

#DeFi

Sergey Ivliev

PSS 2019

#DeFi

Decentralized Finance (#DeFi) is the movement that leverages open source software and decentralized networks to transform traditional financial products into **trustless and transparent protocols** that operate without unnecessary intermediaries.

Among its core principles are transparency, accessibility and **financial inclusion**.

Decentralized Finance participants are able to **reduce counterparty risk** via cryptographic verification on public blockchains.



#DeFi

- Payments (cryptocurrencies, stablecoins)
- Funding (ICO, IEO, STO)
- Borrowing
- Lending
- Decentralized exchanges (DEX)
- Prediction markets
- Asset management / Investments
- Insurance



ethereum
#DeFi



#DeFi

Helicopter view

~\$287B MCap

~2500 assets

~260 exchanges

~\$8B 24h volume

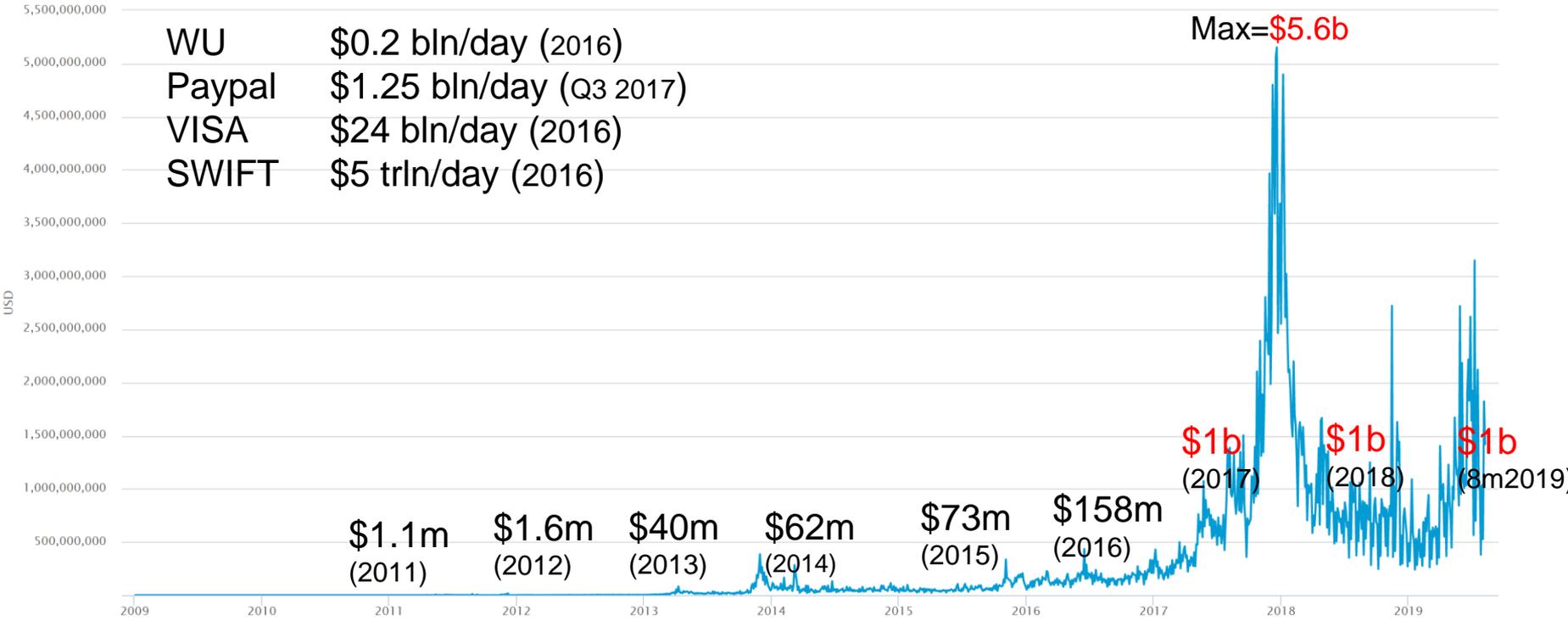
~3M NFT-tokens



<https://coinmarketcap.com/charts/>

Bitcoin

Average transaction volume: ~\$1 bln/day

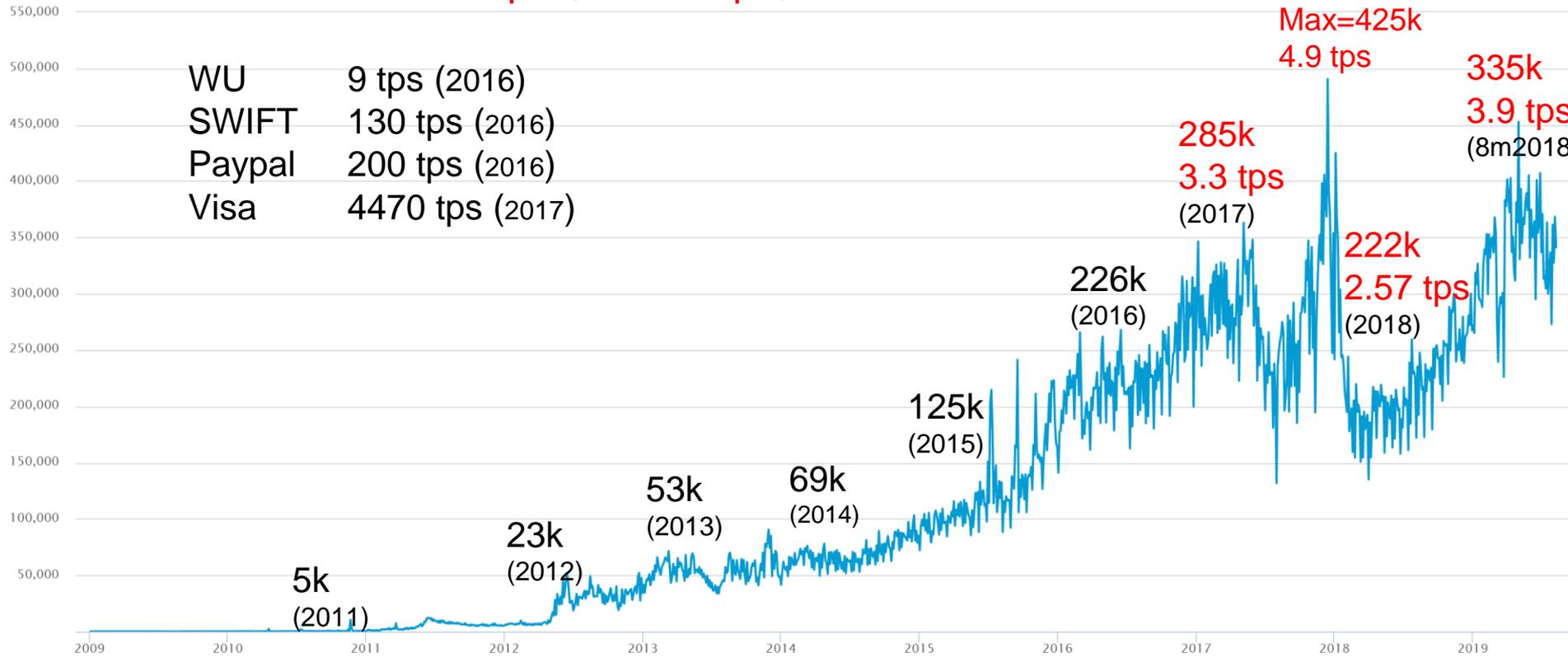


<https://blockchain.info/charts/estimated-transaction-volume-usd?timespan=all>

Bitcoin

Transaction rate: ~3.8 tps (max 7 tps)

WU	9 tps (2016)
SWIFT	130 tps (2016)
Paypal	200 tps (2016)
Visa	4470 tps (2017)



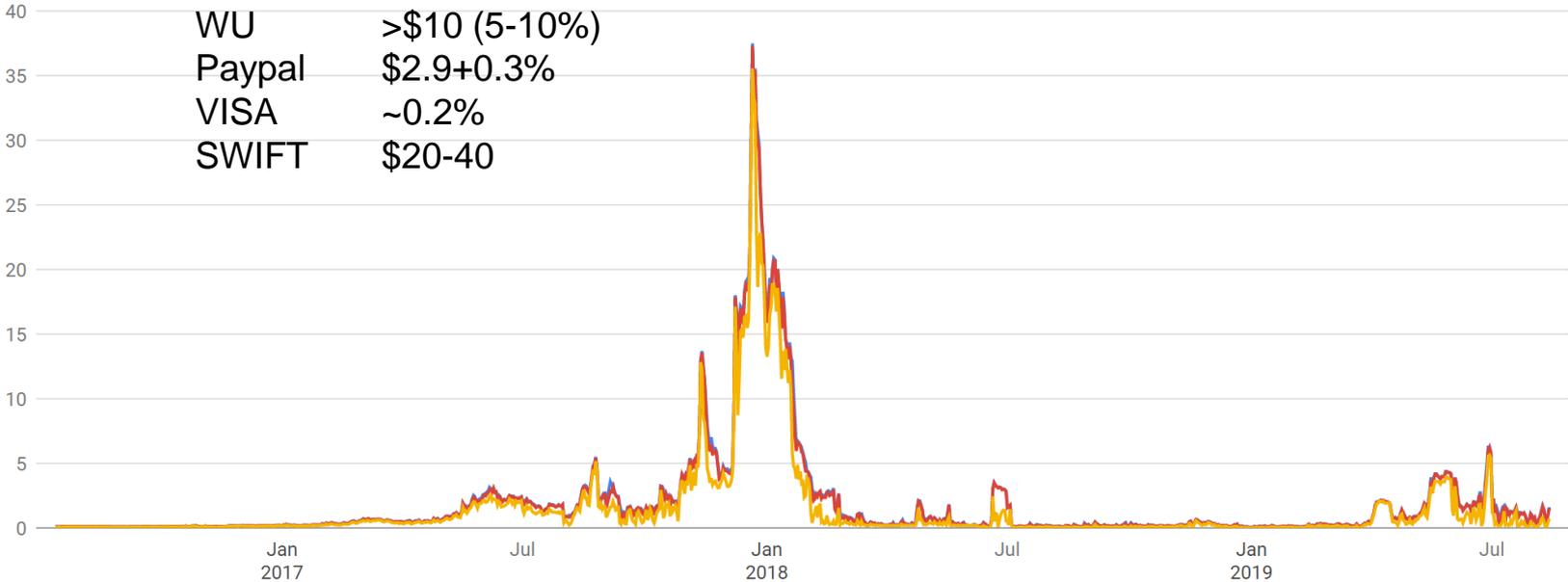
<https://blockchain.info/charts/n-transactions?timespan=all>

