STO HANDBOOK

A FinTech4Good Publication
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STO Handbook is the special edition of Responsible Blockchain Report prepared by the FinTech4Good Group. We define market trends, identify blockchain stars, interview industrial leaders and provide in-depth insights on emerging topics in the blockchain industry. Our Weekly Briefing, Monthly Report, and Special Issues are prepared by FinTech4Good Fellows in collaboration with some of the most influential scholars.

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Acknowledgments

Tokenization has been reshaping the global financial activities and has spurred an explosive growth of Initial Coin Offering (ICO) since 2017. Despite the remarkable success of ICOs, however, one can hardly ignore the reality that regulatory authorities have taken actions to regulate or ban ICOs, due to their concerns over the violation of their securities law.

Security Token Offering (STO), on the other hand, has emerged as a new and compliant model to raise fund alternatively, against the backdrop of the declining ICO activities. Nonetheless, STO is still in a very early stage and many traditional investors and companies are not well informed of the risks and benefits of security tokens.

This STO Handbook aims to provide an introductory guide to the security token ecosystem in the U.S. and to help the readers develop a thorough understanding of STO. However, given the fast development of STO ecosystem with the emergence of new market players, it is important to also note that this STO Handbook does not intend to be used as an exhaustive study nor to dictate any investment related decisions.

From crowdfunding to initial coin offering, from initial exchange offering to security token offering, we will continue to see the rise of innovative instruments to drive the transformation of capital markets. We still have a long way to go to realize the true potential of this instrument.

In 2017, we launched a STO Council to help to build a healthy global STO ecosystem. The STO Council has organized many educational events and completed several industrial research reports. With the launch of this Handbook, we will be able to systematically engage with the global STO ecosystem and scale up blockchain based innovations for a better world.

Xiaochen Zhang
President, FinTech4Good
Acknowledgments

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- Oscar Jofre, CEO of KoreConX

Though any errors that remain are FinTech4Good’s sole responsibility, we would like to extend our gratitude to their valuable contribution.

Feedback and suggestions are welcomed. Please contact us at info@fintech4good.co
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VI. Future of STO
I. Background Introduction

A. ICO Market

Since 2018, there has been a huge backlash against Initial Coin Offerings (ICOs) due to market uncertainty, frequent fraud etc. Up to now, ICO has been banned in China, Bangladesh, Nepal, Macedonia, Bolivia, Ecuador, Pakistan, Algeria and Morocco. It has been heavily regulated in Jordan, Russia, Singapore, France, Luxembourg, the United States, Canada, Australia, Thailand and India. The monthly declining rate of ICO funding has maintained about 50% during the last four months following a decisive shift in market dynamics earlier in May this year. Total funds raised has decreased from $883.63 million in May to $54 million in October (Figure 1).

![Figure 1. Monthly Funds Raised of ICO in 2018](source: https://www.icodata.io/stats/2018)

The fallout from the ICO boom has given rise to Security Token Offering (STO). It provides a more compliant alternative to ICOs. Security tokens are designed as securities, which are subjected to related securities laws and regulations. Currently, many companies have taken their first steps in issuing security token (e.g. tZero) or establishing secondary trading platforms (e.g. Open Finance).

Based on our statistics in November 2018¹, 80 STOs have been issued or under issuing progress since 2017, among which 77.5% happened in the U.S. (Figure 3). Therefore, considering the number of cases and data, this handbook only focuses on the U.S. market. Up to now, Security Token Offering has not been discussed in a comprehensive and detailed way. The STO Handbook provides the working definition of STO, examines the features of STO, and discusses its benefits compared to ICO and IPO.

This handbook also provides an overview of the process of launching an STO and analysis of relevant security registration exemptions used in STO.

However, given the fast development of STO ecosystem with the emergence of new market players every single day, it is important to note here that this STO Handbook does not intend to be used as an exhaustive study. Instead, we hope that this manual will lay a good foundation for practitioners and leaders to better understand what STO means to their business and how to get involved.

![Figure 2. Geography Distribution of STO](source: FinTech4Good Research Team)

**B. Traditional Investment in Private Companies**

Although the traditional private equity investment is well-established, certain limitations still exist, such as limited liquidity, low transaction efficiency, high transaction fees, and high entry barriers for investors. Though the young security token industry is less than two years old, the new industry could manifest in breaking through those limitations.

