STATE OF

BLOCKCHAIN

Q2 2017
Q2 2017 State of Blockchain:
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EXECUTIVE SUMMARY
Q2 2017 Overall Summary

**Cryptocurrency market cap rallies $75bn:**
- Aggregate valuation of blockchain tokens skyrockets 4x to all-time high above $100bn

**Transaction volumes and fees set records:**
- Usage and cost to send cryptocurrencies on numerous blockchains increased dramatically

**Permissioned blockchains move forward:**
- Major platforms like R3, Hyperledger, and EEA pick up corporate funding, membership, and integrations

**ICOs vastly exceed VC funding:**
- Blockchain token sales raise $729m as compared to $235m of total venture capital, record setting ICO quantities and deal sizes

**Regulators increasingly acknowledge reality:**
- Blockchain technology, digital currency, and token sales are now far too large for anyone to ignore or refuse to think critically about

**Interoperability remains large focus:**
- Numerous groups and protocols are now tackling connecting blockchains for transacting and trading on diverse ledgers

Data Source: Coindesk
Q2 2017 Trends: Public Blockchains

- Combined public blockchain token valuations exceed $100bn, never exceeded $25bn prior to Q2
- Bitcoin sheds significant market dominance as ether, xrp, and other long-tail assets rally even more dramatically
- Global trading volumes accelerate and grow in diversity in terms of geography, exchanges, and currency pairs
- Token sales explode, with well over 50 deals and $700m worth of fundraising in the quarter, several which are currently liquid

Data Sources: CoinDesk, Image
Notes: Expanded upon in Section 2: Public Blockchains
- Hyperledger, EEA, Corda and other permissioned blockchain consortia and platforms continue on with proofs of concept, tests and demos with major traditional enterprises and governments

- R3 raises $107m in the largest VC deal of the quarter

- Traditional enterprises continue to pour into blockchain in various capacities, frequently join multiple working groups and consortia
- ICOs dramatically outweigh VC in terms of overall blockchain funding from both a quantity and value perspective in Q2

- Very few venture capital raises closed as compared to an explosion in supply of ICO deals with over 50 closed

- Hedge funds and other institutional asset managers move to bring further demand into cryptocurrencies

Data Sources: CoinDesk, Image
Notes: Expanded upon in Section 4: Investment
- IMF discusses Central Bank Digital Currencies, how governments may issue their own DLT based representations of currency
- SEC examining an ETF proposal for ether
- Nevada prohibits local governments from taxing or imposing restrictions upon the use of a blockchain
- Governments worldwide fund and allocate research into the opportunities and risks presented by blockchain technology
## Q2 2017 Public Blockchain Summary

<table>
<thead>
<tr>
<th>Aggregate market cap breaks $100bn:</th>
<th>Bitcoin dominance falls under 50%:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Public blockchain assets rallied 4x, over $75bn in value within the quarter</td>
<td>- Ether, xrp, and other many assets appreciated far more dramatically than bitcoin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trading volume grows and distributes:</th>
<th>ICO funding far outweighs VC:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Exchange trading volumes increased worldwide, now more distributed than ever</td>
<td>- Token sales comprised over 3x as much of project funding than traditional venture capital</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Asset sectors take more shape:</th>
<th>Institutional and managed capital entering:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Verticals within the asset class become more built out with time and new entrants</td>
<td>- Massive wave of cryptocurrency focused hedge funds launched and on the horizon</td>
</tr>
</tbody>
</table>

Data Source: Coindesk
Public Blockchain Assets Dramatically Outperformed Traditional Assets

2017 YTD Returns

- Global Real Estate: 3.2%
- Gold: 7.7%
- U.S. Equities: 9.2%
- Global Equities: 14.7%
- Bitcoin: 150.6%
- All Digital Assets: 445.0%

Data Source: Yahoo! Finance, CoinGecko, CoinMarketCap
Notes: Daily data, RWO, GLD, SPY, RWO, CWT, & BTC prices, all cryptocurrency market cap, data through 6/30/2017
Aggregate Cryptocurrency Market Cap
Rallies 4x, Breaks $100bn in Q2

For some context, the market cap of:
- Western Union = $10 billion
- Ether = $30 billion
- Bitcoin = $40 billion
- All Cryptocurrencies = $100 billion
- Visa = $200 billion
- Gold = $7 trillion

Data Source: CoinDesk

State of Blockchain – Q2 2017
Bitcoin’s Dominance Falls Under 40% as Total Market Rallies North of $100bn

Data Source: CoinDesk
Q2 Ended With the Most Diverse Asset Class Composition in History
Major Asset Prices Rally North of 1000% Year to Date in May, Exceed 5% Average Daily Volatility

2017 Price Movement
Cumulative Return (%)

<table>
<thead>
<tr>
<th>Asset</th>
<th>Symbol</th>
<th>Q1 2017</th>
<th>Q2 2017</th>
<th>YTD 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bitcoin</td>
<td>BTC</td>
<td>2.6%</td>
<td>3.1%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Ethereum</td>
<td>ETH</td>
<td>4.7%</td>
<td>5.5%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Ripple</td>
<td>XRP</td>
<td>2.9%</td>
<td>11.3%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Dash</td>
<td>DASH</td>
<td>6.0%</td>
<td>5.2%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Monero</td>
<td>XMR</td>
<td>4.7%</td>
<td>5.2%</td>
<td>4.9%</td>
</tr>
</tbody>
</table>

Average Daily Price Movement

Data Source: CoinDesk
Notes: Average day over day price movement (absolute value)
Transactions on Major Cryptocurrency Blockchains Exceed Half a Million a Day

Data Source: Bańkowski, Zhen

Average Daily Cryptocurrency Transactions

<table>
<thead>
<tr>
<th>Quarter</th>
<th>BTC</th>
<th>LTC</th>
<th>ETH</th>
<th>ETC</th>
<th>DASH</th>
<th>XMR</th>
<th>ZEC</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 '16</td>
<td>201,633</td>
<td>4,453</td>
<td>20,242</td>
<td>20,242</td>
<td>1,582</td>
<td>580</td>
<td>248,733</td>
<td></td>
</tr>
<tr>
<td>Q2 '16</td>
<td>220,659</td>
<td>5,519</td>
<td>40,895</td>
<td>40,895</td>
<td>1,184</td>
<td>434</td>
<td>309,586</td>
<td></td>
</tr>
<tr>
<td>Q3 '16</td>
<td>218,831</td>
<td>3,432</td>
<td>45,109</td>
<td>21,324</td>
<td>1,549</td>
<td>1,038</td>
<td>291,283</td>
<td></td>
</tr>
<tr>
<td>Q4 '16</td>
<td>260,987</td>
<td>3,455</td>
<td>42,908</td>
<td>14,658</td>
<td>1,238</td>
<td>1,600</td>
<td>324,846</td>
<td></td>
</tr>
<tr>
<td>Q1 '17</td>
<td>286,052</td>
<td>3,345</td>
<td>58,291</td>
<td>19,890</td>
<td>3,118</td>
<td>2,720</td>
<td>2,582</td>
<td>375,996</td>
</tr>
<tr>
<td>Q2 '17</td>
<td>290,845</td>
<td>11,707</td>
<td>154,176</td>
<td>27,524</td>
<td>4,893</td>
<td>2,796</td>
<td>4,071</td>
<td>496,013</td>
</tr>
</tbody>
</table>

Average Daily Cryptocurrency Transactions (#)

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Average Transaction Fees Crossed Over $1, Increased Significantly on Major Blockchain Protocols

Cryptocurrency Transaction Fees

<table>
<thead>
<tr>
<th>Quarter</th>
<th>BTC</th>
<th>LTC</th>
<th>ETH</th>
<th>ETC</th>
<th>DASH</th>
<th>XMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 '16</td>
<td>$0.08</td>
<td>$0.05</td>
<td>$0.01</td>
<td>$0.04</td>
<td>$0.07</td>
<td></td>
</tr>
<tr>
<td>Q2 '16</td>
<td>$0.13</td>
<td>$0.02</td>
<td>$0.01</td>
<td>$0.08</td>
<td>$0.11</td>
<td></td>
</tr>
<tr>
<td>Q3 '16</td>
<td>$0.18</td>
<td>$0.02</td>
<td>$0.01</td>
<td>$0.00</td>
<td>$0.09</td>
<td>$0.33</td>
</tr>
<tr>
<td>Q4 '16</td>
<td>$0.24</td>
<td>$0.02</td>
<td>$0.01</td>
<td>$0.00</td>
<td>$0.13</td>
<td>$0.13</td>
</tr>
<tr>
<td>Q1 '17</td>
<td>$0.62</td>
<td>$0.03</td>
<td>$0.01</td>
<td>$0.00</td>
<td>$0.12</td>
<td>$0.38</td>
</tr>
<tr>
<td>Q2 '17</td>
<td>$2.40</td>
<td>$0.11</td>
<td>$0.22</td>
<td>$0.01</td>
<td>$0.10</td>
<td>$1.09</td>
</tr>
</tbody>
</table>

Average Cryptocurrency Transaction Fees

Data Source: Bitinfocharts

State of Blockchain – Q2 2017
Nearly Every Blockchain Related Term Hit All-Time Global Google Search Interest

Global Google Search Trends

Traffic Relative to Maximum in Period (%)

- Bitcoin
- Ethereum
- Blockchain
- Cryptocurrency

Data Source: Google Trends
Major Industry Events Amplified Attention Around Token Price Rallies

Total Cryptocurrency Market Cap

Aggregate Market Cap ($, billions)

- January
- February
- March
- April
- May
- June

2017

Data Sources: Etheral, Consensus, Token Summit
The Rise of New Projects and Growth of Existing Assets Has Made the Blockchain Ecosystem Easier to Bucket and Categorize

Public Blockchains

Cryptocurrencies
- Litecoin (LTC)
- Stellar (XLM)
- Bitcoin (BTC)

Decentralized Application Platforms
- EOS
- Ethereum Classic (ETC)
- NEO
- Ethereum (ETH)
- Waves (WAVES)

Privacy Focused Cryptocurrencies
- PIVX
- Dash (DASH)
- Verge (XVG)
- Monero (XMR)
- Zcash (ZEC)

Decentralized Applications

Swap
- SWAP
- Ox
- ZRX

Interoperability
- Cosmos
- Polkadot

Notes: Just a subset and sample of public blockchain sectors and assets shown. Decentralized exchanges may work with just certain tokens (for example just ERC20) and interoperability protocols may extend to permissioned blockchain networks (not shown).
Bitcoin was created with the start of open mining. ≈16.5 million BTC has been mined out of the 21 million that will ever be mined (≈79%).