Bitcoin

Average transaction fee: ~\$1.5

Next Block Fee: fee to have your transaction mined on the next block (10 minutes).	\$1.84
3 Blocks Fee: fee to have your transaction mined within three blocks (30 minutes).	\$1.84
6 Blocks Fee: fee to have your transaction mined within six blocks (1 hour).	\$1.46

Chart Table

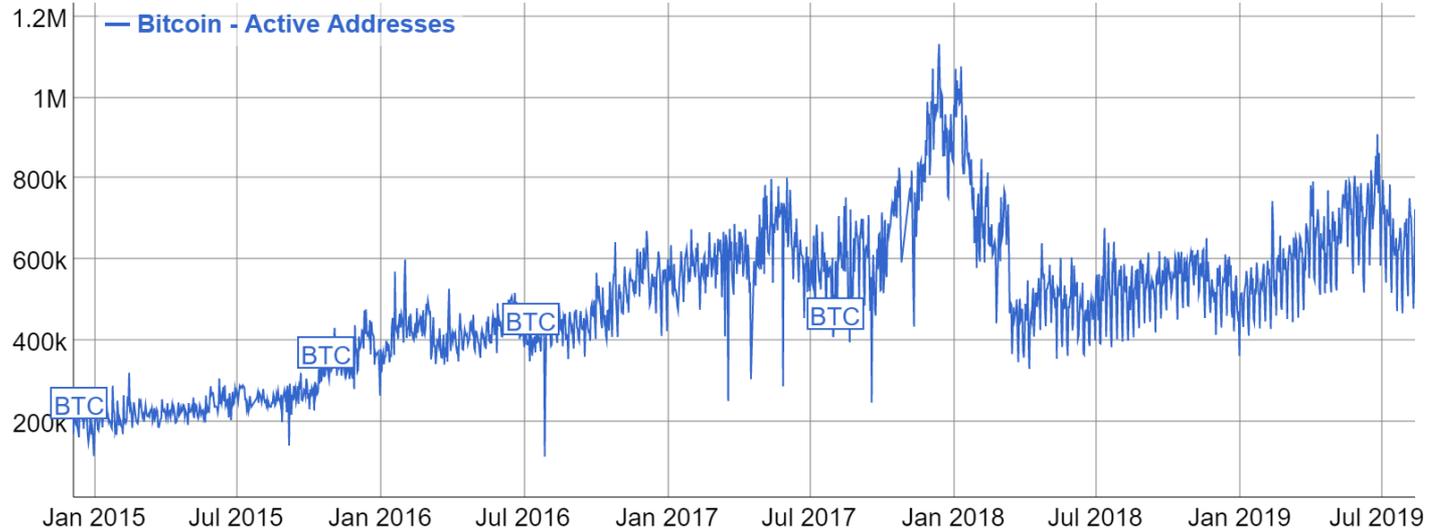


- Next Block Fee
- 3 Blocks Fee
- 6 Blocks Fee

WU >\$10 (5-10%)
Paypal \$2.9+0.3%
VISA ~0.2%
SWIFT \$20-40

Bitcoin

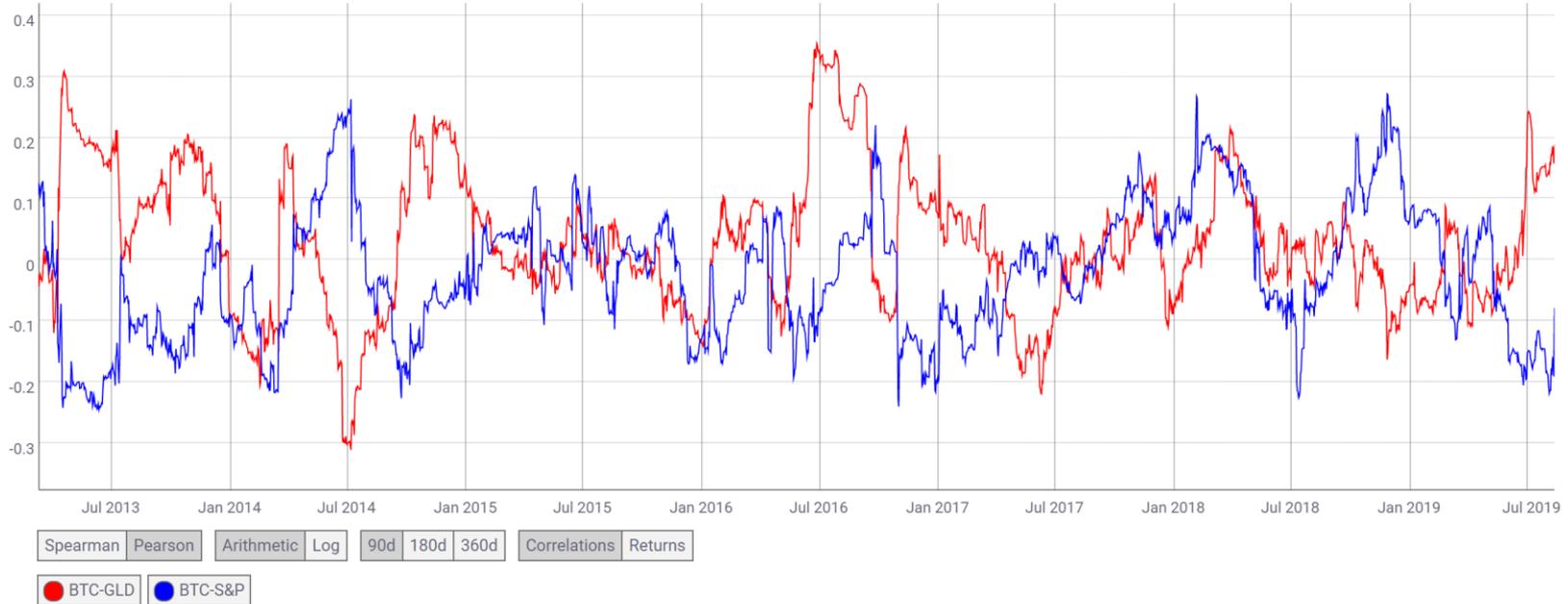
Alternative payment system: ~600k daily active addresses



<https://bitinfocharts.com/comparison/bitcoin-activeaddresses.html>

Bitcoin

Non-correlated asset: correlation with S&P500 <0.3



https://coinmetrics.io/correlations/#assets=btc-gld,btc-s&p_period=90

Bitcoin

Non-correlated asset: futures market ~\$100-500m / day

Bitcoin Volume

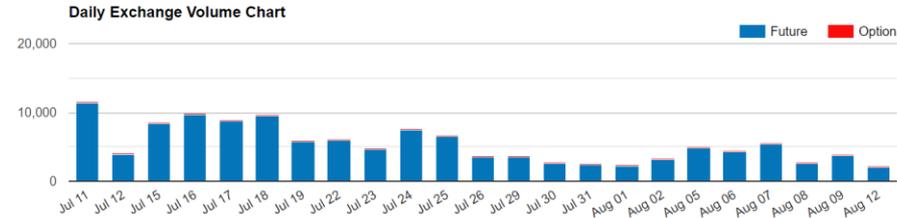
View Another Product

Quotes Settlements **Volume** Time & Sales Contract Specs Margins Calendar

View Equity Index Asset Class Volume and Open Interest

Trade Date: Monday, 12 Aug 2019 (Final)

Download Data



Month	Volume									Open Interest		
	Venue Detail				Trade Type Detail					Deliveries	At Close	Change
	Globex	Open Outcry	PNT / ClearPort	Total Volume	Block Trades	EFP	EFR	EFS	TAS			
AUG 19	1,834	0	0	1,834	0	0	0	0	0	0	3,212	28
SEP 19	211	0	0	211	0	0	0	0	0	0	1,344	13

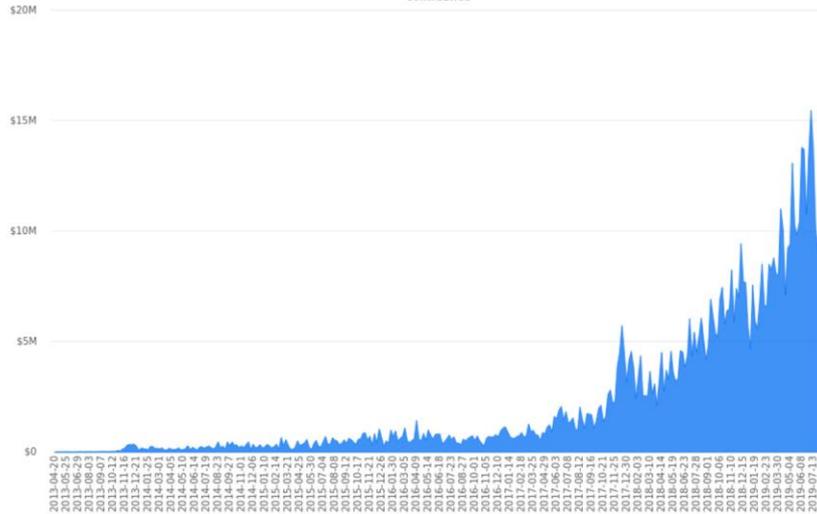
<https://www.cmegroup.com/trading/equity-index/us-index/bitcoin.html>