Over the past several years, liquidity is the lifeblood in the private market yet complicated and difficult to achieve. Substantial transaction costs and slow existing routes make the investment illiquid such that institutional and sophisticated investors are cautious about investing in a private company. However, STO can break through the current limitation on the liquidity. The security tokens make fractional...
ownership possible, which allows the secondary market to open up to the average investors with a limited budget. In this case, institutional investors can cash out in a year rather than wait 3-7 years to exit. Sophisticated investors are more willing to invest in private company via open-ended alternative trading system (ATS).

Minimizing the involvement of middleman is possible via the transactions among security tokens. In private equity market, broker-dealers buy and sell securities on behalf of the clients and verify the KYC/AML, earn the substantial commission fees ranging from 0.25% to 2% based on the transaction. Backed up on Blockchain technology, the security tokens trading on the ATS requires the investors to go through KYC/AML process. Once the investors are identified as qualified investors, they can directly buy and sell their securities on the exchange platforms, which diminishes the number of middlemen during the transactions and thus efficiently lowers the transaction fees.

The traditional private equity or venture capital has high standards for both private company and investors. Even for some institutional investors, there are high entry barriers and high difficulties in accessing the investment. Fortunately, security tokens give the solution that has less demanding to investors and allows the fractional share of ownership. Thus, the average investors can participate in the market, which significantly lower the barriers for the investors entering into the securities market.

II. What Is A Security Token?

A security token is a digital representation of an investment contract in a real-world asset. An investment contract entails: (1) an investment of money (2) in a common enterprise with (3) a reasonable expectation of profits (4) to be derived from the efforts of others. These elements comprise what is well-known as the “Howey Test.” An issuer of a security token must register the offer and sale of the security tokens with the Securities Exchange Commission (SEC) unless a valid exemption to registration applies.

A utility token is not a security where the purchaser acquires it to use or consume it, such as where the token would be used to make a purchase or to acquire access to a system or service. Neither mere labels nor the fact that a token provides utility resolves its classification. It is the economic substance of the transactions involved, rather than the label, that determines the result of the legal analysis (i.e., the

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3 Id. at 16.
Howey Test). Said another way, a security token may provide utility, but could still meet all four elements of the “Howey Test.”

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Utility Token</strong></td>
<td>Access to a company’s product or service</td>
<td>No profits guarantee, but have expectation of appreciation</td>
<td>ICO</td>
<td>No</td>
</tr>
<tr>
<td><strong>Security Token</strong></td>
<td>Investment Contract</td>
<td>Allow profit sharing</td>
<td>STO</td>
<td>Yes</td>
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</table>

Table 1. Security Token vs. Utility Token

A. Categories of Security Tokens

Although there are various ways to categorize security tokens, we will employ the traditional security categories for the purpose of this report. We consider debt security token, equity security token and convertible security token within the scope of our study.

1. **Equity Security Tokens**

Equity security tokens represent the ownership of companies. Equity security token holders can enjoy dividends, profit/revenue shares, or some interest in the future success of the company. Equity security tokens issued through Security Token Offerings (STOs) provide an innovative channel to raise funds. Small and medium-size companies including startups with a strong management team, proven business model, good track record and growth potential could raise funding through STO.

2. **Debt Security Tokens**

Debt security tokens are considered as loans to companies and represent a promise to pay back the face amount and interest until the instrument matures. Debt security token refers to debt instrument, such as corporate bond and certificate of deposit (CD). It also includes collateralized security tokens, such as mortgage-backed security tokens, jewelry-backed security tokens, real estate-backed security token etc.

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6 Id.
8 A certificate of deposit is a savings certificate with a fixed maturity date and specified fixed interest rate that can be issued in any in any denomination aside from minimum investment requirements. See: https://www.investopedia.com/terms/c/certificateofdeposit.asp
3. **Convertible/Hybrid Security Tokens**

Convertible security tokens, also referred to as hybrid security tokens, generally combine equity security tokens and debt security tokens in a single tradeable security token. The major form of convertible security tokens is convertible bonds security token. Convertible bond security token holders have the right to convert the tokens into a fixed number of shares of common stock (equity security tokens) in the issuing company.

**B. Features of Security Token Offerings (STOs)**

The novelty for STO is that it makes the tokenization of traditional assets possible in a compliant manner. Tokenization is a transformation based on blockchain technology. According to Harbor, a compliance platform for tokenizing private securities, “Tokenization is the process of converting rights to an asset into a digital token on a blockchain. Blockchains can transform private securities by making capital formation faster, easier, and less expensive while unlocking secondary liquidity (and value) for investors.”

Currently, tokenization creates exciting new alternatives for issuers to leverage assets in new ways and is able to reach investors on a global scale.

