

Distributed Ledger Technology

Assembled by Stephen Downes

<h2>Exchanges</h2>	<ul style="list-style-type: none">Underlying ConceptsCore TechnologiesDefining BlockchainKey ConceptsBlockchain for BusinessApplicationsPublic Sector ApplicationsIdentityAdoption StrategyRelated TechnologiesHardwareAdvanced ConceptsCoinsExchangesPlatformsDecentralized StorageDistributed ApplicationsDistributed OrganizationsActivityIssuesFuture?
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Activity

Only a handful of crypto exchanges have published their total user stats & user growth statistics.

Graphs:

- User growth -
https://cdn-images-1.medium.com/max/800/1*eVlos6qm2s91nf_sl6_3fg.png
- Market share of exchanges -
https://cdn-images-1.medium.com/max/800/0*vSfK_7rqtM4faurM.
- Volume -
https://cdn-images-1.medium.com/max/800/1*z9R5TMkO9rVzSL1mcfLQ_A.png

Kiosks

<https://www.badgercoin.com/>

“HoneyBadger is Canada's most reliable network of bitcoin kiosks. Established in August 2016, with a passion for bitcoin and cryptocurrency, we began with 1 kiosk in Vancouver to now 45+ kiosks across Canada and select international locations. We are also excited to offer LiteCoin and Ethereum at our kiosks! Check back here often for our new locations and to see what we are up to.”

- Faq - <https://www.badgercoin.com/faq/>

Cryptocurrency Indexes

A Guide to Major Cryptocurrency Indexes

<https://medium.com/datadriveninvestor/a-guide-to-major-cryptocurrency-indexes-15c3ea60543>

Cryptocurrency Index 30 (CCi30)

<https://cci30.com/>

Perhaps one of the oldest Crypto indexes out there & the one that I have been following the longest. The Cryptocurrencies Index 30 (CCi30) was launched on Jan. 1, 2015

Bloomberg Galaxy Crypto Index (BCGI)

<https://www.bloomberg.com/professional/product/indices/bloomberg-galaxy-crypto-index/>

A more recent but a significant addition to the index list has been the Bloomberg Galaxy Crypto Index (BCGI), which tracks the performance of the largest cryptocurrencies traded in the US Dollar. It was launched on May 03, 2018

Coinbase Index

<https://am.coinbase.com/>

The U.S based digital exchange giant introduced their very own Coinbase Index which tracks the performance of the Crypto assets listed on the exchange only.

Huobi Index (HB10)

https://www.huobi.com/en-us/huobi_index/

To help make Cryptocurrency trading easier for the investors Huobi—the third largest Crypto exchange by volume decided to launch its own HB10 Index consisting of the 10 most highest volume coins traded against USDT. The index was launched on May 23, 2018

Bitmain Big 10 Index (BLC10)

<https://doc.btc.com/bitmain-index/Index-Methodology.pdf>

Most recently on Nov. 28 2018, Beijing-based Bitmain & one of the biggest Crypto miners in the World, launched its own BLC 10 index which tracks ten of the most largest, most liquid digital assets in the market, denominated in US dollars.

Centralized Exchanges

Vitalik Buterin: “I definitely hope centralized exchanges go burn in hell as much as possible”

<https://techcrunch.com/2018/07/06/vitalik-buterin-i-definitely-hope-centralized-exchanges-go-burn-in-hell-as-much-as-possible/>

Bakkt

<https://www.bakkt.com/index>

Bitcoin Sees Wall Street Warm to Trading Virtual Currency

<https://www.nytimes.com/2018/05/07/technology/bitcoin-new-york-stock-exchange.html> “The parent company of the New York Stock Exchange has been working on an online trading platform that would allow large investors to buy and hold Bitcoin, according to emails and documents viewed by The New York Times and four people briefed on the effort who asked to remain anonymous because the plans were still confidential.”