Bitcoin

Escape from the devaluation of the national currency

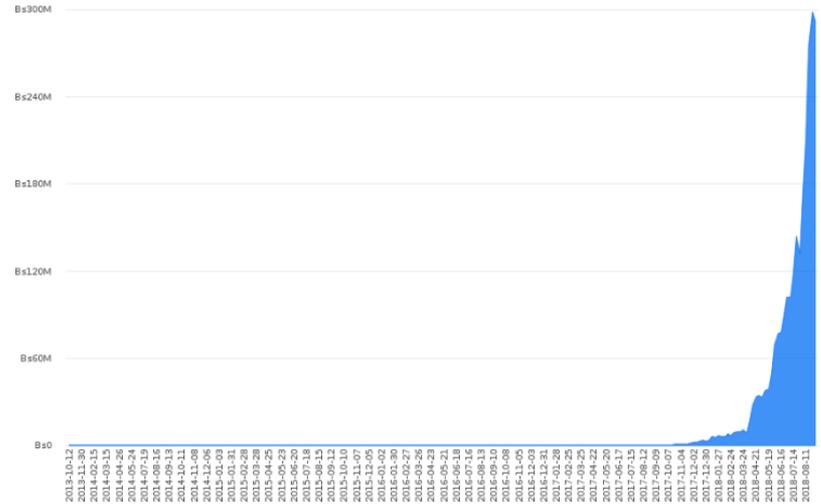
Argentina

Weekly LocalBitcoins Volume (Argentine Peso)
coin.dance



Venezuela

Weekly LocalBitcoins Volume (Venezuelan Bolivar)
coin.dance

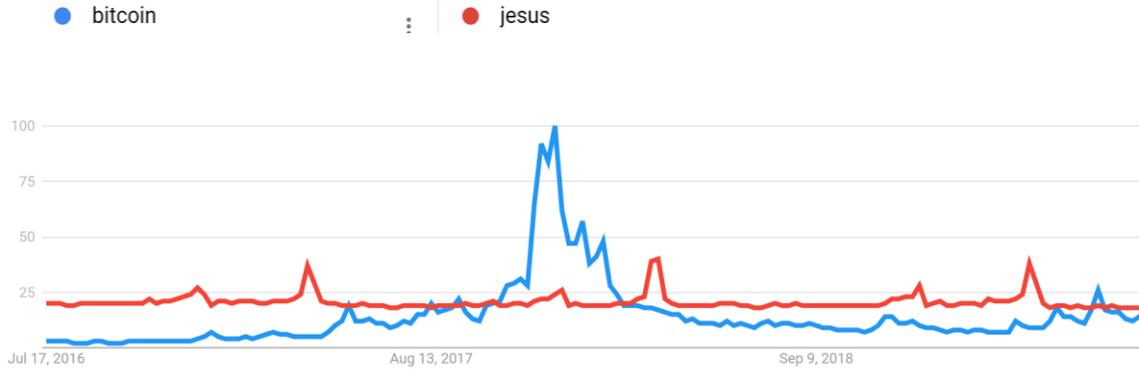


Due to currency volatility in Venezuela and the switch from VEF to VES, the last week of volume is subject to change.

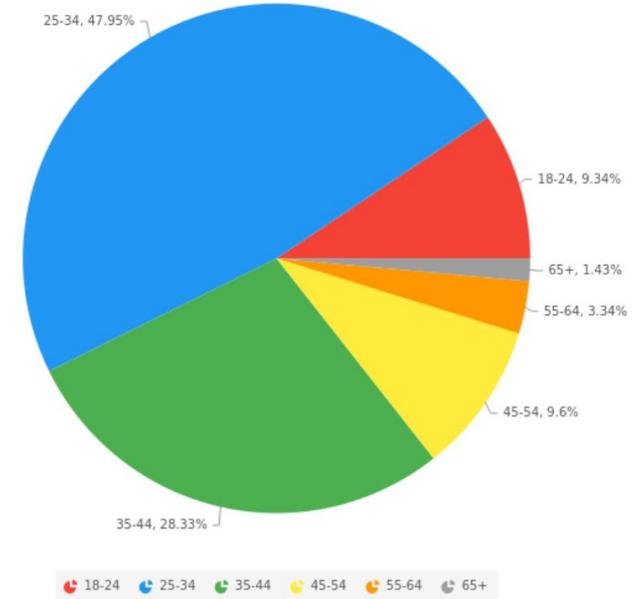
<https://coin.dance/volume/localbitcoins>

Bitcoin

New generation money (57% under 34)



Bitcoin Community Engagement by Age (Google Analytics | 18+ only)
coin.dance



<https://trends.google.com/trends/explore?q=bitcoin>

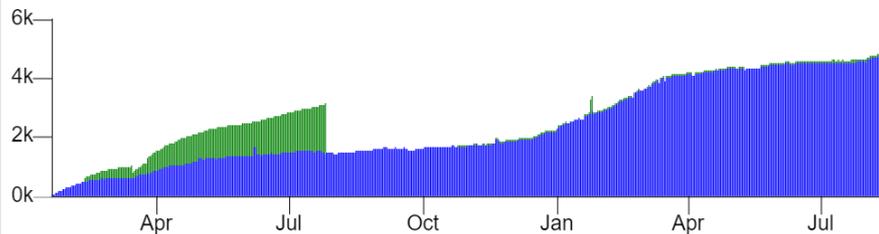
<https://coin.dance/stats>

Lightning network

Lightning network doesn't shine: $\\$10\text{ mIn}$ capacity

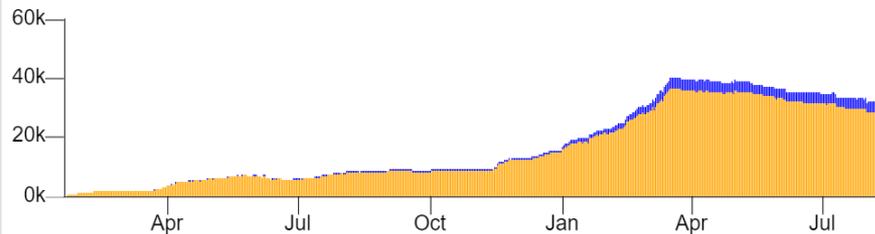
Nodes

Number of nodes with and without channels.



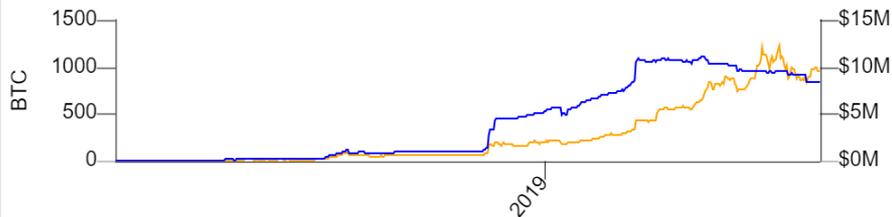
Channels

Unique = channels connecting nodes directly for the first time. Duplicate = channels between nodes that are already connected.



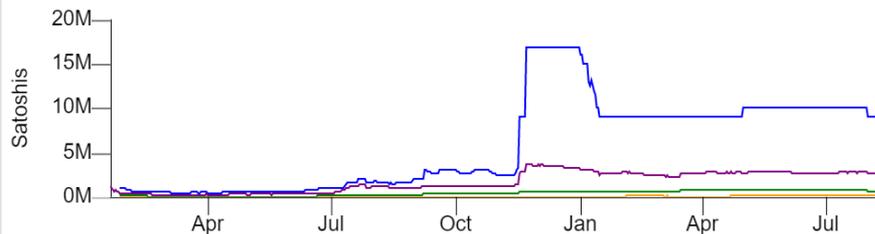
Network Capacity

Cumulative bitcoin capacity across all channels.



