



DAR Q3 2022 Report: Digital Asset Ecosystem

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INTRODUCTION

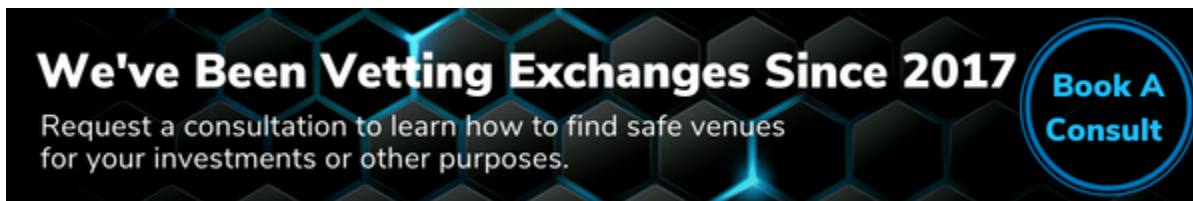
In Q3 2022, the digital asset market experienced relatively lower volatility than in Q2 2022. After the major sell-off in Q2 that brought the total digital asset market capitalization from \$2 trillion to \$1 trillion, the market slowed down. Bitcoin was largely rangebound between \$19,000 and \$24,000 for most of Q3, with the exception of a few weeks leading up to the Ethereum merge. During the same time period, the U.S. Federal Reserve raised interest rates by 75 basis points (bps) twice to combat surging inflation, causing further uncertainties for risk-on assets like cryptocurrencies.

The biggest crypto event in Q3 was the Ethereum merge, which was completed on 15 September 2022. As the second largest digital asset by market capitalization and with \$30 billion in Total Value Locked (TVL) across its decentralized applications ecosystem, Ethereum's move to Proof-of-Stake was described as a step towards innovation and growth. The successful merge helped instill confidence that decentralized infrastructure can scale and that developers are continuing to innovate despite the bear market.

While the "crypto winter" of 2022 is ongoing, the fundamentals and level of maturity of the digital asset market are significantly different from the crypto winter of 2018. Innovation continues to ramp up in areas including institutional market infrastructure, blockchain scaling solutions, integration of real-world assets in DeFi, decentralized identity solutions, financialization of NFTs, and privacy tools.

Governments around the world are also making considerable progress in their approach toward digital asset regulation. Regulatory bodies are putting more focus on digital assets, with ongoing bills and frameworks being discussed globally. The European Union reached an agreement on its landmark crypto law, Markets in crypto-assets (MiCA), whereas the United States is actively debating a draft of the Digital Commodities Consumer Protection Act (DCCPA) bill.

In Digital Asset Research's (DAR's) newly revamped quarterly report series, we break down the state of the digital asset market from the perspective of institutional market participants, highlight crucial events, and provide commentary on potential future developments. This report is meant for informational purposes only, and should not be construed as investment, financial, or legal advice.



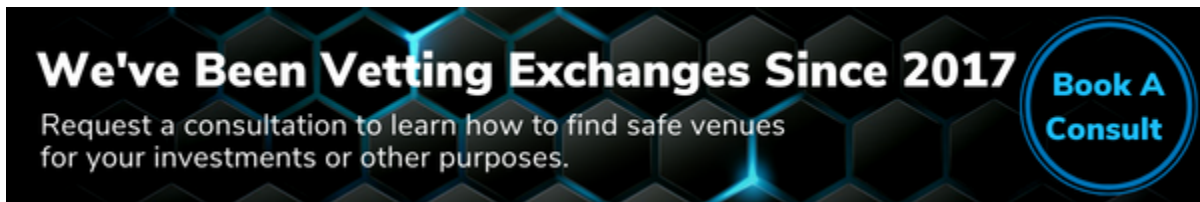
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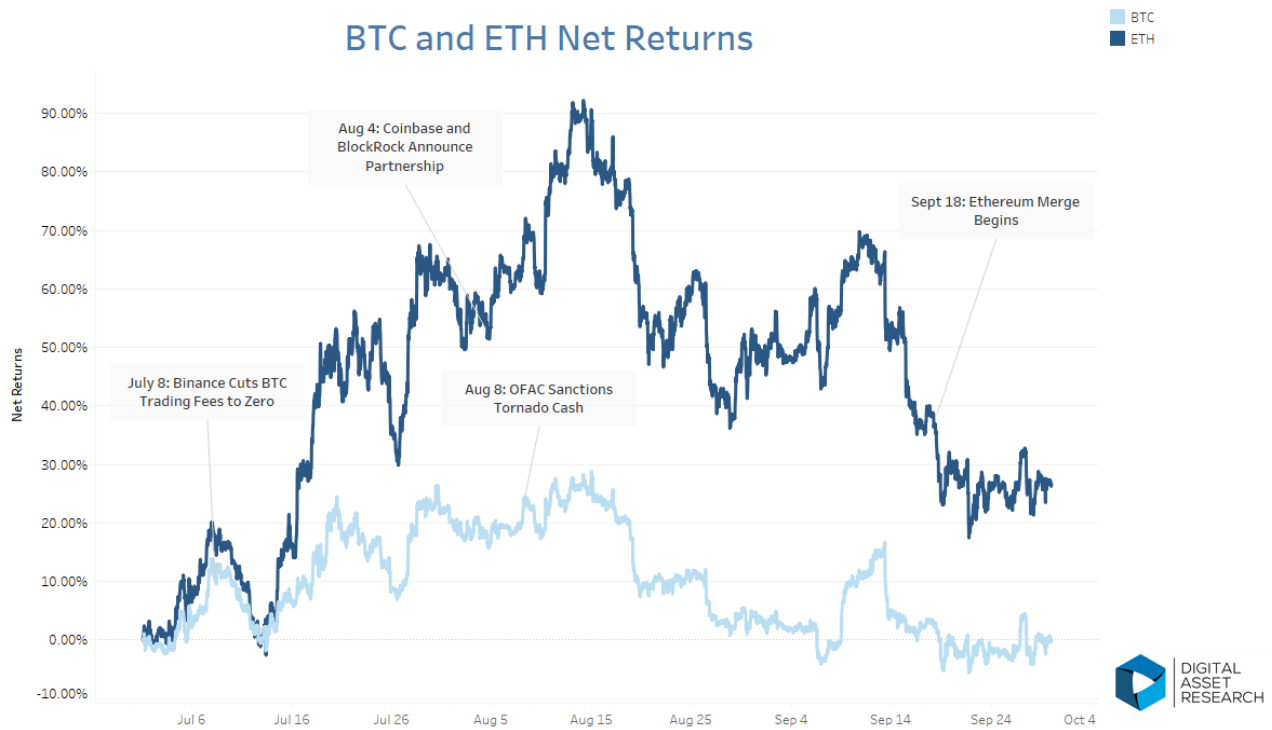