Intercontinental Exchange Announces Bakkt, a Global Platform and Ecosystem for Digital Assets

<https://ir.theice.com/press/press-releases/all-categories/2018/08-03-2018-133022149>

“ Intercontinental Exchange (NYSE:ICE), a leading operator of global exchanges, clearing houses, data and listings services, announced today that it plans to form a new company, Bakkt, which intends to leverage Microsoft cloud solutions to create an open and regulated, global ecosystem for digital assets. The new company is working with a marquee group of organizations including BCG, Microsoft, Starbucks, and others, to create an integrated platform that enables consumers and institutions to buy, sell, store and spend digital assets on a seamless global network.”

New Bakkt Venture Could Make Bitcoin As Mainstream As Starbucks

<https://www.forbes.com/sites/norbertmichel/2018/08/13/new-bakkt-venture-could-make-bitcoin-as-mainstream-as-starbucks/#4d27136736c8>

Sorry, But Starbucks Will Not Be Accepting Bitcoin

https://motherboard.vice.com/en_us/article/43pq8p/starbucks-will-not-be-accepting-bitcoin?utm_campaign=152aa73dff-EMAIL_CAMPAIGN_2018_08_07_04_25 “Contrary to numerous news reports, Starbucks’ new cryptocurrency partnership with Microsoft and Intercontinental Exchange doesn’t mean you’ll be able to spend your bitcoins at the coffee retailer’s locations.”

Coinbase

Coinbase Announces Custody Plans for 40 Digital Assets, Including XRP

<http://fortune.com/2018/08/03/coinbase-custody/>

Coinbase [announced](#) it is exploring plans to expand its custody service to include 40 more assets, including XRP, which is the third biggest cryptocurrency by market cap.

Institutional funds are required by law to use a custodian to hold their assets and protect them from theft. In return, the custodians charge a fee to keep the assets secure.

Coinbase is Making \$2.7 Million a Day

https://medium.com/@Michael_Spencer/coinbase-is-making-2-7-million-a-day-afa95dd52b42

Coinbase Custody is Officially Open For Business

<https://blog.coinbase.com/coinbase-custody-is-officially-open-for-business-182c297d65d9>

Coinbase's institutional product has begun accepting deposits starting this week, called Coinbase Custody, the service targets institutional investors. It's aimed at major institutional hedge funds and other big-time clients who can deposit a minimum of \$10 million.

Coinbase Becomes Electronic Money Institution Under U.K.'s FCA Regulations & Adds Support For Faster Payments

<https://medium.com/the-crypto-times/coinbase-becomes-electronic-money-institution-under-u-k-s-107838c2135f>

Binance

<https://www.binance.com/>

Scaled back - Bloomberg-

<https://www.bloomberg.com/news/articles/2018-06-04/binance-s-venture-fund-head-is-waiting-for-ico-bubble-to-burst> ““We'd like the bubble to break,” said Zhang, who joined cryptocurrency trading

platform Binance to lead its venture incubator Binance Labs less than two months ago. “We still see a lot of hype in the market, valuations are high and unreasonable. We really think if the bubble bursts, it's a good thing for the industry.””

Screenshot: https://cdn-images-1.medium.com/max/1600/1*VnqB6Hrm75LpsP9YmChYGg.png from <https://cryptocurrencyhub.io/i-bought-my-first-bitcoin-now-what-fdf7dc9ad150>

ErisX

<https://www.cnbc.com/2018/10/03/td-ameritrade-bets-on-a-new-cryptocurrency-exchange.html> “The U.S. brokerage firm announced a strategic investment Wednesday in an exchange called ErisX, which

offers both bitcoin spot and futures trading. High-speed trading company Virtu Financial will also back the exchange.”

eToro

eToro launches new ‘pro’ cryptocurrency exchange – and 8 stablecoins (Hard Fork)

<https://thenextweb.com/hardfork/2019/04/16/etoro-launches-new-cryptocurrency-exchange-for-pros-and-8-stablecoins/>

FTX

Collapse of FTX

FTX advisors can’t find billions of dollars in assets. From a lack of an accounting department to emoji expense approvals, the situation at FTX is “unprecedented,” according to the new CEO John Ray III, who previously oversaw the bankruptcy of US energy company Enron.