Capacity Per Channel

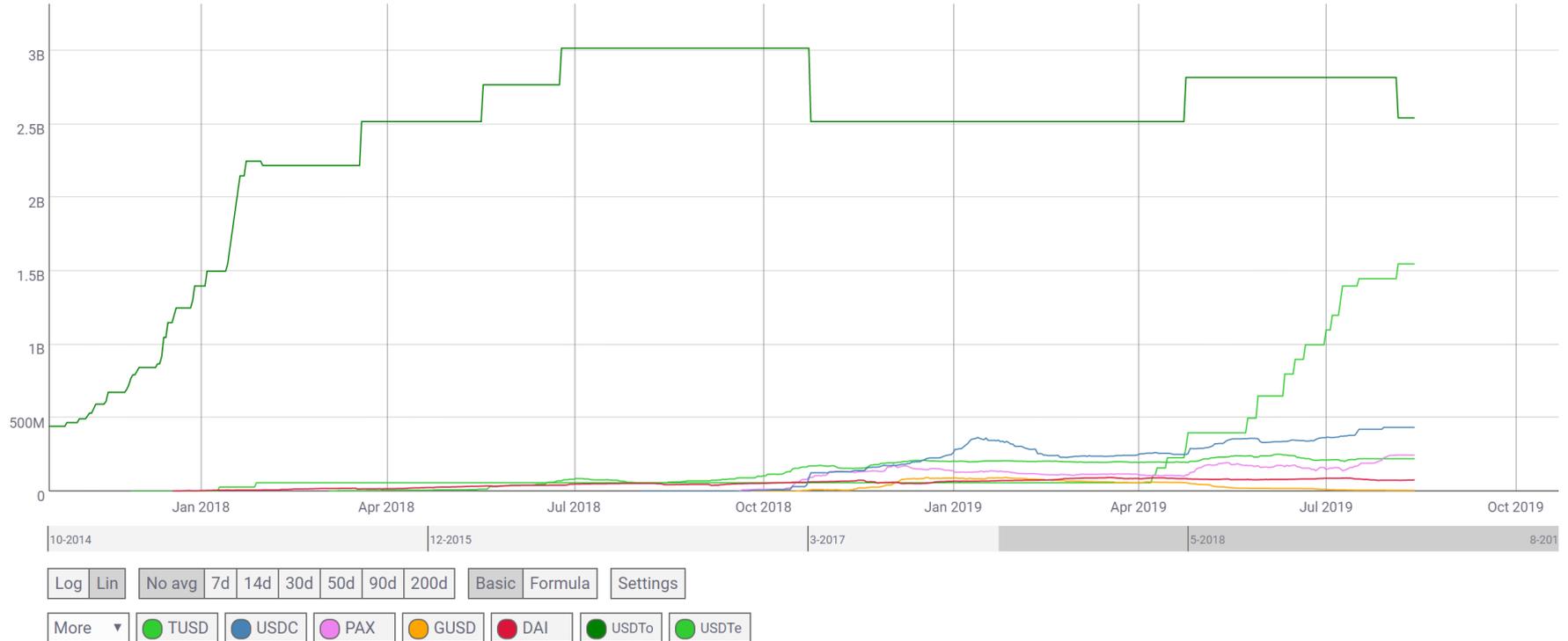
Channel capacity statistics.



<https://bitcoinvisuals.com/lightning>

Stablecoins

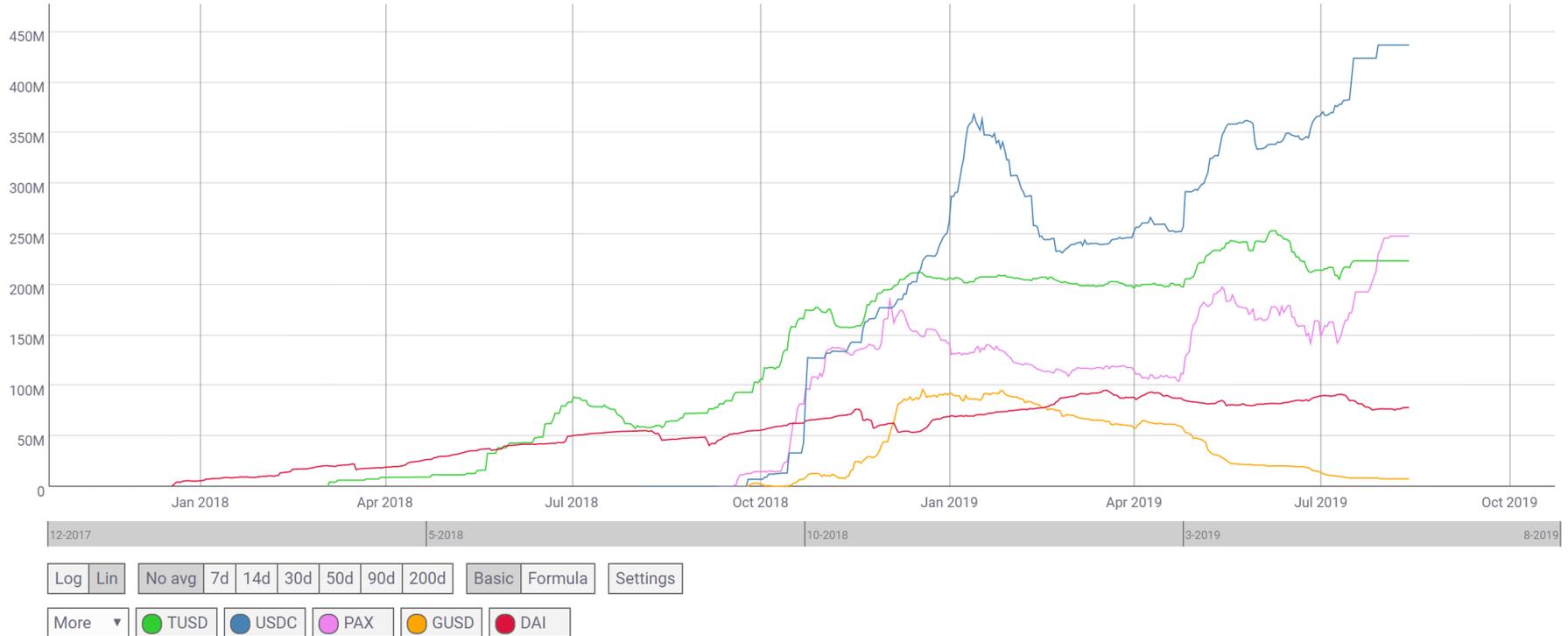
Stablecoins combined: ~\$5 bln supply



[https://coinmetrics.io/charts/#assets=dai,gusd,pax,usdc,tusd,usdteth,usdt_log=f
also left=SplyCur zoom=1508378538572.8643,1571795370814.0703](https://coinmetrics.io/charts/#assets=dai,gusd,pax,usdc,tusd,usdteth,usdt_log=f&also_left=SplyCur_zoom=1508378538572.8643,1571795370814.0703)

Stablecoins

Ex-USDT stablecoins: ~\$1 bln



[https://coinmetrics.io/charts/#assets=dai,gusd,pax,usdc,tusd,usdteth,usdt_log=f
also left=SplyCur zoom=1508378538572.8643,1571795370814.0703](https://coinmetrics.io/charts/#assets=dai,gusd,pax,usdc,tusd,usdteth,usdt_log=f&also_left=SplyCur_zoom=1508378538572.8643,1571795370814.0703)

Funding

ICO: party is not over!

5250 ICO (583 in 2019)

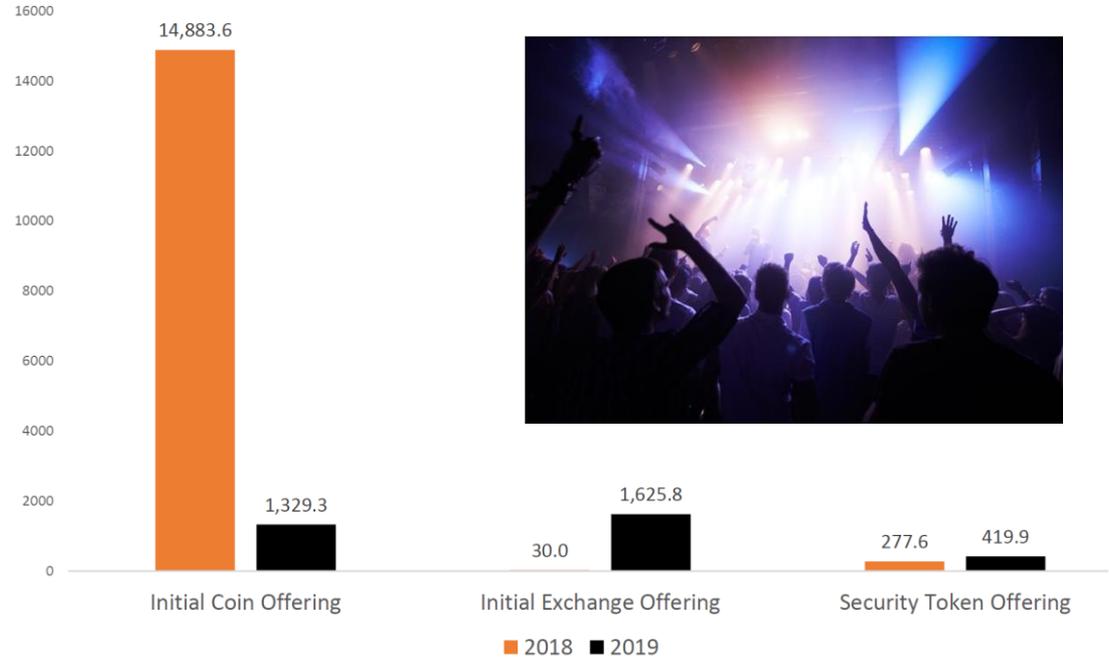
1722 successful (33% success)