Ether was created with a crowdsale before the start of open mining. ≈60 million ETH (≈83%) was sold to the public and ≈12 million ETH was created for the Ethereum Foundation (≈17%). Since, ≈22 million ETH has been mined out of the currently known amount that will ever be mined (≈79%).

Zcash was created with the start of open mining after the Zcash Electric Coin Company received investment funding in exchange for corporate ownership and a portion of future block rewards. ≈2 million ZEC has been mined out of the 21 million that will ever be mined (≈10%).

Ripple XRP was created by allocating 100 billion XRP to Ripple Labs (80%) and the 3 founders (20% total). ≈38 billion XRP has been sold and distributed to the public since. No additional XRP will ever be mined or created.

Golem Network Tokens were created with a crowdsale. 820 million GNT (82%) was sold to the public and 180 million GNT (18%) was created for the Golem Factory, team members, and early contributors. No additional GNT will ever be mined or created.

Augur Reputation was created with a crowdsale. 8.8 million REP (80%) was sold to the public and 2.2 million REP (20%) was created for the Forecast Foundation and founders. No additional REP will ever be mined or created.

Gnosis GNO was created with a crowdsale. ≈0.4 million GNO (≈4%) was sold to the public and ≈9.6 million was created for Gnosis (≈96%). No additional GNO will ever be mined or created.
**New CoinDesk ICO Website Tool:**

**Market Center (beta version)**

### Markets Center

<table>
<thead>
<tr>
<th>Asset</th>
<th>Symbol</th>
<th>Price</th>
<th>24h Price Change</th>
<th>1h Trading Volume</th>
<th>Current Supply</th>
<th>Current Market Cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bitcoin</td>
<td>BTC</td>
<td>$5,434.82</td>
<td>3.25%</td>
<td>$1,080,869,000</td>
<td>15,861,917</td>
<td>$54,428,838,826</td>
</tr>
<tr>
<td>Ether</td>
<td>ETH</td>
<td>$329.33</td>
<td>-0.8%</td>
<td>$1,030,000,000</td>
<td>15,861,917</td>
<td>$54,428,838,826</td>
</tr>
<tr>
<td>Ripple</td>
<td>XRP</td>
<td>$0.45</td>
<td>-0.88%</td>
<td>$10,000,000</td>
<td>15,861,917</td>
<td>$54,428,838,826</td>
</tr>
<tr>
<td>Litecoin</td>
<td>LTC</td>
<td>$254.43</td>
<td>-0.87%</td>
<td>$10,000,000</td>
<td>15,861,917</td>
<td>$54,428,838,826</td>
</tr>
<tr>
<td>Dash</td>
<td>DASH</td>
<td>$254.43</td>
<td>-0.87%</td>
<td>$10,000,000</td>
<td>15,861,917</td>
<td>$54,428,838,826</td>
</tr>
<tr>
<td>Litecoin</td>
<td>LTC</td>
<td>$254.43</td>
<td>-0.87%</td>
<td>$10,000,000</td>
<td>15,861,917</td>
<td>$54,428,838,826</td>
</tr>
<tr>
<td>Monero</td>
<td>XMR</td>
<td>$0.16</td>
<td>-4.58%</td>
<td>$32,052,482</td>
<td>15,861,917</td>
<td>$54,428,838,826</td>
</tr>
<tr>
<td>ZCash</td>
<td>ZEC</td>
<td>$3.26</td>
<td>2.87%</td>
<td>$32,052,482</td>
<td>15,861,917</td>
<td>$54,428,838,826</td>
</tr>
<tr>
<td>Binance</td>
<td>BNB</td>
<td>$0.77</td>
<td>-7.84%</td>
<td>$32,052,482</td>
<td>15,861,917</td>
<td>$54,428,838,826</td>
</tr>
<tr>
<td>EOS</td>
<td>EOS</td>
<td>$0.17</td>
<td>-7.84%</td>
<td>$32,052,482</td>
<td>15,861,917</td>
<td>$54,428,838,826</td>
</tr>
<tr>
<td>Tron</td>
<td>TRX</td>
<td>$0.07</td>
<td>-5.8%</td>
<td>$32,052,482</td>
<td>15,861,917</td>
<td>$54,428,838,826</td>
</tr>
<tr>
<td>ZCash</td>
<td>ZEC</td>
<td>$3.26</td>
<td>2.87%</td>
<td>$32,052,482</td>
<td>15,861,917</td>
<td>$54,428,838,826</td>
</tr>
<tr>
<td>Monero</td>
<td>XMR</td>
<td>$0.16</td>
<td>-4.58%</td>
<td>$32,052,482</td>
<td>15,861,917</td>
<td>$54,428,838,826</td>
</tr>
<tr>
<td>ZCash</td>
<td>ZEC</td>
<td>$3.26</td>
<td>2.87%</td>
<td>$32,052,482</td>
<td>15,861,917</td>
<td>$54,428,838,826</td>
</tr>
</tbody>
</table>

**New Individual Asset Pages**

### Ripple (XRP) Price

- **Closing Price:** $0.16
- **Today's Open:** $0.17
- **Today's High:** $0.17
- **Today's Low:** $0.16
- **Market Cap:** $6B
- **Supply:** 38,343,841,883

![Ripple (XRP) Price Chart]

**Coming soon!**
2A

BITCOIN
**Q2 2017 Bitcoin Summary**

**Bitcoin breaks $3,000:**
- Over doubles in price, ranges nearly $2,000, moving into completely new territory

**Transaction fees hit all-time high over $5:**
- Average transaction fees skyrocket as block size limit is consistently reached

**Bitcoin drops below 40% of market value:**
- Bitcoin more than doubles in price in Q2 but underperforms other large blockchain assets

**Global trading volume grows:**
- JPY, USD dominate overall trading volume after Q1 CNY drop from PBoC investigations

**All attention turns to scaling proposals:**
- Numerous proposals, BIPs, and agreements are quickly made as pressure rises

**SegWit focus continues:**
- Litecoin activates SegWit, Segwit2x roadmap continues with major support

Data Source: Coindesk
Bitcoin More Than Doubles in Market Cap, Setting All-Time High North of $40bn

Data Source: Coincap
Bitcoin: Key Market Events

Apr 5: Covert use of 'AsicBoost' in mining chips adds fire to scaling debate

Apr 8: 'Antbleed' backdoor discovered in Bitmain's Antminer mining hardware

Apr 9: 'Extension Block' soft fork proposal to raise block size emerges in Bcoin

Apr 13: Massive private equity acquisition rumors spread around Craig Wright's Bitcoin Core alternative nChain

May 10: Litecoin activates SegWit

May 12: 'Wannacry' ransomware attack launched, demanding payment in bitcoin

May 22: Bitcoin smart contract solution RSK announces additional funding and public opening of Ginger production testnet

Jun 7: Bitcoin fees hit all-time high daily average of $5.24

Jun 9: 'Dandelion' proposal created for increased privacy in transaction propagation

Jun 14: Bitcoin announces UAHF contingency plan in event of August 1 UASF

Jun 16: Segwit2x alpha code released

Jun 18: Bitcoin hits all-time low dominance ratio over total blockchain asset market cap at 37.8%

Data Sources: Coindesk, bitcoin price page

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Global Trading Volumes Normalize After Early Q1 Peoples Bank of China Actions on Domestic Exchanges
Global Trading Volume Now Appears More Distributed Than Ever Before

Data Source: CryptoCompare

State of Blockchain – Q2 2017
Exchange Trading Volume Increased Around the Globe in Q2, Bitfinex, Coinbase Lead USD Based Trading

Global Daily Bitcoin Exchange Trading Volume

Top BTC <-> USD Exchanges in Q2:
- Bitfinex
- Coinbase
- Poloniex
- Bitstamp
- Gemini

Data Source: CryptoCompare
Bitcoin Sees Price Rallies From $1,000 to $3,000 Marking the Largest Quarterly $ Gain Ever and Largest % Gain Since 2013

Data Source: CoinDesk bitcoin price page
Hash Rate and Mining Difficulty Grow 40% to All-Time High