While we obsess about Twitter, everyone else in tech is fixated on the truly remarkable collapse of the FTX crypto exchange. Some highlights (all via Casey Newton, Platformer):

- <https://www.cnbc.com/2022/11/11/sam-bankman-frieds-cryptocurrency-exchange-ftx-files-for-bankruptcy.html> (MacKenzie Sigalos / CNBC)
- [Then FTX was apparently hacked for \\$600 million.](#) (Cheyenne Ligon, Sam Reynolds, Sam Kessler, Nikhilesh De, Reilly Decker / *CoinDesk*)
- [FTX said it was moving the remaining customer funds to cold wallets to mitigate the damage.](#) (Shaurya Malwa / *CoinDesk*)
- [But on Saturday, the Securities Commission of the Bahamas says it didn’t direct or authorize FTX to let Bahamas-based customers to withdraw funds — and the withdrawals could be voided in bankruptcy.](#) (Nikhilesh De / *CoinDesk*)
- [FTX’s balance sheet was bad: roughly two-thirds of the money it owed customers was backed by its own tokens that it had made up, per Matt Levine.](#) (Bloomberg)
- [Also, Sam Bankman-Fried previously transferred \\$10 billion of customer funds from FTX to Alameda Research and much of that money has disappeared???](#) (MacKenzie Sigalos / CNBC)
- And finally: [Senior FTX employees who worked in the Bahamas have left for Hong Kong.](#) (Bradley Saacks / *Semafor*)
- [Sam Bankman-Fried was a prominent spokesperson for crypto in Washington.](#) His fall could push legislators to regulate the industry. (Stefania Palma and Scott Chipolina / *Financial Times*)

- [Miami-Dade County and the Miami Heat ended their arena naming rights deal with FTX](#). We say leave it FTX Arena as a warning about the hubris of man!! (Brian Windhorst / ESPN)
- [Crypto exchanges Binance and Huobi blocked deposits of FTT after about \\$400 million worth of the tokens were released out of schedule, with no official explanation](#). (Shaurya Malwa / *CoinDesk*)
- [Binance CEO Changpeng Zhao, known as CZ, is the undisputed winner of the FTX collapse](#). Employees and business partners describe him as a “divisive entrepreneur on a relentless drive to grow at all costs.” (Joshua Oliver and Adam Samson / *Financial Times*)
- [CZ said Binance is setting up a recovery fund to help rebuild the crypto industry after “the cascading negative effects of FTX.”](#) (Sam Reynolds and Jack Schickler / *CoinDesk*)

Others

Bittrex: <https://bittrex.com>

OkEx: <https://www.okex.com/>

Coss.io: <https://exchange.coss.io/>

Cryptopia: <https://www.cryptopia.co.nz/>

Bit-Z: <https://bit-z.com/>

UpBit: <https://upbit.com/>

LiteBit: <https://www.litebit.eu>

CoinSpot: <https://www.coinspot.com.au/>

CryptoMate: <https://cryptomate.co.uk/>

CoinSwitch: <https://www.coinswitch.co/>

SimpleSwap: <https://www.simpleswap.io/>

BitThumb - <https://www.bithumb.com/>

Decentralized Exchanges

<https://decentralize.today/the-rant-76727cdf27f3>

“This is where DEX come in. Decentralized exchanges are the next logical step for adoption and kicking out the middleman. One project which will certainly make waves in the DEX and crypto world will be Altcoin.io.”