\$26.4b raised (\$3.3b in 2019)

https://icobench.com/reports/ICObench_ICO_Market_Analysis_June_2019.pdf

<https://www.inwara.com/report/blockchain-crypto-report-h1-2019>

Funds Raised (\$MM) : H1 2018 Vs H1 2019

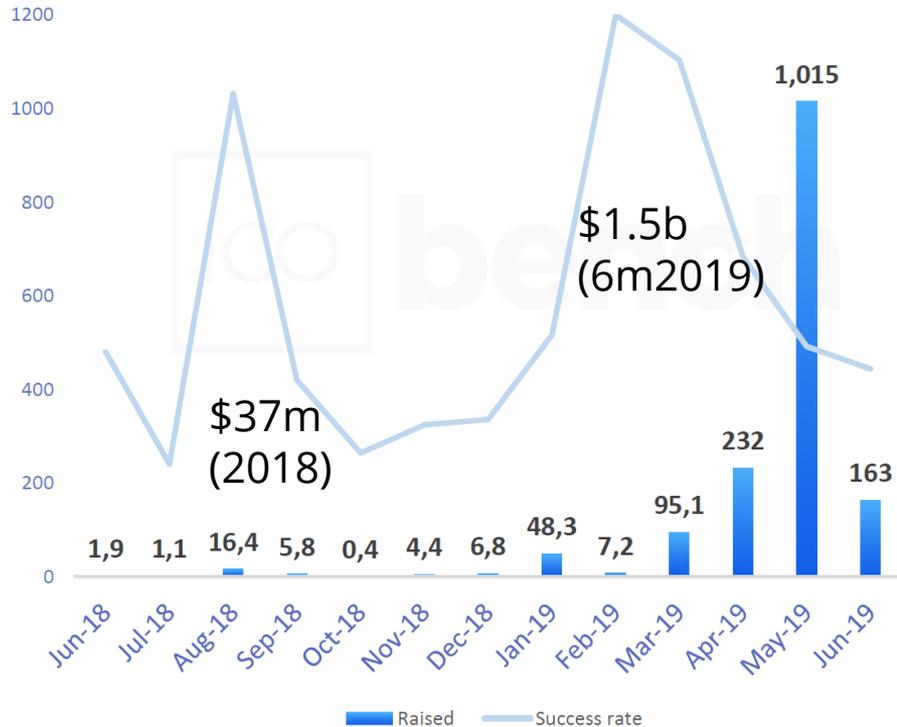


	Total funds raised	Successful ICOs	Success Rate*
Jun-19	\$230 213 322	31	28%
May-19	\$1 189 658 491	40	36%
Jun-18	\$1 589 862 599	107	40%
All time	\$26 399 091 087	1722	33%

Funding

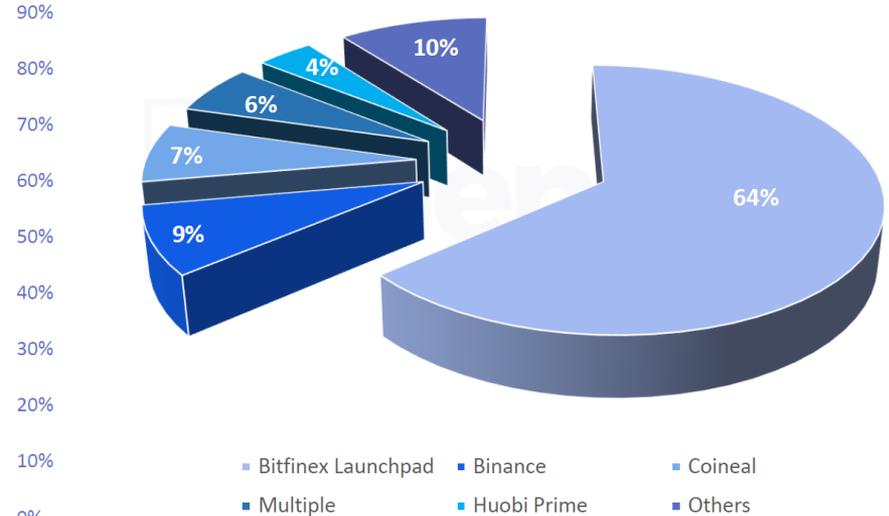
Exchanges in the ICO game: **>\$1.5b** raised in 2019

Total funds raised by IEOs, \$ mln



100%

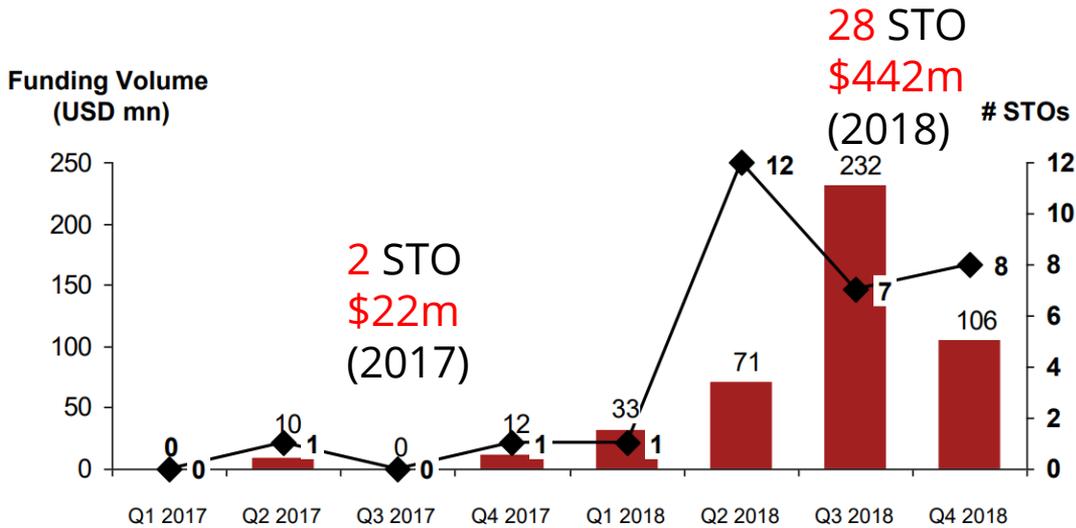
Funds distribution by IEO's launchpads



[https://icobench.com/reports/ICObench ICO Market Analysis June 2019.pdf](https://icobench.com/reports/ICObench_ICO_Market_Analysis_June_2019.pdf)

Funding

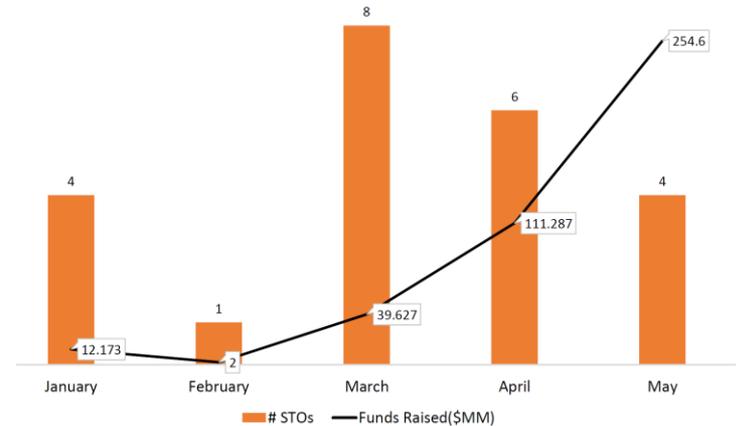
STO ramps up: >\$400m in 2019



<https://cryptovalley.swiss/wp-content/uploads/ch-20190308-strategyand-ico-sto-report-q1-2019.pdf>

57 STO
\$420m
(5m2019)

STOs Vs Funds Raised (\$MM)



<https://www.inwara.com/report/blockchain-crypto-report-h1-2019>

Funding

Happy founders



<https://www.sec.gov/news/press-release/2019-150>

Funding

Angry investors

Median ROI **-87%**

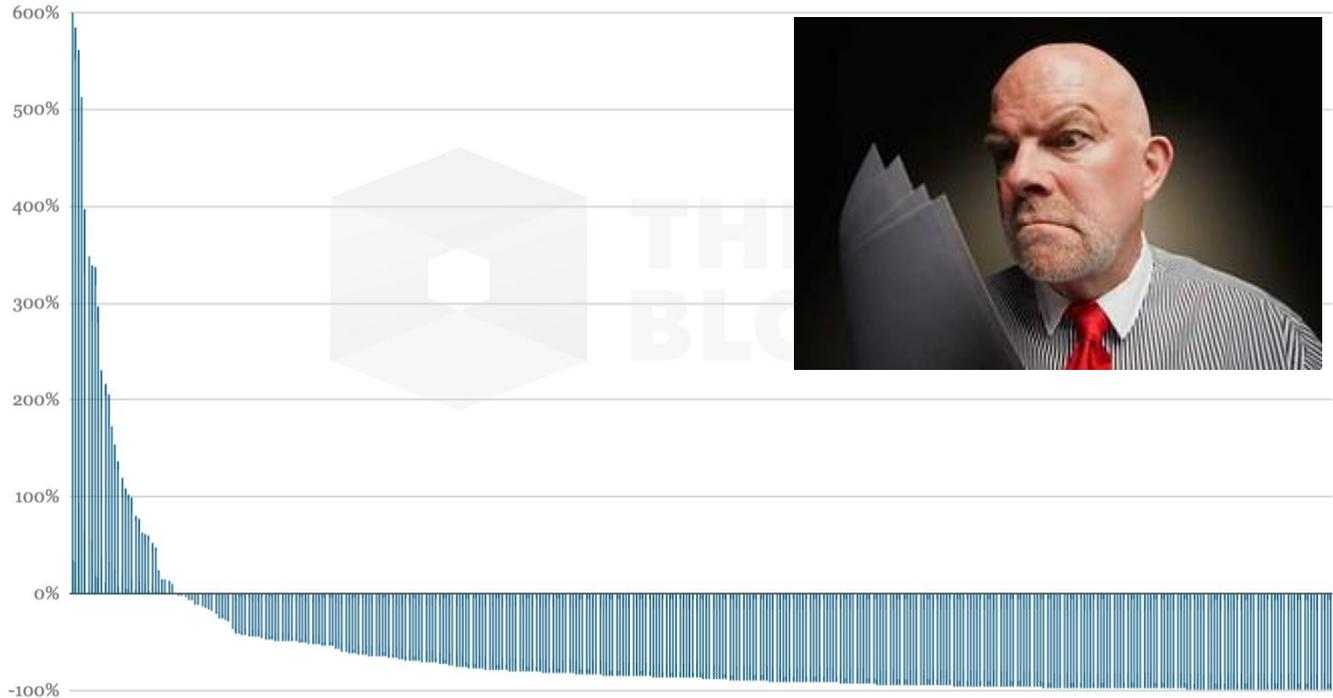
<11% ICOs ROI > 0%

Top-5 ICOs:

