STATE OF BLOCKCHAIN

Q1 2017
## Q1 2017 State of Blockchain:
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Q1 2017 was a major quarter for blockchain.

As the overall market cap set a new all-time high of over $25bn, we saw cryptocurrency prices surging across the board, with major interest in bitcoin, ether, ethereum based dApps and privacy focused protocols.

Transaction volumes on the bitcoin network hit an all-time high as did block sizes and transaction fees, fueling the continuation and urgency of the long-time ‘scaling debate’. The community is also beginning to consider bitcoin more like a ‘digital gold’ and value store than a transactional currency.

Investment and speculation still dominate the markets as new tokens and ICOs flood the ecosystem in increasingly unique and complex structures.

Enterprise blockchains continue to attract the interest of major worldwide financial and technology giants, leading consortia such as Hyperledger and the newly launched Enterprise Ethereum Alliance growing in size and membership quality.

As more and more blockchains, cryptocurrencies, tokens and distributed ledger systems launch and prosper, it’s becoming increasingly obvious that we have created a whole new web of decentralized technologies, forming the backbone of an entirely new economy, information network and source of truth. We have seen a push and trends towards ‘interoperability’ to take full advantage of the diverse innovations across the ecosystem, and projects like the EEA, cosmos and polkadot are now aligned with a commitment to building the technologies to bring together these systems to form the infrastructure of tomorrow.
EXECUTIVE SUMMARY
Cryptocurrencies shatter all-time highs:
- Aggregate market cap breaks $25bn, increasing in pace at end of quarter

Usage increases on major networks:
- Transaction volumes grow across leading blockchain protocols

All eyes remain on scaling solutions:
- The quest to higher transaction throughput on-chain and off-chain continues with SegWit, Lightning, Raiden and enterprise innovation

Permissioned blockchains attract giants:
- Hyperledger membership grows over 130, Enterprise Ethereum Alliance launches with banks, tech firms and ethereum startups

Interoperability emerges as major trend:
- Public and private groups set target for efficient communication between diverse and growing future of co-existing blockchains

Regulation worldwide inches forward:
- U.S. SEC rejects 2 ETFs, PBoC warnings lead to Chinese 'Big 3' instituting fees, Japan sees bitcoin as legal payment method
- Bitcoin used more than ever with 287,000 transactions per day, fees hit all-time highs at $.62 each, periods over $1

- Ethereum transactions rise, ICOs continue, EEA launches, market cap grows over $3.6bn

- Major privacy focused cryptocurrencies grow to combined $1bn market cap as transaction numbers increase

- Initial ethereum dapp use cases emerge, with prediction markets and asset management drawing attention

- Asset class rallies overall as top 10 assets each increase in value, top 40 assets exceed $10m in market cap
Bitcoin and ethereum continued their dominance as the top two public blockchain protocols in Q1 2017

**OUR STUDY**

We surveyed 1,100+ blockchain enthusiasts to illustrate the state of bitcoin and ethereum

**OUR GOALS**

Identify perception around the state of bitcoin:
- scaling proposals and potential hard fork
- transaction fees and confirmation times

Identify perception around the state of ethereum:
- protocol and dapp developments
- enterprise projects and interoperability

Compare perception around bitcoin and ethereum and gauge the overall 'state of blockchain'

Data Source: CoinDesk's Q1 2017 Bitcoin and Ethereum Sentiment Survey
Notes: Expanded upon in Section 2C: Bitcoin & Ethereum Sentiment (Spotlight Study)
### Q1 2017 Bitcoin and Ethereum Sentiment Survey: Key Takeaways

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Sentiment</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>94%</strong></td>
<td>Feel positive about the current state of Ethereum, almost double the amount who feel positive about the state of Bitcoin</td>
<td></td>
</tr>
<tr>
<td><strong>67%</strong></td>
<td>Feel negative about the current state of fees on the bitcoin network, despite transaction numbers hitting all-time highs</td>
<td></td>
</tr>
<tr>
<td><strong>85%</strong></td>
<td>Believe Bitcoin mining is too centralized, Ethereum split during move towards expected proof of stake launch in 2017</td>
<td></td>
</tr>
<tr>
<td><strong>86%</strong></td>
<td>Believe Ethereum can be used as a currency at least just as well as Bitcoin, which is now most related to as a digital gold</td>
<td></td>
</tr>
<tr>
<td><strong>57%</strong></td>
<td>Believe Raiden will be live on Ethereum by year end, faster than Bitcoin’s Lightning Network off-chain scaling proposal</td>
<td></td>
</tr>
<tr>
<td><strong>46%</strong></td>
<td>Believe the EEA launching was the primary driver of ether’s price, more than any development with the protocol or dApps</td>
<td></td>
</tr>
</tbody>
</table>

*Data Source: CoinDesk’s Q1 2017 Bitcoin and Ethereum Sentiment Survey
Notes: Expanded upon in Section 2C, Bitcoin & Ethereum Sentiment (Spotlight Study)*
Q1 2017 Trends: Enterprise Blockchains

- Hyperledger amasses 130 financial and technology giants, multiple frameworks, numerous finance proofs of concept and a healthcare working group

- Enterprise Ethereum Alliance launches with impressive membership list and commitment to public private interoperability

- Enterprises, consortia and working groups continue to launch pilots, R&D labs, proof of concepts, tests and dedicate staff

Data Sources: CoinDesk, Nonprofit
Notes: Expanded upon in Section 3: Enterprise Blockchains
- Venture capital sees north of $100 million invested, primarily in early stage deals, diverse companies and sectors

- ICOs and token sales capture a third of VC funding with major raises on the horizon

- 'Simple Agreement for Future Tokens', 'Pre-ICO' and new structures continue to emerge as early stage fundraising mechanisms spawned by blockchain technology
- People’s Bank of China meets with 'Big 3' and other domestic exchanges to examine trading and withdrawal fees as well as AML/KYC and other regulatory polices, sending global trading volumes and Chinese exchange dominance plummeting.

- US SEC rejects 2 ETFs citing significant unregulated markets.

- UAE Central Bank publishes 'Regulatory Framework For Stored Values and Electronic Payment Systems', prohibiting virtual currencies, later clarifies regulation does not apply to bitcoin.

- Japan set to declare bitcoin a legal payment method.

- ICOs and new token sale structures continue to evolve with limited guidance from industry groups, specialized legal and advisory groups.
**OUR STUDY**

Gauge the viewpoints around bitcoin and blockchain in Iranian and Persian culture

Use local language and communication channels

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**KEY TAKEAWAYS**

- **35%** Used bitcoin and other cryptocurrencies primarily for cross-border payments
- **77%** Believe bitcoin usage will grow over the next 5 years
- **66%** Think the government will be effective in advancing bitcoin and its community
- **63%** Believe bitcoin will make global finance more equitable

Data Source: CoinDesk’s Q1 2017 Iranian Blockchain Sentiment Survey
Notes: Expanded upon in Section 5A: Iranian Blockchain Sentiment
PUBLIC BLOCKCHAINS
### Q1 2017 Public Blockchain Summary

<table>
<thead>
<tr>
<th>Public blockchain assets rally:</th>
<th>Bitcoin dominance falls:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Aggregate market cap breaks $25bn, gains $7.2bn as every top 10 asset rises in value</td>
<td>- Comprises less than 70% of total market cap as ether, smaller assets gain steam</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The quest to scale continues:</th>
<th>ICOs continue to take market share from VC:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- ‘SegWit’ traction rises, hybrid proposals gain support, work on off-chain solutions continues</td>
<td>- Total VC deal volume exceeds $100m, ICOs a third with major deals on horizon</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Global bitcoin trading volume plummets:</th>
<th>Asset class grows in diversity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Chinese trading volume sharply declines in wake of PBoC investigations</td>
<td>- Privacy based protocols, asset management and prediction market based ETH dapps grow</td>
</tr>
</tbody>
</table>
Aggregate Cryptocurrency Market Cap Grows Nearly 40%

Data Source: CoinMarketCap
Top 10 Cryptocurrencies Gain $6.8bn in Market Cap, Lead by Ethereum’s $3.6bn Increase

