in retail payment, improve payment convenience, security and anti-counterfeiting, and further accelerate the development of the digital economy
- A particularly important motivation for PBOC appears to be the desire to maintain or expand monetary sovereignty in the face of both domestic and external innovation

## Development of China CBDC



## Asia is the Leader in Digital Exchanges with More on the Horizon

### ADDX (ICHX Tech)

- Singapore-based private platform operated by local co. ICHX Tech
- Shareholders including Singapore Exchange (SGX) and state investor Temasek Holdings
- In January 2021, raised \$50 million to increase its overseas presence to draw more issuers and investors
- Aims to have 20 listings on the platform (up from 7) by the end of 2021

### DBS Digital Exchange

- Singapore's largest bank, DBS Group Holdings, is launching a platform called DBS Digital Exchange
- Issuance and trading of digital tokens backed by shares in unlisted companies, bonds and private equity funds

*"The exponential pace of asset digitalization provides immense opportunities to reshape capital markets"*

### SIX Group, SBI Holdings

- Another local private exchange is planned by Swiss bourse group SIX and Japanese brokerage SBI Holdings
- Jointly plan to launch Singapore-based joint exchange venture by 2022
- Drive institutional digital asset liquidity

### Stock Exchange of Thailand

- The Stock Exchange of Thailand announced in January 2021 that it would launch a platform for digital asset trading

*"Widen business opportunities and revenue streams to the capital market's operators while offering new investment alternatives to investors"*

### Osaka Digital Exchange

- Japan's Sumitomo Mitsui Financial Group and SBI Holdings also jointly announced in January 2021 a plan to launch the Osaka Digital Exchange in 2022
- They say the exchange will be the first private exchange in Japan to handle digital securities
- The Japanese government in 2020 amended its Financial Instruments and Exchange Act to include rules for security tokens

### Zipmex

- The exchange is regulated in Singapore, Australia and Indonesia, and licensed in Thailand
- Focuses on investors new to cryptocurrency by offering educational features, as well as high-net-worth individuals
- Competes against other regional exchanges such as BitKub in Thailand and Swyftx in Australia
- Larger players such as Coinbase and Binance are also targeting growth in the Asia Pacific region

Source: NIKKEI Asia, TechCrunch

### Digital Asset Exchange



### Financial Services



### Digital / Neobank



### Web 3.0 Infrastructure

block.one / ⚡ Bullish

### NFT and Gaming



### Mining



### Others



# Potential Opportunities (1/10)

## Digital Asset Exchange (1/3)

	Valuation / Latest Funding Round	Key Management	Key Investors	Description
 <b>Binance</b> <i>(Daily volume: ~\$25bn)</i>	■ Valuation: Undisclosed	■ Changpeng Zhao (CEO)	■ Undisclosed	<ul style="list-style-type: none"> <li>■ The world's biggest bitcoin exchange and altcoin crypto exchange in the world by volume, providing spot and futures trading, mobile crypto wallets, NFT marketplace, etc., and supporting large number of cryptocurrency types</li> <li>■ Dominant market share of 50%+ in crypto trading, and also building up ecosystem through acquisitions (such as CoinMarketcap) and investments through Binance Lab (including FTX, Axie Infinity, BitTorrent)</li> <li>■ Founded in 2017 and plans to establish multiple headquarters around the world</li> </ul>
 <b>OKEx</b> <i>(Daily volume: ~\$8bn)</i>	■ Valuation: Undisclosed	■ Xu Mingxing (CEO)	■ Juren Group ■ Qianhe Investment	<ul style="list-style-type: none"> <li>■ OKEx is a digital asset exchange that provides advanced financial services to traders globally by using blockchain technology</li> <li>■ Provides trading instruments and more than 400 trading pairs for more than 20 million traders from 200+ countries</li> <li>■ Offering trading services for major cryptocurrencies including bitcoin, Ethereum, USDT, XRP</li> <li>■ Recently launched platform to mint and trade NFTs created on the Ethereum blockchain and OKExChain</li> <li>■ Founded in 2017 and headquartered in Hong Kong</li> </ul>
 <b>Upbit</b> <i>(Daily volume: ~\$6bn)</i>	■ Valuation: \$8.8bn rumored as of Jun- 2021 <sup>1</sup>	■ Sirgoo Lee (CEO)	■ Dunamu	<ul style="list-style-type: none"> <li>■ Established in 2017 and based in Seoul, South Korea, Upbit, launched by Dunamu, is the largest digital asset exchange in South Korea and supports the trade of more than 150 crypto assets with the number of users of the APP reached 2.43mm in Mar 2021</li> <li>■ Equipped with world-class technology, regulatory expertise, and operational know-how, Upbit currently operates exchanges in South Korea, Singapore, and Indonesia</li> </ul>
 <b>Huobi</b> <i>(Daily volume: ~\$5bn)</i>	■ Market Cap: \$359mm (blockchain service segment only)	■ Leon Li (Founder, Chairman & CEO) ■ Zhang Li (CFO)	■ Techwealth ■ Sequoia ■ HBCapital	<ul style="list-style-type: none"> <li>■ Founded in 2013 and headquartered in Hong Kong, Huobi Group envisions breakthroughs in and the integration of core blockchain technologies within the digital economy; it provides safe and reliable Internet of Value services to tens of millions of users in hundreds of countries and regions and expanded into blockchain services</li> <li>■ Huobi.com is the world-leading Bitcoin and Ethereum trading platform, providing secure and convenient trading services for hundreds of digital assets; \$2.3tn trading volume in 2020 with avg. of \$6.3bn per day</li> <li>■ Listed on HKEX in 2016 (1611.HK) through backdoor listing but excluded its asset exchange business from the scope of the listed asset</li> </ul>
 <b>KuCoin</b> <i>(Daily volume: ~\$3bn)</i>	■ Valuation: Undisclosed	■ Johnny Lyu (CEO)	■ IDG Capital ■ Matrix Partners	<ul style="list-style-type: none"> <li>■ KuCoin is a global cryptocurrency exchange for numerous digital assets and cryptocurrencies</li> <li>■ KuCoin has grown into one of the most popular crypto exchanges and already has over 8 million registered users across 207 countries and regions around the world as of 2021</li> <li>■ It currently provides Spot trading, Margin trading, P2P fiat trading, Futures trading, Staking, and Lending</li> <li>■ Founded in 2017 and headquartered in Singapore</li> </ul>

Source: Company Filings, Press Articles. Note: Market data as of 12-Nov-2021; In descending order of daily transaction volume as of 12-Nov-2021.

<sup>1</sup> Based on parent company Dunamu's expected first-quarter results, multiplied by 20 times the PER (price-to-earnings) ratio.