Diagram: https://cdn-images-1.medium.com/max/2000/1*_IHZstUbCVDomTzbo7y-SA.png

From: <https://blog.altcoin.io/why-decentralized-exchanges-need-a-liquidity-strategy-51dfd75876eb>

About Decentralized exchanges

<https://hackernoon.com/understanding-decentralized-exchanges-51b70ed3fe67>

<https://blog.altcoin.io/why-decentralized-exchanges-need-a-liquidity-strategy-51dfd75876eb>

For a decentralized exchange (DEX) to succeed, you need three things:

- Traders. Lots of them.
- The ability to scale.
- A user experience that sets you apart.

A robust liquidity strategy is at the top of this list for a reason.

Analyzing Activities on Decentralized Exchanges

<https://media.consensys.net/analyzing-activities-on-decentralized-exchanges-847e95570444>

“most cryptocurrency trading is still performed through centralized exchanges such as Coinbase and Binance. These exchanges store their customers’ KYC data, facilitate their tradings, and fully control their funds. Several high profile attacks on traditional exchanges have been reported in previous years [2], exhibiting a need for exchanges that operate in a more trustless and secure way. These new exchanges are known as Decentralized Exchanges (DEXes) and put the control of funds and trading back in the hand of their users.”

Why creating great user experiences is crucial to blockchain adoption

<https://blog.altcoin.io/why-creating-great-user-experiences-is-crucial-to-blockchain-adoption-d65afc1ce460>

- most blockchain applications—including some DEXs—are complicated, falling short of what we’ve come to expect from “[Web 2.0](#)”.
- Our [vision](#) is to empower everyone, regardless of market knowledge, to trade altcoins securely and with confidence... By including [social trading](#) in our DEX.

Decentralized Crypto Exchange is Solution to Hacks, Will They be Ready?

<https://www.ccn.com/decentralized-crypto-exchange-is-solution-to-hacks-will-they-be-ready/>

“On a decentralized exchange like IDEX, users trade crypto with non-custodial wallets like Trezor, Ledger, and MetaMask. Hence, at all times, users have complete control over their funds by connecting their non-custodial wallets to exchanges.”

An Overview of Decentralized Trading of Digital Assets

<https://collaborate.thebcp.com/project/TL/document/9/version/10/>

- Good general article

Altcoin.io

<https://altcoin.io/>

“The decentralized exchange of the future. Launching 2018. A truly decentralized and secure cryptocurrency exchange powered by Plasma.”

“What makes [Altcoin.io](#) unique? Imagine having the speed, ease of use and the UI of a centralized exchange with all the security advantages of a decentralized one. That is [Altcoin.io](#).”

LitePaper: <https://www.preview.altcoin.io/lite-paper.pdf>

<https://decentralize.today/the-rant-76727cdf27f3>

<https://blog.altcoin.io/why-decentralized-exchanges-need-a-liquidity-strategy-51dfd75876eb>

Altcoin.io is releasing an SDK to help get other decentralized exchanges off the ground. -

<https://altcoin.io/sdk.html>

IDEX

- - <https://idex.market/eth/aura> - decentralized exchange for trading Ethereum (ERC-20) tokens. IDEX combines the speed of centralization with the security of blockchain settlement.

Ox

- - <https://0xproject.com/> - Order Books & Relay - [0x \(Zero X\)](#). The aim of the project is to provide an open protocol for decentralized exchanges on top of [Ethereum](#). They've also done a token sale of the \$ZRX token that's trading at a [\\$542M market cap currently](#).
 - [read the 0x white paper](#)

EtherDelta

- <https://etherdelta.com/#PPT-ETH> - Order Books & Relay - EtherDelta is one of the first decentralized exchanges that has gained some traction out there. It runs mostly on Ethereum and there is about [\\$1.4BN USD in the most recent version of its smart contract](#).

Image:

https://cdn-images-1.medium.com/max/1600/1*v83xj39vRYb8JOBbMCmbwQ.png

The Solidity code for the [EtherDelta contract is freely available on Etherscan here](#).