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WHAT HAPPENED IN Q3 2022



The third quarter of 2022 was rather eventful for the digital asset market, despite relatively slower price action. The U.S. Federal Reserve raised interest rates by 150 bps in Q3 2022 as part of its effort to fight inflation, which stayed above 8% during the three-month period from July to August. As a result, risk-on assets, including the broader digital asset market, saw significant underperformance. Bitcoin and the NASDAQ Composite Index (COMP) were also highly correlated in Q3 as investors moved away from riskier assets amidst the rising interest rates environment.

Q3 2022 Net Returns



30 Day Rolling BTC-NASDAQ Correlation



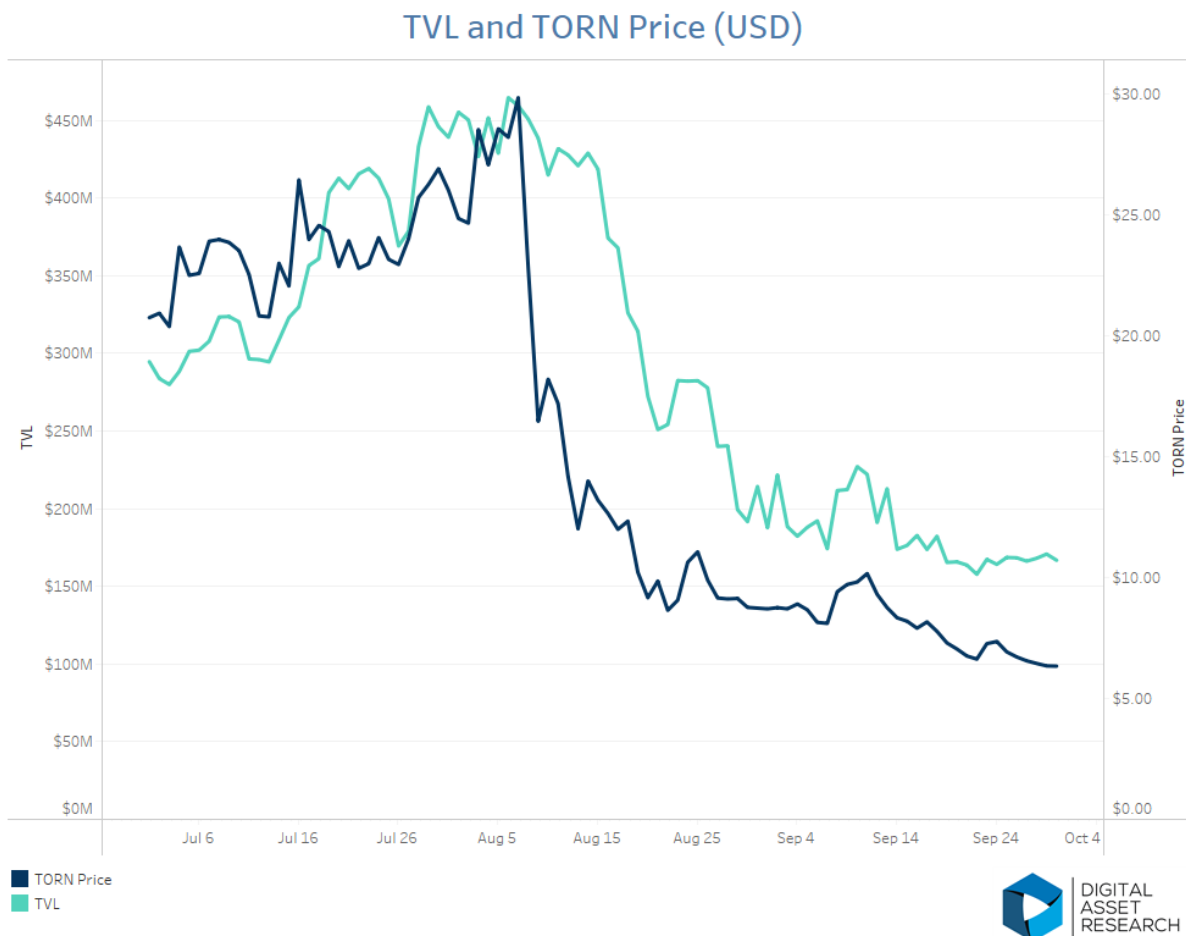
Source: DAR Market Data, Tradingview

Additionally, some digital asset market participants were surprised by the US Treasury Department's Office of Foreign Assets Control (OFAC) move to [sanction](#) Tornado Cash. Tornado Cash is an open-source, non-custodial decentralized protocol that offers a digital asset mixing service. Users of Tornado Cash are able to obscure the track record of the funds, providing privacy for those who prefer to be anonymous. Unsurprisingly, Tornado Cash had also reportedly been [utilized by criminals](#), including North Korea's Lazarus Group, which then prompted the US Treasury to sanction the protocol.

There were multiple second-order effects as a result of the decision to sanction Tornado Cash. As part of this action, ETH and USDC wallet addresses were [added](#) to the OFAC's

Specially Designated Nationals (SDN) list, making it illegal for U.S. persons to interact with these entities. Circle, the issuer of the USDC stablecoin, froze the USDC associated with the OFAC list by [blacklisting](#) the wallet addresses. The blacklist decision by Circle sparked discussions on whether or not a truly decentralized, uncensorable stablecoin can exist, as well as what future tradeoffs between regulation and privacy will look like.