# Potential Opportunities (2/10)

## Digital Asset Exchange (2/3)

	Valuation / Latest Funding Round	Key Management	Key Investors	Description
 <b>FTX</b> <i>(Daily volume: ~\$2bn)</i>	<ul style="list-style-type: none"> <li>■ Valuation: \$25bn (Oct-2021)</li> <li>■ Latest round: \$421mm (Oct-2021)</li> </ul>	<ul style="list-style-type: none"> <li>■ Sam Bankman-Fried (CEO &amp; Co-Founder)</li> <li>■ Gary Wang (CTO &amp; Co-Founder)</li> </ul>	<ul style="list-style-type: none"> <li>■ Coinbase Ventures</li> <li>■ Sequoia Capital</li> <li>■ SoftBank Group</li> <li>■ Paradigm</li> <li>■ Thoma Bravo</li> <li>■ Ribbit Capital</li> <li>■ Binance</li> <li>■ Circle</li> </ul>	<ul style="list-style-type: none"> <li>■ FTX is a cryptocurrency derivatives exchange built by traders, for traders and supports quarterly and perpetual futures for all major cryptocurrencies, leveraged tokens and OTC</li> <li>■ The platform offers a large range of trading instruments and products including FTX Futures, FTX Options, Leveraged Tokens, FTX Move (industry first trading product developed by FTX), OTC Desk, FTX.com Liquidation Engine and The FTT Token (ecosystem token)</li> <li>■ Top 10 largest exchange by trading volume; surpassed \$400bn in trading volume in April</li> <li>■ Founded in 2018 and headquartered in The Bahamas</li> </ul>
 <b>bithumb</b> <i>(Daily volume: ~\$1bn)</i>	<ul style="list-style-type: none"> <li>■ Valuation: \$460mm (Rumored acquisition, Jan-2021)</li> <li>■ Latest round: \$200mm (Series A, Apr-2019)</li> </ul>	<ul style="list-style-type: none"> <li>■ Back Young Heo (CEO)</li> </ul>	<ul style="list-style-type: none"> <li>■ ST Blockchain Fund</li> </ul>	<ul style="list-style-type: none"> <li>■ Bithumb, operated by BTC Korea.Com Corp, is one of the largest cryptocurrency exchanges based in Asia, serving millions of users around the world, catering mostly to customers in Korea</li> <li>■ Providing a wide range of services such as digital asset exchange, digital asset issuance, blockchain project incubation, and decentralized finance among other services</li> <li>■ Offering trading services for major cryptocurrencies such as bitcoin and Ethereum against fiat currency pairs in South Korean Won</li> <li>■ Founded in 2014 and headquartered in Seoul, South Korea</li> </ul>
 <b>crypto.com</b> <i>(Daily volume: ~\$1bn)</i>	<ul style="list-style-type: none"> <li>■ Valuation: Undisclosed</li> </ul>	<ul style="list-style-type: none"> <li>■ Kris Marszalek (CEO &amp; Co-Founder)</li> <li>■ Rafael Melo (CFO)</li> <li>■ Eric Anziani (COO)</li> </ul>	<ul style="list-style-type: none"> <li>■ Undisclosed</li> </ul>	<ul style="list-style-type: none"> <li>■ Crypto.com provides a powerful alternative to traditional financial services through the Crypto.com App, the Crypto.com Visa Card, the Crypto.com Exchange, and Crypto.com DeFi Wallet</li> <li>■ Crypto.com has over 10 million users and has one of the world's fastest growing crypto apps</li> <li>■ The Company is the first cryptocurrency company in the world to have ISO/IEC 27701:2019, CCSS Level 3, ISO27001:2013 and PCI:DSS 3.2.1, Level 1 compliance</li> <li>■ The Company offers the largest crypto-related Visa card program of its kind, which is currently available in the US, Canada, 31 countries in Europe, and APAC; the partnership with Visa allows fiat transaction settlement on Ethereum</li> <li>■ Founded in 2016 and headquartered in Hong Kong</li> </ul>
 <b>LBank</b> <i>(Daily volume: ~\$1bn)</i>	<ul style="list-style-type: none"> <li>■ Valuation: Undisclosed</li> </ul>	<ul style="list-style-type: none"> <li>■ Eric He (Co-Founder)</li> </ul>	<ul style="list-style-type: none"> <li>■ Undisclosed</li> </ul>	<ul style="list-style-type: none"> <li>■ LBank is a growing cryptocurrency exchange targeting the Asian markets with the goal of providing users from around the globe with professional cryptocurrency asset management solutions</li> <li>■ Owned and operated by a Chinese company - Superchains Network Technology Co. Ltd.</li> <li>■ Founded in 2016 and headquartered in Hong Kong</li> </ul>
 <b>BitMEX</b> <i>(Daily volume: ~\$1bn)</i>	<ul style="list-style-type: none"> <li>■ Valuation: Undisclosed</li> </ul>	<ul style="list-style-type: none"> <li>■ Alexander Hoeptner (CEO)</li> <li>■ Stephan Lutz (CFO)</li> </ul>	<ul style="list-style-type: none"> <li>■ SOSV</li> <li>■ Chinaccelerator</li> <li>■ G and M Capone Trust</li> </ul>	<ul style="list-style-type: none"> <li>■ BitMEX is an operator of a cryptocurrency derivatives trading platform intended to facilitate leveraged trading, perpetual and fixed date contracts</li> <li>■ Its platform offers comprehensive APIs and industry-leading security, enabling users to trade in bitcoin and cryptocurrency derivatives including options and futures</li> <li>■ Founded in 2014 and headquartered in Hong Kong</li> </ul>

Source: Company Filings, Press Articles

Note: Market data as of 12-Nov-2021; In descending order of daily transaction volume as of 12-Nov-2021.

# Potential Opportunities (3/10)

## Digital Asset Exchange (3/3)

	Valuation / Latest Funding Round	Key Management	Key Investors	Description
 <b>Bitfinex</b>  Bitfinex (Daily volume: ~\$803mm)	<ul style="list-style-type: none"> <li>■ Valuation: Undisclosed</li> </ul>	<ul style="list-style-type: none"> <li>■ JL van der Velde (CEO)</li> <li>■ Giancarlo Devasini (CFO)</li> <li>■ Paolo Ardino (CTO)</li> </ul>	<ul style="list-style-type: none"> <li>■ Arrington XRP Capital</li> <li>■ IOSG Ventures</li> </ul>	<ul style="list-style-type: none"> <li>■ Bitfinex facilitates a graphical trading experience with advanced charting functionality that allows traders to visualize orders, positions and price alerts</li> <li>■ In addition to the trading and charting tool, Bitfinex provides access to P2P financing, an OTC market and margin trading for a wide selection of digital assets and derivatives trading.</li> <li>■ Founded in 2012 and headquartered in Hong Kong</li> </ul>
 <b>Bybit</b>  Bybit (Daily volume: ~\$121mm)	<ul style="list-style-type: none"> <li>■ Valuation: Undisclosed</li> </ul>	<ul style="list-style-type: none"> <li>■ Ben Zhou (Founder, CEO)</li> </ul>	<ul style="list-style-type: none"> <li>■ Undisclosed</li> </ul>	<ul style="list-style-type: none"> <li>■ Established in March 2018, Bybit is a cryptocurrency exchange with more than 3 million registered users from all over the world including North America, Europe, Russia, Japan, South Korea and Southeast Asia</li> <li>■ Focused on serving a broad spectrum of clients, including from individual retail clients to professional derivatives traders; offers trading on perpetual contracts with up to 100x leverage</li> <li>■ Founded in 2018 and headquartered in Singapore</li> </ul>
 <b>bitFlyer</b>  BitFlyer (Daily volume: ~\$167mm)	<ul style="list-style-type: none"> <li>■ Valuation: Undisclosed</li> </ul>	<ul style="list-style-type: none"> <li>■ Yuzo Kano (co-founder and CEO)</li> <li>■ Kuniyoshi Hayashi (President)</li> </ul>	<ul style="list-style-type: none"> <li>■ SBI Investment</li> <li>■ Dai-ichi Life Insurance</li> <li>■ Mitsui Sumitomo Insurance Venture</li> </ul>	<ul style="list-style-type: none"> <li>■ Founded in 2014 and headquartered in Tokyo, Japan, BitFlyer is a comprehensive Bitcoin platform with over 2.5 million users across both its exchange and blockchain</li> <li>■ Offers an exchange that aims to develop and design core systems that make use of blockchain technology for the settlement of a financial transaction, enabling users to buy, sell and spend bitcoins</li> <li>■ One of the largest exchanges in Japan, with more than 70% of JPY trading volume passing through the bitFlyer platform, and the first cryptocurrency exchange licensed in each of Japan, the United States, and Europe; was awarded the fourth BitLicense ever in Nov-2017</li> </ul>
 <b>bitkub</b>  Bitkub (Daily volume: ~\$148mm)	<ul style="list-style-type: none"> <li>■ Valuation: \$1.1bn</li> <li>■ Latest activity: sold 51% stake to Siam Commercial Bank for ~\$535mm</li> </ul>	<ul style="list-style-type: none"> <li>■ Topp Jirayut Srupsrisopa (Co-Founder &amp; Group CEO)</li> <li>■ Aitchanan Pulges (Co-Founder, President)</li> </ul>	<ul style="list-style-type: none"> <li>■ Siam Commercial Bank</li> </ul>	<ul style="list-style-type: none"> <li>■ Bitkub is a Thai-SEC legally approved digital asset and cryptocurrency exchange platform that offers advanced exchange services to individuals who intend to buy, sell, and store cryptocurrencies</li> <li>■ Aims to bridge the gap between blockchain and cryptocurrency services to "non-tech users" by being the most trusted and easy-to-use cryptocurrency exchange in Thailand</li> <li>■ Provides multi-cryptocurrency wallets, user-friendly technical analysis tools, and alternative cash-out options for businesses willing to improve their payment processing systems.</li> <li>■ Founded in 2018 and headquartered in Thailand</li> </ul>
 <b>Liquid</b>  Liquid (Daily volume: ~\$113mm)	<ul style="list-style-type: none"> <li>■ Valuation: \$1bn (Series C, Apr-2019)</li> </ul>	<ul style="list-style-type: none"> <li>■ Mike Kayamori (Co-Founder &amp; CEO)</li> <li>■ Mark Hammond (CPO)</li> </ul>	<ul style="list-style-type: none"> <li>■ IDG Capital</li> <li>■ JAFCO Japan</li> <li>■ Bitmain</li> <li>■ IOSG Centuries</li> <li>■ ICONIZ</li> </ul>	<ul style="list-style-type: none"> <li>■ Liquid is one of the largest cryptocurrency-fiat exchange platforms in Japan, with over 800k customers, 80 tokens listed, and \$1.1bn+ highest daily trade volume in 2021</li> <li>■ Offering trading services for major cryptocurrencies such as bitcoin and Ethereum against fiat currency pairs in Japanese yen, US, Singapore and Australian dollars, and euros</li> <li>■ Founded in 2014 and headquartered in Tokyo, Japan</li> </ul>
 <b>CoinDCX</b>  CoinDCX (Daily volume: ~\$100mm)	<ul style="list-style-type: none"> <li>■ Valuation: Undisclosed</li> </ul>	<ul style="list-style-type: none"> <li>■ Sumit Gupta (CEO)</li> <li>■ Neeraj Khandelwal (CTO)</li> </ul>	<ul style="list-style-type: none"> <li>■ Block.One</li> <li>■ Coinbase Ventures</li> <li>■ Polychain</li> <li>■ Bain Capital Ventures</li> </ul>	<ul style="list-style-type: none"> <li>■ Coin DCX is India's largest cryptocurrency exchange with more than 100 thousand MAU</li> <li>■ Rumored to raise another round of \$100-120mm led by B capital (Eduardo Saverin's fund, co-founder of Facebook) in July 2021</li> <li>■ Founded in 2017 and headquartered in Mumbai, India</li> </ul>