Funds Management

leaves control of funds completely in control of the users. - two mechanisms for moving funds. One is for moving ETH—the native currency of Ethereum. The other is for moving [ERC20 tokens](#).

Trading Logic.

A person can submit open buy or sell orders for a given ERC20 token—in exchange terminology this person is the *Maker*. Another trader can browse these orders and choose to execute on them—this is called the *Taker*.

Image:

https://cdn-images-1.medium.com/max/1600/1*sBtSlovC2FPxKWll6hrq4A.png

the special sauce that makes off-chain order books work comes right from the heart of blockchain—an [Elliptic Curve Digital Signature Algorithm](#)—or ECDSA for short.

The Ocean

- - <https://oceanprotocol.com/> - tokenized service layer that exposes data, storage, compute and algorithms for consumption

Airswap Protocol

- - <https://www.airswap.io/> - Trading Through Peer-to-Peer Protocol

Bancor

- - <https://www.airswap.io/> - In-Wallet Trading

Kyber Network

- - <https://kyber.network/> - Ecosystem of Reserves

Definitions

taker: the one who fills the order

maker: the one who creates the trade order

maker token: maker's ERC20 token contract address

taker token: taker's ERC20 token contract address

maker amount: amount of maker token that maker offers to taker

taker amount: amount of taker token that taker offers to maker

block number and time: block number and associated timestamp of the block where the trading was recorded in.

Networks

Towards a Design Philosophy for Interoperable Blockchain Systems, Thomas Hardjono, Alexander Lipton, Alex Pentland

<https://arxiv.org/abs/1805.05934>

“In this paper we discuss a design philosophy for interoperable blockchain systems, using the design philosophy of the Internet architecture as the basis to identify key design principles. Several interoperability challenges are discussed in the context of cross-domain transactions. We illustrate

how these principles are informing the interoperability architecture of the MIT Tradecoin system.” -
Good very detailed article.

Aion

Aion launches first public blockchain network -

<https://techcrunch.com/2018/04/25/aion-launches-first-public-blockchain-network/>

“The company wants to be the underlying infrastructure for a network of blockchains in a similar way that TCP/IP drove the proliferation of the internet. To that end, the company, which originally began as a for-profit startup called Nuco, has decided to become a not-for-profit organization with the goal of setting up protocols for a set of interconnected blockchains. They now see their role as something akin to the Linux Foundation, helping third-party companies build products and creating an ecosystem around their base technology.”

DIAGRAM: <https://techcrunch.com/wp-content/uploads/2018/04/aion-net-2018-04-24.png?w=680>

<https://aion.network/>

Essentia

Essentia (a new Block Chian) claims so far 17 blockcahon could interoperate using their framework
<https://essentia.one/>

“Essentia is a modular decentralised interoperability and data management framework.

Although it may sound complicated, it’s composed of two main components: Essences and Synergies.

In Essences, entities own their data, interlinking them across multiple services. They can be of individuals, companies, groups or organisations, effectively creating decentralised internet users, making interoperability between them also possible by subIDs, permissions and self-triggering, information related, smart contracts.

Synergies are the connective tissue of operations. They link different platforms, resources and modules together for them to be able to interoperate.”

Whitepaper: <https://essentia.one/whitepaper.pdf>

ICOs

The Plain English Guide to Initial Coin Offerings (ICOs)

<https://blog.hubspot.com/marketing/initial-coin-offering-ico>

“An initial coin offering is when startups raise money by creating their own digital tokens or digital coins that can be spent to use the company’s current or future service. The company sells a limited number of their newly minted cryptocurrency to investors in exchange for established cryptocurrency like Bitcoin or Ether.”