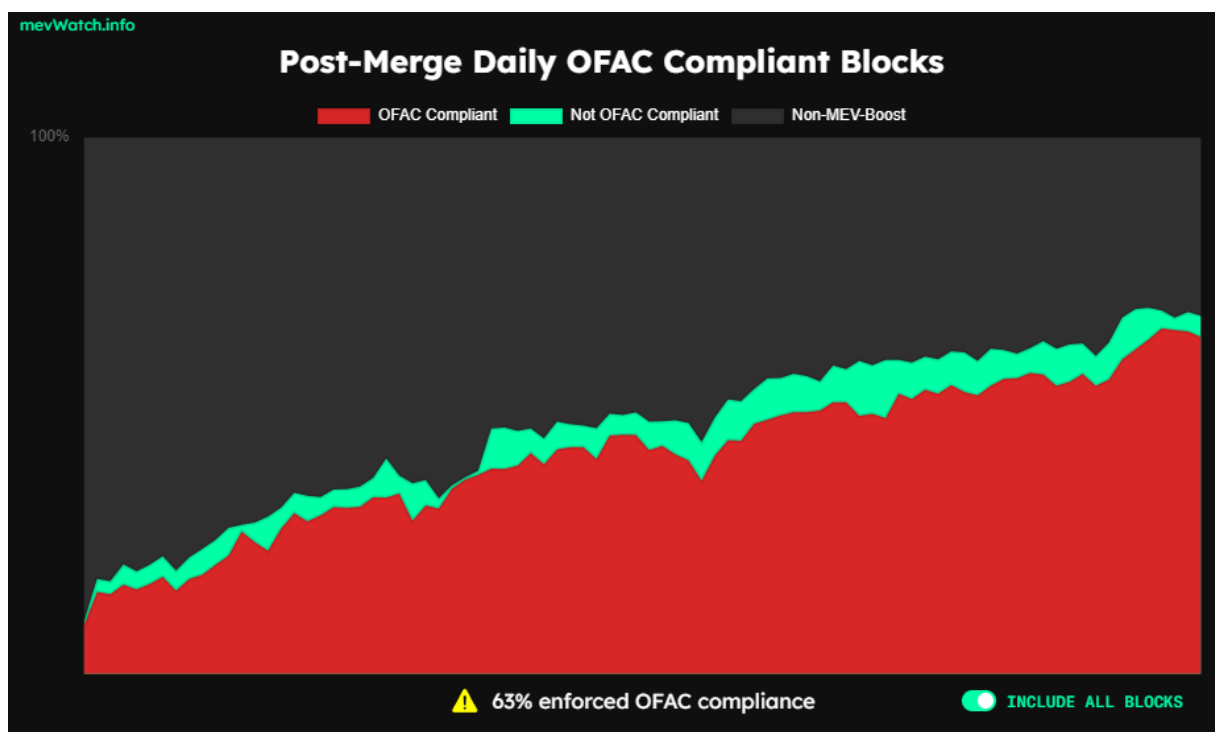
As a result, the Total Value Locked (TVL) and the price of Tornado Cash's native protocol token fell significantly.



Source: DAR Market & Blockchain Data

Another impact of the OFAC decision revolves around Ethereum block censorship. There are two significant factors that contribute to the increasing trend of OFAC-compliant blocks: MEV and Proof-of-Stake.

MEV stands for Maximal Extractable Value, which is a process that enables network validators to collect additional arbitrageurs' fees from users by moving around transactions within the network when producing a new block. The existence of MEV exacerbated the trend of reordering blocks of transactions in a way that maximizes rewards. One of the most popular methods to capitalize MEV is a service called Flashbots, which stated it will exclude transactions coming from mixing services like Tornado Cash. Moreover, since Ethereum moved to Proof-of-Stake, more ETH owners tend to utilize staking service providers in order to participate in the network validation process and receive staking rewards. These staking service providers are generally legal entities, rather than a protocol, which requires them to abide by higher compliance standards. The resulting outcome of these trends is a growing percentage of OFAC-compliant blocks on the Ethereum network.



Source: <https://www.mevwatch.info/>

Another theme of Q3 was risk management. Market events showed how centralized crypto firms that facilitate undercollateralized lending caused one of the most severe crypto credit crises in recent years. Notable crypto lenders such as BlockFi, Voyager Digital, Genesis, and Celsius network were impacted by the market downturn, LUNA-UST implosion, and 3 Arrows Capital insolvency. Troubled crypto funds that failed to pay back undercollateralized loans ended up affecting these crypto lending firms, creating a death

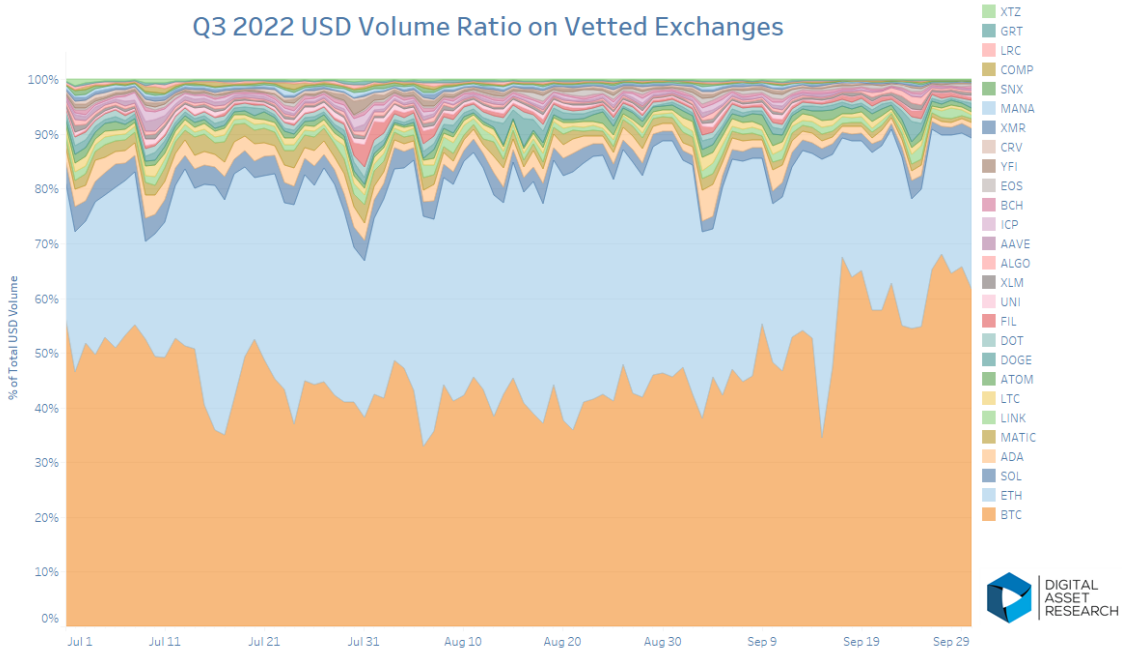
spiral worth billions of dollars, with [Voyager Digital](#) and [Celsius](#) filing for bankruptcy not long after.