Source: Company Filings, Press Articles

Note: Market data as of 12-Nov-2021; In descending order of daily transaction volume as of 12-Nov-2021.

# Potential Opportunities (4/10)

## Financial Services (1/2)

	Valuation / Latest Funding Round	Key Management	Key Investors	Description
<b>AMBER</b> <i>Amber</i>	<ul style="list-style-type: none"> <li>■ Valuation: \$1.1bn (Jun-2021)</li> <li>■ Latest round: \$100mm (Jun-2021)</li> </ul>	<ul style="list-style-type: none"> <li>■ Michael Wu (CEO)</li> <li>■ Wayne Huo (COO)</li> <li>■ Thomas Zhu (CTO)</li> </ul>	<ul style="list-style-type: none"> <li>■ Paradigm</li> <li>■ Blockchain.com</li> <li>■ Dragonfly Capital</li> </ul>	<ul style="list-style-type: none"> <li>■ Provider of crypto financing services intended to serve cryptocurrency trades. The Company offers world-class technology infrastructure and research capabilities to help clients buy and sell cryptocurrency products, earn yield, manage risk and access liquidity</li> <li>■ Amber's AUM reached \$530 million in 2020, representing a 275% increase from the previous year. Over 500 institutions have contributed to Amber's suite of investment products, which includes fixed-income, yield enhancement and margin trading</li> <li>■ Founded in 2015 and headquartered in Hong Kong</li> </ul>
<b>BC GROUP</b> <i>BC Group / OSL</i>	<ul style="list-style-type: none"> <li>■ Market Cap: \$786mm</li> </ul>	<ul style="list-style-type: none"> <li>■ Hugh Madden (Group CEO &amp; Executive Director)</li> <li>■ Ken Bon Lo (Deputy Chairman)</li> <li>■ Chun-Shun Ko (Executive Director)</li> </ul>	<ul style="list-style-type: none"> <li>■ Wise Aloe Ltd (49%)</li> <li>■ Zhang, Chong (6%)</li> <li>■ Fidelity Int. (5.5%)</li> </ul>	<ul style="list-style-type: none"> <li>■ BC Technology Group is a Asia's leading public technology and digital asset company and it is the parent company of OSL, the region's most comprehensive licensed digital asset platform</li> <li>■ OSL is the world's first and only insured and SFC-licensed digital asset platform to conduct dealing in securities and automated trading services, providing prime brokerage, custody, exchange and SaaS services for institutional clients and professional investors</li> <li>■ Launched SaaS product suite for digital asset platform in 1H2020 and signed DBS as a client in 2H2020</li> <li>■ Founded in 2003, listed on the HKEX, and headquartered in Hong Kong</li> </ul>
<b>贝宝金融</b> <i>Babel</i>	<ul style="list-style-type: none"> <li>■ Valuation: Undisclosed</li> <li>■ Latest round: \$40mm (May-2021)</li> </ul>	<ul style="list-style-type: none"> <li>■ Zhou Yang (Co-Founder &amp; CEO)</li> <li>■ Li Wnag (Co-Founder)</li> </ul>	<ul style="list-style-type: none"> <li>■ Sequoia Capital China</li> <li>■ Tiger Global Management</li> <li>■ Dragonfly Capital</li> </ul>	<ul style="list-style-type: none"> <li>■ Operator of a global cryptocurrency financial institution intended to serve high-net-worth individuals and institutional clients worldwide.</li> <li>■ The Company's professional crypto-asset financial services include cryptocurrency deposit and credit facilities, structured asset management, prime brokerage, and derivatives strategies, enabling clients to receive instant crypto-backed loan and take advantage of new investment opportunities</li> <li>■ Founded in 2018 and headquartered in Hong Kong</li> </ul>
<b>matrixport</b> <i>Matrixport</i>	<ul style="list-style-type: none"> <li>■ Valuation: \$1bn (Aug-2021)</li> <li>■ Latest round: \$100mm (Aug-2021)</li> </ul>	<ul style="list-style-type: none"> <li>■ Jihai Wu (Chairman &amp; Co-Founder)</li> <li>■ Yuesheng Ge (CEO &amp; Co-founder)</li> <li>■ Dong Yan (COO &amp; Founding Partner)</li> <li>■ Rong Lin (VP &amp; Founding Partner)</li> </ul>	<ul style="list-style-type: none"> <li>■ Bitmain</li> <li>■ IDG Capital</li> <li>■ Light Speed</li> <li>■ Standard Crypto</li> <li>■ Paradigm</li> <li>■ Dragonfly Capital Group</li> <li>■ Polychain</li> <li>■ Jihai Wu</li> </ul>	<ul style="list-style-type: none"> <li>■ Matrixport, spun off from the crypto giant Bitmain, is a one-stop crypto financial services platform offering digital currency trading, institutional custody (branded as "Cactus Custody"), lending as well as asset management to both institutional and retail customers</li> <li>■ The Company provides a wide range of services such as crypto trading, custody, lending, asset management, digital currencies traded on its platform include Bitcoin, Bitcoin Cash, Ethereum, Tether, and many others</li> <li>■ Established in 2019 and based in Singapore</li> </ul>

Source: Company Filings, Press Articles  
Note: Market data as of 12-Nov-2021.

# Potential Opportunities (5/10)

## Financial Services (2/2)

	Valuation / Latest Funding Round	Key Management	Key Investors	Description
 <b>ChainUP</b>	<ul style="list-style-type: none"> <li>■ Undisclosed</li> </ul>	<ul style="list-style-type: none"> <li>■ Gengfa Zhong (CO-founder and CEO)</li> <li>■ Hu Donghai (Co-founder)</li> <li>■ Jun Du (Co-founder)</li> </ul>	<ul style="list-style-type: none"> <li>■ Morningside Venture Capital</li> <li>■ Joy Capital</li> <li>■ Albatross Venture</li> <li>■ Node Capital</li> <li>■ Taoshi Capital</li> <li>■ 5Y Capital</li> </ul>	<ul style="list-style-type: none"> <li>■ ChainUP is a blockchain technology service provider. At present, it has 8 product lines: crypto exchange system (spot, margin and futures), wallet system, aggregated liquidity system, situation awareness, public blockchain, consortium blockchain, mining pool, blockchain cloud media, and broker</li> <li>■ The Company has created a number of independent brands, including HiCoin, a blockchain wallet solution; BitWind, an exchange liquidity provider; and EXUP, a financial derivative technology platform</li> <li>■ ChainUP has provided blockchain technology services to more than 500 clients around the globe, including 300+ crypto exchange clients, 100+ wallet clients, 150+ liquidity clients, and 60+ derivatives clients covering over 20 countries globally, and over 50 million users</li> <li>■ ChainUP has offices in Beijing, Tokyo, and Hong Kong, in addition to its headquarters in Singapore</li> </ul>
 <b>CyberX Prime Brokerage</b>	<ul style="list-style-type: none"> <li>■ Undisclosed</li> </ul>	<ul style="list-style-type: none"> <li>■ Hao Wang</li> <li>■ Zack Fan</li> </ul>	<ul style="list-style-type: none"> <li>■ Undisclosed</li> </ul>	<ul style="list-style-type: none"> <li>■ CyberX is one of the top tier prime brokerage firms in Asia, offering a full spectrum of financial services including trading execution, OTC, lending, and market making in cryptocurrencies</li> <li>■ The founding team members are from traditional financial institutions such as Goldman Sachs, Merrill Lynch, UBS, Citadel, and BlackRock</li> <li>■ Founded in 2016 with offices in Beijing, Hong Kong, New York, San Francisco, Seoul and Ottawa</li> </ul>