Bitcoin Network Security

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Average Hash Rate (TH/s)</th>
<th>QoQ Growth</th>
<th>Average Difficulty</th>
<th>QoQ Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 2016</td>
<td>1.06m</td>
<td>94%</td>
<td>139.82bn</td>
<td>98%</td>
</tr>
<tr>
<td>Q2 2016</td>
<td>1.39m</td>
<td>31%</td>
<td>188.36bn</td>
<td>31%</td>
</tr>
<tr>
<td>Q3 2016</td>
<td>1.59m</td>
<td>14%</td>
<td>216.75bn</td>
<td>15%</td>
</tr>
<tr>
<td>Q4 2016</td>
<td>2.03m</td>
<td>28%</td>
<td>273.07bn</td>
<td>26%</td>
</tr>
<tr>
<td>Q1 2017</td>
<td>3.15m</td>
<td>55%</td>
<td>412.67bn</td>
<td>51%</td>
</tr>
<tr>
<td>Q2 2017</td>
<td>4.40m</td>
<td>39%</td>
<td>584.49bn</td>
<td>42%</td>
</tr>
</tbody>
</table>

Data Source: Blockchain
Notes: Daily data. 'TH/s' is the estimated number of tera hashes (trillions of hashes) per second. 'Difficulty' is a relative measure of how difficult it is to find a new block, which is adjusted periodically as a function of how much hashing power has been deployed. QoQ means 'quarter over quarter' (Q2 2017 vs Q1 2017).
Transaction Fees Continue to Skyrocket, Over 10x More Expensive to Send Bitcoin Than 6 Months Prior

**Bitcoin Transaction Fee Growth**

(Average $ per transaction)

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Average Daily Bitcoin Transaction Fees</th>
<th>QoQ Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q3 2013</td>
<td>$0.08</td>
<td></td>
</tr>
<tr>
<td>Q4 2013</td>
<td>$0.19</td>
<td>125.8%</td>
</tr>
<tr>
<td>Q1 2014</td>
<td>$0.15</td>
<td>-19.6%</td>
</tr>
<tr>
<td>Q2 2014</td>
<td>$0.10</td>
<td>-35.3%</td>
</tr>
<tr>
<td>Q3 2014</td>
<td>$0.09</td>
<td>-4.9%</td>
</tr>
<tr>
<td>Q4 2014</td>
<td>$0.06</td>
<td>-40.8%</td>
</tr>
<tr>
<td>Q1 2015</td>
<td>$0.04</td>
<td>-32.8%</td>
</tr>
<tr>
<td>Q2 2015</td>
<td>$0.04</td>
<td>2.9%</td>
</tr>
<tr>
<td>Q3 2015</td>
<td>$0.06</td>
<td>42.8%</td>
</tr>
<tr>
<td>Q4 2015</td>
<td>$0.06</td>
<td>12.4%</td>
</tr>
<tr>
<td>Q1 2016</td>
<td>$0.08</td>
<td>36.4%</td>
</tr>
<tr>
<td>Q2 2016</td>
<td>$0.13</td>
<td>51.9%</td>
</tr>
<tr>
<td>Q3 2015</td>
<td>$0.18</td>
<td>36.5%</td>
</tr>
<tr>
<td>Q4 2015</td>
<td>$0.24</td>
<td>37.9%</td>
</tr>
<tr>
<td>Q1 2017</td>
<td>$0.62</td>
<td>156.4%</td>
</tr>
<tr>
<td>Q2 2017</td>
<td>$2.41</td>
<td>288.5%</td>
</tr>
</tbody>
</table>

Data Source: Blockchain
Notes: "QoQ" means 'quarter over quarter' (Q2 2017 vs Q1 2017).
Transaction volumes on the bitcoin network have very limited room to grow.

The current state of the bitcoin blockchain:
- Average transaction sizes (≈ 500 bytes)
- Maximum block size limit (≈ 1 MB)
- Average block times (≈ 10 minutes)

Thus:
- ≈ 2,000 transactions fit in each block
- ≈ 144 blocks are found each day
- ≈ 288,000 transactions can be added to its blockchain each day

### Bitcoin Transaction Growth

- **Q3 2013**: 49,042
- **Q4 2013**: 60,280
- **Q1 2014**: 63,991
- **Q2 2014**: 62,639
- **Q3 2014**: 67,260
- **Q4 2014**: 82,724
- **Q1 2015**: 95,344
- **Q2 2015**: 108,910
- **Q3 2015**: 130,834
- **Q4 2015**: 164,488
- **Q1 2016**: 201,595
- **Q2 2016**: 221,018
- **Q3 2016**: 219,624
- **Q4 2016**: 261,710
- **Q1 2017**: 287,098
- **Q2 2017**: **291,091**

*Data Source: Blockchain*
Blocks Have Similarly Reached a Capacity Limit

**Bitcoin Block Size Growth**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Average Daily Bitcoin Block Sizes (MB)</th>
<th>QoQ Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q3 2013</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>Q4 2013</td>
<td>0.16</td>
<td>32.9%</td>
</tr>
<tr>
<td>Q1 2014</td>
<td>0.21</td>
<td>25.3%</td>
</tr>
<tr>
<td>Q2 2014</td>
<td>0.22</td>
<td>7.8%</td>
</tr>
<tr>
<td>Q3 2014</td>
<td>0.25</td>
<td>12.5%</td>
</tr>
<tr>
<td>Q4 2014</td>
<td>0.33</td>
<td>31.6%</td>
</tr>
<tr>
<td>Q1 2015</td>
<td>0.38</td>
<td>14.4%</td>
</tr>
<tr>
<td>Q2 2015</td>
<td>0.42</td>
<td>11.5%</td>
</tr>
<tr>
<td>Q3 2015</td>
<td>0.54</td>
<td>28.4%</td>
</tr>
<tr>
<td>Q4 2015</td>
<td>0.58</td>
<td>7.7%</td>
</tr>
<tr>
<td>Q1 2016</td>
<td>0.71</td>
<td>21.6%</td>
</tr>
<tr>
<td>Q2 2016</td>
<td>0.78</td>
<td>10.8%</td>
</tr>
<tr>
<td>Q3 2016</td>
<td>0.78</td>
<td>-0.9%</td>
</tr>
<tr>
<td>Q4 2016</td>
<td>0.86</td>
<td>10.6%</td>
</tr>
<tr>
<td>Q1 2017</td>
<td>0.93</td>
<td>7.8%</td>
</tr>
<tr>
<td>Q2 2017</td>
<td><strong>0.97</strong></td>
<td><strong>4.6%</strong></td>
</tr>
</tbody>
</table>

Data Source: Blockchain

State of Blockchain – Q2 2017 | 34
Bitcoin’s Scaling Roadmap: Proposals, Timelines, and Current Route

A glimpse into Q3:

- **BIP 91 locks-in**, moving more quickly towards SegWit than the August 1st USAF alternative

- **Bitcoin Cash forks** the network and creates a new blockchain with an entirely new traded asset and blocks above 1 MB

- **SegWit locks in** for bitcoin
2B

ETHEREUM
### Q2 2017 Ethereum Summary

**Ethereum markets explode:**
- Ether rallies over $300, $30bn in total market cap, skyrocketing exchange volume

**Proof of Stake transition:**
- Hybrid models of proof of work and proof of stake for a period introduced

**Dapp sectors grow:**
- Verticals and industries of ethereum dapps and tokens materializes as additional supply enters the market

**Transactions per day crosses bitcoin:**
- Ether transaction volumes skyrocket, passing bitcoin in unique number per day for first time

**Majority of ICOs and new tokens are ETH:**
- Ethereum leads dapp platforms in terms of projects created and funded by far

**ICOs highlight blockchain scaling issues:**
- Bitcoin is not alone in facing network and protocol restrictions and frustrations

Data Source: [CoinDesk](https://coindesk.com)
Ethereum Skyrockets to All-Time High, Exceeds $35bn in Market Cap

Data Source: Coindesk
Ethereum: Key Market Events

Apr 6: Severe vulnerability found in Golem’s GNT token transfer methodology

May 4: Ether’s YTD price return crosses 10x

May 10: Ether, Consensus, and Token Summit conferences prompt numerous announcements

May 20: EEA announces 86 new members

Jun 10: Daily ETH transactions exceed BTC transactions, at 240k to 222k

Jun 16: Ether’s market cap reaches all-time high of 84.5% of bitcoin’s, at $34.4bn to $40.7bn

Jun 28: Miners vote to increase gas limit

Jun 29: Bancor’s BNT ICO sets record of largest ever at $=153m

Jun 29: Transaction numbers, block sizes, gas used hit all-time high amidst ICO boom

Data Sources: CoinDesk, CoinDesk ether price page

State of Blockchain – Q2 2017 | 39
Ether Exchange Trading Volumes Have Grown Massively

Data Sources: Cryptocompare, CoinDesk ether price page
Notes: $ value at the time across all listed currencies and exchanges
Ether Exchange Trading Volumes Exceed Bitcoin For First Time Near Quarter End

Trading Volume Dominance

Data Source: Coinpap

State of Blockchain – Q2 2017
ETH Most Heavily Traded with BTC, KRW Gains Market Share on USD

**Ether Exchange Trading Volume**
Share of Total Volume Across Currencies

- **BTC**
- **USD**
- **KRW**
- **EUR**
- **CNY**
- **AUD**
- **CAD**

Data Source: Cryptocompare

**Q2 2017 Ether Exchange Trading Volume**
Share of Total Volume Across Currencies

- **BTC**
- **USD**
- **KRW**
- **EUR**
- **CNY**
- **CAD**
- **AUD**

**Q1 2017**
- **BTC**: 58.5%
- **USD**: 25.5%
Poloniex Continues to Lead Volume by Large Margin in BTC Markets, Coinbase Leads Narrowly with USD
Transactions on the ethereum network grew 165% from Q1 to Q2 2017

Data Source: Etherscan

State of Blockchain – Q2 2017
Transaction fees on the Ethereum network grew 918% from Q1 to Q2 2017.
Hash Rate Securing the Network Triples as Price and Total Valuation Skyrocket