- BNB (5,902%)
- IOTA (1,744%)
- Ethereum (1,339%)
- Lambda (962%)
- ChainLink (668%)

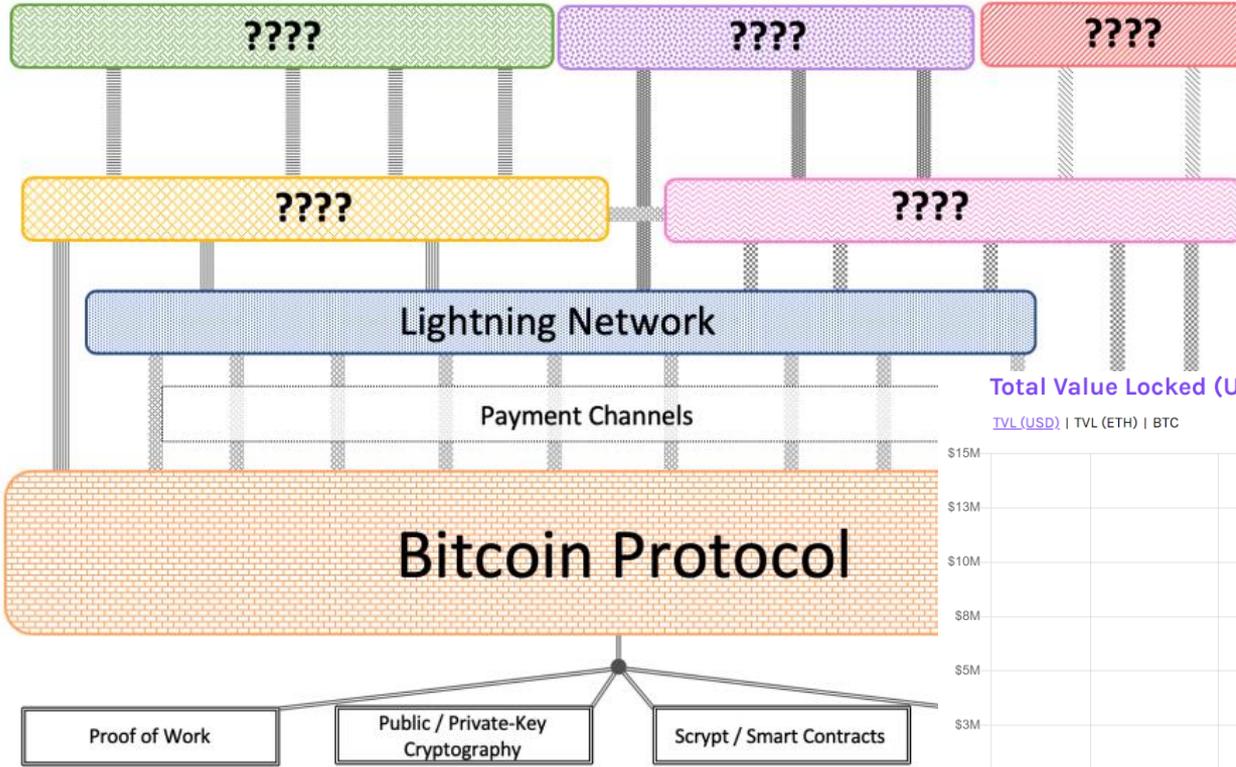
USD return of ICOs

excluding returns of more than 1,000% (11 projects)



<https://twitter.com/lawmaster/status/1159130591209689088>

#DeFi on Bitcoin



Total Value Locked (USD) in Lightning Network

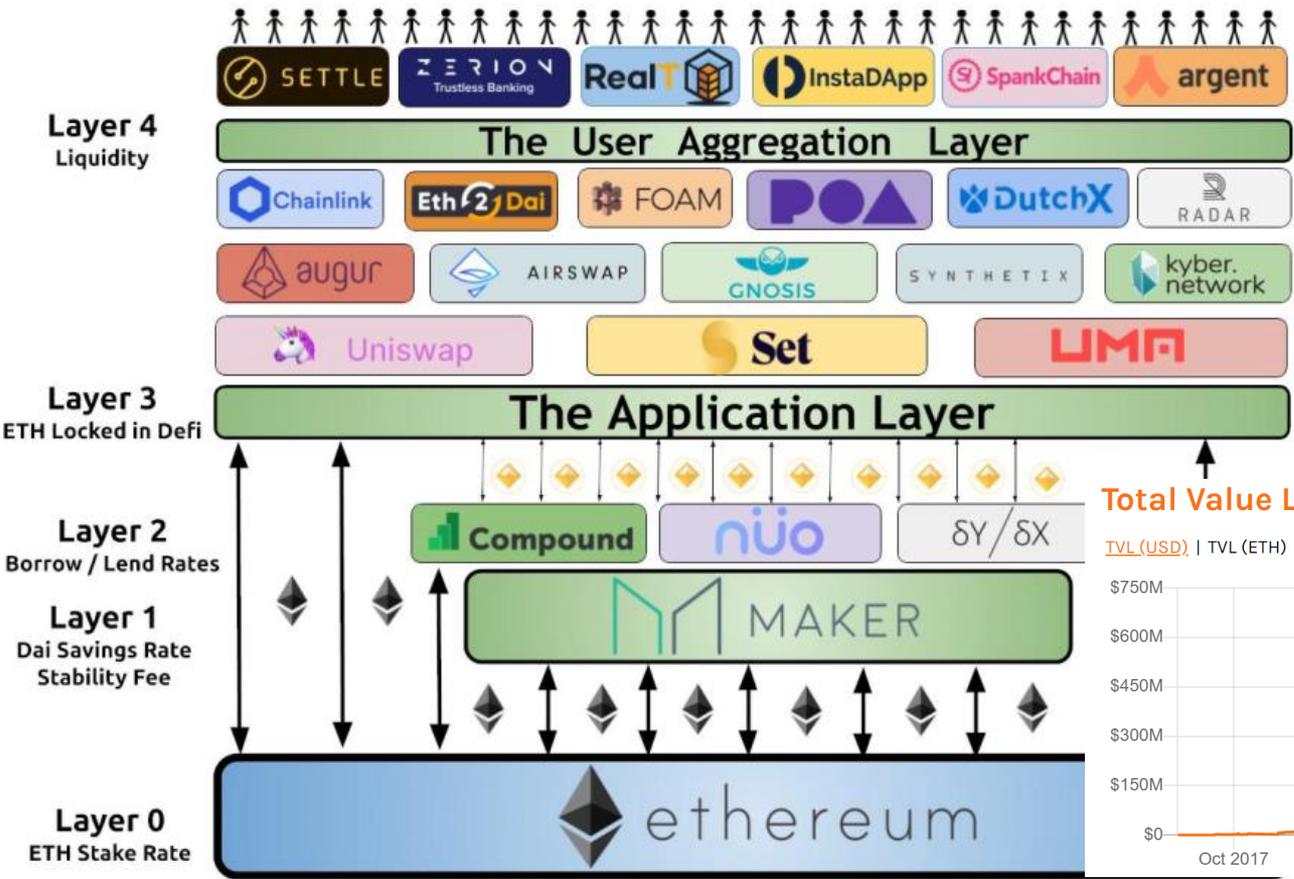
[TVL \(USD\)](#) | TVL (ETH) | BTC

[All](#) | 1 Year | 90 Day | 30 Day | 7 Day



<https://defipulse.com/lightning-network>

#DeFi on Ethereum



~\$450m locked in Ethereum DeFi

Total Value Locked (USD) in DeFi



<https://defipulse.com/>

Dai: Stablecoin + Borrowing

MakerDAO

\$78 mln Dai issued

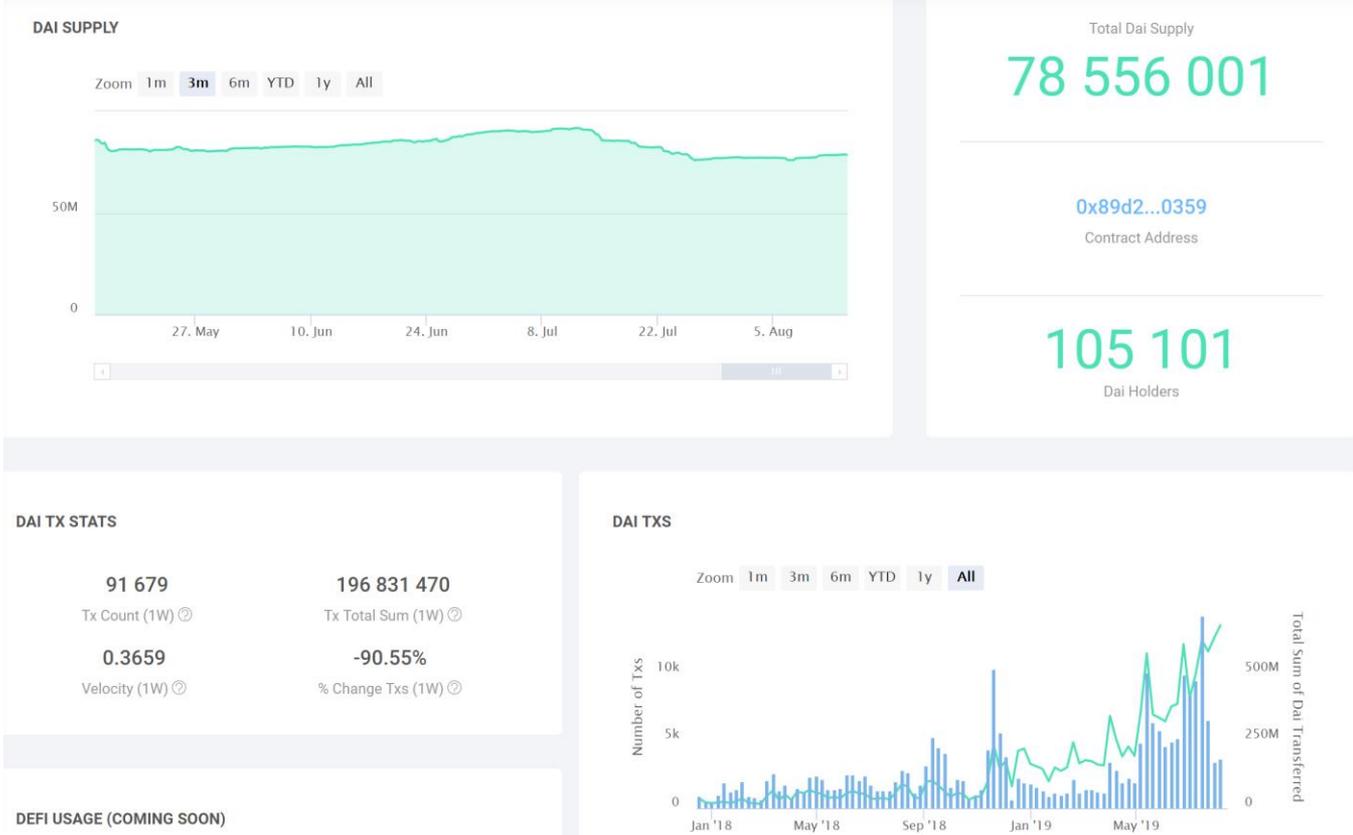
1.3 mln ETH locked in collateral (1.29% of ETH)