Source: Company Filings, Press Articles

# Potential Opportunities (6/10)

## Digital / Neobank

	Valuation / Latest Funding Round	Key Management	Key Investors	Description
 <b>SEBA Bank</b>	<ul style="list-style-type: none"> <li>■ Latest round: CHF20mm or \$22.5mm (Series B, Dec-2020)</li> <li>■ Venture round: CHF100mm or \$104mm (Sep-2018)</li> </ul>	<ul style="list-style-type: none"> <li>■ Guido Buehler (CEO)</li> <li>■ Alistair Heggie (COO)</li> <li>■ David Matter (CFO)</li> <li>■ Päivi Rekonen (Chair of the Board)</li> </ul>	<ul style="list-style-type: none"> <li>■ Swiss-based BlackRiver Asset Management</li> <li>■ Hong Kong-based Summer Capital</li> </ul>	<ul style="list-style-type: none"> <li>■ SEBA Bank is a FINMA-licensed Swiss bank and cryptocurrency company that provides a seamless, secure, and easy-to-use bridge between digital and traditional assets</li> <li>■ SEBA Bank enables professional individuals and companies as well as institutional clients to invest, safely keep, trade and borrow against digital and traditional assets, all in one place. SEBA Bank provides Swiss blockchain companies with accounts and custody for fiat and digital assets</li> <li>■ The Company was founded in 2018 and is headquartered in Zug, Switzerland</li> </ul>
 <b>Sygnum</b>	<ul style="list-style-type: none"> <li>■ Latest round: \$10mm+ (Feb-2021)</li> </ul>	<ul style="list-style-type: none"> <li>■ Luka Müller (Co-Founder and Chairman of the Board)</li> <li>■ Mathias Imbach (Co-Founder &amp; Group CEO)</li> <li>■ Gerald Goh (Co-Founder &amp; CEO Singapore)</li> </ul>	<ul style="list-style-type: none"> <li>■ SBI Digital Assets</li> </ul>	<ul style="list-style-type: none"> <li>■ Sygnum is a digital asset bank founded on Swiss and Singapore heritage, operating globally with both a Swiss banking licence and a Singapore asset management licences</li> <li>■ Sygnum harness the power of Distributed Ledger Technology (DLT) to systematically and holistically embed digital assets into regulated banking, empower institutional and private qualified investors, corporates, banks and other financial institutions to invest in the emerging digital asset economy</li> <li>■ The Company was founded 2018 and based in Zurich, Switzerland</li> </ul>

Source: Company Filings, Press Articles

# Potential Opportunities (7/10)

## Web 3.0 Infrastructure

	Valuation / Latest Funding Round	Key Management	Key Investors	Description
<b>block.one</b>	<ul style="list-style-type: none"> <li>■ Valuation: \$9bn for Bullish (Jul-2021)</li> <li>■ Latest round: \$49mm (Venture, Jun-2021)</li> </ul>	<ul style="list-style-type: none"> <li>■ Brendan Blumer (Co-Founder &amp; CEO)</li> <li>■ Andrew Bliss (CSO)</li> <li>■ Ted Cahall (COO)</li> <li>■ Steve Ellis (CFO)</li> </ul>	<ul style="list-style-type: none"> <li>■ Bitmain</li> <li>■ Fundamental Labs</li> <li>■ Tally Capital</li> <li>■ Fenbushi Capital</li> <li>■ Blockchain Capital</li> <li>■ Peter Thiel</li> <li>■ Richard Li</li> <li>■ Alan Howard</li> </ul>	<ul style="list-style-type: none"> <li>■ Block.one is the global leader in high-performance blockchain software, addressing the limitations of first-generation blockchain platforms while retaining the core benefits of the technology: security, accountability, and immutability</li> <li>■ Block.one develops the EOSIO open-source software, which is widely regarded as the market leader for blockchain power and scalability. Companies and developers around the world use EOSIO to create secure, transparent, and performant digital infrastructures</li> <li>■ Bullish, a unit of Block.one, is a technology company focused on developing financial services for the digital assets sector; its regulated crypto exchange will publicly launch later this year, offering a combination of deep liquidity, automated market making, and industry-leading security and compliance</li> <li>■ Bullish agreed to go public on NYSE through a SPAC merger with Far Peak Acquisition in a US\$9bn deal</li> <li>■ Founded in 2017 and headquartered in George Town, Cayman Islands</li> </ul>
<i>Block.one</i>				

Source: Company Filings, Press Articles

# Potential Opportunities (8/10)

## NFT and Gaming

	Valuation / Latest Funding Round	Key Management	Key Investors	Description
 <i>Animoca Brands</i>	<ul style="list-style-type: none"> <li>■ Valuation: \$1bn (May 2021)</li> <li>■ Latest round: \$89mm (May-2021)</li> </ul>	<ul style="list-style-type: none"> <li>■ Yat Siu (co-Founder and Chairman)</li> </ul>	<ul style="list-style-type: none"> <li>■ Blue Pool Capital</li> <li>■ Coinbase Ventures</li> <li>■ Kingsway Capital</li> <li>■ RIT Capital Partners</li> <li>■ Huobi</li> </ul>	<ul style="list-style-type: none"> <li>■ Developer and publisher of mobile games and applications for smartphones and tablets in Hong Kong. The Company is engaged in the development and marketing of a portfolio of mobile application games and also offers additional products orientated to educational learning, including e-books and a book application, providing clients with mobile games applications for iOS and Android operating systems</li> <li>■ An NFT is a digital asset which records ownership of a digital item. While anyone can view or download it, only the buyer can claim ownership. Players can collect and trade NFTs, which are the in-game items, on Animoca's blockchain-based gaming platform</li> <li>■ Founded in 2014 and headquartered in Hong Kong</li> </ul>
 <i>Sky Mavis</i>	<ul style="list-style-type: none"> <li>■ Valuation: \$2bn (Aug-2021)</li> <li>■ Latest round: \$7.5 mm (May-2021)</li> </ul>	<ul style="list-style-type: none"> <li>■ Trung Nguyen (CEO)</li> <li>■ Aleksander Larsen (COO)</li> <li>■ Viet Anh Ho (CTO)</li> </ul>	<ul style="list-style-type: none"> <li>■ Mark Cuban</li> <li>■ Kevin Lin</li> <li>■ CoinGecko</li> <li>■ Libertus Capital</li> <li>■ Konvoy Ventures</li> </ul>	<ul style="list-style-type: none"> <li>■ Sky Mavis, based in Ho Chi Minh, Vietnam, developed blockchain game Axie Infinity, which reached 1 million daily active users ("DAUs") in Aug 2021</li> <li>■ The game has built a strong community in countries ranging from the Philippines, Indonesia and Brazil as it allows players to earn cryptocurrency that can then be converted to local currencies: labelled play-to-earn, this mechanic permits players to borrow the expensive in-game assets required to play, taking a cut of their earnings in return</li> <li>■ \$42mm in sales in June 2021 alone; active user base growing by 350,000 each month</li> </ul>
 <i>Immutable</i>	<ul style="list-style-type: none"> <li>■ Valuation: Undisclosed</li> <li>■ Latest round: \$15mm (Sep-2019)</li> </ul>	<ul style="list-style-type: none"> <li>■ James Ferguson (Founder)</li> <li>■ Robbie Ferguson (Founder)</li> </ul>	<ul style="list-style-type: none"> <li>■ Galaxy Interactive</li> <li>■ Prosus Ventures</li> <li>■ Apex Capital Partners</li> </ul>	<ul style="list-style-type: none"> <li>■ Immutable is an Australian game team that runs the NFT trading card game Gods Unchained.</li> <li>■ Gods Unchained is an important NFT game built by a 40-person development team headed by Chris Clay, the former director of Magic the Gathering: Arena. Gods Unchained is a "play to earn" game, where players can earn collectibles over time and they can make money by trading those collectibles, including the unique NFTs which can be proven by the blockchain</li> <li>■ Immutable X is the brainchild of Immutable providing a marketplace for players in games such as Gods Unchained to buy and sell the items they have collected</li> </ul>
 <i>Refinable</i>	<ul style="list-style-type: none"> <li>■ Valuation: Undisclosed</li> <li>■ Latest round: \$3 mm (Apr-2021)</li> </ul>	<ul style="list-style-type: none"> <li>■ Nicholas Chan (Co-Founder)</li> <li>■ Maxim Geernick (Co-Founder &amp; CTO)</li> </ul>	<ul style="list-style-type: none"> <li>■ Binance</li> <li>■ Mr. Beast</li> <li>■ AU21 Capital</li> </ul>	<ul style="list-style-type: none"> <li>■ Refinable, based in Hong Kong, is the first major NFT marketplace on Binance Smart Chain ("BSC"), empowering both individual creators and brands to easily and affordably create, discover, trade, and leverage NFTs</li> <li>■ With Refinable's platform, and BSC's extremely high network capacity, low latency and a large, established community, creators will be able to easily tokenize their content and distribute it to end-users through a variety of mechanisms, such as auctions, gifts and royalties; users can also find and invest in NFTs</li> <li>■ By addressing some of the major friction points for NFT creators and users, such as high fees, poor discoverability and low flexibility, Refinable looks to leverage the untapped potential of NFTs and bring them to an even larger audience</li> </ul>

