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VLAD ESTOUP



2021 DIGITAL SECURITIES REPORT

JULY 2021

FOR IN-DEPTH DIGITAL SECURITIES RESEARCH VISIT

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THE NUMBERS

DSO MARKET FIGURES

The digital securities market is beginning to grow steadily around the world. Numerous players are emerging, issuing digital securities in a variety of industries and adopting diverse capital raising models.

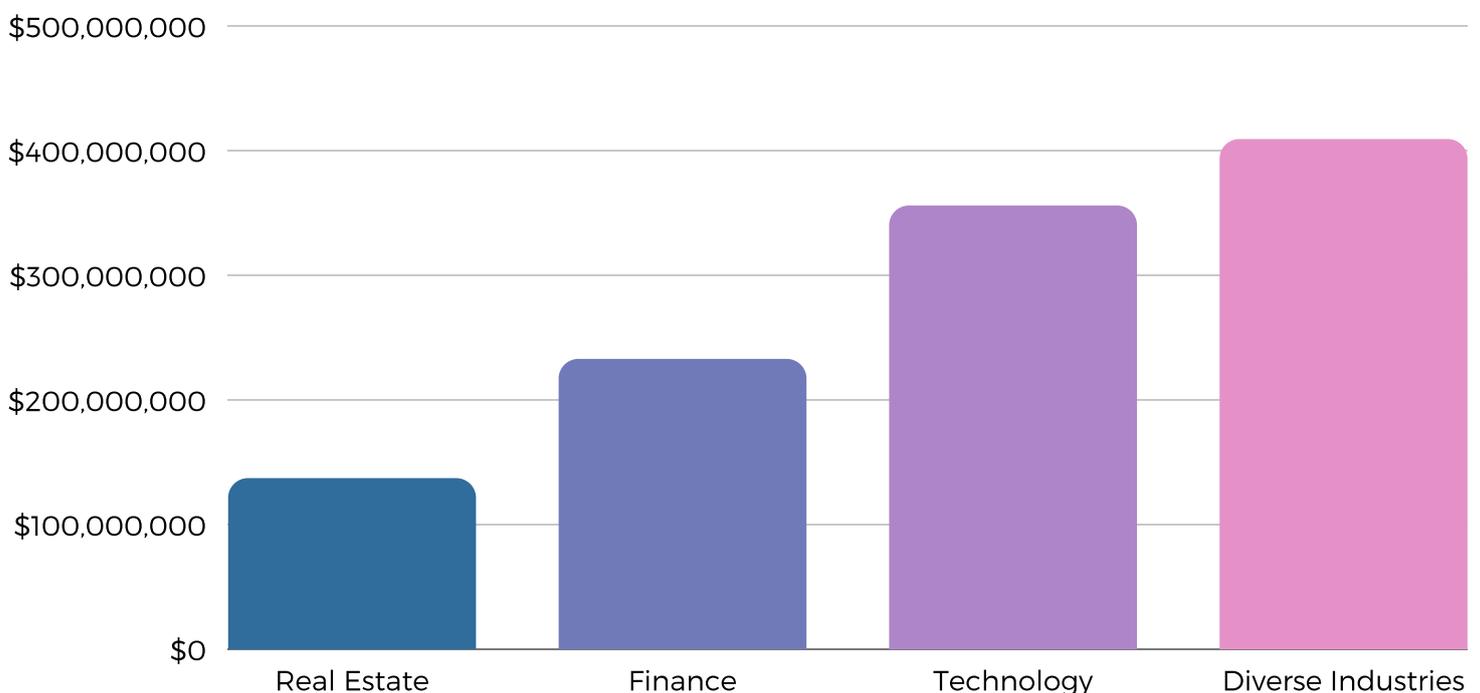
From central banks' Central Bank Digital Currency initiatives to private enterprises issuing securities on the blockchain, the financial world is beginning to understand the benefits of digital securities.

Several digital asset exchanges around the world are emerging and adding capabilities for trading of both digital securities and tokenized stocks (pre-existing securities that are sold on exchanges as price-pegged tokens).

Real estate presents a lot of potential in adopting digital securities for capital raising. Currently, it is the third largest industry after Technology and Finance.