<table>
<thead>
<tr>
<th>Asset</th>
<th>Symbol</th>
<th>Q1 2017 Market Cap</th>
<th>Q4 2016 Market Cap</th>
<th>$ Increase</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bitcoin</td>
<td>BTC</td>
<td>$17,250,083,356</td>
<td>$15,482,057,104</td>
<td>$1,768,026,252</td>
<td>11.4%</td>
</tr>
<tr>
<td>Ethereum</td>
<td>ETH</td>
<td>$4,334,905,654</td>
<td>$722,829,967</td>
<td>$3,612,075,687</td>
<td>499.7%</td>
</tr>
<tr>
<td>Ripple</td>
<td>XRP</td>
<td>$678,860,144</td>
<td>$237,638,345</td>
<td>$441,221,799</td>
<td>185.7%</td>
</tr>
<tr>
<td>Dash</td>
<td>DASH</td>
<td>$500,978,259</td>
<td>$78,695,538</td>
<td>$422,282,721</td>
<td>536.6%</td>
</tr>
<tr>
<td>Monero</td>
<td>XMR</td>
<td>$298,249,563</td>
<td>$185,582,499</td>
<td>$112,667,064</td>
<td>60.7%</td>
</tr>
<tr>
<td>Litecoin</td>
<td>LTC</td>
<td>$297,013,302</td>
<td>$214,726,272</td>
<td>$82,287,030</td>
<td>38.3%</td>
</tr>
<tr>
<td>Ethereum Classic</td>
<td>ETC</td>
<td>$235,782,788</td>
<td>$127,129,044</td>
<td>$108,653,744</td>
<td>85.5%</td>
</tr>
<tr>
<td>NEM</td>
<td>XEM</td>
<td>$136,275,300</td>
<td>$32,994,492</td>
<td>$103,280,808</td>
<td>313.0%</td>
</tr>
<tr>
<td>Augur</td>
<td>REP</td>
<td>$122,024,100</td>
<td>$41,714,289</td>
<td>$80,309,811</td>
<td>192.5%</td>
</tr>
<tr>
<td>MaidSafeCoin</td>
<td>MAID</td>
<td>$75,015,540</td>
<td>$44,886,080</td>
<td>$30,129,460</td>
<td>67.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$23,929,188,006</strong></td>
<td><strong>$17,168,253,630</strong></td>
<td><strong>$6,760,934,376</strong></td>
<td><strong>39.4%</strong></td>
</tr>
</tbody>
</table>

Data Source: CoinMarketCap

Notes: Top 10 cryptocurrencies shown, ranked by total market cap as of ‘Q1 2017’ (3/31/2017) and ‘Q4 2016’ (1/1/17)
# Top 10 Cryptocurrencies Each Increase in Price, 5 with Double Digit, 5 with Triple Digit Returns

<table>
<thead>
<tr>
<th>Asset</th>
<th>Symbol</th>
<th>Q1 2017 Price</th>
<th>Q4 2016 Price</th>
<th>$ Increase</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bitcoin</td>
<td>BTC</td>
<td>$1,061.72</td>
<td>$963.06</td>
<td>$98.66</td>
<td>10.2%</td>
</tr>
<tr>
<td>Ethereum</td>
<td>ETH</td>
<td>$48.02</td>
<td>$8.26</td>
<td>$39.76</td>
<td>481.4%</td>
</tr>
<tr>
<td>Ripple</td>
<td>XRP</td>
<td>$0.018</td>
<td>$0.007</td>
<td>$0.012</td>
<td>177.6%</td>
</tr>
<tr>
<td>Dash</td>
<td>DASH</td>
<td>$69.60</td>
<td>$11.26</td>
<td>$58.34</td>
<td>518.1%</td>
</tr>
<tr>
<td>Monero</td>
<td>XMR</td>
<td>$20.99</td>
<td>$13.58</td>
<td>$7.41</td>
<td>54.6%</td>
</tr>
<tr>
<td>Litecoin</td>
<td>LTC</td>
<td>$5.89</td>
<td>$4.37</td>
<td>$1.52</td>
<td>34.8%</td>
</tr>
<tr>
<td>Ethereum Classic</td>
<td>ETC</td>
<td>$2.61</td>
<td>$1.45</td>
<td>$1.16</td>
<td>80.0%</td>
</tr>
<tr>
<td>NEM</td>
<td>XEM</td>
<td>$0.015</td>
<td>$0.004</td>
<td>$0.011</td>
<td>313.0%</td>
</tr>
<tr>
<td>Augur</td>
<td>REP</td>
<td>$11.09</td>
<td>$3.79</td>
<td>$7.30</td>
<td>192.6%</td>
</tr>
<tr>
<td>MaidSafeCoin</td>
<td>MAID</td>
<td>$0.17</td>
<td>$0.10</td>
<td>$0.07</td>
<td>67.1%</td>
</tr>
</tbody>
</table>

Data Source: Coinmarketcap
Notes: Top 10 cryptocurrencies shown, ranked by total market cap as of ‘Q1 2017’ (3/31/2017) and ‘Q4 2016’ (1/1/17)
Bitcoin’s Dominance Over Cryptocurrency Market Cap Falls Under 70% as Price Rise Outpaced by Smaller Assets

**Cryptocurrency Market Capitalization**

- **Q4 2016**
  - Bitcoin: $15.5bn
  - Other Cryptocurrencies: $2.2bn

- **Q1 2017**
  - Bitcoin: $17.3bn
  - Other Cryptocurrencies: $8.0bn

**Total Cryptocurrency Market Cap**

- **Non-Bitcoin Market Cap**
- **Bitcoin Market Cap**
- **Bitcoin / Total Market Cap**

Data Source: Coinmarketcap

Notes: Top 10 cryptocurrencies shown, ranked by total market cap as of ‘Q1 2017’ (3/31/2017) and ‘Q4 2016’ (12/31/2017)
Major Assets Move Over 5% Daily
With Majority of Price Movement in March

Q1 2017 Price Movement
Cumulative Return (%) - Top 5 Assets

<table>
<thead>
<tr>
<th>Asset</th>
<th>Symbol</th>
<th>Average Daily Price Movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bitcoin</td>
<td>BTC</td>
<td>2.6%</td>
</tr>
<tr>
<td>Ethereum</td>
<td>ETH</td>
<td>4.7%</td>
</tr>
<tr>
<td>Ripple</td>
<td>XRP</td>
<td>2.9%</td>
</tr>
<tr>
<td>Dash</td>
<td>DASH</td>
<td>5.9%</td>
</tr>
<tr>
<td>Monero</td>
<td>XMR</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

Data Source: CoinCap
Notes: Average day over day price movement (absolute value), only top 5 assets by market cap on Q1 2017 (3/31/17) included
Privacy Based Assets Gain Traction, Cross $1bn in Combined Market Cap

Major Privacy Based Cryptocurrencies
Market Cap Growth

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dash</td>
<td>DASH</td>
<td>$77,511,798</td>
<td>$601,643,183</td>
<td>676%</td>
</tr>
<tr>
<td>Monero</td>
<td>XMR</td>
<td>$186,854,204</td>
<td>$291,472,279</td>
<td>56%</td>
</tr>
<tr>
<td>Zcash</td>
<td>ZEC</td>
<td>$16,554,053</td>
<td>$63,893,938</td>
<td>286%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$280,920,055</td>
<td>$957,009,400</td>
<td>241%</td>
</tr>
</tbody>
</table>

Q1 2017 Market Cap Growth

Data Source: Coincap
Notes: Only top 3 privacy based cryptocurrencies by market cap as of Q1 2017 (3/31/17) included
Privacy Based Assets Increase in Interest, Development and Usage

<table>
<thead>
<tr>
<th>Asset:</th>
<th>Dash (DASH)</th>
<th>Monero (XMR)</th>
<th>Zcash (ZEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website:</td>
<td>🎯</td>
<td>🏆</td>
<td>🕳️</td>
</tr>
<tr>
<td>Launch:</td>
<td>January 2014</td>
<td>April 2014</td>
<td>October 2016</td>
</tr>
<tr>
<td>Privacy Tech:</td>
<td>'InstantSend', 'PrivateSend'</td>
<td>'Ring Signatures'</td>
<td>'ZKSnarks'</td>
</tr>
</tbody>
</table>

Transaction numbers on each blockchain (DASH, XMR, ZEC) has increased

"Project Alchemy" is an effort by ethereum and zcash developers to bring ZKSnarks and private transactions to ethereum. Work is also being done on bringing smart contracts to zcash. Will multiple cryptocurrencies and blockchains co-exist in the future with similar value propositions, or will one win out?

**CoinDesk Research**

Deep dive into privacy tech: 'Advances in Blockchain Privacy & Confidentiality'

Privacy asset intro: Q4 2016 State of Blockchain
Prediction Market Interest Grows With Large Ethereum Dapps

Augur (REP) Market Cap Growth (Q1 2017)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Augur</td>
<td>REP</td>
<td>$42,194,900</td>
<td>$149,912,400</td>
<td>676%</td>
</tr>
</tbody>
</table>

A glimpse into Q2 2017:

On April 24, Gnosis, a prediction market built on ethereum, held a token sale for GNO.

Just over 418,000 (4.18%) of the 10M GNO tokens created were sold to the public for $12.5M worth of ETH ($30 each), immediately valuing all of the tokens at nearly $300M.

In May, GNO crossed $100, valuing all 10M tokens at over $1B.

"Combining the magic of prediction markets with the power of a decentralized network to create a stunningly accurate forecasting tool"

Data Sources: CoinDesk, Augur, Gnosis
Asset Management Interest Grows With Ethereum Dapps, Funds and New Tools

**Iconomi (ICN)**
- Portfolio investment product and management tool
- Raised $10m uncapped ICO in September 2016

**Melonport (MLN)**
- Protocol for asset managers
- Raised $2.9m capped ICO in February 2015
- Planning on second ICO in 2018

A glimpse into Q2 2017:
- ShapeShift launches Prism portfolio management tool
- Token As A Service raises $7.9m ICO for closed end tokenized investment fund

All are ethereum based smart contract systems

Data Sources: Coincap, Smith and Crown, TaaS, Shapeshift
'Interoperability' Emerges as Theme Across Public Blockchains, as Well as With Permissioned Versions, All Still in Early Stages

Polkadot

'Vision for a heterogeneous multi-chain framework'

"We see conservative, high-value chains similar to bitcoin or zcash co-existing alongside lower-value theme-chains and test-nets with zero or near-zero fees. We see fully-encrypted, consortium chains operating alongside and providing services to highly functional and open chains such like ethereum. We see experimental new VM-based chains being used as a means of outsourcing difficult compute problems from a more mature ethereum-like chain or a more restricted bitcoin-like chain."