Source: Company Filings, Press Articles

# Potential Opportunities (9/10)

## Mining

	Valuation / Latest Funding Round	Key Management	Key Investors	Description
<b>BITMAIN</b>  Bitmain	<ul style="list-style-type: none"> <li>■ Valuation: \$40-50bn rumored as of Jan-2021</li> <li>■ Latest round: \$422mm (Series B, Aug-2018)</li> </ul>	<ul style="list-style-type: none"> <li>■ Jihai Wu (cofounder and Chairman)</li> </ul>	<ul style="list-style-type: none"> <li>■ Temasek</li> <li>■ Bluebell</li> <li>■ Crimson Capital</li> <li>■ Evernew</li> <li>■ Jumbo Sheen Group</li> <li>■ Lioness Capital</li> </ul>	<ul style="list-style-type: none"> <li>■ Bitmain is a manufacturer of bitcoin mining hardware designed to offer cryptocurrency. The Company's hardware develops and sells bitcoin miners using ASIC chip technology, enabling users to get high quality and efficient computing chips, high density server equipment and large scale parallel computing software.</li> <li>■ Was rumored to go for listing in Hong Kong in Aug-2018 and for listing in the US in Oct-2019</li> <li>■ Founded in 2013 and headquartered in Beijing</li> </ul>
<b>canaan</b>  Canaan	<ul style="list-style-type: none"> <li>■ Market Cap: \$1.8bn</li> </ul>	<ul style="list-style-type: none"> <li>■ Nangeng Zhang (Chairman and CEO)</li> </ul>	<ul style="list-style-type: none"> <li>■ Invesco</li> <li>■ Franchise Capital Limited</li> </ul>	<ul style="list-style-type: none"> <li>■ Canaan Inc is a developer of supercomputing chips and a manufacturer of digital blockchain computing equipment as well as a supplier of the overall scheme for computer software and hardware of digital blockchain</li> <li>■ The equipment manufactured by Canaan is sold to many countries including China, the United States, and Hong Kong, among others. It derives the vast majority of its revenue from China. Its products include Kanzhi AI and Avalon Mining Machine</li> <li>■ Founded in 2013 and headquartered in Beijing, China</li> </ul>
<b>EBANG</b>  Ebang	<ul style="list-style-type: none"> <li>■ Market Cap: \$387mm</li> </ul>	<ul style="list-style-type: none"> <li>■ Dong Hu (Chairman and CEO)</li> <li>■ Lei Chen (CFO)</li> </ul>	<ul style="list-style-type: none"> <li>■ Heights Capital</li> <li>■ Amplify investments</li> </ul>	<ul style="list-style-type: none"> <li>■ Ebang International Holdings Inc is an application-specific integrated circuit, or ASIC, chip design company and a manufacturer of high performance Bitcoin mining machines</li> <li>■ The Company's Ebit E10 model, is a commercial mining machine that uses 10 nm ASIC chips among other mining machine producers. It operates in single segment selling of Bitcoin mining machines and related accessories, telecommunications products and provision of management and maintenance services.</li> <li>■ Founded in 2010 and headquartered in Hangzhou, China</li> </ul>
<b>比特微</b>  MicroBT	<ul style="list-style-type: none"> <li>■ Valuation: Undisclosed</li> <li>■ Latest round: \$22mm (Before Dec-2019)</li> </ul>	<ul style="list-style-type: none"> <li>■ Zuoxing Yang (Founder and CEO)</li> </ul>	<ul style="list-style-type: none"> <li>■ N/A</li> </ul>	<ul style="list-style-type: none"> <li>■ MicroBT is a technology company which is based on block chain and artificial intelligence focusing on integrated circuit chip and products development, production and sales, and provide corresponding system solutions and technical services</li> <li>■ More than 40% R&amp;D staff which is doctor or master comes from Tsinghua University, Peking University</li> <li>■ In addition to the current focus on the area of block chains, MicroBT is also responding to the national chip strategy. It is planning to explore and extend its core R&amp;D capabilities to other high-performance computing areas such as artificial intelligence through independent R&amp;D and strategic cooperation</li> <li>■ Founded in 2016 and headquartered in Beijing/ Shenzhen</li> </ul>

Source: Company Filings, Press Articles  
Note: Market data as of 12-Nov-2021.

# Potential Opportunities (10/10)

## Others

	Valuation / Latest Funding Round	Key Management	Key Investors	Description
 CertiK	<ul style="list-style-type: none"> <li>Undisclosed</li> <li>Latest round: \$61mm (Series B, Aug 2021)</li> </ul>	<ul style="list-style-type: none"> <li>Ronghui Gu (Co-Founder)</li> <li>Muhan Zou (Chief Strategy Officer)</li> </ul>	<ul style="list-style-type: none"> <li>Coinbase Ventures</li> <li>Tiger Global Management</li> <li>IDG Capital</li> <li>Coatue</li> <li>Lenovo</li> </ul>	<ul style="list-style-type: none"> <li>Developer of a formal verification technology designed to deliver end-to-end security service</li> <li>Company's technology utilizes AI and leverages on-chain and off-chain data including social sentiment, privileged governance controls, market volatility, suspicious transactions and more, providing clients with real-time insights into the security of DeFi and other mission-critical applications.</li> <li>Established in 2018 and headquartered in New York</li> </ul>
 HyperChain	<ul style="list-style-type: none"> <li>Valuation: Undisclosed</li> <li>Latest round: \$234mm (Series B, Jun 2018)</li> </ul>	<ul style="list-style-type: none"> <li>Li Wei (CEO)</li> <li>Li Qilei (CTO)</li> <li>He Hongtao (COO)</li> </ul>	<ul style="list-style-type: none"> <li>China SDIC Gaoxin</li> <li>Xinhu Zhongbao</li> <li>Fosun International</li> </ul>	<ul style="list-style-type: none"> <li>HyperChain is aiming to meet enterprise-level applicable demands in various sectors by its consortium blockchain platform</li> <li>Focus on e-government, financial service, energy and manufacturing</li> <li>Its core products include: consortium blockchain platform, distributed data collaboration network BitXMesh, inter-blockchain platform BitXHub, BaaS platform FiLoop</li> <li>Established in 2016 and headquartered in Hangzhou</li> </ul>
 Clear	<ul style="list-style-type: none"> <li>Valuation: Undisclosed</li> <li>Latest round: \$13mm (Series A, Feb 2020)</li> </ul>	<ul style="list-style-type: none"> <li>Eran Haggiag (Co-Founder)</li> <li>Gal Hochberg (Co-Founder)</li> </ul>	<ul style="list-style-type: none"> <li>Fidelity International Strategic Ventures</li> <li>Hong Kong Telecom</li> </ul>	<ul style="list-style-type: none"> <li>Clear builds decentralized networks based on enterprise blockchain that enable flexible, on-demand inter-company trade, without relying on centralized parties with industry focus in Telecoms</li> <li>Offered a blockchain-based platform that helps enterprises automate contracts and data management, while guaranteeing control, security, and privacy in networks with multiple partners</li> <li>Established in 2018 and headquartered in Singapore</li> </ul>
 WanXiang	Undisclosed	Xiao Feng (CEO)	China Wanxiang Holdings	<ul style="list-style-type: none"> <li>Wanxiang is the blockchain arm of China Wanxiang Holdings and had Vitalik Buterin, founder of Ethereum as the chief scientist</li> <li>Focus on e-government, financial service, automotive and energy as well as healthcare and food safety</li> <li>Wanxiang Blockchain has co-developed PlatONE with JUZIX, which is an open-source privacy-computing-focused consortium blockchain platform offering blockchain-based solutions to multiple industries</li> <li>Established in 2015 and headquartered in Shanghai</li> </ul>
 Cointelegraph	Undisclosed	<ul style="list-style-type: none"> <li>Jay Cassano (CEO)</li> <li>Helen Lang (COO)</li> <li>Jon Rice (Editor at Large)</li> <li>Kristina Lucrezia Cornèr (Managing Editor)</li> </ul>	Undisclosed	<ul style="list-style-type: none"> <li>Founded in 2013, Cointelegraph is the leading independent digital media resource covering a wide range of news on blockchain technology, crypto assets, and emerging fintech trends</li> <li>Its editorial content includes unbiased news, in-depth analytics, comprehensive cryptocurrency price charts, insightful opinion pieces, as well as regular reports on the social transformation of digital currencies</li> <li>The Company has a global management team with members stationed in San Francisco, New York, Memphis, Ontario, London, Paris, Rome, Madrid, Cape Town, Johannesburg, and Riga</li> </ul>