On a year-over-year basis, the market capitalization of all real estate issues has increased from \$98 million to \$148 million, representing 51% growth over the past 12 months. Below is a breakdown of the market by sector:

Digital Securities Capitalization by Industry





Market Capitalization: \$1,132,497,239.60
Growth year-over-year: 91%
Average Issuer Capitalization: \$15,099,963.19
Median Issuer Capitalization: \$1,520,000.00
Number of Digital Securities: 76
Est. Year-End Market Cap: \$3,500,000,000.00

Real estate is an important area of increased adoption of DSOs. New real estate marketplaces are emerging and adopting blockchain technology.

This is largely due to two factors: recognition of the economic advantages of real estate tokenization and overall appreciation of the asset class.

The technology sector has also been a leader in digital securities adoption, likely due to tech-related issuers being more familiar with the value proposition of blockchain technology. Several Cryptocurrency mining firms are leveraging digital securities to offer a blockchain-based experience for their investors, with seamless distributions and potential for secondary liquidity.

Finance DSOs have also grown since the start of 2021. Large banks and institutions have been experimenting with blockchain-based settlement solutions and fixed-income digital securities issuances. Amongst these are the DBS Digital bond and CGS-CIMB's commercial paper. These issuances have added a substantial amount to the market's capitalization. As of this writing, CGS-CIMB has raised \$7.5M through its digitized commercial paper offering, showing the clear benefits of digital securities adoption in short-term financing.

In terms of **blockchain protocol**, Ethereum remains the main blockchain used for digital securities issuances, featuring major offerings such as Blockchain Capital (BCAP) and INX's revenue sharing token.



tZERO's securities, however, are hosted on the Tezos blockchain. Tezos has been positioning itself as a competitor to Ethereum in the digital securities space.

Although Ethereum gas fees are the highest in the industry, the infrastructure around decentralized trading is largely built on Ethereum.

Gas fees can be mitigated by issuing securities on private blockchains, and subsequently issuing them on public blockchains once secondary trading becomes available.

The Ethereum 2.0 update is also aiming to reduce gas fees, which could make issuances even cheaper.

Furthermore, even with high gas fees, digital security offerings remain cheaper than traditional alternatives.

One advantage of issuing on the Ethereum blockchain is the ability to customize the digital security offering to the needs of the issuer, oftentimes by whitelisting addresses and creating jurisdictional limits for trading.

There are currently two Ethereum standards designed specifically for digital securities: ERC-1400 (built by Polymath) and ERC-1404.

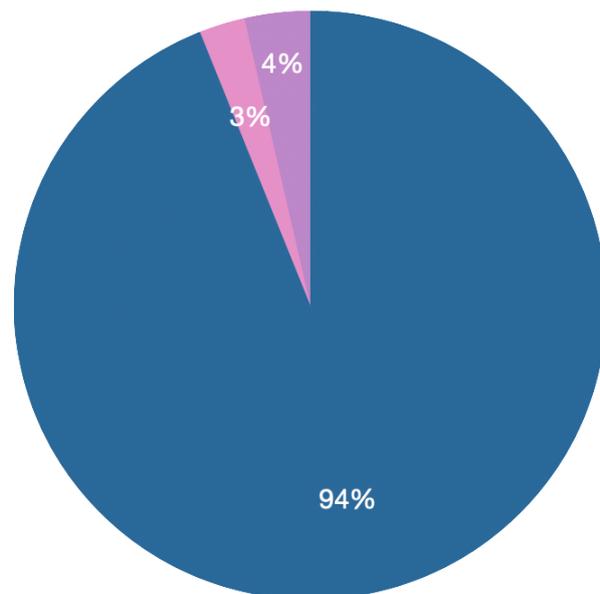
Although most digital security offerings are done as ERC-20 tokens, INX was recently issued as ERC-1404.