Cosmos

'Internet of blockchains'

A glimpse into Q2 2017:
Cosmos raises $16.8m ICO in less than 1 hour

EEA

"In partnership with the dedicated and robust Ethereum community, Enterprises are coming together to produce the industry standard, open source, free to use blockchain solutions that will be the foundation for businesses going forward."

Data Sources: Coincap, Cosmos, Polkadot whitepapers, Enterprise Ethereum Alliance
**Q1 2017 Bitcoin Summary**

<table>
<thead>
<tr>
<th>Bitcoin’s value shatters record highs:</th>
<th>Transactions rise despite fees skyrocketing:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Bitcoin’s price breaks all-time high, surpassing $20bn market cap</td>
<td>- An average of 287,000 transactions per day at $0.62 each, filling 92% of block capacity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Blockchain search volume exceeds bitcoin:</th>
<th>Scaling debates rage on:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- ‘Blockchain’ googled more than ever, ‘bitcoin’ still below 2013 around price spike</td>
<td>- SegWit reaches record support, hybrid proposals with block size increases do as well</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2 ETF proposals denied by the SEC:</th>
<th>Global trading volume plummets:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- The Winklevoss’ COIN ETF as well SolidX’s proposed ETF shot down in March</td>
<td>- Chinese trading volume sharply declines in wake of PBoC investigations</td>
</tr>
</tbody>
</table>

Data Source: [CoinDesk](https://coindesk.com)
Bitcoin’s Price Has Tracked 'Bitcoin' and Now 'Blockchain' Search Interest, Nigeria and Ghana Lead in Queries

<table>
<thead>
<tr>
<th>Rank</th>
<th>'Bitcoin'</th>
<th>'Blockchain'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nigeria</td>
<td>Ghana</td>
</tr>
<tr>
<td>2</td>
<td>Ghana</td>
<td>Nigeria</td>
</tr>
<tr>
<td>3</td>
<td>Estonia</td>
<td>Singapore</td>
</tr>
<tr>
<td>4</td>
<td>Slovenia</td>
<td>Hong Kong</td>
</tr>
<tr>
<td>5</td>
<td>South Africa</td>
<td>South Africa</td>
</tr>
<tr>
<td>6</td>
<td>Czechia</td>
<td>Switzerland</td>
</tr>
<tr>
<td>7</td>
<td>Netherlands</td>
<td>Netherlands</td>
</tr>
<tr>
<td>8</td>
<td>Canada</td>
<td>Ukraine</td>
</tr>
<tr>
<td>9</td>
<td>Singapore</td>
<td>Ireland</td>
</tr>
<tr>
<td>10</td>
<td>United States</td>
<td>UAE</td>
</tr>
<tr>
<td>11</td>
<td>Finland</td>
<td>Austria</td>
</tr>
<tr>
<td>12</td>
<td>Sweden</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>13</td>
<td>Latvia</td>
<td>Australia</td>
</tr>
<tr>
<td>14</td>
<td>Austria</td>
<td>Norway</td>
</tr>
<tr>
<td>15</td>
<td>Hong Kong</td>
<td>Canada</td>
</tr>
</tbody>
</table>
Bitcoin Breaks $20bn Market Cap, Soars to All-Time High

Data Source: Coincap
**Bitcoin: Key Market Events**

- **Jan. 6:** PBoC issues public warnings after meeting with major domestic exchanges around operational and regulatory policies.
- **Jan. 19:** 2 of major Chinese ‘Big 3’, Huobi & OkCoin, halt margin trading.
- **Jan. 26:** ‘Big 3’ reveal intent to axe zero fee trading.
- **Feb. 6:** PBoC issues warning to 9 Chinese exchanges regarding foreign exchange and AML regulations.
- **Feb. 9:** Huobi & OkCoin halt withdrawals.
- **Feb. 9:** Numerous Chinese exchanges impose or increase trading fees.
- **Feb. 23:** Bitcoin hits all-time high price.
- **Feb. 16:** BTCC halts withdrawals.
- **Mar. 17:** Major exchanges release Bitcoin Unlimited network split contingency plan.
- **Mar. 23:** Japan set to recognize bitcoin as a legal payment method.
- **Mar. 28:** SolidX’s ETF proposal rejected by the SEC.

Data Sources: Coindesk, bitcoin price page
Bitcoin Outperforms Sovereign Currencies, Alongside Precious Metals

Q1 2017 Increase

- Palladium Ounce
- Silver Ounce
- Bitcoin
- Mexican Peso
- Russian Ruble
- Gold Ounce
- Australian Dollar
- Platinum Ounce
- Japanese Yen
- Indian Rupee
- Thai Baht
- Colombian Peso
- Argentine Peso
- Brazilian Real
- South African Rand
- Swiss Franc
- Swedish Krona
- Euro
- Czech Koruna
- British Pound
- Danish Krone
- New Zealand Dollar
- Chilean Peso
- Canadian Dollar
- Chinese Yuan Renminbi

Data Source: XE Currency

State of Blockchain – Q1 2017
Global Exchange Trading Volumes Plummet After January PBoC Investigations

Global Daily Bitcoin Exchange Trading Volume

Aggregate Trading Volume ($, billions)

$12bn $11bn $10bn $9bn $8bn $7bn $6bn $5bn $4bn $3bn $2bn $1bn

Data Source: CryptoCompare
USD, JPY Increase Market Share, as Big 3 and CNY Dominance Falls

Bitcoin Exchange Trading Volume
(Allocation Across Currencies Traded)

Data Source: CryptoCompare

CoinDesk Research
Intro to 'Big 3' Chinese exchanges and dominance:
Q4 2016 State of Blockchain
Bitcoin Price Volatility Increases, as Price Rises to All-Time High
<table>
<thead>
<tr>
<th>Quarter</th>
<th>High Price</th>
<th>Low Price</th>
<th>Δ ($)</th>
<th>Δ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 2015</td>
<td>$314.59</td>
<td>$177.28</td>
<td>$137.31</td>
<td>77.46%</td>
</tr>
<tr>
<td>Q2 2015</td>
<td>$262.48</td>
<td>$218.27</td>
<td>$44.21</td>
<td>20.25%</td>
</tr>
<tr>
<td>Q3 2015</td>
<td>$309.98</td>
<td>$209.13</td>
<td>$100.85</td>
<td>48.22%</td>
</tr>
<tr>
<td>Q4 2015</td>
<td>$465.50</td>
<td>$237.40</td>
<td>$228.10</td>
<td>96.08%</td>
</tr>
<tr>
<td>Q1 2016</td>
<td>$458.28</td>
<td>$358.77</td>
<td>$99.51</td>
<td>27.74%</td>
</tr>
<tr>
<td>Q2 2016</td>
<td>$768.24</td>
<td>$417.01</td>
<td>$351.23</td>
<td>84.23%</td>
</tr>
<tr>
<td>Q3 2016</td>
<td>$703.69</td>
<td>$552.82</td>
<td>$150.87</td>
<td>27.29%</td>
</tr>
<tr>
<td>Q4 2016</td>
<td>$997.69</td>
<td>$609.38</td>
<td>$388.31</td>
<td>63.72%</td>
</tr>
<tr>
<td>Q1 2017</td>
<td>$1,290.79</td>
<td>$775.98</td>
<td>$514.80</td>
<td>66.34%</td>
</tr>
</tbody>
</table>

Data Source: CoinDesk bitcoin price page
Nodes on the Bitcoin Network Grew 25%, With the Majority in the US and Europe

January 1, 2017: 5,551

March 31, 2017: 6,968

Data Source: Bitnodes, supported by 21
Notes: Background showing nodes online on Q1 2017 (3/31/17)
Hash Rate and Mining Difficulty Follow Price to All-Time High

The hash rate on the bitcoin network grew 55% QoQ and 197% YoY

<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>35%</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>
</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' (Q1 2017 vs Q4 2016), 'YoY' means 'year over year' (Q1 2017 vs Q1 2016)
Transaction Fees Skyrocket, Crossing $1 and Averaging North of $.60 Each

Transaction fees on the bitcoin network grew 155.1% QoQ and 629.4% YoY

Data Source: Blockchain
Notes: ‘QoQ’ means ‘quarter over quarter’ (Q1 2017 vs Q4 2016), ‘YoY’ means ‘year over year’ (Q1 2017 vs Q1 2016)
Transactions Grow 10%, to Over 287,000 Per Day

Bitcoin Transaction Growth
(Average # per day)