These bankruptcy events put a strong emphasis on the importance of risk management and counterparty vetting in the digital asset market. While DeFi protocols might benefit from an over-collateralization model, centralized crypto lending platforms require a form of trust just like traditional finance to be successful, and many compared the bankruptcies to a Lehman Brothers moment for the digital asset market.

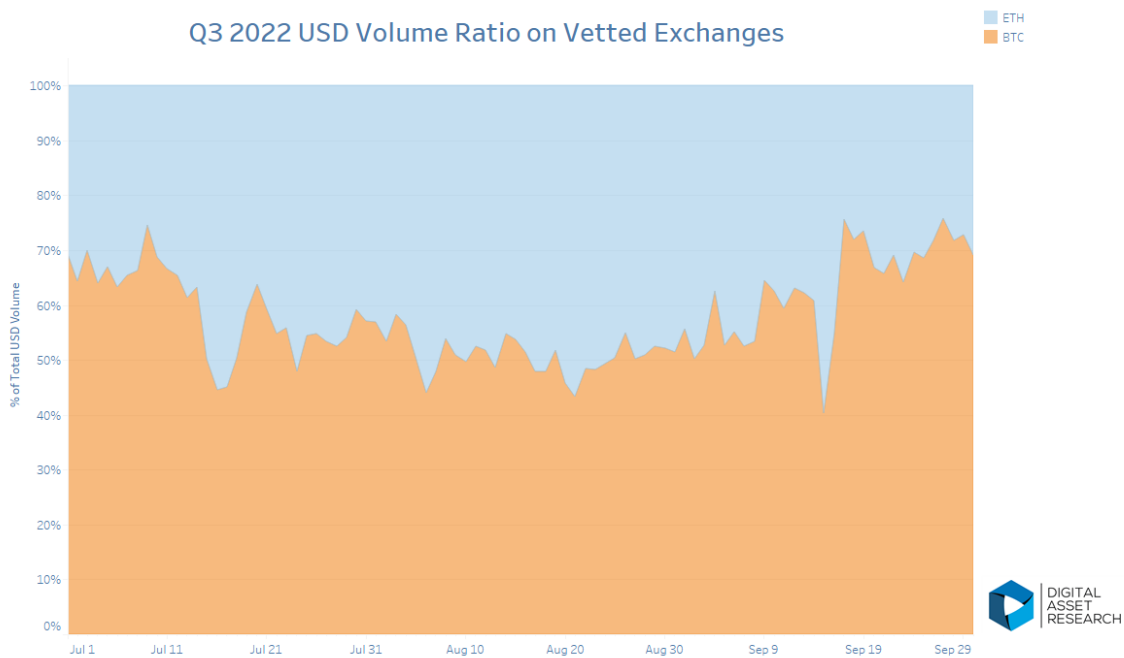
To learn more about DAR's market data offerings, including prices for 8,000+ digital assets and verifiable volumes from hundreds of exchanges, click [here](#).

DAR Q3 2022 BY THE NUMBERS

Bitcoin and Ethereum’s combined USD trading volume increased significantly towards September 2022 when looking at the top 25 DAR Benchmark Assets on Vetted Exchanges.



Ethereum’s share of trading volume against Bitcoin increased in August, passing 50%, one month before the highly anticipated merge, which happened in September. The share of Ethereum trading volume retraced post-merge.

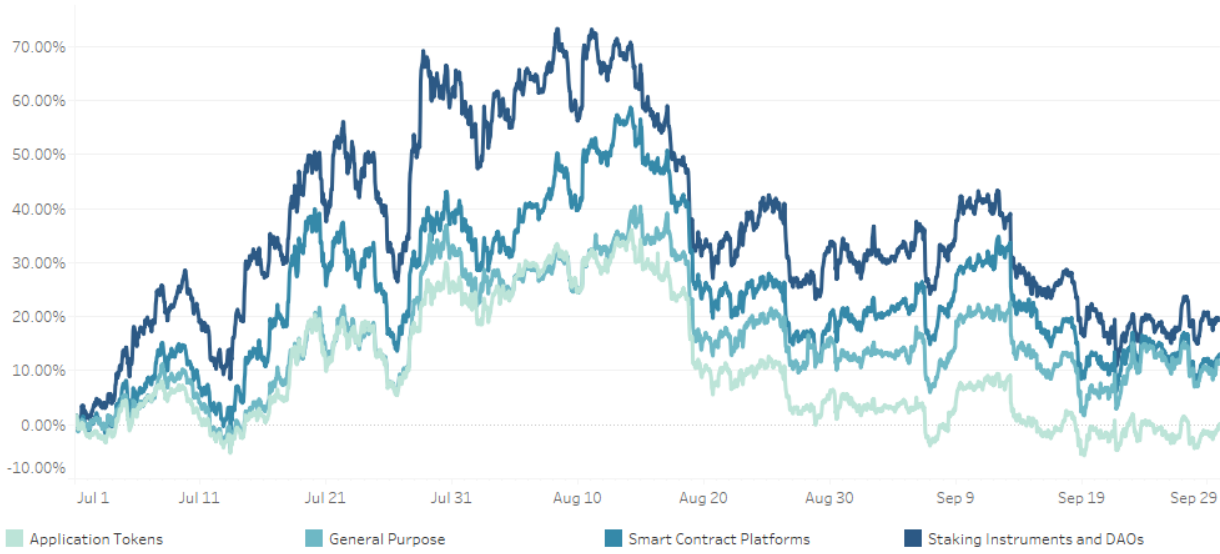


Source: DAR's Market Data & Taxonomy Data

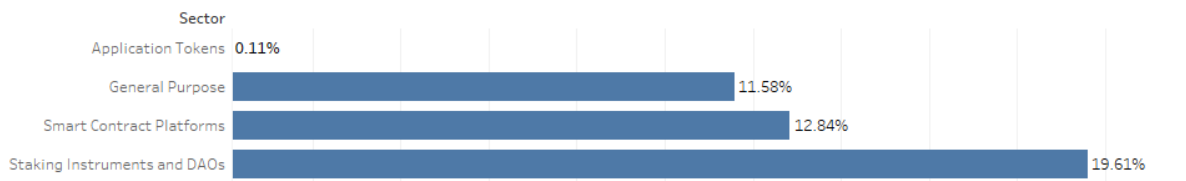
The Digital Asset Taxonomy System (DATS), developed in partnership with the Wilshire Digital Assets Advisory Group, was designed from the bottom up to capture the nuances of the digital landscape.