Amount Raised through Digital Securities by Blockchain

Ethereum: \$798,759,167

Tezos: \$21,300,000

Other Blockchains: \$30,377,852



● Ethereum ● Tezos ● Other

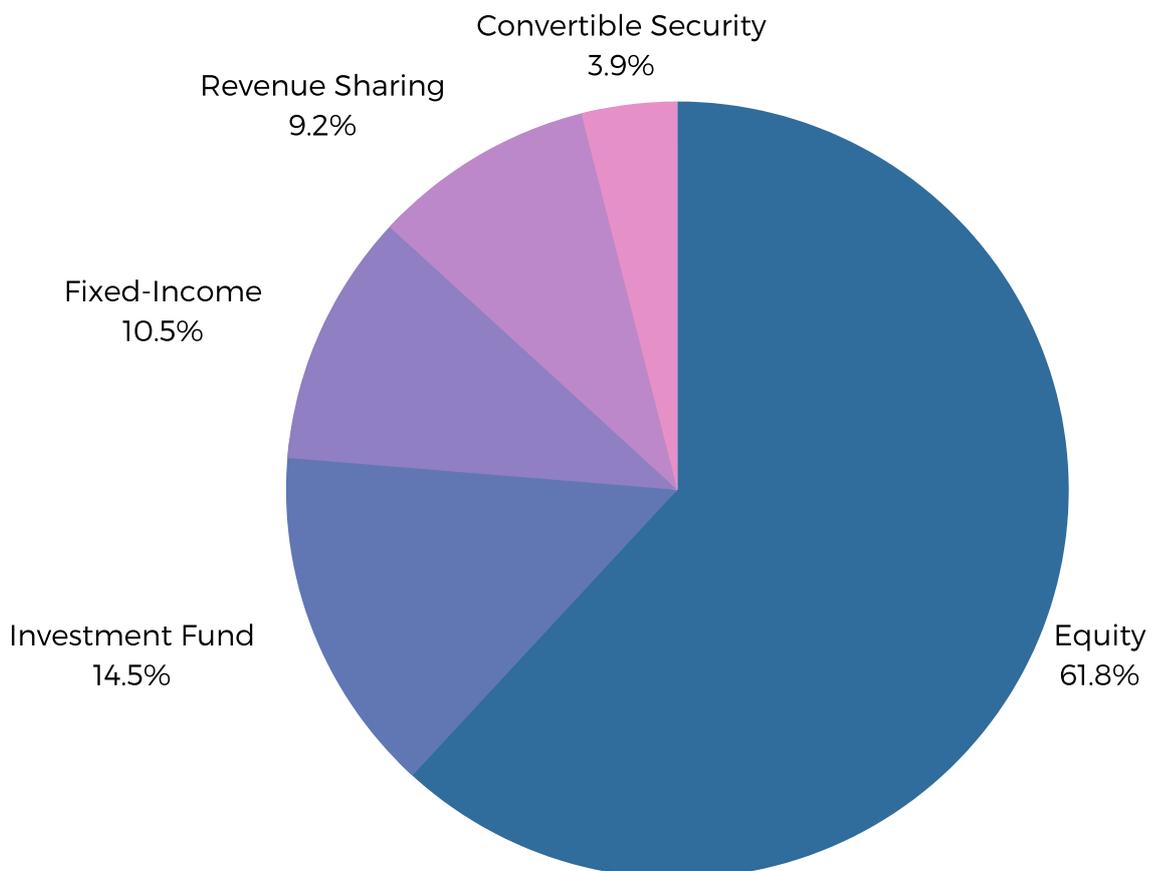


Various **security types** have been issued as digital securities. Currently, the most common type of security are equities (62%), but the fixed-income market has been making headlines, particularly when it comes to commercial papers and real estate-backed bonds.

Revenue sharing securities are also popular, allowing issuers to raise capital without giving away equity.

The largest digital security to date, Overstock, is a digital dividend issued to retail investors of the company's publicly listed stock. This was a powerful way to promote adoption of digital securities.

Number of Digital Securities by Security Type





VALUE PROPOSITION

KEY BENEFITS OF DIGITAL SECURITIES

Digital securities offer infrastructure that facilitates capital raising dramatically.

They provide numerous advantages for issuers and investors.