Source: Company Filings, Press Articles

## Appendix A: Selected Case Studies

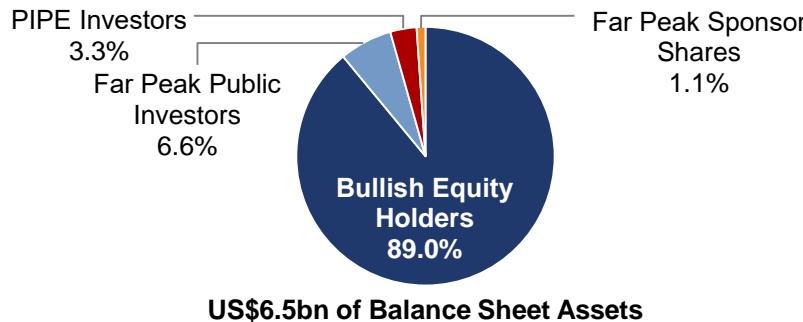
# Bullish's \$9 Billion De-SPAC

## Expected to close by the end of 2021

### Bullish Overview

- Bullish, a unit of blockchain software company Block.one, is a technology company focused on developing financial services for digital assets sector
- It will publicly launch its regulated crypto exchange later this year, which is designed to benefit the asset holders, empower traders, and increase the overall market integrity
- It is backed by billionaire entrepreneur Peter Thiel's Thiel Capital and Founders Fund, British hedge fund manager Alan Howard, U.S. hedge fund manager Louis Bacon, Hong Kong billionaire Richard Li, German investor Christian Angermayer's Apeiron Investment Group, Galaxy Digital, and Japanese bank Nomura
- Block.one is an asset holding and investment company that creates, incubates, and invests in businesses that build trust in transactions, transparency in systems and efficiency. Block.one has funded more than 100 innovative entrepreneurs to date

### Pro Forma Ownership



Source: Company website, public filings; <sup>1</sup> All metrics are as of the quarter ended March 31, 2021 (see company filings for detailed definitions).

### Transaction Overview

- On July 9, 2021, Bullish announced its intention to go public on the NYSE through a merger with Far Peak Acquisition Corporation (NYSE: FPAC), a SPAC company
- The combined Bullish and Far Peak entity is poised to have a pro forma equity value at signing of approximately \$9 billion, to be adjusted at the closing of the transaction based on crypto asset prices around that time
- This transaction is subject to approval by Far Peak stockholders and other customary closing conditions, including regulatory approvals. The Boards of Directors of both Bullish and Far Peak have unanimously approved the proposed transaction
- Upon completion of the transaction, Far Peak CEO Thomas W. Farley will become the CEO of Bullish and Block.one CEO Brendan Blumer will be appointed Chairman of Bullish

### Commentary

“Bullish represents a promising future for financial services. With the increased interest from institutional players and sophisticated traders, it is critical to iterate on the existing exchange infrastructures we see today. Bullish is well positioned to strategically deliver value to its prospective shareholders as it capitalizes on market trends and places technological innovation at the core of its identity. We’re only in the first or second inning of the cryptocurrency market and I’m thrilled to be joining the Bullish team as we revolutionize the future of digital assets through cutting edge financial technologies.”

— Thomas W. Farley, Chairman and CEO of Far Peak

# Circle to Become a Public Company through a \$4.5 bn Combination with Concord

Goldman Sachs Served as Exclusive Financial Advisor to Concord and Placement Agent on \$415 mm PIPE | Announced 08-Jul-2021

## Transaction Overview

- Founded in 2013, Circle's mission of raising global economic prosperity through the frictionless exchange of financial value is being met through a series of Internet-native financial services, powering commerce, treasury and transaction services on public blockchains
- Circle is the principal developer of the fastest growing, regulated and fully-reserved dollar digital currency, USD Coin ("USDC")
- USDC is fueling a diversifying array of use cases for high-trust, low-friction internet native payments and settlements

**\$25+ bn**

USDC in Circulation

**\$785+ bn**

On-Chain Transactions

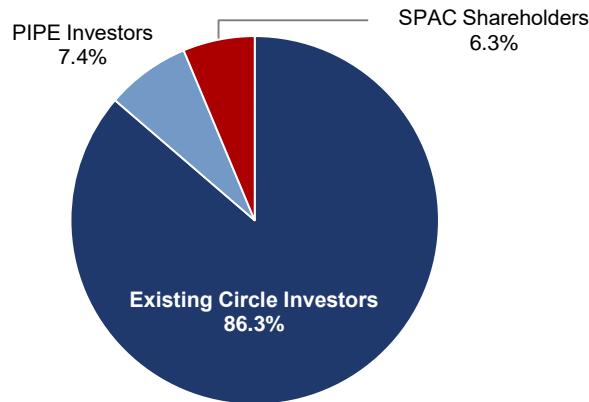
**3,400+%**

YTD '21 USDC in Circulation Growth

**180+**

Countries with exchanges connected to USDC rails

## Pro Forma Ownership



## Circle Overview

- Circle Internet Financial ("Circle") has entered into a definitive business combination agreement with Concord Acquisition Corp (NYSE: CND) ("Concord"), a special purpose acquisition company ("SPAC")
- Implied Circle enterprise value of \$4.5bn and EV / 2023 revenue multiple of 5.8x
- The transaction includes \$276 mm in gross proceeds from Concord's cash in trust<sup>1</sup> and \$415 mm in gross proceeds from fully committed strategic and institutional investors, including Marshall Wace LLP, Fidelity Management & Research Company LLC, Adage Capital Management LP, accounts advised by ARK Investment Management LLC and Third Point
- The business combination is targeted to close in the fourth quarter of 2021, subject to stockholder approvals and other customary closing conditions
- Concord, led by Chairman Bob Diamond and CEO Jeff Tuder, is a SPAC formed to merge with a business in the financial services or financial technology industries

## Commentary

"Circle's evolution as a company, driven by our team's unrelenting focus on building the safest, well-regulated blockchain-based financial solutions, continues to power a revolution in digital commerce on the Internet. USDC's wide adoption as the standard for trusted digital currencies positions us at the center of growing market and institutional needs that are aligned with our vision and mission of raising global economic prosperity through the frictionless exchange of financial value."

— Jeremy Allaire, Co-Founder and Chief Executive Officer of Circle

"Circle is the true pioneer of trusted digital currencies and blockchain-based financial services designed and built inside the regulatory perimeter. The company's market positioning and innovative range of services covering payments, treasury and transaction services and financial yield, among others, are powering wide adoption of Internet-level financial services, without sacrificing trust, transparency and compliance."

— Bob Diamond, Chairman of Concord

Source: Company public filings, press release; <sup>1</sup> Assumes no redemptions by Concord's public stockholders.