Ethereum Hash Rate Growth
(Average GH/s per day)

Hashing power on the ethereum network grew 205% from Q1 to Q2 2017

Data Source: Ethereum
Notes: “GH/s” is the estimated number of gigahashes (billions of hashes) per second
Block Sizes Grow to All-Time Highs Amidst Increased Usage

Ethereum Block Size Growth
(Average bytes per block)

Data Source: Etherscan
Addresses on the Ethereum Blockchain Exceed 3 Million, Growing Quicker Than Ever

Total Distinct Ethereum Addresses

Data Source: Etherscan
Notes: Distinct addresses do not directly correlate to unique users, individuals frequently control the private keys to multiple addresses and exchanges frequently control the private keys to addresses that store multiple users’ funds.
Many ICOs Have Returned Tremendously Based on Dollar Prices, But Against Ether or Bitcoin Can Tell an Entirely Different Tale

<table>
<thead>
<tr>
<th>Asset</th>
<th>Ethereum</th>
<th>Augur</th>
<th>Golem</th>
<th>Iconomi</th>
<th>Melonport</th>
<th>First Blood</th>
<th>Digix</th>
<th>SingularDTV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Token</td>
<td>ETH</td>
<td>REP</td>
<td>GNT</td>
<td>ICN</td>
<td>MLN</td>
<td>1ST</td>
<td>DGD</td>
<td>SNGLS</td>
</tr>
<tr>
<td>Market Cap</td>
<td>$28.16bn</td>
<td>$295m</td>
<td>$427m</td>
<td>$360m</td>
<td>$44m</td>
<td>$156m</td>
<td>$166m</td>
<td>$106m</td>
</tr>
<tr>
<td>Price</td>
<td>$294.92</td>
<td>$28.10</td>
<td>$.48</td>
<td>$3.85</td>
<td>$71.66</td>
<td>$1.66</td>
<td>$80.78</td>
<td>$.17</td>
</tr>
<tr>
<td>ICO Price</td>
<td>$.31</td>
<td>$.60</td>
<td>$.01</td>
<td>$.13</td>
<td>$5.80</td>
<td>$.06</td>
<td>$3.24</td>
<td>$.015</td>
</tr>
<tr>
<td>Return</td>
<td>95.035%</td>
<td>4,583%</td>
<td>4,700%</td>
<td>2,862%</td>
<td>1,136%</td>
<td>2,667%</td>
<td>2,393%</td>
<td>1,033%</td>
</tr>
</tbody>
</table>

Sample of protocol and dapp market cap growth:

ICO returns as compared to ETH

Q2

<table>
<thead>
<tr>
<th>ETH</th>
<th>ETH dapps</th>
</tr>
</thead>
<tbody>
<tr>
<td>$28.16bn</td>
<td>$1.56bn</td>
</tr>
<tr>
<td>94.5%</td>
<td>5.5%</td>
</tr>
</tbody>
</table>

Relative share of total shifts towards ETH

Market cap growth:

ETH – 550%
ETH dapps – 346%

Data Source: Coinmarketcap, ICอดest
Notes: Market cap and price as of Q2 2017 (6/30/17), ICO stats calculated per $ prices during ICO dates, not all ETH dapps shown
As Ethereum and Dapp Platforms Persist, The Ecosystem of Dapps and Sectors is Able to Build Out
GNT, REP Remain the Most Widely Held Ethereum Tokens, 1ST Leads by Far in Terms of Average Token Value Held per Address

Data Source: Etherscan, Coinmarketcap, Coincap

Notes: Distinct addresses do not directly correlate to unique users, individuals frequently control the private keys to multiple addresses and exchanges frequently control the private keys to addresses that store multiple users’ funds
3

ENTERPRISE BLOCKCHAINS
Diverse trials, PoCs, and integrations progress:
- Major firms like HP, Thomson Reuters, and the Moscow Stock Exchange have now launched testing and worked through integrations with Corda, Hyperledger Fabric, Sawtooth Lake, and Iroha, and permissioned versions of Ethereum.

FX and post-trade use cases gain traction:
- Cobalt’s DLT based forex post-trade processing network garners interest from Citadel and other 21 beta and launch participants.

Hyperledger Fabric and R3 Corda open beta testing:
- R3 launches Corda beta allowing open usage and testing of platform and tools, Hyperledger Fabric launches beta and release candidate at quarter end.

Ripple grows banking global network, demos ILP:
- Adds 10 financial firms to its network, open-sources Interledger plug-ins for bitcoin and Chain, demos sending a single transaction across 7 ledgers including public and private blockchains, a centralized ledger and a traditional channel.

Hyperledger & EEA memberships blossom:
- Consortia member counts continue rising with involvement from major enterprises, many companies opting to join both groups.

R3 raises largest VC round of the quarter:
- R3 raises $107m comprising 2 of 3 planned tranches of Series A, round comprises 45% of Q2’s total VC funding bringing eyes to Corda.
Permissioned Blockchains: Hyperledger Update

**Hyperledger**

**Sawtooth Lake**

**Case Studies:**

- **Seafood Supply Chain Traceability**
- **Bond Asset Settlement**
- **Marketplace Digital Asset Exchange**

**PoCs:**

- Trade Finance: 7 European banks working with IBM to build a trade finance platform for small- and medium-sized enterprises
- International Transactions: SWIFT, 6 global banks

---

**Fabric**

**PoCs:**

- Trade Finance: Santiago Stock Exchange, Latin America’s third-largest stock exchange, working with IBM
- International Transactions: SWIFT, 6 global banks

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**Iroha**

**PoCs:**

- Central Banking: National Bank of Cambodia working with Soramitsu

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**Burrow**

**Interoperability:**

- Working to get the Ethereum Virtual Machine running on Sawtooth Lake

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**Intro to Hyperledger:**

- **Q1 2017 State of Blockchain**

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Data Source: Hyperledger

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State of Blockchain – Q2 2017 | 54
Permissioned Blockchains: Enterprise Ethereum Alliance Update

7 new working groups
- Newly formed working groups spanning diverse industries
- In addition to a technical steering committee

World’s largest open source blockchain initiative
- Total memberships crosses 150 organizations just 6 months after launch
Permissioned Blockchains: Hyperledger and Enterprise Ethereum Alliance Memberships

6 of the 19 major Hyperledger Premier Members are also members of the Enterprise Ethereum Alliance

Many organizations have now joined both, including:

Traditional Enterprises
- BBVA
- BNY Mellon
- Broadridge
- Deloitte

Blockchain Startups
- Bloq
- ConsenSys
- Gem
- Monax

Data Source: Enterprise Ethereum Alliance, Hyperledger
Token sale supply explodes:
- Global issuers assemble to sell and distribute tokens, with massive deals open and on horizon

ICO deal sizes continue breaking records:
- Numerous ICOs have exceeded the largest blockchain VC deal, several raising over $200m

Few venture capital backed deals:
- Leading raises were for infrastructure based projects, R3, Blockchain, Canaan

ICOs overtake VC as dominant funding source:
- ICO demand matches supply, over 3x the quantity and total of blockchain venture deals

Major returns have followed some ICOs:
- Returns on certain token sales have far exceeded holding bitcoin or ether on short term

Regulation hangs on the horizon:
- Major governmental agencies are still yet to clearly speak out on tokens and crowdsales

A glimpse into Q3:
Filecoin raises $200m+ from accredited investors and in a pre-sale and using the Coinlist platform
Blockchain Funding Grew Dramatically in Q2, ICOs Exceeded VC by Over 3x

Q2 2017 Blockchain Funding

Cumulative ICO
Cumulative VC

ICO
VC

$797m
$235m

Top ICO Deals:
- Bancor - $153m
- Status - $95m
- TenX - $83.1m
- MobileGo - $53.1m

Top VC Deals:
- R3 - $107m
- Canaan - $43.6m
- Blockchain - $40m
- Axoni - $20m

Data Sources: CoinDesk venture capital database, CoinDesk ICO Tracker
Notes: Deals under $100,000 excluded, $ amount at time raised, including only fundraisers ending in 'Q2 2017' (4/1/17 – 6/30/17)
Blockchain ICOs Dramatically Outweighed VC Funding in Both Size and Quantity

**VC Round ($m)**

<table>
<thead>
<tr>
<th>Date</th>
<th>Project</th>
<th>VC Round ($m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8/2017</td>
<td>Canaan</td>
<td>$43.60</td>
</tr>
<tr>
<td>5/11/2017</td>
<td>Avonio</td>
<td>$20.00</td>
</tr>
<tr>
<td>5/22/2017</td>
<td>RSK</td>
<td>$3.50</td>
</tr>
<tr>
<td>5/22/2017</td>
<td>LedgerX</td>
<td>$11.40</td>
</tr>
<tr>
<td>5/23/2017</td>
<td>R3</td>
<td>$107.00</td>
</tr>
<tr>
<td>5/25/2017</td>
<td>BTCS</td>
<td>$1.00</td>
</tr>
<tr>
<td>6/2/2017</td>
<td>OB1</td>
<td>$0.20</td>
</tr>
<tr>
<td>6/8/2017</td>
<td>Stratumn</td>
<td>$7.00</td>
</tr>
<tr>
<td>6/22/2017</td>
<td>Blockchain</td>
<td>$40.00</td>
</tr>
<tr>
<td>6/29/2017</td>
<td>POSabit</td>
<td>$1.50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$235.20</strong></td>
</tr>
</tbody>
</table>