Transactions on the bitcoin network grew 9.7% QoQ and 42.4% YoY

Data Source: Blockchain
Notes: ‘QoQ’ means ‘quarter over quarter’ (Q1 2017 vs Q4 2016), ‘YoY’ means ‘year over year’ (Q1 2017 vs Q1 2016)
Blocks Continue to Grow as Transactions Increase, 92% Capacity Accentuates Ongoing Scaling Debate

**Bitcoin Block Size Growth**
(Average MB per block)

<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>0.92</td>
<td>7.7%</td>
</tr>
</tbody>
</table>

Blocks on the bitcoin network grew 7.7% QoQ and 30.8% YoY

Data Source: [Blockchain](https://blockchain.com)
Notes: ‘QoQ’ means ‘quarter over quarter’ (Q1 2017 vs Q4 2016), ‘YoY’ means ‘year over year’ (Q1 2017 vs Q1 2016)
SegWit Support Reaches All-Time High, Approaches 30% BU Support Rises Through Quarter

CoinDesk Research
Intro to SegWit and Bitcoin Unlimited: Q4 2016 State of Blockchain

Hybrid proposals emerge and gain support: Segwit2Mb

A glimpse into Q2 2017:
SegWit at 80% threshold + 2 MB hard fork within 6 months supported by large group of companies and hashing power

Data Source: http://coindance, DCG blog post
2B

ETHEREUM
**Ether’s price soars at quarter end:**
- Ether rallies 500% to north of $4bn market cap, trading volume soars

**Ethereum network grows:**
- Transaction numbers, addresses, hash rates, global searches rise

**Protocol technology marches on:**
- Research and work on Casper, proof of stake, Metropolis and broader scaling continues with few major updates

**Investment increases across ecosystem:**
- Ethereum based dapps, tokens and ICOs see interest from retail and institutional investors in variety of formats

**Public and permissioned interoperability:**
- EEA launches with traditional finance firms and Ethereum startups to work on open-source business-oriented frameworks

**Ecosystem support grows:**
- Wallets, exchanges, investment products and services increase multi-blockchain and token offerings

Data Source: CoinDesk
New CoinDesk Ethereum Website Features

Ethereum Price Charts

Ethereum (24h)

USD ▲ 15.36%

$196.27

Ethereum Guides

Pushed live along with our website redesign

Data Sources: CoinDesk, coindesk

State of Blockchain – Q1 2017 | 42
Ethereum Breaks $4bn Market Cap, Soars to All-Time High

Data Source: Coincap
'Ethereum' Search Interest Spikes as Price Soars

Data Source: Google Trends
Notes: 100% means 100% of the highest search volume on the time scale, all other %s relative to that.
Ethereum: Key Market Events

Jan 5: Rumors emerge regarding the Enterprise Ethereum Alliance

Feb 2: Monax joins Hyperledger, bringing EVM smart contract code across enterprise consortia

Feb 14: Ethereum Foundation publishes R&D update, steadily working towards zk-Snarks, proof of stake and casper

Feb 28: EEA formally launches

Mar 3: Ether approaches all-time high price, set before The DAO hack

Mar 17: Global trading volumes skyrocket

Mar 24: Ether’s market cap totals 25% of bitcoin’s market cap

Data Sources: CoinDesk, CoinDesk ether price page
Ether Exchange Traded Volumes Spike in March as Price Skyrockets

Data Sources: Cryptocompare, CoinDesk ether price page
Notes: $ value at the time across all listed currencies and exchanges
Ether Most Heavily Traded With Bitcoin, USD Continues to Rise
Poloniex Leads Volume by Large Margin with BTC, Coinbase Leads Narrowly with USD

Ether Exchange Trading Volume (BTC)
Share of Total Volume Across Exchanges
- Poloniex
- Kraken
- Bitfinex
- Yobit
- Bittrex

Ether Exchange Trading Volume (USD)
Share of Total Volume Across Exchanges
- Coinbase
- Bitfinex
- Poloniex
- Kraken
- Gemini

Data Source: Coincompare

State of Blockchain – Q1 2017
Transactions on the ethereum network grew 35.8% QoQ and 188.0% YoY

Data Source: Etherscan
Notes: “QoQ” means ‘quarter over quarter’ (Q1 2017 vs Q4 2016), “YoY” means ‘year over year’ (Q1 2017 vs Q1 2016)
Transaction Fees Increase
With Quarter End Price and Transaction Spike

Ethereum Transaction Fee Growth
(Average $ per transaction)

Data Sources: Etheriscap, Coincap
Notes: 'QoQ' means 'quarter over quarter' (Q1 2017 vs Q4 2016), 'YoY' means 'year over year' (Q1 2017 vs Q1 2016), assuming 21,000 gas per ethereum transaction, based on $ value at time
Hash Rate Nearly Doubles, Follows Price to All-Time Highs

The hash rate on the ethereum network grew **74.5% QoQ** and **1,055.1% YoY**

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

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Average Daily Ether Hash Rate (GH/s)</th>
<th>QoQ Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q3 2015</td>
<td>280</td>
<td></td>
</tr>
<tr>
<td>Q4 2015</td>
<td>445</td>
<td>59.0%</td>
</tr>
<tr>
<td>Q1 2016</td>
<td>867</td>
<td>94.7%</td>
</tr>
<tr>
<td>Q2 2016</td>
<td>2,307</td>
<td>223.8%</td>
</tr>
<tr>
<td>Q3 2016</td>
<td>4,547</td>
<td>62.0%</td>
</tr>
<tr>
<td>Q4 2016</td>
<td>5,736</td>
<td>26.2%</td>
</tr>
<tr>
<td>Q1 2017</td>
<td><strong>10,011</strong></td>
<td><strong>74.5%</strong></td>
</tr>
</tbody>
</table>

Data Source: [Etherscan](https://etherscan.io)

Notes: Daily data. ‘GH/s’ is the estimated number of gigahashes (billions 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’ (Q1 2017 vs Q4 2016), ‘YoY’ means ‘year over year’ (Q1 2017 vs Q1 2016).
Ethereum Block Size Growth
(Average bytes per block)

Unlike bitcoin, the maximum ethereum block size is not fixed

CoinDesk Research
Intro to ethereum blockchain:
Understanding Ethereum

Data Source: Etherscan
Over 1 Million Distinct Addresses on the Ethereum Blockchain

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
Ethereum Dapps Continue to ICO and Grow, Gaining Collective Market Cap Versus Underlying Protocol and Asset

<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>$4.33bn</td>
<td>$122m</td>
<td>$66m</td>
<td>$48m</td>
<td>$19m</td>
<td>$29m</td>
<td>$37m</td>
<td>$29m</td>
</tr>
<tr>
<td>Price:</td>
<td>$48.02</td>
<td>$11.09</td>
<td>$.08</td>
<td>$.55</td>
<td>$32.08</td>
<td>$.34</td>
<td>$18.53</td>
<td>$.05</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>15,552%</td>
<td>1,741%</td>
<td>672%</td>
<td>335%</td>
<td>453%</td>
<td>432%</td>
<td>473%</td>
<td>219%</td>
</tr>
</tbody>
</table>

Data Source: Coinmarketcap, ICOstats
Notes: Market cap and price as of Q1 2017 (3/31/17), ICO stats calculated per $ prices during ICO dates, not all ETH-dapps shown

A glimpse into Q2 2017:
In April, Gnosis held a token sale for GNO.
Just over 418,000 of 10M GNO tokens were sold to the public for $12.5M, immediately valuing all of the tokens at nearly $300M, catapulting Gnosis into a top ETH dapp position.
In May, GNO crossed $100, valuing all 10M tokens at over $1B.
Early Ethereum Dapp Ecosystem Begins Taking Shape as Developers and Investors Support Initial Sectors

<table>
<thead>
<tr>
<th>Dapp:</th>
<th>Augur</th>
<th>Gnosis</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><img src="image1" alt="Augur" /></td>
<td><img src="image2" alt="Gnosis" /></td>
<td><img src="image3" alt="Golem" /></td>
<td><img src="image4" alt="Iconomi" /></td>
<td><img src="image5" alt="Melonport" /></td>
<td><img src="image6" alt="First Blood" /></td>
<td><img src="image7" alt="Digix" /></td>
<td><img src="image8" alt="SingularDTV" /></td>
</tr>
<tr>
<td>Token:</td>
<td>REP</td>
<td>GNO</td>
<td>GNT</td>
<td>ICN</td>
<td>MLN</td>
<td>1ST</td>
<td>DGD</td>
<td>SNGLS</td>
</tr>
<tr>
<td>Use Case:</td>
<td>Prediction Markets</td>
<td>Prediction Markets</td>
<td>Computation</td>
<td>Asset Management</td>
<td>Asset Management</td>
<td>Gaming</td>
<td>Commodity Backed</td>
<td>Entertainment</td>
</tr>
</tbody>
</table>

**Ethereum ETH**

- **Prediction Markets**
  - Augur (REP)
  - Gnosis (GNO)
- **Computation**
  - Golem (GNT)
- **Asset Management**
  - Iconomi (ICN)
  - Melonport (MLN)

**CoinDesk Research**

Intro to ethereum dapps: Understanding Ethereum
REP Most Widely Distributed Ethereum Token
Followed by GNT, ICN

Hundreds of millions of dollars of wealth in Ethereum dapp tokens lay across less than 20,000 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
ICN Wealth Concentrated with Few Holders, REP More Distributed

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
2C

BITCOIN AND ETHEREUM SENTIMENT

SPOTLIGHT STUDY
The following scale and color system is used extensively throughout:

Data Source: CoinDesk's Q1 2017 Bitcoin and Ethereum Sentiment Survey

25 questions on bitcoin sentiment, covering:
- Bitcoin Core and Segregated Witness
- Bitcoin Unlimited and a bitcoin hard fork
- Transaction fees and the Lightning Network
- ETFs and price predictions

15 questions on ethereum sentiment, covering:
- The Enterprise Ethereum Alliance launch
- Co-existing public and permissioned networks
- Dapp and token growth
- Proof of stake and Raiden timing predictions

10 questions on broader demographics, covering:
- Digital asset portfolio insights
- Transaction frequency and usage habits
- Mining centralization viewpoints
- Industry familiarity
Our Bitcoin and Ethereum Sentiment Study Respondents Were Diverse in Terms of Geography, Work and Cryptocurrency Experience

- U.S. & Canada: 42%
- Europe: 41%
- Asia: 8%
- Central & South America: 3%
- Africa: 2%

When did you acquire your first cryptocurrency?