<https://www.technologyreview.com/the-download/611080/this-visualization-shows-just-how-crazy-and-explosive-the-ico-market-has-become/>

Saved tokensalemarket.JPG

The next generation of ICOs will actually have to follow the rules

<https://www.technologyreview.com/s/610513/the-next-generation-of-icos-will-actually-have-to-follow-the-rules/>

- Also: charges against a pair of companies for conducting illegal digital token sales. The two initial coin offering (ICO) projects, called Airfox and Paragon -

<https://www.sec.gov/news/press-release/2018-264>

Tokens are Eating the World

<https://medium.com/futuresin/tokens-are-eating-the-world-a52ac885109c>

“Tokens aren’t just incentivizing tech startups to grow faster, but are also empowering solutions in which blockchain is bringing many ethical upgrades to our planet. To invest in crypto is therefore like signing a petition that the world needs to be improved and giving distributed ledger technologies a chance.”

2017 Was the Year of the ICO—Now What?

<https://medium.com/mit-technology-review/2017-was-the-year-of-the-ico-now-what-b67d14ce99e5>

“An ICO involves selling digital units of value, called tokens, that can be passed between users of a blockchain network, the same way Bitcoin users move bitcoins”

The Next Generation of ICOs Will Actually Have to Follow the Rules

<https://medium.com/mit-technology-review/the-next-generation-of-icos-will-actually-have-to-follow-the-rules-de0a6dec4db5>

The Problem with ICOs Is That They’re Called ICOs

<https://medium.com/mit-technology-review/the-problem-with-icos-is-that-theyre-called-icos-2ffc594419b5>

Robleh Ali, former crypto specialist for the Bank of England, on why initial coin offerings are dangerous and how to make them more useful

Tokens

What is a token?

Tokens can come in various different forms and functions and are therefore hard to define. Some represent a user’s reputation within a system (augur), a deposit in US dollars (tether), the quantity of files that are saved in it (filecoin) or the balance in some internal currency system (bitcoin)

Thus, a token can fulfil either one, or several of the following functions:

- A currency, used as a payment system between participants
- A digital asset (a digital right like land ownership)
- A means for accounting (number of API-calls, volume of torrent uploads)
- A share (stake) in a company
- A reward for contributors (i.e. Steemit)
- Payment for using a system/product/service

<https://medium.com/@argongroup/8-important-things-to-know-about-security-tokens-token-regulation-3d548a1a6367>

Utility Tokens

“Through the ICO fundraising model, startups can raise capital by issuing [crypto tokens](#) on a blockchain — most commonly Ethereum — and distributing them to token buyers in exchange for making a financial contribution to the project.” ... “Utility tokens, also called user tokens or app coins, represent future access to a company’s product or service.”

<https://strategiccoin.com/ico-101-utility-tokens-vs-security-tokens/>

6 Key Differences Between Security and Utility Tokens

<https://medium.com/datadriveninvestor/6-key-differences-between-security-and-utility-tokens-d89c65901af8>

“The Munchee case—and others such as [BitConnect](#)— have raised several important questions surrounding the nature of tokens being issued by new blockchain-based companies”

Security Token (a)

Security token trading is a multi-trillion dollar blockchain opportunity

<https://blog.altcoin.io/security-token-trading-is-a-multi-trillion-dollar-blockchain-opportunity-2f4d0b5b2c73>

- “Securities represent something valuable in the real world, such as stocks, bonds, or other assets. They often come with benefits like voting rights, equity, and dividends, and are easily converted to cash.”
- “Security tokens, on the other hand, are digital contracts that divide securities into cryptographic segments, which can be traded independently. If you want to buy a stake in a property, artwork, or business, for example, you could purchase digital tokens that prove your ownership with blockchain certainty.”
- “Most importantly, security tokens are SEC compliant. “
-

<https://blog.polymath.network/what-the-is-a-security-token-f4ff987620e8>

What the !@#\$ is a Security Token?

“These projects will allow owners to fractionalize the ownership of any asset using blockchain tokens, after which they can trade seamlessly and legally between verified investors anywhere in the world.”

(As contrasted with a utility token - see ICO, above)

“If a crypto token derives its value from an external, tradable asset, it is classified as a security token and becomes subject to federal securities regulations.”