**ICO Round ($m)**

<table>
<thead>
<tr>
<th>Date</th>
<th>Project</th>
<th>ICO Round ($m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/30/2017</td>
<td>Mysterium Network (MYST)</td>
<td>$14.10</td>
</tr>
<tr>
<td>5/31/2017</td>
<td>Basic Attention Token (BAT)</td>
<td>$31.00</td>
</tr>
<tr>
<td>5/31/2017</td>
<td>Exscudo (EON)</td>
<td>$3.30</td>
</tr>
<tr>
<td>6/1/2017</td>
<td>Adel (ADL)</td>
<td>$1.21</td>
</tr>
<tr>
<td>6/2/2017</td>
<td>Embemine (EMB)</td>
<td>$0.08</td>
</tr>
<tr>
<td>6/3/2017</td>
<td>Patientery (PTOY)</td>
<td>$6.52</td>
</tr>
<tr>
<td>6/6/2017</td>
<td>Cofound.it (CFI)</td>
<td>$11.34</td>
</tr>
<tr>
<td>6/6/2017</td>
<td>VOISE (VSM)</td>
<td>$0.41</td>
</tr>
<tr>
<td>6/8/2017</td>
<td>EcoBit (ECOB)</td>
<td>$3.49</td>
</tr>
<tr>
<td>6/9/2017</td>
<td>Zrcoin (ZRC)</td>
<td>$7.01</td>
</tr>
<tr>
<td>6/12/2017</td>
<td>Aira (AIR)</td>
<td>$1.02</td>
</tr>
<tr>
<td>6/12/2017</td>
<td>Bancor (BNT)</td>
<td>$153.00</td>
</tr>
<tr>
<td>6/18/2017</td>
<td>Monaco (MCO)</td>
<td>$10.29</td>
</tr>
<tr>
<td>6/21/2017</td>
<td>Internet of Coins (HYBRID)</td>
<td>$1.10</td>
</tr>
<tr>
<td>6/21/2017</td>
<td>Status (SNT)</td>
<td>$95.00</td>
</tr>
<tr>
<td>6/22/2017</td>
<td>Civic (CVC)</td>
<td>$33.00</td>
</tr>
<tr>
<td>6/23/2017</td>
<td>FootballCoin (XFC)</td>
<td>$2.42</td>
</tr>
<tr>
<td>6/23/2017</td>
<td>OmiseGO (OMG)</td>
<td>$21.00</td>
</tr>
<tr>
<td>6/24/2017</td>
<td>TenX (PAX)</td>
<td>$83.11</td>
</tr>
<tr>
<td>6/25/2017</td>
<td>Wager (WGR)</td>
<td>$9.92</td>
</tr>
<tr>
<td>6/25/2017</td>
<td>CryptoPing (PING)</td>
<td>$0.39</td>
</tr>
<tr>
<td>6/25/2017</td>
<td>iDice (ICE)</td>
<td>$2.02</td>
</tr>
<tr>
<td>6/27/2017</td>
<td>SilverCoin (SVC)</td>
<td>$0.21</td>
</tr>
<tr>
<td>6/28/2017</td>
<td>21 Million (21M)</td>
<td>$0.38</td>
</tr>
<tr>
<td>6/29/2017</td>
<td>DCORP (DRP)</td>
<td>$5.05</td>
</tr>
<tr>
<td>6/30/2017</td>
<td>AdEx (ADX)</td>
<td>$12.31</td>
</tr>
<tr>
<td>6/30/2017</td>
<td>BlockPool (BPL)</td>
<td>$1.75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$797.42</strong></td>
</tr>
</tbody>
</table>

**Notes:** Deals under $100,000 excluded, $ amount at time raised, including only fundraisers ending in ‘Q2 2017’ (4/1/17 – 6/30/17)

**State of Blockchain – Q2 2017**
Massive Q2 2017 Catapults ICO Funding Towards Total Traditional Venture Backing

All-Time Blockchain Funding

<table>
<thead>
<tr>
<th>Year</th>
<th>VC</th>
<th>ICO</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>$2.0bn</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>$1.8bn</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>$1.6bn</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>$1.4bn</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>$1.2bn</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>$1.0bn</td>
<td></td>
</tr>
</tbody>
</table>

Top ICO Deals:
- Bancor - $153m
- The DAO - $152m
- Status - $95m
- TenX - $83.1m

Top VC Deals:
- 21 - $116m*
- R3 - $107m
- Coinbase - $75m
- Digital Asset - $60m

Data Sources: CoinDesk venture capital database, CoinDesk ICO Tracker
Notes: Deals under $100,000 excluded. $ amount at time raised, including only fundraisers ending in ‘Q2 2017’ (4/1/17 – 6/30/17)
*Amount contested and frequently reported between $75m - $116m
Institutional Capital Continues to Flow in, Now Directed Towards Investment into Tokens

A growing wave of new cryptocurrency focused hedge funds must still deal with traditional enterprises including:

- Law firms
- Audit firms
- Banks.

Many of these firms have limited expertise, familiarity, and comfort in dealing with blockchain technology and assets. They are pioneers and writing new rules on what key price indicators for coins are. Hundreds of millions if not billions of dollars are working through the hurdles of deploying institutional and managed capital into blockchain tokens.

20 Institutional Crypto Funds

- Alphabit Fund
- Auryn Capital
- Block View Capital
- Blockchain Capital
- BlockTower Capital
- Brian Kelly Capital Management
- Coinshares 1 LP
- Crypto Asset Fund
- Crypto Assets Fund
- Crypto Lotus
- Cryptocurrency Fund LLP
- General Crypto
- Global Advisors
- Grasshopper Capital
- Metastable Capital
- Pantera Capital
- Placeholder Capital
- Pollinate Capital
- Polychain Capital
- SuperBloom Capital

Data sources: Coindesk, Forbes
Note: Some of the above announced in Q3 2017
Blockchain ICOs Have Raised Dramatically More Funding for Projects than in Any Type of Crowdfunding Prior

### All Crowdfundings

<table>
<thead>
<tr>
<th>Project</th>
<th>Category</th>
<th>Platforms</th>
<th>Amount Raised</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Citizen</td>
<td>Video game</td>
<td>Kickstarter &amp; Independent</td>
<td>$152,000,000</td>
</tr>
<tr>
<td>BasPin</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$103,000,000</td>
</tr>
<tr>
<td>The DAO</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$103,000,000</td>
</tr>
<tr>
<td>Fintor</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$103,000,000</td>
</tr>
<tr>
<td>Coin Market</td>
<td>Other</td>
<td>Independent</td>
<td>$102,911,833</td>
</tr>
<tr>
<td>Text Yus</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$69,000,000</td>
</tr>
<tr>
<td>Kinetic</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$63,500,000</td>
</tr>
<tr>
<td>MobileGo</td>
<td>Blockchain</td>
<td>Ethereum, Waves platform, Independent</td>
<td>$53,049,093</td>
</tr>
<tr>
<td>Cripto-Attivieren Token</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$46,000,000</td>
</tr>
<tr>
<td>Gold</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$23,000,000</td>
</tr>
<tr>
<td>Web3lyte</td>
<td>Kickstarter</td>
<td>Kickstarter</td>
<td>$23,000,000</td>
</tr>
<tr>
<td>Asian Blockchain</td>
<td>Blockchain</td>
<td>Independent, Waves Early Access</td>
<td>$19,000,000</td>
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<td>Surkit</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$18,160,000</td>
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<td>Amaranth</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$18,135,995</td>
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<td>Waves</td>
<td>Blockchain</td>
<td>Independent</td>
<td>$12,636,095</td>
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<tr>
<td>Ethos</td>
<td>Blockchain</td>
<td>Hyipal, blockchain platforms, Independent</td>
<td>$12,664,629</td>
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<tr>
<td>Foundation</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$12,676,000</td>
</tr>
<tr>
<td>Lightnet</td>
<td>Cryptocurrency &amp; hardware</td>
<td>Kickstarter</td>
<td>$10,995,387</td>
</tr>
<tr>
<td>Canvas Edge</td>
<td>Cryptocurrency &amp; hardware</td>
<td>Indiegogo</td>
<td>$10,816,561</td>
</tr>
<tr>
<td>Green</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$10,000,000</td>
</tr>
<tr>
<td>Pernio</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$3,700,000</td>
</tr>
<tr>
<td>Yec</td>
<td>Blockchain</td>
<td>Ethereum, Independent</td>
<td>$2,700,000</td>
</tr>
<tr>
<td>Credit</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$1,700,000</td>
</tr>
<tr>
<td>GalaxPay</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$1,600,000</td>
</tr>
<tr>
<td>Tae</td>
<td>Video game</td>
<td>Kickstarter</td>
<td>$8,906,000</td>
</tr>
<tr>
<td>Enjoy</td>
<td>Video game</td>
<td>Kickstarter</td>
<td>$8,996,674</td>
</tr>
<tr>
<td>Fenix wallet</td>
<td>Other</td>
<td>Independent</td>
<td>$6,100,000</td>
</tr>
<tr>
<td>Interfluent III</td>
<td>Video game</td>
<td>Kickstarter &amp; Independent</td>
<td>$6,330,259</td>
</tr>
<tr>
<td>Software</td>
<td>Software</td>
<td>Kickstarter</td>
<td>$6,200,250</td>
</tr>
<tr>
<td>Xoin</td>
<td>Cryptocurrency &amp; hardware</td>
<td>Kickstarter</td>
<td>$6,205,543</td>
</tr>
<tr>
<td>Moody Abc</td>
<td>Other</td>
<td>Independent</td>
<td>$6,332,954</td>
</tr>
<tr>
<td>Genisys Pool</td>
<td>Software</td>
<td>Kickstarter</td>
<td>$6,320,495</td>
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<tr>
<td>Veritas Memo</td>
<td>Mobile</td>
<td>Kickstarter</td>
<td>$5,703,315</td>
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<tr>
<td>Vet</td>
<td>Software</td>
<td>Kickstarter</td>
<td>$5,700,000</td>
</tr>
<tr>
<td>Bloodstained Ritual of the Night</td>
<td>Video game</td>
<td>Kickstarter</td>
<td>$5,554,995</td>
</tr>
<tr>
<td>Apego</td>
<td>Blockchain</td>
<td>Ethereum</td>
<td>$5,400,000</td>
</tr>
<tr>
<td>The Grid</td>
<td>Other</td>
<td>Independent</td>
<td>$5,268,959</td>
</tr>
<tr>
<td>Project Bring Back Reading Rainbow for Every Child Everywhere</td>
<td>Mobile</td>
<td>Kickstarter</td>
<td>$5,000,000</td>
</tr>
<tr>
<td>Algor</td>
<td>Blockchain</td>
<td>Ethereum, Independent</td>
<td>$3,350,000</td>
</tr>
<tr>
<td>NFTing King Christmas, Every Day &amp; Dollar County</td>
<td>Other</td>
<td>Indiegogo</td>
<td>$3,484,213</td>
</tr>
<tr>
<td>An Hour of Code for Every Student</td>
<td>Other</td>
<td>Kickstarter</td>
<td>$3,740,932</td>
</tr>
<tr>
<td>Matchmaker</td>
<td>Software</td>
<td>Kickstarter</td>
<td>$2,000,000</td>
</tr>
</tbody>
</table>