# Coinbase's \$1.25 Billion Convertible Debt Offering

## Goldman Sachs Served as Lead Left Bookrunner | Priced on 18-May-2021

### Offering Highlights & Key Takeaways

- 1 Debut Public Financing:** Coinbase achieved a 0.50% coupon and 55% conversion premium in its first public financing transaction, representing the fastest turnaround for a convertible offering ever after going public via direct listing just over a month ago in the April 14, 2021 direct listing
- 2 Opportunistic Financing:** Coinbase took advantage of a historic convertible market to raise new debt. Given the company also purchased a capped call, the effective conversion price is 100% above yesterday's closing stock price and 91% above the direct listing reference price of \$250
- 3 Use of Proceeds:** Coinbase was able to bolster their balance sheet to invest against the significant growth opportunities they see with 0.50% coupon debt

### Key Pricing Details

Deal Size:	\$1.25 billion
Maturity:	5 Years
Coupon:	0.50%
Conversion Premium:	55.0%
Effective Conversion Premium:	100.0%

### Coinbase Overview

- Coinbase's mission is to create an open financial system for the world; to create more economic freedom for every person and business
- Coinbase is building the cryptoeconomy – a more fair, accessible, efficient and transparent financial system for the internet age that leverages crypto assets
- Coinbase's early focus on trust and usability has allowed the Company to become the primary on-ramp to the cryptoeconomy from the fiat-based financial system
- Coinbase directly integrates with over 15 blockchain protocols, supports over 108 crypto assets for trading or custody and offers a suite of subscription products and services

### 1Q 2021 Results<sup>1</sup>

<b>56 mm</b> Verified Users	<b>6.1 mm</b> Monthly Transacting Users	<b>\$223 bn</b> Assets on Platform
<b>\$335 bn</b> Quarterly Volume Traded	<b>\$1.8 bn</b> Quarterly Revenue	<b>\$1.1 bn</b> Adjusted EBITDA

### Goldman Sachs' #1 Financing Franchise

- Goldman Sachs is the #1 convertible bookrunner 2021 YTD
- Goldman Sachs is the #1 Tech bookrunner in equity & equity-linked markets 2021 YTD

Source: Company website, public filings; <sup>1</sup> All metrics are as of the quarter ended March 31, 2021 (see company filings for detailed definitions).

# Coinbase's Direct Listing on Nasdaq

**Goldman Sachs Served as Financial Advisor to Coinbase and Lead Advisor to Nasdaq | First Day of Trading on 14-Apr-2021**



## Key Takeaways

1

Coinbase's opening price of \$381.00 per share represented a market cap of ~\$98B<sup>2</sup>, one of the largest ever companies to go public

2

Coinbase's trusted and robust technology platform, significant scale and market leadership position drove institutional and retail investor interest

3

Goldman Sachs acted as **financial advisor to Coinbase and lead advisor to Nasdaq**

## Q1 2021 Estimated Results<sup>1</sup>

**56mm**Verified  
Users**6.1mm**Monthly  
Transacting  
Users**\$223bn**Assets on  
Platform**\$335bn**Trading  
Volume**\$1.8bn**Total  
Revenue**\$1.1bn**Adjusted  
EBITDA

## Coinbase Overview

- Coinbase's mission is to create an open financial system for the world; to create more economic freedom for every person and business
- Coinbase is building the cryptoeconomy – a more fair, accessible, efficient and transparent financial system for the internet age that leverages crypto assets
- Coinbase's early focus on trust and usability has allowed the Company to become the primary on-ramp to the cryptoeconomy from the fiat-based financial system
- Coinbase directly integrates with over 15 blockchain protocols, supports over 90 crypto assets for trading or custody and offers a suite of subscription products and services
- Three key growth strategies include: adding more customers, expanding the depth and breadth of assets and launching innovative products

## Ticker

"COIN" | Nasdaq

## Opening Price

\$381.00

## Fully Diluted Market Cap @ Open

~\$98bn<sup>2</sup>

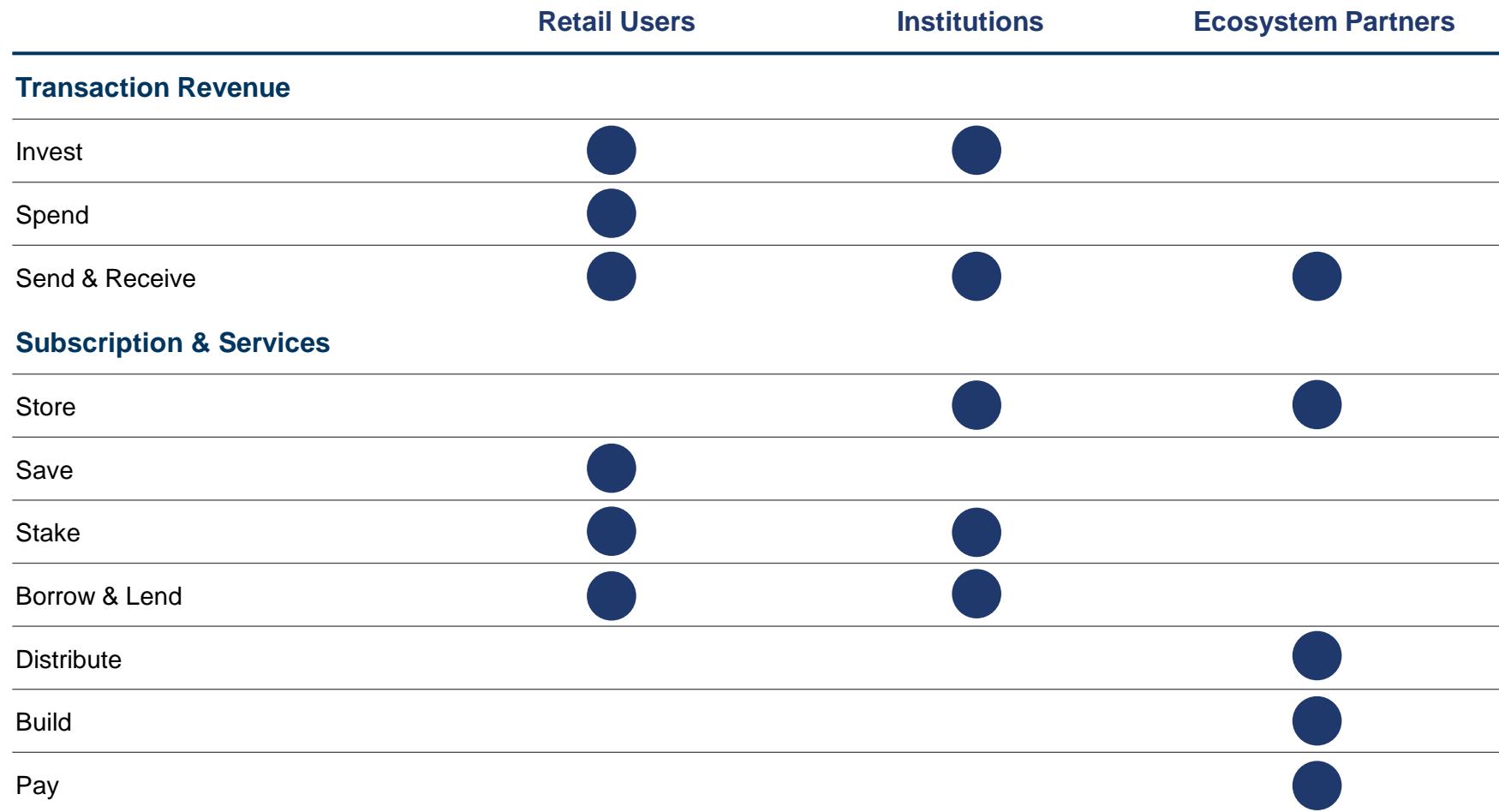
## Goldman Sachs' #1 Technology Franchise

- #1 Technology Equity Underwriter in 2020 and 2021 YTD
- GS has served as financial advisor for the largest technology direct listings (Coinbase, Roblox, Palantir, Slack and Spotify), continuing our track record of creativity and innovation to help our clients achieve their bespoke objectives

Source: *Public company filings*

<sup>1</sup> All metrics are as of the quarter ended 31-Mar-2021 (see company filings for detailed definitions).