In Q3 2022, digital assets classified under DATS' *Smart Contract Platforms* and *Staking Instruments and DAOs* sectors generated considerably larger returns than the *Application Tokens* and *General Purpose* sectors. The *Smart Contract Platforms* sector generated the highest return of approximately 70% in early August. All four sectors retraced their performance towards the end of September.

Net Returns of Select DAR Taxonomy Indexes



Overall Returns



To learn more about the different classifications of more than 1,300 digital assets, click [here](#).

REGULATORY HIGHLIGHTS

There were multiple regulatory developments that affect the broader digital asset space in Q3 2022. The most notable ones include MiCA, a U.S. stablecoin bill draft, and DCCPA.

To stay on top of digital asset regulatory developments, subscribe to DAR's monthly regulatory recap newsletter [here](#).

MiCA - Markets in Crypto Assets

Overview: MiCA (or Markets in Crypto-Assets) is a proposed regulation in Europe that intends to deliver more regulatory clarity surrounding digital assets and distributed ledger technology, while also providing protection for users and investors.

The European Union [agreed](#) upon the full legal text of MiCA in October 2022. Diplomats representing the bloc's member nations signed off on MiCA, alongside a [further law](#) that aims to identify individuals making crypto payments. MiCA is seen as a milestone for digital asset regulation as it introduces the first-ever licensing regime for crypto exchanges and wallet providers to operate across Europe, as well as introduces reserve requirements for stablecoin issuers.

In short, MiCA requires:

- Digital asset issuers to publish white papers with technical roadmaps
- Crypto trading platforms and wallet providers to register with authorities
- Stablecoin issuers to hold appropriate reserves

Stablecoins: MiCA introduces restrictions on non-Euro-backed stablecoins. The current language states a €200 million cap on transactions per day for non-Euro-backed stablecoins. With MiCA's earliest implementation expected in 2024, stablecoin issuers have roughly two years to increase adoption for Euro-denominated stablecoins in the European region.

Non-Fungible Tokens: MiCA doesn't provide a clear framework for NFTs, leaving them out of the final document. This potentially leaves the door open for further interpretations and policy actions. Peter Kerstens, head of the European Commission's financial technology task force, [stated that](#) "The parliament is working on a resolution on NFTs".

The Takeaway: European Union lawmakers vote on MiCA in February 2023. A previous plan to vote in December 2022 was abandoned because of the length and complexity of the text. If passed into law, MiCA will start to apply 12-18 months after the final law is published in the EU's Official Journal.

US Stablecoin Bill Draft

Overview: The goal of the [bill](#) is to introduce a framework around stablecoin issuance. Under the bill, there would be a 2-year ban on stablecoins that are not collateralized by cash or highly liquid assets. “Endogenously collateralized” stablecoins (stablecoins backed or partially backed by tokens from the same issuer) would be banned under the bill. For existing stablecoins with the aforementioned model, there would be a 2-year grace period for the issuer to change the stablecoin's collateralization model.

If passed, the bill would also require stablecoin issuers to get approval. Non-bank issuers would need to get approval from federal and state regulators, whereas traditional financial institutions could gain approval from federal regulators. Issuing a stablecoin without such approval would be punishable by up to five years in prison and a \$1 million fine.

The Takeaway: The bill is receiving scrutiny from digital asset market participants as the need to get approval for stablecoins could potentially break DeFi's composability. There is also currently no clarity on how stablecoin-adjacent assets, such as a wrapped version, bridged version, or yield-bearing version of a stablecoin, would be treated.

The Digital Commodities Consumer Protection Act (DCCPA)

Overview: The [DCCPA](#) is a bill that would provide the Commodity Futures Trading Commission (CFTC) with the authority to regulate the trading of “digital commodities” if passed. Thus far, the bill's language aims to clarify that Bitcoin (BTC) and Ethereum (ETH) are to be classified as digital commodities instead of securities, which would provide the CFTC with exclusive regulatory authority over the assets.

The bill would also create mandates for platforms that facilitate the trading of digital assets, including decentralized finance platforms, which [prompted backlash](#) from the broader crypto community. Under the DCCPA, platforms that facilitate digital asset trading will need to:

- Register with the CFTC
- Designated a Chief Compliance Officer
- Authorize the CFTC to impose user fees
- Have strong cybersecurity programs, protect customer assets, and report suspicious transactions
- Have emergency powers to suspend trading if a regulatory authority asks

The Takeaway: The requirements stated above cannot be effectively implemented in truly decentralized platforms that are only governed by code. The broader digital asset community is concerned that the bill will stifle DeFi innovation in the United States if passed. On top of the requirements stated above, the bill has also been criticized for not providing further clarity for web 3 founders on how other digital assets will be classified, what methodology will be used to classify assets, and how newly launched tokens will be classified.

INSTITUTIONAL DIGITAL ASSET PRODUCT RECAP

Every month, DAR publishes a recap report that highlights developments related to institutional-grade digital asset products globally. In Q3 2022, the AUM of institutional digital asset products decreased alongside the broader digital asset market but has remained relatively high across multiple assets.