### Blockchain ICOs

#### Top Blockchain Crowdfunding Projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Funding Round Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rancer</td>
<td>$15.7m</td>
</tr>
<tr>
<td>The DAO</td>
<td>$15.2m</td>
</tr>
<tr>
<td>Status</td>
<td>$9.5m</td>
</tr>
<tr>
<td>TiiXYZ</td>
<td>$9.3m</td>
</tr>
<tr>
<td>MobileGo</td>
<td>$5.3m</td>
</tr>
</tbody>
</table>

### Video Game Crowdfundings

#### Top Video Game Crowdfunding Projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Funding Round Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Star Citizen</td>
<td>$15.3m</td>
</tr>
<tr>
<td>Shroud of the Avatar: Forsaken Virtues</td>
<td>$11.8m</td>
</tr>
<tr>
<td>Caya</td>
<td>$8.6m</td>
</tr>
<tr>
<td>Shamens: III</td>
<td>$6.2m</td>
</tr>
<tr>
<td>Bloodstained: Ritual of the Night</td>
<td>$5.5m</td>
</tr>
</tbody>
</table>

### Kickstarter Crowdfundings

#### Top Kickstarter Crowdfunding Projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Funding Round Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peeble Time</td>
<td>$20.3m</td>
</tr>
<tr>
<td>Coolest Cooler</td>
<td>$13.3m</td>
</tr>
<tr>
<td>Peeble 2</td>
<td>$12.8m</td>
</tr>
<tr>
<td>Kingdom Quest: Monster :S</td>
<td>$12.4m</td>
</tr>
<tr>
<td>Peeble: E-Paper Watch</td>
<td>$10.3m</td>
</tr>
</tbody>
</table>

### Indiegogo Crowdfundings

#### Top Indiegogo Crowdfunding Projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Funding Round Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Hne</td>
<td>$12.1m</td>
</tr>
<tr>
<td>Sanders Electric Bike</td>
<td>$5.9m</td>
</tr>
<tr>
<td>Restore King Chapel Now</td>
<td>$5.0m</td>
</tr>
<tr>
<td>An Hour of Code for Every Student</td>
<td>$5.0m</td>
</tr>
<tr>
<td>Super Troops 2</td>
<td>$4.5m</td>
</tr>
</tbody>
</table>
New CoinDesk ICO Website Tool: ICO Tracker

All-Time ICO Funding

Monthly ICO Funding

Individual ICO Explorer

Download the underlying data or tell us about a previous, ongoing, or upcoming deal!

Data Source: CoinDesk ICO Tracker
5
GOVERNMENT & REGULATION
IMF discusses Central Bank backed Digital Currencies:
- New report dives into blockchain technology, existing financial infrastructure, and how governments may issue their own DLT based representations of currency

China moves to address digital currency industry:
- After intervening into exchange practices in January, government now funds research and long-term plans

Global ecosystem remains unsure about ICO legality:
- Limited comments on tokens from major regulatory bodies worldwide from the perspective of investors, issues, and exchanges

Groups worldwide fund, research, and test blockchain:
- In light of strong opinions and action, most nations and agencies look to continue watching and learning

A glimpse into Q3:
The SEC declares The DAO tokens were securities and the crowdsale was an illegal securities offering
Americas: Mixed Bag of Actions as Regulators Seek to Understand Blockchain and its Applicability to the Existing World

**Apr. 17** – Washington enacts stricter requirements on digital currency businesses, leading to several startups ceasing service in the state

**Apr. 21** – SEC discloses they are examining EtherIndex’s ETF proposal, comprised of ether and custodied by Coinbase

**Apr. 27** – Quebec’s Financial Markets Authority joins R3

**May 25** – Father and son sentenced to 10+ years prison for operating an unlicensed money servicing business using Localbitcoins

**May 25** – New regulation causes commotion around inapplicability of $10k value declaration requirements when crossing borders in a world of cryptocurrency private keys

**Jun. 5** – Nevada Senators approve bill prohibiting a local government from taxing or imposing restrictions upon the use of a blockchain

**Jun. 21** – FBI, CFTC ask for additional funding to further research and surveillance of blockchain technology
Europe: Research Projects and Testing Grow in a Generally Open Environment

**Apr. 11** – European Central Bank re-affirms blockchain and distributed ledger technology remains too immature to be used in the Eurosystem’s market infrastructure

**Apr. 20** – Malta’s government prepares ‘national strategy to promote blockchain’

**Jun. 2** – European Union gives €5m funding to "Tools for the Investigation of Transactions in Underground Markets“ 3 year surveillance project

**Jun. 7** – European Commission launches #Blockchain4EU, research project to analyze blockchain business use cases in the EU, months after €500k blockchain observatory pilot funding

**Jun. 7** – Government owned Swedish power company and 22 other European energy trading firms announce effort to build a peer-to-peer trading system in the wholesale energy market while testing applications of blockchain technology
Asia: Embracing and Moving Forward with Blockchain Technology

**Apr. 17** – Indian government investigating digital currencies and needed regulation, startups ask to be involved in discussions

**May 30** – Monetary Authority of Singapore, numerous domestic banks, and R3 release details of Project Ubin, a recently completed proof of concept focused on tokenizing the Singapore Dollar in a distributed ledger system

**Jun. 1** – China Banking Regulatory Commission publishes paper on opportunities and challenges associated with blockchain technology, advocating for cross-border and industry collaboration as well as creation of a "regulatory sandbox“

**Jun. 21** – National Bank of Cambodia moves ahead with development of more efficient interbank payments solution utilizing Hyperledger Iroha

**Jun. 27** – People’s Bank of China to release 5 year plan to help China's financial industry embrace economic reform and actively push forward the development of new technologies including blockchain
Middle East and Australia: Financial Systems

**Apr. 13** – Reserve Bank of Australia discloses in-house working group to examine blockchain technology

**May 4** – Australian Government reaffirms pledge, consults with fintech advisory group to modify bitcoin’s ‘double taxation’ treatment

**Jun. 7** – Australian government sponsored reports discuss short and long term risk and opportunities of blockchain technology

**Jun. 13** – National Bank of Kazakhstan announces plan to launch mobile app to allow retail investors to buy short-term debt notes, harnessing blockchain technology to cut out brokers
6
Blockchain Sentiment Survey
SPOTLIGHT STUDY
**Q2 2017 Blockchain Sentiment Survey: Demographics – 1,300+ Respondants**

- **17% Executives, 15% Developers, 11% Investors**
- **7% Full-Time Blockchain, 22% Part-Time**
- **5% work at Blockchain Technology Companies, 6% at Investment Services**
- **15% Accredited, 85% Unaccredited investors**

- **40% first bought cryptocurrency in 2017, 16% in 2016, 12% in 2013**
- **Median respondent owned 4 unique digital assets, mean 5.8, top 10% over 12**
- **22% own $10k - $50k worth of cryptocurrency, 20% own $1k - $5k, 16% own $0 - $1k**
- **41% transact a couple times a month, 26% a couple times a week, 14% a couple times a year**

**Data Source:** CoinDesk’s Q2 2017 Blockchain Sentiment Survey
<table>
<thead>
<tr>
<th>Percentage</th>
<th>Statement</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>57%</td>
<td>Feel positive about the current state of bitcoin, up 8% from last quarter</td>
<td>CoinDesk's Q2 2017 Blockchain Sentiment Survey</td>
</tr>
<tr>
<td>58%</td>
<td>Believe digital asset valuations are in a bubble</td>
<td></td>
</tr>
<tr>
<td>80%</td>
<td>Believe bitcoin’s Lightning Network will be live by the end of 2018, with 76% saying the same for ethereum’s Raiden Network</td>
<td></td>
</tr>
<tr>
<td>65%</td>
<td>Feel positive about the current state of ethereum, down 29% from Q1’s euphoria</td>
<td></td>
</tr>
<tr>
<td>72%</td>
<td>Believe bitcoin mining is currently too centralized, and over half believe it will only get worse</td>
<td></td>
</tr>
<tr>
<td>95%</td>
<td>Do not believe ICO issuers should convert funding raised into fiat currency, rather keeping all or some in cryptocurrency</td>
<td></td>
</tr>
</tbody>
</table>
Perceived Knowledge on Top Public Protocols and Assets Far Exceeds Knowledge Around Major Enterprise Oriented Projects

How much do you know about the following?