Collateral ratio 320%

13.9k CDPs

105k Dai Holders

~20% lending rate



<https://mkr.tools/system>

xDai: Stablecoin Payments

xDai

Sidechain with 4 validators

2-way bridge to Ethereum (POA)

5s block time

Capacity up to 1500 tps

13k xDai addresses

<\$0.001 fee per tx paid in Dai

ZK for privacy (AZTEC)

<https://poa.network/xdai>



Borrowing & Lending

Compound, InstaDapp,
Dharma, dYdX, Nuo

\$129m value locked

396k ETH locked in
compound as collateral
(0.37% of ETH)

Total Value Locked (USD) in Compound

[TVL \(USD\)](#) | TVL (ETH) | ETH | BTC | DAI

[All](#) | 1 Year | 90 Day | 30 Day | 7 Day



Borrowing & Lending

Compound

Deposits are tokenized
as cTokens (e.g.cDai)

Rate of cToken to
underlying asset varies
with the interest rate

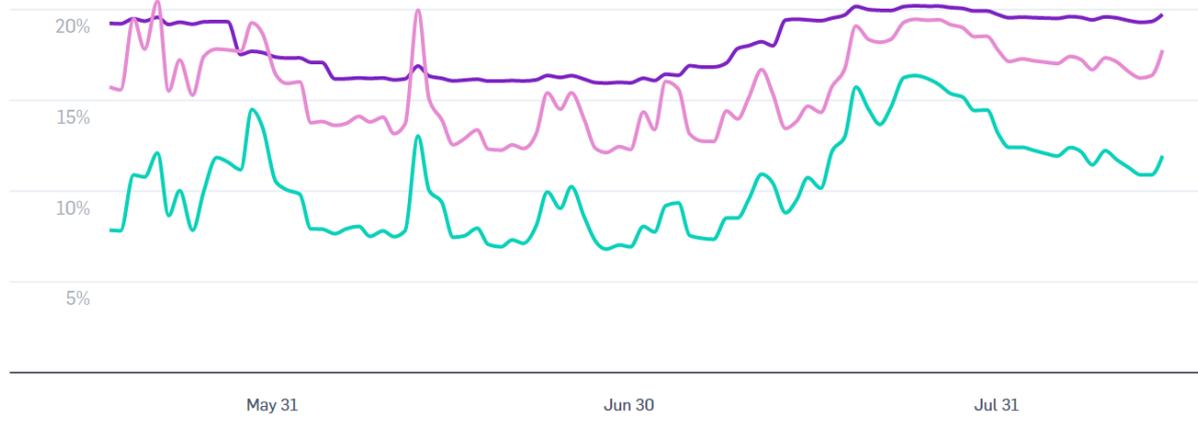
Interest rate varies
dynamically with supply
& demand

Interest accrued ~15s

Available				
Market		Market Size	Supply APR	Borrow APR
	Basic Attention Token	\$857k	0.33%	4.45%
	Dai	\$35.04M	10.49%	15.96%
	Ether	\$73.90M	0.02%	2.25%
	Augur	\$1.05M	0.19%	3.71%
	USD Coin	\$26.80M	7.91%	13.26%
	Wrapped BTC	\$920k	0.13%	3.34%
	Ox	\$1.04M	0.30%	4.31%

Borrowing & Lending

◆ DAI



REFERENCE RATES

DAI SOBR	19.74%
Secured On-demand Borrowing Rate	
DAI SOLR	11.95%
Secured On-demand Lending Rate	
DAI WABR	17.77%
Weighted Average Borrow Rate	

Click on any reference rate to get more details

<https://loanscan.io/reference-rates?interval=3m>

Decentralized exchanges

Uniswap, Bancor, Kyber

Onchain orderbook

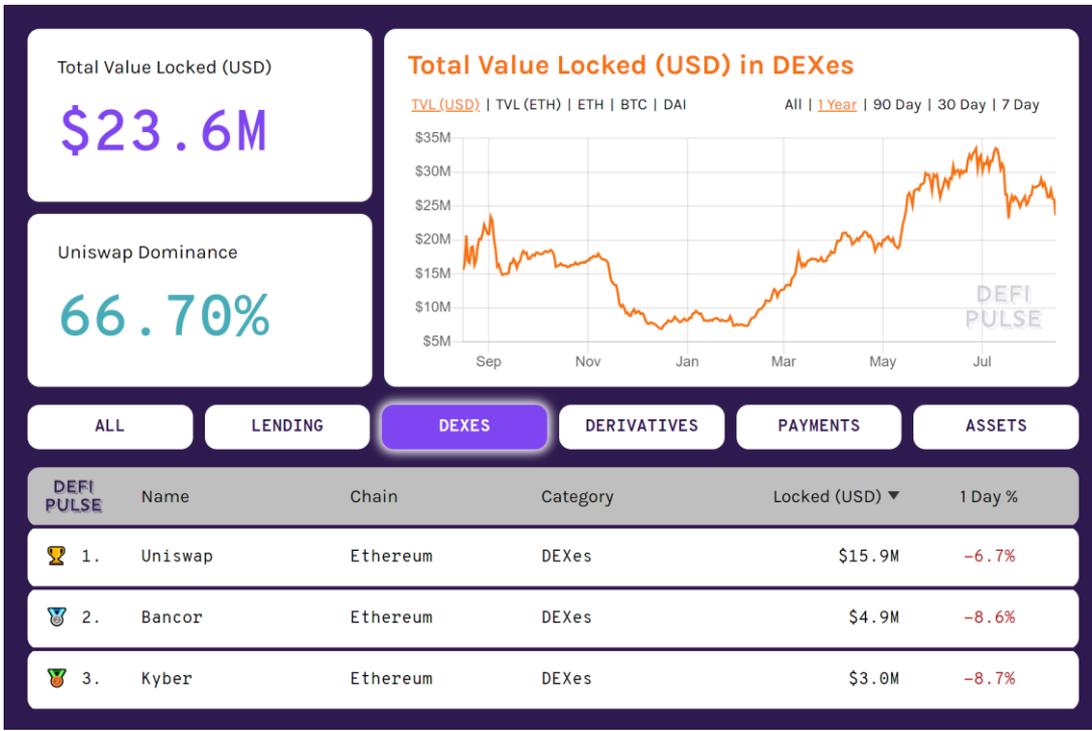
Zero-KYC

Delivery vs. payment

The spot-swaps of ERC20 tokens via the underlying asset (ETH, BNC)

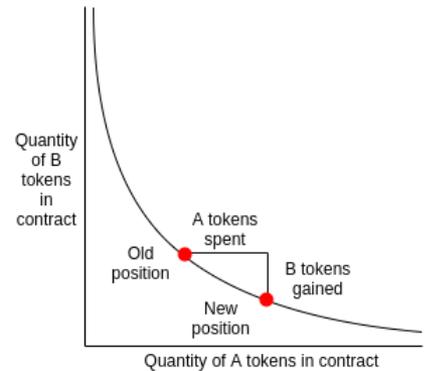
Automated price reserves for liquidity provision

~\$3m/day traded volume



Decentralized exchanges

Initial Conditions DAI Liquidity ETH Liquidity Product
 100,000 1,000 100,000,000
 x y k



ETH Purchased	Cost per ETH	Total Cost in DAI	Premium	New DAI Liquidity	New ETH Liquidity	Product
				x	y	k
1	100.10	100.10	0.10%	100,100.10	999	100,000,000
10	101.01	1,010.10	1.01%	101,010.10	990	100,000,000
50	105.26	5,263.16	5.26%	105,263.16	950	100,000,000
100	111.11	11,111.11	11.11%	111,111.11	900	100,000,000
200	125.00	25,000.00	25.00%	125,000.00	800	100,000,000
500	200.00	100,000.00	100.00%	200,000.00	500	100,000,000
800	500.00	400,000.00	400.00%	500,000.00	200	100,000,000
999	100,000.00	99,900,000.00	99900.00%	100,000,000.00	1	100,000,000
1000	Infinity	Infinity	Infinity	Infinity	0	100,000,000

Asset management

Set protocol

Tokenized strategies

Non-custodial baskets of assets (Dai, WBTC)

Rebalancing with modified dutch auction

Integration with DEX

 ETH Range Bound Low Volatility	\$107.61	↓ -4.09%		View
 BTC Range Bound Low Volatility	\$145.86	↓ -2.75%		View
 ETH Range Bound High Volatility	\$110.96	↓ -3.22%		View
 BTC Range Bound High Volatility	\$147.71	↓ -2.75%		View

Buy and Hold Sets [Learn this Strategy >](#)

Buy And Hold Sets are for you if you are bullish crypto, but want to diversify your risk over multiple tokens. The Buy and Hold strategy automatically rebalances the underlying crypto to maintain a fixed ratio over time. Protect yourself from over exposure to a single token if you believe in the long term outlook of crypto.