- 2009: 3.9%
- 2010: 4.4%
- 2011: 6.6%
- 2012: 10.7%
- 2013: 21.2%
- 2014: 11.0%
- 2015: 11.7%
- 2016: 10.2%
- 2017: 10.4%
- Never: 1.1%

How frequently do you make cryptocurrency transactions?

- Couple times a day: 10.1%
- Couple times a week: 28.6%
- Couple times a month: 40.5%
- A couple times a year: 14.8%
- Less than couple times a year: 3.8%
- Never: 2.3%

20% work on blockchain projects for the majority of their time

Data Source: CoinDesk’s Q1 2017 Bitcoin and Ethereum Sentiment Survey
### Q1 2017 Bitcoin and Ethereum Sentiment Survey: Key Takeaways

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>94%</td>
<td>Feel positive about the current <strong>state of ethereum</strong>, almost double the amount who feel positive about the <strong>state of bitcoin</strong></td>
</tr>
<tr>
<td>67%</td>
<td>Feel <strong>negative about the current state of fees on the bitcoin network</strong>, despite transaction numbers hitting all-time highs</td>
</tr>
<tr>
<td>85%</td>
<td>Believe <strong>bitcoin mining is too centralized, ethereum split</strong> during move towards expected 2017 proof of stake launch</td>
</tr>
<tr>
<td>86%</td>
<td>Believe <strong>ethereum can be used as a currency</strong> at least just as well as bitcoin, which is now most related to as a <strong>digital gold</strong></td>
</tr>
<tr>
<td>57%</td>
<td>Believe <strong>Raiden will be live on ethereum by year end, faster than bitcoin’s Lightning Network off-chain scaling proposal</strong></td>
</tr>
<tr>
<td>46%</td>
<td>Believe the <strong>EEA launching was the primary driver of ether’s price</strong>, more than any development with the protocol or dapps</td>
</tr>
</tbody>
</table>

Data Source: CoinDesk’s Q1 2017 Bitcoin and Ethereum Sentiment Survey
Sentiment Towards Bitcoin Split, Ethereum Extremely Positive

How do you currently feel about the overall 'state of bitcoin'?

- Extremely positive: 15.0%
- Moderately positive: 22.5%
- Slightly positive: 11.6%
- Neutral or ok: 6.0%
- Slightly negative: 12.2%
- Moderately negative: 20.8%
- Extremely negative: 11.8%

49.2% positive
44.8% negative

How do you currently feel about the overall 'state of ethereum'?

- Extremely positive: 68.9%
- Moderately positive: 21.9%
- Slightly positive: 3.1%
- Neutral or ok: 2.0%
- Slightly negative: 1.1%
- Moderately negative: 1.3%
- Extremely negative: 1.8%

93.8% positive
4.2% negative

Data Source: CoinDesk's Q1 2017 Bitcoin and Ethereum Sentiment Survey
Bitcoin Most Frequently Related to 'Digital Gold', Large Majority Believes Ether Can Function Just as Well as a 'Currency'
Sentiment Towards Bitcoin Network Fees and Speed Increasingly Negative as Users Begin Paying North of $1 per Transaction

67.2% responded negatively, as average transaction fees exceeded $1 in Q1

Data Sources: CoinDesk’s Q1 2017 Bitcoin and Ethereum Sentiment Survey, Blockchain
Majority Cites 20¢ as Max Bitcoin Fee They Would Pay, Transaction Data Suggests Otherwise

Over 50% responded they would not pay over 20 cents, however the number of transactions hit an all-time high despite fees averaging over 60 cents

Data Sources: CoinDesk’s Q1 2017 Bitcoin and Ethereum Sentiment Survey, Blockchain
The Community Remains Split on SegWit Activation and Bitcoin Hard Fork Likelihood

Do you believe we will see a contentious hard fork of bitcoin into Bitcoin Unlimited ('BTU') and Bitcoin Core ('BTC')?

- Yes: 46.8%
- No: 53.2%

What do you think is the probability SegWit activates after signaling by 95% of bitcoin blocks in a 2,046 block period by Nov. 15, 2017?

- 0% - 10%: 23.9%
- 10% - 20%: 10.4%
- 20% - 30%: 10.0%
- 30% - 40%: 5.5%
- 40% - 50%: 2.5%
- 50% - 60%: 9.0%
- 60% - 70%: 7.6%
- 70% - 80%: 12.7%
- 80% - 90%: 8.6%
- 90% - 100%: 9.8%

Data Source: CoinDesk's Q1 2017 Bitcoin and Ethereum Sentiment Survey
The Community Favors a Combination of SegWit and a Block Size Increase as Opposed to Either Side Alone

What do you believe to be the best short-term scaling strategy?

- Combination: 42.7%
- SegWit: 36.1%
- Block size increase: 21.2%

Data Source: CoinDesk's Q1 2017 Bitcoin and Ethereum Sentiment Survey
The Majority of the Community Supports Lightning Network and About Half Expect it Live in 2018

Do you support 'off-chain' scaling solutions like the Lightning Network?

- Yes: 82.0%
- No: 18.0%

When do you think the Lightning Network will be live on bitcoin?

- 2017: 19.2%
- 2018: 49.8%
- 2019: 11.7%
- 2020 or later: 19.2%

Data Source: CoinDesk’s Q1 2017 Bitcoin and Ethereum Sentiment Survey
The Majority Believes That a Bitcoin ETF Will Be Live By 2020

When do you think the first bitcoin ETF will be live?

- 2017: 4.6%
- 2018: 18.1%
- 2019: 18.7%
- 2020: 27.5%
- 2021: 4.2%
- 2022: 4.0%
- 2023: 0.4%
- 2024: 1.0%
- 2025 or later: 21.5%

Data Source: CoinDesk's Q1 2017 Bitcoin and Ethereum Sentiment Survey
While Bitcoin and Ethereum Both Employ Proof of Work, Concern Over Bitcoin Mining Centralization Far Outweighs Ethereum

**Do you believe mining is currently too centralized?**

- **Bitcoin**:
  - Strongly agree: 46.9%
  - Moderately agree: 24.2%
  - Slightly agree: 13.5%
  - It's ok: 10.7%
  - Slightly disagree: 1.1%
  - Moderately disagree: 1.7%
  - Strongly disagree: 2.0%
  - **Total Agree (Strongly & Moderately): 71.1%**
  - **Total Disagree (Slightly & Strongly): 10.0%**

- **Ethereum**:
  - Strongly agree: 7.5%
  - Moderately agree: 11.4%
  - Slightly agree: 20.2%
  - It's ok: 41.2%
  - Slightly disagree: 6.4%
  - Moderately disagree: 7.5%
  - Strongly disagree: 5.6%
  - **Total Agree (Strongly & Moderately): 28.9%**
  - **Total Disagree (Slightly & Strongly): 31.6%**

**84.6% agree**

**4.8% negative**

**39.2% agree**

**19.6% negative**

*Data Source: CoinDesk's Q1 2017 Bitcoin and Ethereum Sentiment Survey*
The Future Appears More Centralized for Bitcoin Mining, While Ethereum Leans Towards Decentralization

How do you believe mining will evolve in the future?

- Much more decentralized: 4.6%
- Moderately more decentralized: 4.5%
- Slightly more decentralized: 9.9%
- About the same level of decentralization: 21.5%
- Slightly more centralized: 18.7%
- Moderately more centralized: 17.0%
- Much more centralized: 23.9%

19.0% decentralized
59.6% centralized

How do you believe mining will evolve in the future?

- Much more decentralized: 20.0%
- Moderately more decentralized: 13.9%
- Slightly more decentralized: 12.8%
- About the same level of decentralization: 21.9%
- Slightly more centralized: 14.3%
- Moderately more centralized: 9.8%
- Much more centralized: 7.3%

46.8% decentralized
31.4% centralized

Data Source: CoinDesk’s Q1 2017 Bitcoin and Ethereum Sentiment Survey
The Community is Extremely Positive About the Early Stages of Ethereum Dapps

86.5% feel positive about the current state of ethereum dapps

How do you currently feel about the overall 'state of ethereum dapps'?