- **Bitcoin**: 54.15% Almost nothing, 13.14% A bit, 7.26% A lot
- **Ethereum**: 43.86% Almost nothing, 49.32% A bit, 37.35% A lot
- **Enterprise Ethereum Alliance**: 44.75% Almost nothing, 37.54% A bit, 55.38% A lot
- **Ripple**: 47.71% Almost nothing, 30.56% A bit, 21.73% A lot
- **Hyperledger**: 78.2% Almost nothing, 21.73% A bit, 7.26% A lot

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey
Majority Believes We Are in a Digital Asset Valuation Bubble, Largest Group Thinks Only Slightly

Do you believe digital asset valuations are in a 'bubble'?

- 57.9% yes
- 30.0% no

Data Source: CoinDesk's Q2 2017 Blockchain Sentiment Survey

State of Blockchain – Q2 2017
Community is Still Bullish on Public Asset Prices For The Remainder of 2017

How do you think the price will do in the rest of 2017?

- Go down a lot
- Go down a bit
- Stay about the same
- Go up a bit
- Go up a lot

Data Source: CoinDesk's Q2 2017 Blockchain Sentiment Survey
77% Believe the First Digital Asset ETF Will be Live by the End of 2018

When do you think the first digital asset based ETF will be live?

Data Source: CoinDesk's Q2 2017 Blockchain Sentiment Survey
Community Most Confident in Decentralized Exchanges, Privacy Based Applications

What sector of blockchain applications are you most bullish on?

- Decentralized exchanges: 26.17%
- Privacy focused transactions: 20.21%
- Asset management tools: 18.60%
- Identity: 11.76%
- Computation: 9.26%
- Prediction markets: 7.33%
- Storage: 6.68%

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey
Overall Sentiment Towards Bitcoin More Positive than Negative

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey
More Now View Bitcoin as a ‘Digital Currency’ Than a Digital Gold

What do you compare bitcoin most to?

'Digital gold' 42.98%

'Digital currency' 57.02%

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey

Q1 2017 State of Blockchain response:
More chose a ‘digital gold’ than a ‘digital currency’
A Large Majority Believes Bitcoin Should Raise the 1 MB Limit This Year, Half Believe Bitcoin Will Split in 2017

Do you believe bitcoin's maximum block size limit should be raised above 1 MB in 2017?

- Yes: 75.82%
- No: 24.18%

Do you believe bitcoin will experience a contentious hard fork or blockchain split in 2017?

- Yes: 51.18%
- No: 48.82%

A glimpse into Q3:

Bitcoin Cash splits bitcoin into two blockchains – one with blocks above 1 MB

Data Source: CoinDesk's Q2 2017 Blockchain Sentiment Survey
80% of Respondents Believe Bitcoin’s Lightning Network Will be Live by the End of 2018
The Overall Sentiment Towards Ether Fell From Astronomic Highs in Q2 2017, Still Slightly More Positive Than Bitcoin

How do you feel about the current overall state of ethereum?

- Extremely negative: 3.30%
- Moderately negative: 7.71%
- Slightly negative: 11.72%
- Neutral or ok: 12.51%
- Slightly positive: 25.73%
- Moderately positive: 23.76%
- Extremely positive: 57.3%

Overall state of bitcoin response:
- 64.8% positive
- 22.7% negative

Q1 2017 State of Blockchain response:
- 93.8% positive
- 4.2% negative

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey
Sentiment Around Ethereum Dapps Also Fell From Q1 Euphoria, Still Remain Significantly More Positive Than Negative

How do you feel about the current state of ethereum dapps?

- Extremely negative: 3.90%
- Moderately negative: 7.25%
- Slightly negative: 11.23%
- Neutral or ok: 31.05%
- Slightly positive: 16.80%
- Moderately positive: 17.91%
- Extremely positive: 11.86%

Data Source: CoinDesk's Q2 2017 Blockchain Sentiment Survey

Q1 2017 State of Blockchain response:

- 86.5% positive
- 5.4% negative
Ethereum Protocol Seen as Most Positive Part of Ecosystem Today, ICOs, Scaling, and Smart Contract Bugs Seen as Most Concerning

Which of the following do you consider to be the most positive aspect of ethereum today?

- The ethereum protocol: 40.74%
- The Enterprise Ethereum Alliance: 24.98%
- The ethereum dapp ecosystem: 21.34%
- ICOs: 12.93%

Which of the following do you consider to be the most negative aspect of ethereum today?

- ICOs: 32.53%
- Scaling: 30.68%
- Potentially buggy smart contracts: 27.62%
- Transaction fees: 9.18%

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey
76% of Respondents Believe Ethereum’s Raiden Network Will be Live by the End of 2018

When do you think ethereum's Raiden Network will be live?

Data Source: CoinDesk's Q2 2017 Blockchain Sentiment Survey

Bitcoin’s Lightning Network response: 80% by the end of 2018
Both Bitcoin and Ether Mining Seen as Much Too Centralized, Perceived as Significantly Worse in Bitcoin

Do you believe bitcoin mining is currently too centralized?

- Strongly agree: 32.74%
- Moderately agree: 23.99%
- Slightly agree: 14.83%
- Neutral: 3.73%
- Slightly disagree: 2.59%
- Moderately disagree: 2.19%
- Strongly disagree: 0.0%

- Agree: 71.6%
- Disagree: 8.5%

Do you believe ether mining is currently too centralized?

- Strongly agree: 10.32%
- Moderately agree: 16.53%
- Slightly agree: 19.46%
- Neutral: 39.09%
- Slightly disagree: 6.63%
- Moderately disagree: 5.03%
- Strongly disagree: 2.94%

- Agree: 46.3%
- Disagree: 14.6%

Data Source: CoinDesk's Q2 2017 Blockchain Sentiment Survey
Further Centralization is an Issue in Both Bitcoin and Ether, Perceived as Slightly Worse in Bitcoin

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey
61% Had Not Participated in an ICO, But Nearly Half of Them Had Tried or Wanted To

Have you ever participated in an ICO?

- Yes: 39.15%
- No, but I have tried or wanted to: 31.98%
- No, and I have never tried or wanted to either: 29.27%

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey

See how sentiment around ICOs has shifted since our ICO sentiment study we conducted alongside our Q4 2016 State of Blockchain.
Long-Term Investment Dominates Rationale for ICO Participation

If you have taken part in an ICO, what was the primary reason for your participation?

- Investment (long-term holding): 60.06%
- Interest (learning more about and using the technology and product): 21.57%
- Speculation (short-term trade): 18.38%

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey
If you have taken part in an ICO, what have you done with your tokens since (select all that apply)?

- **60.99%** hold all ICO tokens
- **13.76%** sold into bitcoin
- **12.11%** sold into ether
- **7.92%** sold into other tokens
- **5.22%** sold into fiat

Data Source: CoinDesk's Q2 2017 Blockchain Sentiment Survey

See how sentiment around ICOs has shifted since our [ICO sentiment study](https://www.coindesk.com/ico-sentiment-study/) we conducted alongside our [Q4 2016 State of Blockchain](https://www.coindesk.com/q4-2016-state-of-blockchain/).
Lack of Information and Third Party Research Has Kept Out the Most Crowdsale Participants

If you have not taken part in an ICO, what has been the primary reason for your lack of participation?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of information or third party research</td>
<td>41.78%</td>
</tr>
<tr>
<td>Lack of legal or regulatory frameworks or guidance</td>
<td>15.81%</td>
</tr>
<tr>
<td>Lack of attractive investment structures (but have seen attractive projects)</td>
<td>14.90%</td>
</tr>
<tr>
<td>Lack of faith in software and code auditing or potential for bugs</td>
<td>14.59%</td>
</tr>
<tr>
<td>Lack of attractive projects</td>
<td>12.92%</td>
</tr>
</tbody>
</table>

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey

See how sentiment around ICOs has shifted since our [ICO sentiment study](https://coinDesk.com/ico-sentiment-study) we conducted alongside our [Q4 2016 State of Blockchain](https://coinDesk.com/q4-2016-state-of-blockchain).
ICO Participants Look to Use Case as Primary Driver of ICO Analysis

What is the most important factor when analyzing a potential blockchain ICO?

- **Use case**: 38.33%
- **Token valuation and structure (ICO price, allocation to team, future tokens, lock-up, etc.)**: 27.13%
- **Team**: 18.37%
- **Token use**: 9.86%
- **Anticipation (buzz and sentiment around upcoming sale)**: 6.32%

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey

See how sentiment around ICOs has shifted since our ICO sentiment study we conducted alongside our Q4 2016 State of Blockchain.
Community Believes Blockchain Projects Should Structure ICOs With a Cap, in Several Rounds, and With Other Forms of Fundraising in Mind

Data Source: CoinDesk's Q2 2017 Blockchain Sentiment Survey
Notes: “Cap” meaning not raising more than some amount like $10m or 100k ETH in a sale
“Several token sales” meaning similar to startups raising traditional funding in rounds like “Seed”, “Series A”, “Series B”, etc.
“Traditional investment funding” meaning sources like venture capital firms and accredited angel investors

See how sentiment around ICOs has shifted since our [ICO sentiment study](https://www.coindesk.com) we conducted alongside our [Q4 2016 State of Blockchain](https://www.coindesk.com/q4-2016-state-of-blockchain).
The Community is Surprised by ICO Funding Overtaking VC, Strongly Believe it Would Not Have Happened Without Public Token Rally

I am surprised that blockchain ICOs have outpaced VC funding thus far in 2017.