Highlights:

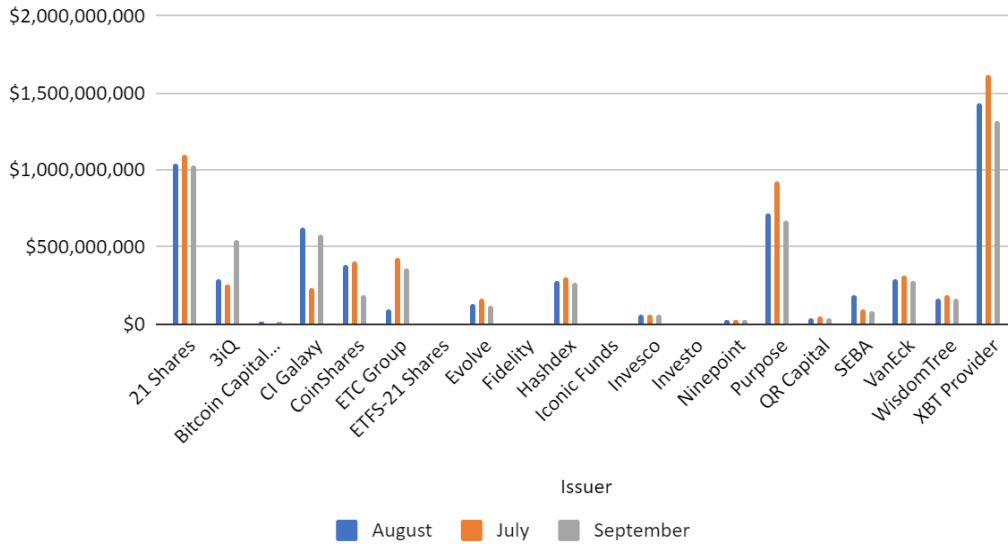
- The AUM of Grayscale's Bitcoin and Ethereum trusts decreased by more than \$2.5 billion in Q3 2022 and the discount for Grayscale Bitcoin Trust (GBTC) hit -40%.
- Excluding Grayscale, the top 3 digital asset product issuers by AUM were XBT Provider, 21 Shares, and Purpose Investments.
- Spot Bitcoin ETF applications continue to be rejected in the U.S., prompting Grayscale to file a [lawsuit](#) against the SEC for denying the conversion of its Grayscale Bitcoin Trust to a spot Bitcoin ETF.

	July Discount	July AUM	August Discount	August AUM	September Discount	September AUM
Grayscale Bitcoin Trust	-39.10%	\$14,600,000,000	-39.65%	\$12,600,000,000	-41.12%	\$12,700,000,000
Grayscale Ethereum Trust	-26.79%	\$5,000,000,000	-29.43%	\$4,800,000,000	-30.80%	\$4,152,000,000

Source: Grayscale

The top 3 digital asset product issuers by total AUM, excluding Grayscale, continue to be XBT Provider, 21Shares, and Purpose. Total AUM across providers stagnated in Q3 2022 without any clear increasing or decreasing trend.

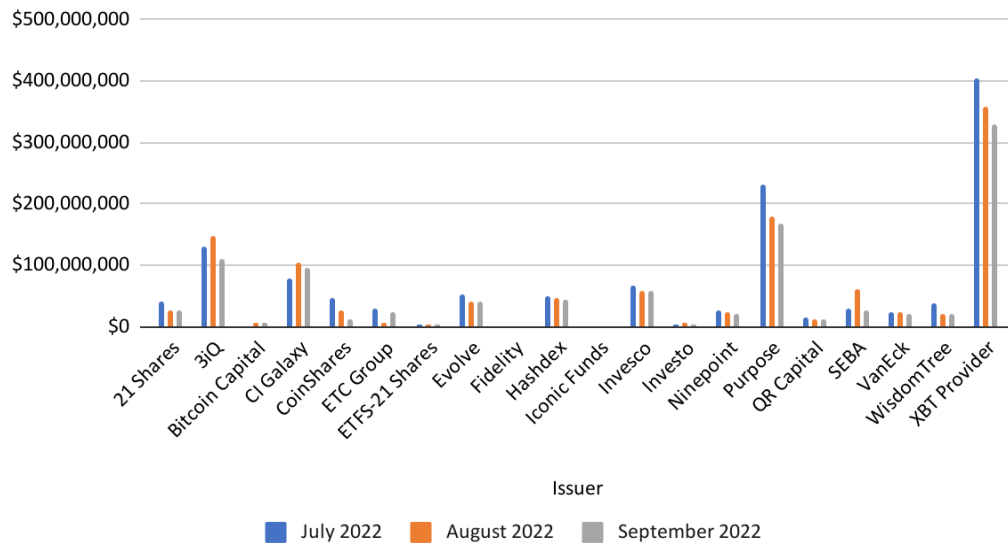
Total Asset Under Management (AUM) per Issuer - Q3 2022



Source: Digital Asset Research

XBT Provider, Purpose Investments, and 3iQ continue to have the largest average AUM across all of their products. Average AUM across top providers decreased in Q3 2022 as the broader digital asset market experienced a significant downturn.

Average Product Assets Under Management (AUM) per Issuer



Source: Digital Asset Research

Solana (SOL), Chainlink (LINK), and Uniswap (UNI) saw considerable increases in their AUM in institutional products, whereas FTX Token (FTT) saw the most significant decrease in AUM.

Asset Ticker	July	August	September	Q3 2022 Change
BTC	\$3,219,799,000	\$2,705,983,805	\$2,933,387,117	-8.90%
ETH	\$1,813,203,000	\$2,025,799,329	\$1,686,617,359	-6.98%
Multi	\$479,395,000	\$500,222,000	\$494,639,270	3.18%
BNB	\$304,682,000	\$291,065,000	\$307,512,000	0.93%
SOL	\$63,024,000	\$95,255,000	\$92,753,000	47.17%
TRON	\$67,000,000	\$61,900,000	\$59,900,000	-10.60%
XRP	\$33,150,000	\$29,570,000	\$44,930,000	35.54%
ADA	\$36,907,000	\$50,351,000	\$33,225,000	-9.98%
MATIC	\$26,584,000	\$26,452,000	\$23,959,000	-9.87%
DOT	\$27,820,000	\$30,978,000	\$22,238,000	-20.06%
ALGO	\$17,806,000	\$20,600,000	\$20,950,000	17.66%
XTZ	\$17,742,000	\$15,376,000	\$14,868,000	-16.20%
AVAX	\$14,362,000	\$13,013,000	\$10,745,000	-25.18%
LTC	\$6,999,000	\$6,551,000	\$5,666,000	-19.05%
BCH	\$4,141,000	\$3,812,000	\$4,021,000	-2.90%
XLM	\$3,860,000	\$3,456,000	\$3,862,000	0.05%
LINK	\$1,520,000	\$1,809,000	\$2,159,000	42.04%
FTT	\$75,314,000	\$27,774,000	\$1,432,000	-98.10%
UNI	\$798,000	\$1,867,000	\$1,095,000	37.22%
AAVE	\$1,031,000	\$1,162,000	\$1,044,000	1.26%
ATOM	\$1,304,000	\$1,663,000	\$932,000	-28.53%