- Extremely positive: 33.3%
- Moderately positive: 35.8%
- Slightly positive: 17.4%
- Neutral or ok: 8.0%
- Slightly negative: 1.6%
- Moderately negative: 2.2%
- Extremely negative: 1.6%

Date Source: CoinDesk's Q1 2017 Bitcoin and Ethereum Sentiment Survey
The Majority of the Community Expects Proof of Stake to be Live on Ethereum in 2018

When do you think proof of stake will be live on ethereum?

- **by Sep. 31, 2017**
  - 8.2%
- **by Dec. 31, 2017**
  - 20.8%
- **by Mar. 31, 2018**
  - 26.2%
- **by Jun. 31, 2018**
  - 19.5%
- **by Sep. 31, 2018**
  - 8.9%
- **by Dec. 31, 2018**
  - 9.3%
- **by Dec. 31, 2019**
  - 4.1%
- **2020 or later**
  - 3.0%

Data Source: CoinDesk’s Q1 2017 Bitcoin and Ethereum Sentiment Survey
The Majority of the Community Supports Raiden and Expect it Live this Year

Do you support 'off-chain' scaling solutions like Raiden?

- Yes: 85.4%
- No: 14.6%

When do you think Raiden will be live on Ethereum?

- 2017: 57.3%
- 2018: 30.0%
- 2019: 6.9%
- 2020: 5.8%
The Community Spends More Time Thinking About the Ethereum Protocol than Ethereum Applications or Other Projects

What do you spend more of your time reading and thinking about?

- Ethereum - for example, Casper, moving from proof of stake to proof of work and the decentralization of miners
- Ethereum dapps - for example, what’s going on at augur, golem and first blood
- Other protocols and projects - for example, bitcoin, ripple, zcash, monero, dash and hyperledger

Date Source: CoinDesk’s Q1 2017 Bitcoin and Ethereum Sentiment Survey
The Community Believes the Launch of the EEA Drove Ether’s Price Moreso Than Developments with the Protocol, Dapps or Other Cryptocurrencies

What do you believe fueled ether's recent price rally most greatly?

- The announcement of the EEA: 46.4%
- Continued progress towards Metropolis, Casper and proof of stake: 22.5%
- Flight from bitcoin due to hard fork concerns: 20.4%
- Continued progress on ethereum dapps: 5.7%
- Flight from bitcoin due to ETF rejections: 5.0%

Data Source: CoinDesk's Q1 2017 Bitcoin and Ethereum Sentiment Survey
The Future of Co-Existing Public and Permissioned Blockchains, With Traditional Tech and Finance Involvement Feels Imminent and Welcomed

Do you see a future of co-existing and interconnected public and 'private' or 'permissioned' blockchains?

- Yes: 91.4%
- No: 8.6%

How do you feel about large traditional financial and tech firms becoming involved with 'permissioned' versions of Ethereum?

- Extremely positive: 50.1%
- Moderately positive: 24.0%
- Slightly positive: 11.8%
- Neutral or ok: 7.8%
- Slightly negative: 2.2%
- Moderately negative: 1.8%
- Extremely negative: 2.2%

86.0% of respondents felt positive about traditional company involvement with Ethereum.

Data Source: CoinDesk’s Q1 2017 Bitcoin and Ethereum Sentiment Survey
The Launch of the EEA Seen As Positive For Both Permissioned and Public Ethereum, As Well as Rest of Industry

How positive do you believe the EEA is for the following?

- **Ethereum**:
  - 66.7% positive
  - 21.1% neutral
  - 5.2% negative

- **All public blockchains**:
  - 30.4% positive
  - 27.8% neutral
  - 23.4% negative
  - 13.7% very negative

- **All 'permissioned' blockchains**:
  - 28.9% positive
  - 25.6% neutral
  - 21.9% negative
  - 16.2% very negative

- **Hyperledger**:
  - 16.3% positive
  - 20.0% neutral
  - 19.3% negative
  - 31.2% very negative
  - 6.2% very very negative

- **Bitcoin**:
  - 7.0% positive
  - 10.6% neutral
  - 17.6% negative
  - 29.8% very negative
  - 13.3% very very negative
  - 11.9% very very very negative
  - 9.8% very very very very negative

- **Ethereum Classic**:
  - 5.7% positive
  - 8.9% neutral
  - 34.5% negative
  - 11.4% very negative
  - 12.2% very very negative
  - 23.4% very very very negative

Data Source: CoinDesk’s Q1 2017 Bitcoin and Ethereum Sentiment Survey
Notes: Labels with less than 5% excluded
Community is Extremely Impressed with the Quality and Depth of the EEA Membership List

Do you believe the EEA has a more impressive membership list than any other group in blockchain?

- Yes: 83.9%
- No: 16.1%

Data Source: CoinDesk’s Q1 2017 Bitcoin and Ethereum Sentiment Survey
Early Q2 Price Performance Exceeds Community Expectations

What do you think the price of bitcoin will be on December 31, 2017?

What do you think the price of ether will be on December 31, 2017?

Average: $1,701

Average: $128

A glimpse into Q2 2017:

Bitcoin breaks $2,500 and ether breaks $230 in May

Data Source: CoinDesk’s Q1 2017 Bitcoin and Ethereum Sentiment Survey
Coindesk’s bitcoin and ether price pages
Notes: Majority of responses received in mid-April 2017 (BTC at ≈$1,200, ETH at ≈$550,
x-axis represents range of allowed responses

State of Blockchain – Q1 2017 | 80
ENTERPRISE BLOCKCHAINS
Q1 2017 Enterprise Blockchain Summary

Hyperledger expands projects and members:
- 4 top level frameworks including EVM code, 130 members, proof of concepts in finance and working groups in healthcare

Enterprise Ethereum Alliance is born:
- EEA launches with major membership list, focused on permissioned ethereum with interoperability with public blockchain

Corporates expand staffing, R&D labs:
- Enterprises, consortia and working groups continue launching pilots, PoCs and tests

Ripple expands to Japan, completes pilot:
- Mitsubishi joins board, 47 bank consortia implements cloud-based payments pilot

R3 continues diverse tests:
- Demos ethereum applications, commercial paper programs, gears up for large raise

DTCC expands DLT settlement trials:
- Eying REPO market, working with startups including Digital Asset and R3

CoinDesk Research
Enterprise Ecosystem Overview:
Q4 2016 State of Blockchain
Hyperledger Sawtooth
Hyperledger Sawtooth is a modular platform for building, deploying, and running distributed ledgers. Hyperledger Sawtooth includes a novel consensus algorithm, Proof of Elapsed Time (PoET), which targets large distributed validator populations with minimal resource consumption.

Hyperledger Iroha
Hyperledger Iroha is a business blockchain framework designed to be simple and easy to incorporate into infrastructural projects requiring distributed ledger technology.

Hyperledger Fabric
Intended as a foundation for developing applications or solutions with a modular architecture. Hyperledger Fabric allows components, such as consensus and membership services, to be plug-and-play.

Hyperledger Burrow
Hyperledger Burrow is a permissionless smart contract machine. The first of its kind when released in December, 2014, Burrow provides a modular blockchain client with a permissionless smart contract interpreter built in part to the specification of the Ethereum Virtual Machine (EVM).

- 'Umbrella' organization with multiple open-source frameworks and tool sets
- Several financial PoCs
- Healthcare working group
- Over 130 members

Data Source: Hyperledger
Permissioned Blockchains: Enterprise Ethereum Alliance

- Launched in February
- Consortia of traditional financial and tech giants as well as blockchain startups
- Open-source standard for industry
- Targeting interoperability with public ethereum

LAUNCH MEMBERS

Data Source: Enterprise Ethereum Alliance

A glimpse into Q2 2017:
- EEA adds 80+ new members
4

INVESTMENT
Diverse companies receive funding:
- Mining, cross-border payment, exchange and storage sectors receive funding

Chinese investment dominates:
- Largest VC deal, Bitfury, and ICO, Qtum, were China based projects

Seed and Series A VC deals lead:
- Early stage fundraisings comprised much of deal flow, only Veem and Bitfury were later

Large ICOs on the horizon:
- Year begins relatively slowly as numerous deals eye Q2 launch

ICO structures evolve:
- Pre-ICOs, Dutch auctions, accreditation, 'SAFTs' and new mechanisms spread

ICO receive additional guidance:
- Advisory firms, legal groups and other services being advising projects on token sales

Data Source: Coindesk
Venture Capital Tops $107m, ICOs Follow with a Third of Volume, Large Deals on Horizon

**CoinDesk Research**

**ICO perspectives and community viewpoints:**

Q4 2016 State of Blockchain, ICO Spotlight Study

Data Sources: CoinDesk venture capital database, Smith and Crown
Notes: Deals under $100,000 excluded, $ amount at time raised, including only fundraisers ending in 'Q1 2017' (1/1/17 – 3/31/17)
### Q1 2017 Venture Capital