<https://strategiccoin.com/ico-101-utility-tokens-vs-security-tokens/>

The Security Token Thesis

<https://hackernoon.com/the-security-token-thesis-4c5904761063>

“I define security tokens as any blockchain based representation of value that is subject to regulation under security laws. That includes tokens representing traditional assets like equity, debt, derivatives, and real estate, and it also includes pre-launch utility tokens that are deemed securities by the SEC.”

Diagram: https://cdn-images-1.medium.com/max/800/0*OIsjVNlgBPZyN0OA.

Benefits:

- 24/7 Markets
- Fractional ownership
- Rapid settlement
- Cost Reduction
- Liquidity and Market Depth
- Automated compliance
- Asset Interoperability
- Design space expansion

Further reading:

[Traditional Asset Tokenization](#) (McKeon)

[Liquidity is about market depth, not magic](#) (McKeon)

[The Promise of Automated Compliance](#) (McKeon)

[The Official Guide to Tokenized Securities](#) (Pompliano)

[Official Guide to the Security Token Ecosystem](#) (Koffman)

[The Future of U.S. Securities Will Be Tokenized](#) (Marks)

Difference between security token and utility token - diagram -

https://cdn-images-1.medium.com/max/1000/0*XEKsMplOHqdieHJY. On

<https://medium.com/@argongroup/8-important-things-to-know-about-security-tokens-token-regulation-3d548a1a6367>

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<https://hackernoon.com/the-security-token-thesis-4c5904761063>

- The Howey Test - defines what a security is

Prepare Yourself! The Security Token Tsunami Is About To Hit -

<https://medium.com/crypto-oracle/prepare-yourself-the-security-token-tsunami-is-about-to-hit-9d5517caff49>

- The simplest argument for Security Tokens is from [the Harbor Whitepaper](#)
- Firms like [Tokensoft](#), [OpenFinance Network](#), [Teknos](#), [Polymath](#), [Verify Investor](#), [Start Engine](#), [tZERO](#), [Templum](#), [Kingdon](#), [Blackmoon](#), [Securitize](#), and [Harbor](#), are just a small

fraction of the companies building standardized, interoperable, and scalable Security Token solutions.

- <https://hackernoon.com/security-tokens-will-transform-traditional-finance-31427343d7de>
“Securities tokens are digital tokens that represent ownership of an underlying asset or security—subject to a nation’s federal securities regulations. These digital tokens will soon be issued on public networks like Ethereum or Bitcoin with in-built compliance features.”

Jasper

Jasper Phase III: Securities settlement using distributed ledger technology

https://www.payments.ca/sites/default/files/jasper_phase_iii_whitepaper_final_0.pdf

“Securities and cash were brought on-ledger through the issuance of Digital Depository Receipts (DDRs) by CDS and the Bank of Canada, respectively, allowing POC participants to settle securities against central bank cash on the distributed ledger.”

Societe General

Societe General Issues First Bond Security Token on Ethereum

<https://www.societegenerale.com/en/newsroom/first-covered-bond-as-a-security-token-on-a-public-blockchain>

Baby got bonds...Societe General, a French investment bank issued 100 million euros of covered bonds as security tokens on the public Ethereum blockchain. Covered bonds are backed by loans made by a bank and remain on the bank’s balance sheet. These loans, such as mortgages are relatively liquid and can be sold off gradually, making this type of bond an ideal candidate for security tokenization.

The other Triple-A...The bond has also been rated Aaa / AAA by Moody’s and Fitch, respectively. While these are the highest ratings of each firm, this is fairly typical for these types of bonds.

Polymath

[Polymath](#) is building a protocol coded to allow compliant trading of security tokens on the Ethereum blockchain.

AirSwap

[AirSwap](#), a Brooklyn-based technology company, has successfully built a decentralized platform that will soon allow peer to peer trades of security tokens on the Ethereum blockchain.