Name	Price	Change (24HR)	Chart (24HR)	
 BTC ETH Equal Weight	\$288.97	↓ -7.14%		View
 ETH BTC 75%/25% Weight	\$125.92	↓ -7.92%		View
 BTC ETH 75%/25% Weight	\$171.87	↓ -6.36%		View

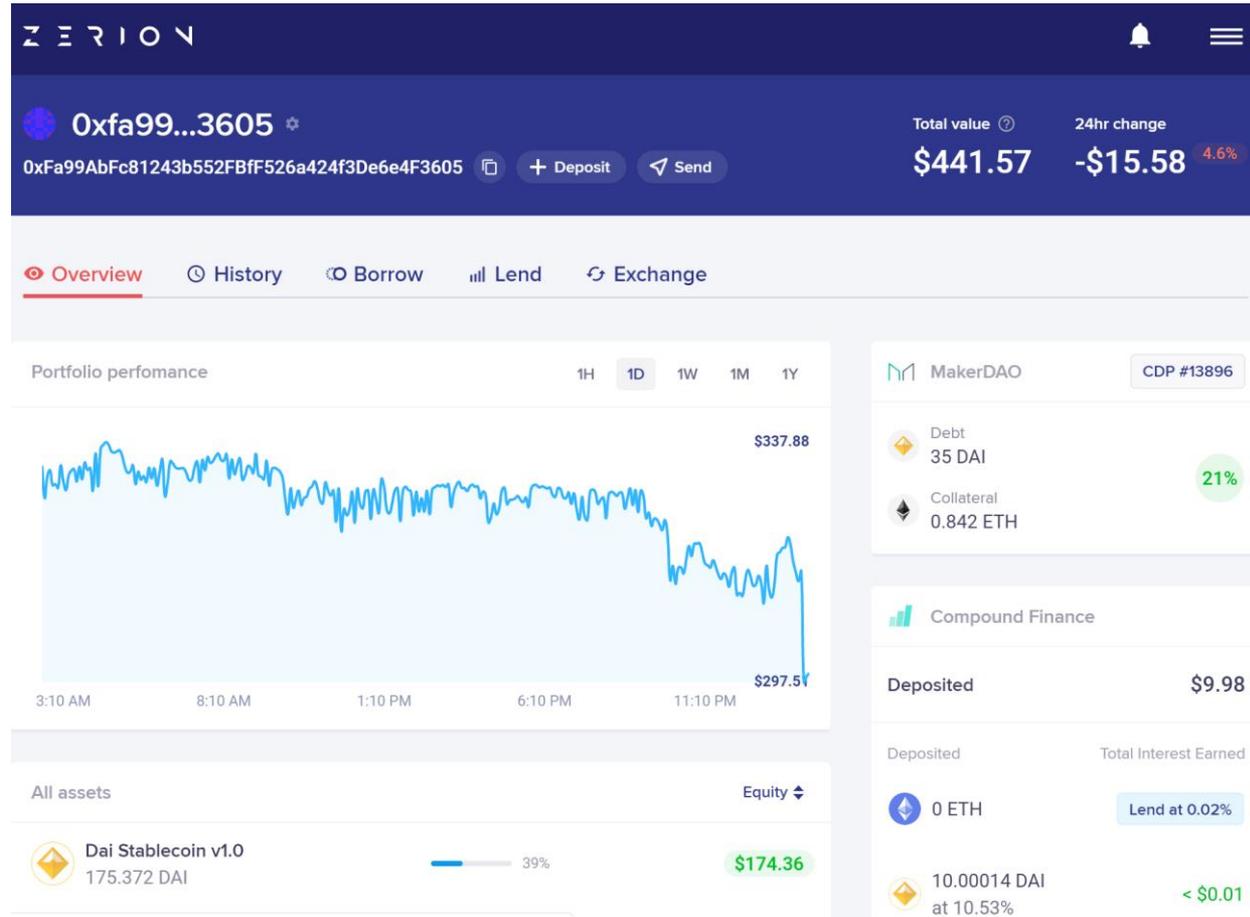
Aggregators

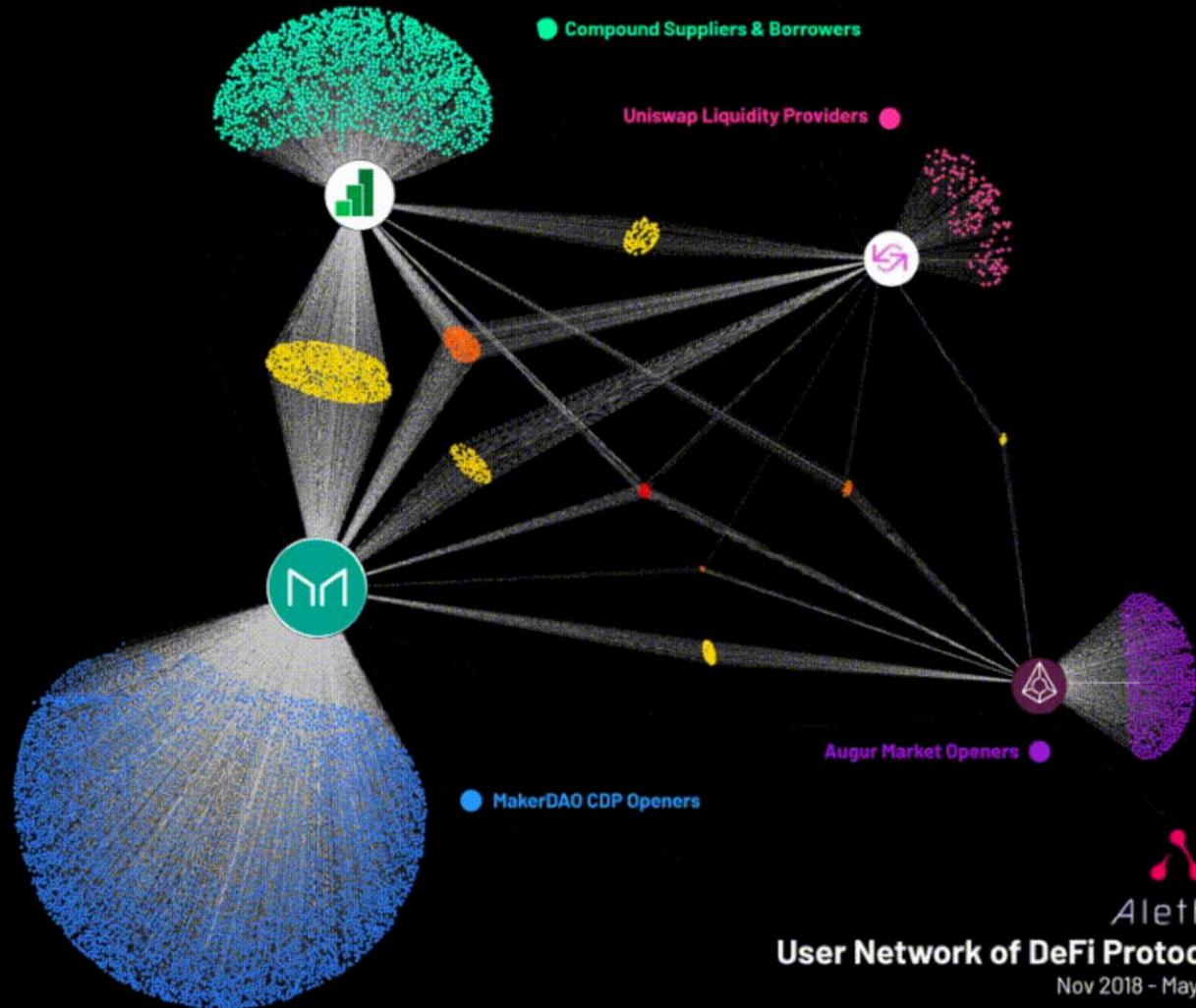
Zerion

Access to various protocols

DeFi Portfolio management

Others: InstaDapp, Settle





● Compound Suppliers & Borrowers

● Uniswap Liquidity Providers

● MakerDAO CDP Openers

● Augur Market Openers



Alethio

User Network of DeFi Protocols

Nov 2018 - May 2018

Summary

- Bitcoin wholesale payment and SoV (aka digital gold) is a strong use case
- Ethereum DeFi is vibrant, but still a proof of concept
- Advantages:
 - Inclusive (zero KYC, no censorship)
 - Non-custodial (no counterparty credit risk)
 - Transparent and price efficient
 - Global, low cost, fast finality
- Disadvantages:
 - Overcollateralized (doesn't help unbanked to get loans)
 - Technical barrier (e.g. Metamask, keys, ...)
 - Bridge problem
 - Still in beta

Useful links

A curated list of awesome decentralized finance projects, software, and resources.

<https://github.com/ong/awesome-decentralized-finance>

DeFi metrics

<https://defipulse.com/>

Binance Research report on DeFi

<https://info.binance.com/en/research/marketresearch/defi-1.html>