- **Increased Access:** lower transaction costs associated with blockchain issuances allow issuers to offer more assets at lower investment amounts to more investors.
 - **Greater returns:** with blockchain technology, issuers and marketplaces incur less transaction costs. This can ultimately translate into higher distributions for investors, combined with a simpler dividend payment process and cap-table management.
 - **Liquidity:** when there are secondary markets for digital securities (in both centralized and decentralized exchanges), investors can sell their tokens at a profit, benefitting from near-instant settlement and access to their funds.
- Public markets are 330 more liquid than private markets, yet they raised half the amount of primary capital. The need for liquidity in private markets is clear, and digital securities facilitate the path to secondary trading.
- **Market efficiency:** digital securities create an easier process for issuers looking to raise capital, and as a result bring more competitive offerings to the market. This increase in competition builds a more efficient investment ecosystem, particularly in real estate where investors can now pick from a variety of cash-flow producing assets side-by-side.
- There are numerous private market venues that are looking to solve the liquidity need for private company shares (eg. SharesPost, Equityzen).



Companies that have been private for a number of years are looking for ways to help early stage employees and investors find partial liquidity.

Currently, many of these venues operate with complex back-end cap-table management and outdated transaction settlement processes. Further, private securities transactions are usually executed manually - buyers and sellers are matched by the intermediary venue's team, and liquidity is highly dependent on the size and market dominance of the venue. Private market venues can benefit tremendously from digital securities, allowing them to offer a **more robust and frictionless investment ecosystem** for investors.

Another facet of digital securities is their ability to provide **near-instant settlement**, dramatically reducing transaction costs and counter-party risk.

Currently, securities settlement is an outdated, timely process. Although the transaction date determines the price at which securities are traded, ownership transfer is determined on the settlement date.

Historically, securities transactions were settled on a "T+5" basis, meaning that it would take 5 business days after the transaction date (T) for settlement to occur. Thanks to technological advancements, most publicly traded securities currently operate in "T+2", meaning the transactions are settled 2 business days after the trade is executed.

Securities settlement is an issue on a variety of fronts. Not only is it costly to have to settle transactions after the trade date, but it also creates challenges when it comes to dividend distributions.

Further, longer settlement times traditionally imply higher counter-party risk. As a result, margin requirements increase and the operating model becomes more expensive.

Distributed ledgers offer a secure settlement process, which can be exponentially better if combined with Central Bank Digital Currencies (CBDC). We explore the topic of CBDCs in detail in our recent **CBDC Report**.



LIQUIDITY AVENUES

SECONDARY VENUES & DECENTRALIZED EXCHANGES

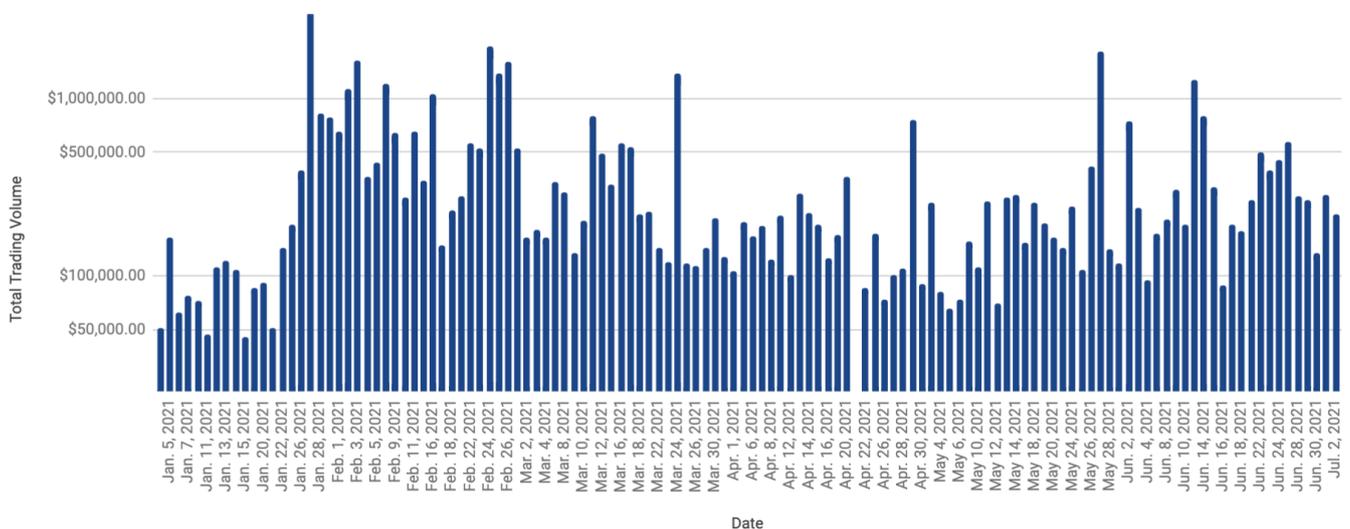
By digitizing private securities, issuers can offer investors a clear path to liquidity.