<table>
<thead>
<tr>
<th>Date</th>
<th>Project</th>
<th>VC Round ($m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/3/2017</td>
<td>Bitpagos</td>
<td>$1.93</td>
</tr>
<tr>
<td>1/4/2017</td>
<td>Blockstack</td>
<td>$4.00</td>
</tr>
<tr>
<td>1/11/2017</td>
<td>Qtum</td>
<td>$1.03</td>
</tr>
<tr>
<td>1/17/2017</td>
<td>SatoshiPay</td>
<td>$0.68</td>
</tr>
<tr>
<td>1/17/2017</td>
<td>NeuFund</td>
<td>$2.00</td>
</tr>
<tr>
<td>1/19/2017</td>
<td>CoolBitX</td>
<td>$0.20</td>
</tr>
<tr>
<td>1/30/2017</td>
<td>Bitfury</td>
<td>$30.00</td>
</tr>
<tr>
<td>1/30/2017</td>
<td>Bitpesa</td>
<td>$2.50</td>
</tr>
<tr>
<td>2/7/2017</td>
<td>Hashed Health</td>
<td>$1.85</td>
</tr>
<tr>
<td>2/9/2017</td>
<td>Coinfirm</td>
<td>$0.70</td>
</tr>
<tr>
<td>2/22/2017</td>
<td>Bitbond</td>
<td>$1.23</td>
</tr>
<tr>
<td>2/23/2017</td>
<td>Storj</td>
<td>$3.00</td>
</tr>
<tr>
<td>3/6/2017</td>
<td>Cambridge Blockchain</td>
<td>$2.00</td>
</tr>
<tr>
<td>3/8/2017</td>
<td>Veem</td>
<td>$24.00</td>
</tr>
<tr>
<td>3/29/2017</td>
<td>ShapeShift</td>
<td>$10.40</td>
</tr>
<tr>
<td>3/30/2017</td>
<td>Ledger</td>
<td>$7.00</td>
</tr>
<tr>
<td>3/30/2017</td>
<td>Filament</td>
<td>$15.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$107.43</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Q1 2017 ICOs

<table>
<thead>
<tr>
<th>Date</th>
<th>Project</th>
<th>ICO Round ($m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/6/2017</td>
<td>Wings (WINGS)</td>
<td>$2.07</td>
</tr>
<tr>
<td>2/12/2017</td>
<td>Dfinity (DFN)</td>
<td>$3.75</td>
</tr>
<tr>
<td>2/14/2017</td>
<td>Chronobank (LH)</td>
<td>$5.40</td>
</tr>
<tr>
<td>2/15/2017</td>
<td>Melon (MLN)</td>
<td>$2.90</td>
</tr>
<tr>
<td>2/28/2017</td>
<td>Lykke (Lykke)</td>
<td>$1.97</td>
</tr>
<tr>
<td>3/1/2017</td>
<td>Augmentors (DBT)</td>
<td>$1.09</td>
</tr>
<tr>
<td>3/21/2017</td>
<td>Edgeless (EDG)</td>
<td>$2.65</td>
</tr>
<tr>
<td>3/21/2017</td>
<td>Qutm (QTUM)</td>
<td>$15.43</td>
</tr>
<tr>
<td>3/31/2017</td>
<td>Equibit (EGB)</td>
<td>$0.55</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$35.82</strong></td>
</tr>
</tbody>
</table>

Data Sources: CoinDesk venture capital database, Smith and Crown

Notes: Deals under $100,000 excluded, $ amount at time raised, including only fundraisers ending in ‘Q1 2017’ (1/1/17 – 3/31/17)
<table>
<thead>
<tr>
<th>'Pre-ICO' Funding Rounds</th>
<th>Advisory Groups and ICO Services</th>
<th>Investment Funds</th>
<th>Legal Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Simple Agreement for Future Tokens (SAFT)'</td>
<td>Investment Banking and Advisory</td>
<td>Venture Capital Backed</td>
<td>Accreditation Requirements</td>
</tr>
<tr>
<td>- Inspired by the YC SAFE</td>
<td>- Argon Group</td>
<td>- Polychain Capital</td>
<td>- Blockchain Capital, Filecoin</td>
</tr>
<tr>
<td>- Used by Colony, Filecoin</td>
<td>- Supported Blockchain Capital’s ICO</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Institutional Investment Prior to ICO**

- **Ox**

**Fundraising Platforms**

- **CoinList**
  - Created by Protocol Labs and AngelList
  - Filecoin token sale coming soon

**Accelerators**

- **Boost VC**

**Non-VC Backed**

- **CoinFund**

**Geographic Restrictions**

- **Melonport**
  - US investors could not participate in ICO

---

Note: Some of the above announced in Q2 2017
GOVERNMENT & REGULATION
People’s Bank of China cracks down on Big 3:
- The PBoC investigated the operational policies behind numerous domestic bitcoin exchanges, causing freezes, fee increases and drastically cut volume

SEC rejects 2 bitcoin ETF proposals:
- The Winklevoss’ COIN ETF was formally rejected by the SEC after nearly 4 years of observation, SolidX rejection shortly followed

New fundraising mechanisms flourish:
- With limited guidance and examples of enforcement, entrepreneurs look to ICO variants

Japan says bitcoin is a legal payment method:
- The Japanese FSA declared bitcoin a payment instrument, leading to increased JPY trading volume

IRS subpoena to Coinbase remains in stalemate:
- The IRS yet to receive user trading information from Coinbase, who believes too far reaching

Token issuers receive traditional guidance:
- Advisory groups, venture capitalists, legal firms and accelerators target new client and activity type
Americas: Governments Engage with Community Through Research, Market Analysis After 2 ETF Rejections

Jan. 18 – FINRA engages with community, publishes DLT report

Feb. 17 – Bank of Canada publishes research on potential learnings from prior public and private currencies

Mar. 10 – Winklevoss’ COIN ETF proposal rejected by SEC

Mar. 28 – SolidX’s ETF proposal rejected by the SEC

Data Sources: CoinDesk, Image
Europe: Governments Address Their Elementary Knowledge, Reach Out to Startups, Regulators for Guidance and Partnerships

**Jan. 7** – ESMA takes largely hands-off approach to DLT regulation, says premature to fully appreciate changes technology could bring and appropriate regulatory response

**Jan. 25** – France Central Bank opens blockchain lab to engage and work with more startups

**Feb. 22** – Poland files with Ministry of Finance to regulate local cryptocurrency industry

**Mar. 9** – EU publishes language on digital currency regulation, addressing major concerns with pseudoanonymity in AML context
Asia: Major Regions Pressure Domestic Exchanges to Institute Regulatory and Operational Policies

**Jan. 6** – PBoC issues public warnings after meeting with major domestic exchanges around operational and regulatory policies

**Jan. 23** – Chinese ‘Big 3’ initiate fees after years of free trading

**Feb. 7** – The Central Bank of the Philippines steps up regulation for domestic bitcoin exchanges with additional registration, AML and reporting requirements

**Mar. 1** – Reserve Bank of India official calls potential of virtual currency and blockchain ‘overstated’

**Mar. 31** – Japan prepares to recognize bitcoin as a legal payment method
**Middle East and Africa: Concern, Caution and Uncertainty Plague Officials**

**Jan. 1** – UAE Central Bank publishes ‘Regulatory Framework for Stored Values and Electronic Payment Systems’ prohibiting all virtual currencies

**Jan. 9** – Indonesian AML agency claims Islamic State militants are using online money services like PayPal and bitcoin to send funds to operatives

**Jan. 12** – Nigerian SEC encourages public to exercise extreme caution with regards to cryptocurrencies as investment vehicles in light of Onecoin scams

**Feb. 1** – UAE clarifies that virtual currency prohibition does not apply to bitcoin, cryptocurrencies and blockchain technology

Data Sources: [CoinDesk](https://coindesk.com)
OUR STUDY

We surveyed 200 people using a survey translated to Farsi and distributed on telegram to illustrate the state of blockchain in Iran.

OUR GOALS

Identify perception around the state of bitcoin:
- current usage motivations
- growth expectations

Identify perception around government regulation:
- on digital currency in Iran
- enterprise projects and interoperability

Identify perception around Sharia law compliance:
- bitcoin as a payments system
- banking with blockchain

The following scale and color system is used extensively throughout:

Data Source: CoinDesk’s Q1 2017 Iranian Blockchain Sentiment Survey
Q1 2017 Iranian Blockchain Sentiment Survey: Key Takeaways

35% Used bitcoin and other cryptocurrencies primarily for cross-border payments

66% Think the government will be effective in advancing bitcoin and its community

77% Believe bitcoin usage will grow over the next 5 years

63% Believe bitcoin will make global finance more equitable

Our audience was primarily young Iranian males responding pseudonymously online. The largest group of respondents used bitcoin and cryptocurrencies primarily for cross-border payments, followed by ideology and speculation.

The pool was largely positive on bitcoin and blockchains values and usage, and torn yet more positive than negative on the technology’s relationship with government regulation and Sharia compliance.