Source: Digital Asset Research

Spot-Based Bitcoin ETF Applications

Issuer	Company	Filing	Filing Date	Deadline	Status
VanEck Bitcoin Trust	VanEck	https://www.sec.gov/Archives/edgar/data/1838028/000093041320002664/c100811_s1.htm	30-Dec-2020	14-Nov-2021	Rejected
Valkyrie Bitcoin Fund	Valkyrie Investments	https://www.sec.gov/Archives/edgar/data/1841175/000138713121001118/valkyrie-s1_012221.htm	22-Jan-2021	1-Jan-2022	Rejected
NYDIG Bitcoin ETF	Stone Ridge/NYDIG	https://www.sec.gov/Archives/edgar/data/1843021/000119312521043521/d242572ds1.htm	16-Feb-2021	11-Mar-2022	Rejected
WisdomTree Bitcoin Trust	WisdomTree	https://www.sec.gov/Archives/edgar/data/1850391/000119312521077493/d122075ds1.htm	11-Mar-2021	5-Dec-2021	Rejected
First Trust SkyBridge Bitcoin ETF Trust	First Trust & SkyBridge	https://www.sec.gov/Archives/edgar/data/1852143/000144554621001542/skybridge_s1.htm	19-Mar-2021	16-Jan-2022	Rejected
Wise Origin Bitcoin Trust	Fidelity	https://www.sec.gov/Archives/edgar/data/1852317/000119312521092598/d133565ds1.htm	24-Mar-2021	20-Jan-2022	Rejected
Kryptoin Bitcoin ETF Trust	Kryptoin Investment Advisors	https://www.sec.gov/Archives/edgar/data/1790727/000119312521111553/d112503ds1a.htm	9-Apr-2021	18-Dec-2021	Rejected
Galaxy Bitcoin ETF	Galaxy Digital	https://www.sec.gov/Archives/edgar/data/1855781/000095010321005427/dp149207_s1.htm	12-Apr-2021	NA	No Rulemaking Action
One River Carbon Neutral Bitcoin Trust	One River	https://www.sec.gov/Archives/edgar/data/1863687/000110465921070846/tm2116981d1_s1.htm	24-May-2021	27-May-2022	Rejected
ARK 21Shares Bitcoin ETF	ARK Invest, 21Shares	https://www.sec.gov/Archives/edgar/data/0001869699/000119312521201955/d165184ds1.htm	28-Jun-2021	30-Mar-2022	Rejected
ARK 21Shares Bitcoin ETF - REFILE	ARK Invest, 21Shares	https://www.sec.gov/rules/sro/cboebzx/2022/34-94982.pdf	13-May-2022	27-Jan-2023	Decision Postponed
Global X Bitcoin Trust	Global X	https://www.sec.gov/Archives/edgar/data/1874070/000093041321001317/c102050_s1.htm	21-Jul-2021	14-Apr-2022	Rejected
Invesco Galaxy Bitcoin ETF	Invesco	https://www.sec.gov/Archives/edgar/data/0001855781/000119312521278390/d233987ds1a.htm	21-Sep-2021	NA	No Rulemaking Action
Grayscale Bitcoin Trust	Grayscale	https://www.globenewswire.com/news-release/2021/10/19/2316640/0/en/NYSE-Arca-Files-Form-19b-4-to-Convert-Grayscale-Bitcoin-Trust-into-an-ETF.html	19-Oct-2021	6-Jul-2022	Rejected
Bitwise Bitcoin ETP Trust	Bitwise	https://www.sec.gov/Archives/edgar/data/1763415/000138713121009995/bbet-s1_101421.htm	14-Oct-2021	1-Jul-2022	Rejected
Blockfi NB Bitcoin ETF	BlockFi	https://www.sec.gov/Archives/edgar/data/0001853419/000092963821001329/s1.htm	9-Nov-2021	NA	No Rulemaking Action
VanEck Bitcoin ETF	VanEck	https://cdn.cboe.com/resources/regulation/rule_filings/pending/2022/SR-CboeBZX-2022-035.pdf	24-Jun-2022	3-Mar-2023	Rejected

Source: Digital Asset Research

Futures-Based Bitcoin ETF Applications

Issuer	Company	Filing	Filing Date	1st Response Date	Status
ProShares Bitcoin Strategy ETF	ProShares	https://www.sec.gov/Archives/edgar/data/1174610/000168386321004445/f9424d1.htm	4-Aug-2021	18-Oct-2021	Live
Invesco Bitcoin Strategy ETF	Invesco	https://www.sec.gov/Archives/edgar/data/1418144/000119312521236682/d209327d485apos.htm	5-Aug-2021	19-Oct-2021	Withdrawn
VanEck Bitcoin Strategy ETF	VanEck	https://www.sec.gov/Archives/edgar/data/1137360/000113736021000495/combinedbitcoinstategy.htm	10-Aug-2021	24-Oct-2021	Live
Valkyrie Bitcoin Strategy ETF	Valkyrie	https://www.sec.gov/Archives/edgar/data/0001877493/000138713121008347/valk-n1a_081121.htm	11-Aug-2021	25-Oct-2021	Live
Galaxy Bitcoin Strategy ETF	Galaxy	https://www.sec.gov/Archives/edgar/data/1877784/000095010321012406/dp156188_n1a.htm	17-Aug-2021	31-Oct-2021	Assumed to be preapproved for launch
AdvisorShares Managed Bitcoin ETF	AdvisorShares	https://www.sec.gov/Archives/edgar/data/1408970/000182912621008454/advisorsharestrust_485apos.htm	20-Aug-2021	3-Nov-2021	Assumed to be preapproved for launch
Bitwise Bitcoin Strategy ETF	Bitwise	https://www.sec.gov/Archives/edgar/data/0001540305/000089418921006626/bitwise485a.htm	14-Sep-2021	NA	Assumed to be preapproved for launch
Teucrium Bitcoin Futures Fund	Teucrium	https://www.sec.gov/Archives/edgar/data/0001471824/000165495421006095/TeucriumBCFU_S1.htm	20-May-2021	NA	Approved
Ark 21Shares Bitcoin Futures Strategy	ARK Invest, 21Shares	https://www.sec.gov/Archives/edgar/data/1592900/000182912621011950/alphaarchitect_485apos.htm	13-Oct-2021	NA	Assumed to be preapproved for launch
Valkyrie XBTO Bitcoin Futures Fund	Valkyrie	https://www.sec.gov/rules/sro/nasdaq/2021/34-92865.pdf	2-Sep-2021	NA	Approved
BlockFi Bitcoin Strategy ETF	BlockFi	https://www.sec.gov/Archives/edgar/data/0001540305/000089418921007234/blockficombinet.htm	8-Oct-2021	NA	Assumed to be preapproved for launch
AXS Bitcoin Strategy ETF	AXS Investments	https://www.sec.gov/Archives/edgar/data/0001587982/000139834421020500/fp0069793_485apos.htm	27-Oct-2021	NA	Assumed to be preapproved for launch
Global X Blockchain & Bitcoin Strategy ETF	Global X	https://www.sec.gov/Archives/edgar/data/1432353/000143235321000560/a497k-blockchainbitcoinstr.htm	19-Aug-2021	NA	Live
VanEck Gold & Bitcoin Strategy ETF	VanEck	https://www.sec.gov/Archives/edgar/data/1137360/000113736021001182/vvtgoldandbitcoinstategye.htm	17-Dec-2021	NA	Assumed to be preapproved for launch
VanEck Commodities & Bitcoin Strategy ETF	VanEck	https://www.sec.gov/Archives/edgar/data/1137360/000113736022000019/commoditiesandbitcoin48510.htm	18-Jan-2022	NA	Assumed to be preapproved for launch