While some of the largest secondary trading venues are run by private enterprises, digital securities trading also takes place on decentralized exchanges.

The lack of liquidity in private markets makes digital securities highly appealing to investors.

The current leader in trading volume for digital securities is **tZERO's ATS**, with an average daily volume of \$366,277 across its three listed securities: tZERO, Overstock and Aspencoin. Below is a breakdown of the trading volume on tZERO's ATS over the course of 2021:

tZERO's ATS Trading Volume





A close second is Uniswap, where RealT's real estate digital securities trade. The average daily volume of RealT securities traded on Uniswap is \$7,731.

AirSwap has also seen some trading activity when it comes to Blockchain Capital's token BCAP. 9 trades took place on AirSwap, with an average volume of \$19,550 per trade.

An important aspect of decentralized trading is the exchange's ability to recognize which wallets are allowed to hold the security. In other words, whitelisting capabilities are an important feature that is not yet embedded into token exchanges such as Uniswap and PancakeSwap. These decentralized exchanges are built for trading of utility tokens, rather than regulated securities. As a result, they are not yet robust enough to handle the regulatory must haves of securities trading - particularly AML/KYC requirements.

Here are the top 3 digital securities exchanges:

Exchange	DSO Capabilities	Volume & More
<p data-bbox="231 1458 414 1491">tZERO ATS</p> 	<p data-bbox="576 1346 932 1630">Fully capable of handling DSO necessities, offering KYC/AML features as well as downloadable trading data.</p> <p data-bbox="576 1697 943 1928">Users can log in and trade once verified by tZERO. Trading is limited to regular EST market hours.</p>	<p data-bbox="1058 1323 1345 1406">Average monthly volume: \$7.7M.</p> <p data-bbox="1058 1473 1417 1955">tZERO's ATS is being upgraded to a more comprehensive trading system. Currently, it only offers 3 securities, but it will soon offer cryptocurrencies and numerous other digital securities.</p>

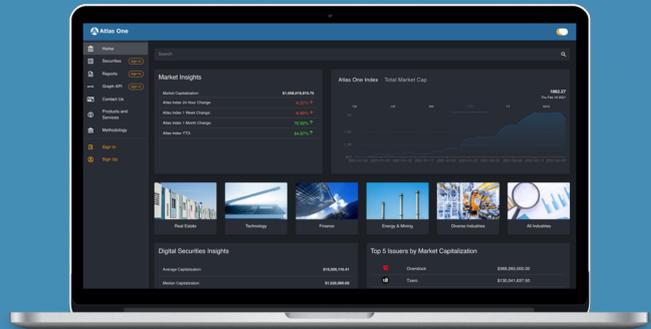


Exchange	DSO Capabilities	Volume & More
<p data-bbox="245 725 389 761">Uniswap</p> 	<p data-bbox="572 483 916 815">No built-in whitelisting. Overall low capacity to handle requirements for digital securities trading. Offers 24/7 trading.</p> <p data-bbox="572 882 922 1167">Uniswap makes liquidity possible for otherwise illiquid assets, and currently RealT is its only digital security.</p>	<p data-bbox="1035 483 1334 613">Digital securities monthly volume: \$231,916.</p> <p data-bbox="1035 680 1422 1115">Uniswap is originally built to trade any token between any two wallets by way of liquidity pools. Uniswap trades \$8b worth of cryptocurrencies on a monthly basis.</p>
<p data-bbox="288 1509 352 1541">INX</p> 	<p data-bbox="572 1285 932 1621">Whitelisting available for the INX offering, and KYC measures in place on the OpenFinance digital securities arm of the exchange.</p> <p data-bbox="572 1688 922 1921">INX acquired OpenFinance in 2020 in a move to become a leader in digital securities trading.</p>	<p data-bbox="1046 1263 1414 1944">INX is led by numerous traditional finance leaders, and aims to position itself as the main cryptocurrency and digital securities exchange. Trading volume on the exchange is still relatively limited, but with INX's takeover it is likely to increase substantially.</p>



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