Data Source: CoinDesk’s Q1 2017 Iranian Blockchain Sentiment Survey
Survey Demographic:
Young Males Using Cryptocurrency Primarily for Cross-Border Payments

- Cross-border payment (to avoid remittance services)
- Ideology (I do not think government or banks should control money)
- Speculation (I want to profit)
- Everyday payment (to send others value)
- Applications (I use Ethereum DApps)

Data Source: CoinDesk’s Q1 2017 Iranian Blockchain Sentiment Survey
Notes: Of those who did not answer “I do not use bitcoin”
Bitcoin Usage Expected to Grow Within Next 5 Years

In the next five years, you expect bitcoin use to:

- Grow in use 42.7%
- Grow substantially 34.7%
- Remain the same 10.0%
- Decline in use 6.7%
- Decline substantially 1.3%
- Cease 4.7%

Data Source: CoinDesk’s Q1 2017 Iranian Blockchain Sentiment Survey
More Agree than Disagree the Government Will Regulate Digital Currency Within 2 Years, Will Stimulate Usage

Data Source: CoinDesk’s Q1 2017 Iranian Blockchain Sentiment Survey

62% believe that government regulation will increase the usage of digital currency
Community Positive About Government’s Involvement with Expanding Bitcoin

The government will be effective in advancing and expanding bitcoin and its community

- **Strongly agree**: 30.4%
- **Somewhat agree**: 35.8%
- **Neither disagree or agree**: 18.2%
- **Somewhat disagree**: 10.8%
- **Strongly disagree**: 4.7%

66.2% agree
15.5% disagree

Data Source: CoinDesk’s Q1 2017 Iranian Blockchain Sentiment Survey
More Agree than Disagree Government Can Defend and Enforce Decisions Across Iran

The government will have the power to defend and enforce its decisions on virtual currency in Iran

Data Source: CoinDesk’s Q1 2017 Iranian Blockchain Sentiment Survey
Notes: Full question: "Considering the complexities of regulation in Iran, the government (as the representative of the people) will have the power to defend and enforce its decisions on virtual currency in Iran."
More Agree than Disagree
Anyone Will Be Able to Attain and Use Bitcoin Freely in Iran After Regulation

After regulation, anyone will be able to attain and use bitcoin freely in Iran

- Somewhat agree: 28.3%
- Neither disagree or agree: 29.0%
- Somewhat disagree: 20.7%
- Strongly disagree: 7.6%

42.8% agree
28.3% disagree

Data Source: CoinDesk's Q1 2017 Iranian Blockchain Sentiment Survey
Majority Unsure But Very Few Disagree

Bitcoin and Blockchain Technology Can Fit Within Sharia Compliance

I believe bitcoin as a payments system meets the principles of Sharia law

- Neither disagree or agree: 55.2%
- Strongly agree: 19.3%
- Somewhat agree: 18.6%
- Somewhat disagree: 1.4%
- Strongly disagree: 5.5%

37.9% agree
6.9% disagree

Do you believe certain banking practices would be more Sharia compliant if based on bitcoin or a blockchain system?

- I neither disagree or agree: 49.3%
- Yes, I strongly agree: 19.4%
- Yes, I somewhat agree: 22.2%
- No, I somewhat disagree: 5.6%
- No, I strongly disagree: 3.5%

41.6% agree
9.1% disagree

Data Source: CoinDesk’s Q1 2017 Iranian Blockchain Sentiment Survey
More Agree than Disagree Bitcoin Can Challenge Global Reserve Currencies, Governments May Issue Own Virtual Currencies

Do you believe bitcoin could challenge the US dollar as a global reserve currency?

- Yes, I strongly agree: 30.1%
- Yes, I somewhat agree: 21.7%
- No, I somewhat disagree: 15.4%
- No, I strongly disagree: 7.0%

51.8% agree, 22.4% disagree

Do you believe Iran and other global governments will issue blockchain-based digital currency?

- Yes, I strongly agree: 9.0%
- Yes, I somewhat agree: 40.3%
- No, I somewhat disagree: 29.2%
- No, I strongly disagree: 16.7%

49.3% agree, 21.6% disagree

Data Source: CoinDesk’s Q1 2017 Iranian Blockchain Sentiment Survey
Bitcoin Seen as Positive For Global Finance, Bringing New Opportunities and Inclusion to Masses

Do you believe bitcoin will make global finance more equitable?

- Yes, I strongly agree: 22.5%
- Yes, I somewhat agree: 40.1%
- I neither disagree or agree: 26.1%
- No, I somewhat disagree: 9.2%
- No, I strongly disagree: 2.1%

62.6% agree
11.3% disagree

Data Source: CoinDesk’s Q1 2017 Iranian Blockchain Sentiment Survey
CoinDesk – News, Events, Research and Data for Blockchain Technology

**Headquarters:** Times Square, 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 Price Index, Ethereum Price, Venture Capital database and API

**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
- Find out more at www.coindesk.com
- Follow us on Twitter: @CoinDesk
- Subscribe to our email newsletters for the latest blockchain news
- If you have data you think should be included in future 'State of Blockchain' reports, email 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

- An abbreviated version of the 'State of Blockchain' was presented live at Consensus 2017!
6A

RESEARCH FRAMEWORK
### Defining The Blockchain Technology Market

<table>
<thead>
<tr>
<th><strong>A public blockchain</strong> is an internet protocol that manages the distribution of provably unique data that:</th>
<th><strong>An enterprise blockchain</strong> is a distributed ledger that provides:</th>
<th>Many companies employ <strong>hybrid</strong> models where they:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Acts as a unit of account for transactions on that ledger</td>
<td>- Consensus via trusted intermediaries, making digital currencies unnecessary</td>
<td>- Build on public blockchain infrastructure</td>
</tr>
<tr>
<td>- Incentivizes early adopters and developers to use, support and verify the ledger without the need for a trusted intermediary</td>
<td>- Solutions to clients who wish to use cryptographic databases managed and shared by trusted parties</td>
<td>- Provide technology for permissioned networks</td>
</tr>
</tbody>
</table>
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

ENTERPRISE BLOCKCHAINS

- Ripple
- Qtum
- Hyperledger

private (intra-)
Intranets & IT
The majority of development work to date has been done using open-source tools and public blockchains like bitcoin and ethereum.
## ‘Public’ (Open) vs ‘Enterprise’ (Permissioned) Blockchains: Generalized Features Comparison

<table>
<thead>
<tr>
<th>PUBLIC</th>
<th>ENTERPRISE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACCESS</strong></td>
<td>Permissioned write and/or read</td>
</tr>
<tr>
<td>Open read and write</td>
<td>Faster</td>
</tr>
<tr>
<td><strong>SPEED</strong></td>
<td>Approved participants</td>
</tr>
<tr>
<td>Slower</td>
<td>Known identities</td>
</tr>
<tr>
<td><strong>SECURITY</strong></td>
<td></td>
</tr>
<tr>
<td>Open network</td>
<td></td>
</tr>
<tr>
<td><strong>IDENTITY</strong></td>
<td></td>
</tr>
<tr>
<td>Anonymous or pseudonymous</td>
<td></td>
</tr>
<tr>
<td><strong>ASSET</strong></td>
<td></td>
</tr>
<tr>
<td>Native assets</td>
<td>Any asset</td>
</tr>
</tbody>
</table>

Data Sources: [Chain, Chris Skinner’s blog](http://coindesk.com/)

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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>STRENGTHS</th>
<th>WEAKNESSES</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, MultiChain
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><img src="bitcoin.png" alt="" /> <img src="ethereum.png" alt="" /> <img src="zc.png" alt="" /> <img src="monaco.png" alt="" /></td>
<td><img src="conflux.png" alt="" /> <img src="ibm.png" alt="" /> <img src="digital-asset.png" alt="" /></td>
</tr>
<tr>
<td>APPLICATION</td>
<td><img src="bitpay.png" alt="" /> <img src="coinbase.png" alt="" /></td>
<td><img src="augur.png" alt="" /> <img src="%D0%A1%D0%BE%D0%B7%D0%B4%D0%B0%D1%82%D1%8C.png" alt="" /> <img src="golem.png" alt="" /></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.

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.
6B

STATE OF BLOCKCHAIN

AT CONSENSUS 2017
Consensus 2017 Opening Remarks: The State of Blockchain
Acknowledgements and Additional Information

Significant Data Sources
- Coincap
- Coinmarketcap
- Blockchain
- Etherscan
- Smith and Crown

References
- Hudson Jameson
- Zooko Wilcox

Bitcoin and Ethereum Sentiment Survey

Based on an survey designed by CoinDesk’s research team and distributed in mid-April 2017 using CoinDesk’s newsletter, dedicated articles, social media and other forums. 1,100 people responded. 200 to only questions on bitcoin, 300 to only questions on ethereum and 600 to questions on both. At least 50% of people responded to each question. Some demographic information is displayed here.

Iranian Blockchain Sentiment Survey

Based on an survey designed by CoinDesk’s research team in collaboration with Farzad Hashemi. Telegram bot developed, executed, and translated to farsi by Farzad Hashemi and his team: Soheil Nikzad, Scott McDevitt, Petr Ryabinin, and Andrew Pavlov. Distributed in early-mid April 2017 using a Telegram bot and translated question and answer choices. 200 people responded. At least 70% of people responded to each question. Some demographic information is displayed here.
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