Source: Digital Asset Research

OTHER NOTABLE DEVELOPMENTS

Block and Circle Partner For Cross-Border Remittances

Block, the payment firm founded by Twitter's founder Jack Dorsey, [teamed up](#) with Circle, the issuer of the USDC stablecoin, to provide cross-border dollar-backed stablecoin transfers and savings to global investors. The partnership may allow USDC to grow its global market share.

Reddit Is Airdropping Free Polygon NFT Avatars to Its Most Hardcore Users

Reddit, the world's 9th-most-visited-website and one of the most popular social platforms, launched Polygon-blockchain-based "Collectible Avatars" to its users. More than [2.5 million of Reddit users](#) have opened up their crypto wallets with the platform.

BlackRock Partners With Coinbase to Expand Crypto Offering

BlackRock, the world's largest asset manager with more than \$10 trillion in AUM, [partnered](#) with Coinbase to expand its crypto offering. BlackRock's customers will be able to access Coinbase's prime brokerage service via BlackRock's Aladdin platform to purchase digital assets, starting with Bitcoin.

		Private Blockchain Initiative	Digital Asset Initiative	Invested in Blockchain Startup(s)	Invested in Digital Asset and/or Related Funds	Digital Asset Issuance	Digital Asset Derivative Issuance	Digital Asset and/or Derivative Trading or Settlement	Digital Asset Custody	Digital Asset Indexing & API Endpoints
Funds	Animoca Brands			✓	✓					
	Ark Invest		✓							
	Bitwise			✓	✓					
	Borderless Capital	✓			✓					
	DCG			✓						
	Dragonfly Capital		✓	✓	✓					
	Grayscale				✓					
	Hashed Ventures		✓							
	HashKey		✓							
	KRH			✓	✓					
	Maven 11			✓	✓					
	Modular		✓		✓					
	Multicoin			✓	✓					
	NFX			✓	✓					
	NYDIG		✓						✓	
	Osprey				✓	✓				
	Pantera				✓	✓				
	Paradigm				✓	✓				
	Polygon-Seven Seven Six				✓	✓				
	Ritholtz Wealth Management	✓		✓	✓					✓
	Sfermion				✓	✓				
	Sino Global				✓	✓				
	SoftBank				✓					
Solana Ventures				✓	✓					
Soros Family		✓								
Thoma Bravo				✓						
Tribe Capital		✓		✓	✓					
Two Sigma		✓		✓	✓					
Valkyrie		✓		✓					✓	
Variant				✓	✓					
Financial Services	Bank of America			✓						
	BlackRock		✓						✓	
	BlockFi		✓							
	Celsius Network		✓							
	Citi		✓						✓	
	Commonwealth Bank		✓					✓	✓	
	ConsenSys		✓							
	DBS		✓							
	Genesis		✓							
	Goldman Sachs		✓							
	JP Morgan		✓							
	Mastercard		✓							
	MoonPay		✓	✓		✓				
	PayPal		✓			✓			✓	
	PBOC		✓							
	Square		✓							
Stripe		✓								
Venmo		✓						✓		
Visa		✓								

Source: Digital Asset Research

		Private Blockchain Initiative	Digital Asset Initiative	Invested in Blockchain Startup(s)	Invested in Digital Asset and/or Related Funds	Digital Asset Issuance	Digital Asset Derivative Issuance	Digital Asset and/or Derivative Trading or Settlement	Digital Asset Custody	Digital Asset Indexing & API Endpoints
Exchanges	Binance	✓		✓	✓	✓	✓	✓	✓	✓
	Bitmart		✓							
	BitMEX		✓			✓	✓	✓	✓	✓
	Christie		✓						✓	✓
	CME						✓	✓	✓	✓
	Coinbase		✓		✓			✓	✓	✓
	CoinList			✓	✓					✓
	Coinone		✓					✓		✓
	CoinSwitch Kuber			✓	✓			✓		✓
	Crypto.com			✓	✓					✓
	FTX			✓	✓	✓	✓		✓	✓
	FTX US			✓	✓				✓	✓
	Gemini		✓			✓		✓	✓	✓
	Interactive Brokers		✓					✓		✓
	Kraken			✓	✓			✓	✓	✓
	OpenSea		✓					✓		✓
Robinhood		✓						✓		
Sotheby		✓								
Others	Alchemy	✓		✓	✓					
	Amazon			✓	✓					
	Anchorage			✓					✓	
	Bill Ackman			✓	✓					
	Bitmain		✓	✓						
	E-Bay				✓				✓	
	FireBlocks		✓						✓	
	GameStop		✓	✓						
	MetaMask		✓							
	Reddit			✓	✓					
	Ripple		✓	✓						
	Twitter		✓		✓					✓
	Starbucks		✓		✓					
Walmart		✓								

Source: Digital Asset Research

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