▲ 47.8% agree
▼ 27.0% disagree

Without the price rally in cryptocurrencies early this year, blockchain ICOs would not have raised more than VC.

▲ 70.7% agree
▼ 8.3% disagree

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey

See how sentiment around ICOs has shifted since our ICO sentiment study we conducted alongside our Q4 2016 State of Blockchain
Community Believes Issuers Should Keep Funds Raised in ICOs in Cryptocurrencies, Rather than Sell to Fiat

How do you think ICO issuers should hold the funds raised in a token sale?

- Convert all raised and liquid tokens into fiat: 4.78%
- Keep all funds in cryptocurrencies: 32.43%
- Both (more fiat than cryptocurrency): 19.91%
- Both (more cryptocurrency than fiat): 42.87%

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey
Community Believes Institutional Capital Will Control ICO Rounds Over Retail Investors in the Future

I believe "institutional" money will control blockchain ICOs over "retail" investors in the future.

Disagree 40.52%
Agree 59.48%

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey

See how sentiment around ICOs has shifted since our ICO sentiment study we conducted alongside our Q4 2016 State of Blockchain
The Community Has Mixed Feelings on How Governments Will Treat and Interact With ICOs

Do you believe blockchain ICOs should be regulated like securities?
- Yes: 42.72%
- No: 57.28%

Do you believe the SEC will ever take action against any past ICO?
- Yes: 45.63%
- No: 54.37%

Do you believe regulators will attempt to bring ICOs into a regulatory regime?
- Yes: 92.10%
- No: 8.90%

A glimpse into Q3:
The SEC declares The DAO tokens were securities

Data Source: CoinDesk’s Q2 2017 Blockchain Sentiment Survey
The Community Feels Largely Positive About the Current State of DLT, However Largest Group Feels Just ‘Neutral’ or ‘OK’

How do you feel about the current overall state of Distributed Ledger Technology?

- Extremely negative: 2.78%
- Moderately negative: 3.65%
- Slightly negative: 6.70%
- Neutral or ok: 35.74%
- Slightly positive: 14.70%
- Moderately positive: 18.43%
- Extremely positive: 18.00%

51.1% positive
13.1% negative

Often called ‘DLT’, ‘permissioned’ or ‘enterprise’ blockchains
The Community Overwhelmingly Believes
The World is in for a Future of Bank and Government Backed Digital Assets

Do you believe banks will ever issue their own form of digital asset?
- Yes: 87.74%
- No: 12.26%

Do you believe governments will ever issue their own form of digital asset?
- Yes: 89.91%
- No: 10.09%

Data Source: CoinDesk's Q2 2017 Blockchain Sentiment Survey
Like surveys? We just started featuring them right in the sidebar of all our website pages!

After you’ve answered a question, you can see the current results!

Data Source: CoinDesk's Q2 2017 Blockchain Sentiment Survey
CoinDesk – News, Events, Research and Data for Blockchain Technology

**Headquarters:** Midtown, New York City

**News:** 25 million online readers since 2013

**Events:** 3,000+ attended our 2017 Consensus and Construct conferences in New York City and San Francisco

**Data:** Industry reference points including Bitcoin and Ether prices and Venture Capital and ICO databases

**Paid Research:** 'Blockchains for Insurance' and 'Advances in Blockchain Privacy and Confidentiality' launched YTD
For three years, CoinDesk has analyzed the 'State of Blockchain' in our quarterly industry overview reports. We cover:

- **Technical trends** within the top open-source developer communities
- **Major product updates** from well-funded startups
- **Digital currency market data**, utilization rates, public sentiment and network performance metrics
- **Enterprise adoption** rates and new proofs-of-concept
- **Venture capital**, corporate, and public investment trends
- **Public policy** updates from around the globe
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- Follow us on Twitter: [@CoinDesk](https://twitter.com/CoinDesk)
- Subscribe to our [email newsletters](mailto:) for the latest blockchain news
- If you have data you think should be included in future 'State of Blockchain' reports, email [stateofblockchain@coindesk.com](mailto:stateofblockchain@coindesk.com)
- We also welcome any general feedback you have on the report
- We are the leading events firm in blockchain

- Our annual Construct and Consensus events have attracted thousands of entrepreneurs, investors, executives, regulators, journalists and more to San Francisco and New York City

- Join us in November for the debut of our newest event, Consensus Invest!
6A

RESEARCH FRAMEWORK
A **public blockchain** is an internet protocol that manages the distribution of provably unique data that:

- Acts as a unit of account for transactions on that ledger
- Incentivizes early adopters and developers to use, support and verify the ledger without the need for a trusted intermediary

An **enterprise blockchain** is a distributed ledger that provides:

- Consensus via trusted intermediaries, making digital currencies unnecessary
- Solutions to clients who wish to use cryptographic databases managed and shared by trusted parties

Many companies employ **hybrid** models where they:

- Build on public blockchain infrastructure
- Provide technology for permissioned networks
We believe both public and enterprise blockchains have useful applications, much like the Internet and corporate intranets.

PUBLIC BLOCKCHAINS

- Bitcoin
- Ethereum
- Litecoin

public (inter-)
The internet

GOOGLE
AMAZON

ENTERPRISE BLOCKCHAINS

- ripple
- Qtum Chain
- Hyperledger

private (intra-)
Intranets & IT

ORACLE
IBM
The State of Blockchain Focuses Primarily on Public Blockchains; Enterprise Data is More Opaque

The majority of development work to date has been done using open-source tools and public blockchains like bitcoin and ethereum.

PUBLIC BLOCKCHAINS

- Bitcoin
- Ethereum
- Hyperledger

The Internet

public (inter-)

Google
Amazon

PRIVATE BLOCKCHAINS

- Ripple
- Chain
- Hyperledger

private (intra-)

Intranets & IT

Oracle
IBM
## ‘Public’ (Open) vs ‘Enterprise’ (Permissioned) Blockchains: Generalized Features Comparison

<table>
<thead>
<tr>
<th>PUBLIC</th>
<th>ENTERPRISE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESS</td>
<td>Open read and write</td>
</tr>
<tr>
<td>SPEED</td>
<td>Slower</td>
</tr>
<tr>
<td>SECURITY</td>
<td>Open network</td>
</tr>
<tr>
<td>IDENTITY</td>
<td>Anonymous or pseudonymous</td>
</tr>
<tr>
<td>ASSET</td>
<td>Native assets</td>
</tr>
</tbody>
</table>
### Strengths and Weaknesses of Public Blockchains

We believe public blockchains will have the greatest impact on developing economies (reduced need for trust) and the connected device, IoT economy (immutability, auditability)

<table>
<thead>
<tr>
<th><strong>Strengths</strong></th>
<th><strong>Weaknesses</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Immutable ledger</td>
<td>Irreversible transactions</td>
</tr>
<tr>
<td>Relatively fast settlement time (e.g., 10 minutes or less)</td>
<td>Slow transaction clearing (e.g., 3 – 7 transactions / second)</td>
</tr>
<tr>
<td>Reduced security risks associated with centralization-trusted third party</td>
<td>More vulnerable to attacks (e.g., 51%, spam, DDoS)</td>
</tr>
<tr>
<td>Easy to audit</td>
<td>Reduced privacy</td>
</tr>
<tr>
<td>Reduced need for trust</td>
<td>Energy consumption</td>
</tr>
</tbody>
</table>

Data Sources: [Ethereum](https://www.ethereum.org), [MultiChain](https://multichain.com)

Notes: Ledgers and protocol rules may be changed via forks, although these changes can introduce risks.
When producing market maps and following investment trends, we look for business shifts between these models:

<table>
<thead>
<tr>
<th>PROTOCOL</th>
<th>PUBLIC</th>
<th>ENTERPRISE</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPANY</td>
<td>🚀 Bitcoin 🚀 Ethereum 🚀 Zcash 🚀 Monero 🚀</td>
<td>🚀 Chain 🚀 IBM 🚀 Digital Asset 🚀</td>
</tr>
<tr>
<td>APPLICATION</td>
<td>🚤 bitpay 🚤 coinbase 🚤</td>
<td>🚤 Chain 🚤 IBM 🚤 Digital Asset 🚤</td>
</tr>
</tbody>
</table>

The company layer crosses protocols and is heavily comprised of bitcoin related businesses, while the application layer is dominated by ethereum applications.

Notes: Numerous protocols are also maintained by open source communities, nonprofits like the Ethereum Foundation and consortiums like R3 and Hyperledger.
Entrepreneurs have begun considering blockchain token sales ('ICOs') as fundraising alternatives to traditional venture capital and angel investment.

<table>
<thead>
<tr>
<th>PROTOCOL</th>
<th>ICO</th>
<th>HYBRID</th>
<th>VC</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPANY</td>
<td>🏷️</td>
<td>🏷️</td>
<td>🏷️</td>
</tr>
<tr>
<td>APPLICATION</td>
<td>💰</td>
<td>🌐</td>
<td>🧑‍💼</td>
</tr>
</tbody>
</table>

ICOs rather than VC has driven the development of most public blockchain applications, as well as numerous protocols and companies, a line which is becoming increasingly blurred.

Notes: Numerous protocols are also maintained by companies like the Zerocoin Electric Coin Company, open source communities, non-profits like the Ethereum Foundation and consortiums like Hyperledger.
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