Activity

<https://www.investopedia.com/terms/i/initial-coin-offering-ico.asp>

- “The CEO of Causam eXchange Inc. is perfectly willing to refer to the company's upcoming [sale](#) of blockchain-based assets to investors as a securities offering.”
<https://www.investopedia.com/news/equity-ethereum-firm-offers-real-stock-through-ico/>
- “Munchee, a blockchain-based app for posting restaurant reviews, intended to raise funds by distributing a coin called MUN. According to [a whitepaper](#) issued by the startup, MUN was to be used as currency within the Munchee app to incentivize restaurants and reviewers to purchase services or earn rewards.” <https://www.investopedia.com/news/icos-beginning-end/>
- OmiseGO was one of the biggest Ethereum ICOs of 2017 and raised [\\$25 million](#). - the company aims to develop a platform that allows for value exchange and various payment solutions across different currencies (both cryptocurrencies and fiat currencies like the dollar).
<https://kingpassive.com/what-is-ethereum/>
-
- “Online retailer Overstock recently announced that tZERO, one of its portfolio companies, will hold an ICO to fund the development of a [licensed security token trading platform](#). The tZERO tokens will be issued in accordance with SEC regulations, and Overstock CEO Patrick Byrne has stated that token holders will be entitled to [quarterly dividends](#) derived from the profits of the tZERO platform.”
<https://strategiccoin.com/ico-101-utility-tokens-vs-security-tokens/>
- A Japanese village of 1,500 people is planning an ICO. -
<https://www.coindesk.com/japanese-village-to-launch-nations-first-municipal-ico/>

The ICO Process

The Initial Coin Offering, One Year Later

<https://hackernoon.com/the-initial-coin-offering-one-year-later-6b5f836c2b>

“Truth is there is no iron-clad, compliant path to a token sale or ICO for a U.S.-based business. Lawyers are only selling their version and hoping they’re right. (This is why many companies have gone to a Private Placement Memorandum, but more on that another time.)”

The Mechanics of the Token Launch

<https://blog.fractalblockchain.com/the-mechanics-of-the-token-launch-92f186a597f5>

- Diagram -
https://cdn-images-1.medium.com/max/1600/1*nGjT49C2krhXsKHTUMmICA.jpeg

[Fractal](#). Fractal is an end-to-end token launch service provider and offers user-friendly experience with a compliant onboarding process. <http://trustfractal.com/>

The Future of ICOs

- ICOs: Beginning Of The End? - <https://www.investopedia.com/news/icos-beginning-end/>
“largely unknown entity at the start of 2017. Toward the end of the year, however, they have reportedly raised \$3.25 billion.... According to [a report](#) by research firm Smith + Crown, only 69 of the 169 ICOs in October 2017 managed to reach their fundraising goals.
- The amount of money raised in [initial coin offerings \(ICOs\)](#) in the first quarter of 2018 has blown past the amount raised throughout all of 2017, according to data from Coindesk. In the first three months of the year, a total of \$6.3 billion raised from digital coin offerings represented 118% more than that of last year's total, suggesting that despite increased scrutiny on the [cryptocurrency](#) space, ICOs aren't going anywhere soon.
<https://www.investopedia.com/news/already-more-icos-2018-all-2017-63b/>

The ICO market is not collapsing. It's maturing.

<https://hackernoon.com/the-ico-market-is-not-collapsing-its-maturing-c11bfd4cdf8>

“The most striking geographic trends in recent months are a shift away from the U.S., ostensibly due to increased regulatory scrutiny, and a shift toward Singapore.”

New Weapon for Blockchain Startups: Nobel Prize-Winning Brains

<https://medium.com/bloomberg/new-weapon-for-blockchain-startups-nobel-prize-winning-brains-c24731883dc>

“With cryptocurrency mania over for now, blockchain startups need to dig a little deeper to attract attention. Their latest secret weapon: Nobel laureates.”