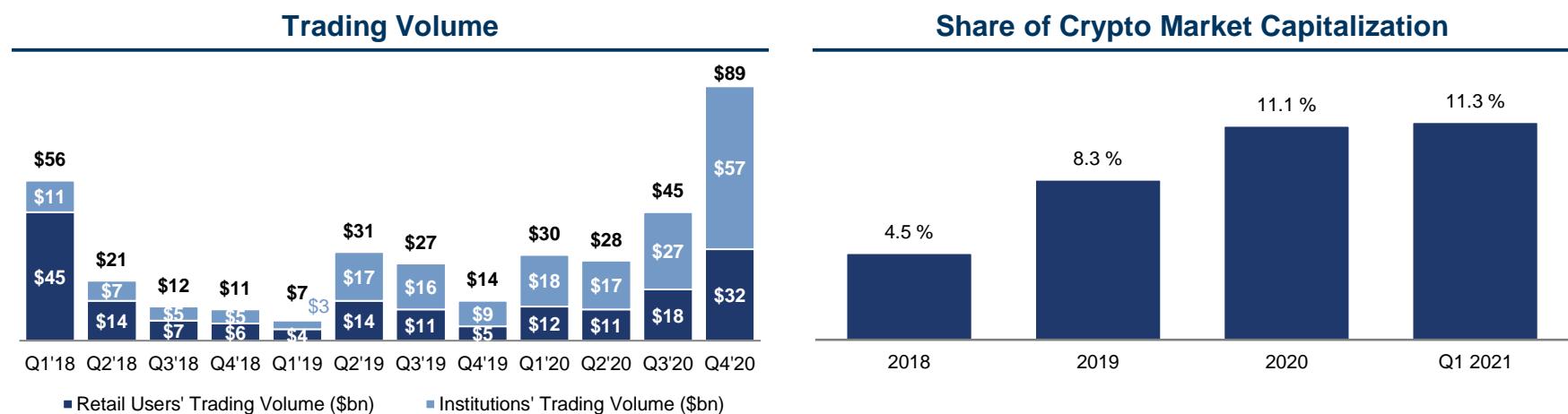
<sup>2</sup> Based on Fully Diluted Market Cap.



Source: Public company filings

Note: See company filings for detailed definitions.

	Annual		Quarterly	
	2019	2020	1Q 2020	1Q 2021
<b>Verified Users (mm)<sup>1</sup></b>	32	43	34	56
% Growth		34 %		65 %
<b>Monthly Transacting Users (mm)<sup>1</sup></b>	1.0	2.8	1.3	6.1
% Growth		180 %		369 %
<b>Assets on Platform (\$bn)</b>	\$ 17	\$ 90	\$ 17	\$ 223
% Growth		432 %		1,212 %
<b>Trading Volume (\$bn)</b>	\$ 80	\$ 193	\$ 30	\$ 335
% Growth		142 %		1,017 %
<b>Net Income (\$mm)</b>	\$ (30)	\$ 322	\$ 32	\$ 730 - 800
% Growth		NM		2,183 - 2,402%
<b>Adjusted EBITDA (\$mm)<sup>2</sup></b>	\$ 24	\$ 527	\$ 55	\$ 1,100
% Growth		2,096 %		1,891 %



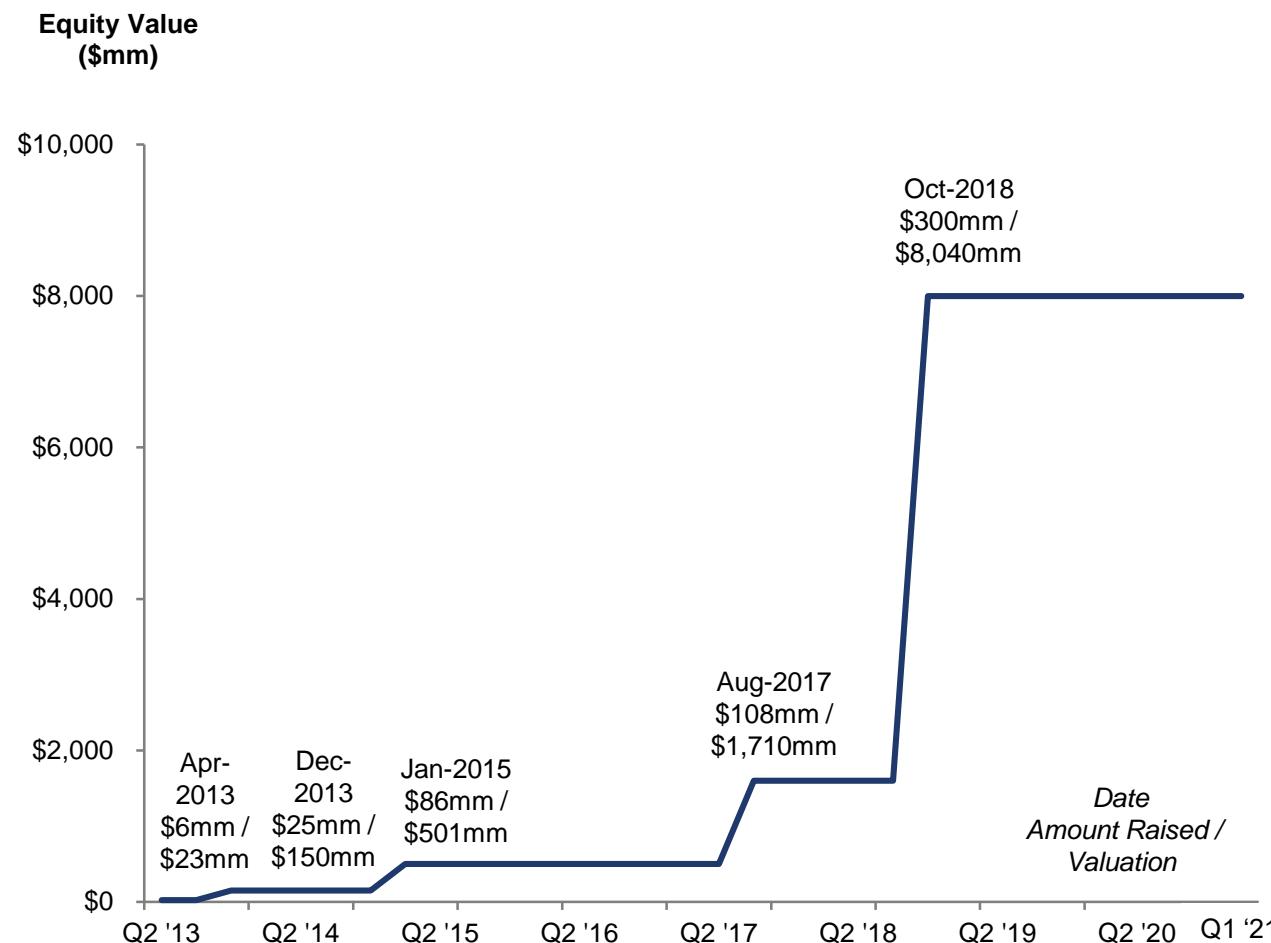
Source: Public company filings

Note: See company filings for detailed definitions.

<sup>1</sup> Annual Verified Users and Annual Monthly Transacting Users figures represent figures as of the last fiscal quarter in the fiscal year. MTUs presented for the end of a quarter are the average of each month's MTUs in each respective quarter. Verified Users is defined as all retail users, institutions, and ecosystem partners that have registered an account on the platform and confirmed either their email address or phone number, or that have established an account with a username on non-custodial wallet application, as of the date of measurement. <sup>2</sup> Adjusted EBITDA calculated as net income (loss), adjusted to exclude interest expense, provision for (benefit from) income taxes, depreciation and amortization, stock-based compensation expense, impairment of goodwill, acquired intangibles and crypto assets, restructuring expenses, non-recurring acquisition-related compensation expenses, unrealized gain or loss on foreign exchange, fair value adjustments on derivatives, and non-recurring legal reserves and related costs.

# From 2018 to Present, Coinbase's Valuation Increased About 12x<sup>1</sup>

coinbase



Coinbase's opening price of \$381.00 per share represented a **market cap of ~\$98B<sup>2</sup>**, one of the largest ever companies to go public

<b>Largest Companies at Public Debut</b>	
<b>Company</b>	<b>Basic Market Cap<sup>3</sup> (\$bn)</b>
Alibaba Group	\$169
facebook	\$81
Uber	\$75
coupang	\$60
gm	\$49
airbnb	\$41
ROCKET Companies	\$36
ROBLOX	\$35
snowflake	\$34

Source: Public company filings, PitchBook, Dealogic

<sup>1</sup> Represents increase from Oct-2018 \$8bn valuation.

<sup>2</sup> Based on Fully Diluted Market Cap.

<sup>3</sup> Includes U.S. listed IPOs since 2010; based on Basic Shares Outstanding Market Cap including overallotment; Direct Listing Market Cap based on direct listing opening price; Coinbase's Market Cap based on Basic Shares Outstanding and direct listing opening price was ~\$76bn.

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