One of the innovations is that STO realizes the formation of fractional ownership, which can increase the liquidity of global large assets in theory. For example, STO is applicable to large real estate assets, including real estate funds, private Real-Estate Investment Trusts (REITs), land, and buildings. Fractional ownership lowers the threshold for assets exchanging. In this way, STO can benefit high-value assets and enlarge the number of potential investors.

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9 https://harbor.com/
IPO vs. STO vs. ICO

STO can be offered by registered offering (IPO) and exemption offering as a fund-raising method.

<table>
<thead>
<tr>
<th></th>
<th>STO</th>
<th>ICO</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Registered Method (IPO)</td>
<td>Exemptional Method (Reg A/D/CF/S)</td>
</tr>
<tr>
<td>Regulation</td>
<td>Strong</td>
<td>Medium</td>
</tr>
<tr>
<td>Issue Cost</td>
<td>High</td>
<td>Depends</td>
</tr>
<tr>
<td>Risk for Investors</td>
<td>Low (have asset)</td>
<td>Medium (depends on the business outlook)</td>
</tr>
<tr>
<td>Restriction for Investors</td>
<td>Low</td>
<td>Depends</td>
</tr>
<tr>
<td>Execution Circle</td>
<td>T+2</td>
<td>24/7</td>
</tr>
</tbody>
</table>

Source: FinTech4Good Research Team

Table 2: IPO vs. STO vs. ICO

C. IPO vs. Exemptional Method vs. ICO

1. Regulation

From the perspective of regulation restrictions, across the whole spectrum, STO via exemption offering stands in between IPO and ICO.

For security tokens to be qualified as securities, which can be tested by the Howey Test, people who intend to issue them are required to comply with the security law. In reality, most STOs are issued under regulation exemptions. However, security tokens can also be offered with registration, which is usually known as Initial Public Offering (IPO). IPO is the initial offering stock to be sold to the public by a company. IPO is usually for well-settled companies and is regulated by strict legal and compliance process. That IPO requires continuous information disclosure to the public takes the whole process longer time than STO.

2. Issuance Cost

In terms of issuance cost, undoubtedly, the IPO process is pricy for a variety of reasons. Typically, it involves a large team of professionals, such as legal counsel, auditors and underwriters, among others. The key work streams include drafting of the registration statement, due diligence (business, financial and legal), preparing transaction documentation and other marketing materials (e.g., roadshow presentation). In addition to these service costs, companies applying for IPO also need to pay registration fees to the SEC. These above-mentioned costs are enormous.
The cost of STO depends on the specific regulations under which the STO is filed. If the security tokens are offered by registering Form-S1 (Form for IPO), it takes no less cost than an IPO. Launching an STO via other exemptions, however, may have lower costs instead. In comparison, ICO costs the least as it requires little efforts to ensure compliance. Additionally, thanks to distributed ledger technology, STO is able to embed the terms in the preparation work of issuance in the smart contract, in such way that STO can improve the efficiency of the whole process for fund-raising.

3. **Risk for Investors**

In general, securities have associated rights (in several forms) to their underlying assets owned by issuers. No matter securities represent voting rights or the profits-sharing rights, the value of the security is always backed up by the underlying assets. Therefore, investors care about the fundamental performance of the corresponding assets. Comparatively, no rights are given to the investors in the case of ICO and the value of the coin issued is largely decided by Tokenomics rather than the performance-based valuation. Given the different rights of possession and pricing mechanisms, the volatility of coins issued via ICO is considered to be the largest and ICO investors are exposed to the highest risks, compared to the registered offering or exemption offering.

4. **Restriction on Investors**

Investors in the case of ICO or public offerings are exposed to very limited restrictions on their qualification. STO, however, usually comes together with some level of restrictions under different rules of exemption. For example, security tokens issued under Reg D Rule 506(c) can only be sold to accredited investors, while under Rule 506(b) they are restricted to 35 sophisticated investors. There is no restriction on investor number or qualification under the Reg A+ exemption offering.

5. **Execution Circle**

The tokens issued via STO and ICO both are built on smart contracts, through which trading is automatically executed when certain conditions are met. As a result, the process for a trading is vastly simplified, and transaction cost is largely reduced. Additionally, tokens can be transferred between parties through platforms 24/7. Technically, a continuous transaction ensures that price can always reflect the instant market information. Moreover, through these nascent platforms, the trading can be executed in minutes rather than the traditional “T+2” timeframe in the case of IPO.

6. **Programmability**

Programmability could achieve the implementation of new forms of securities that were inconceivable before, in a way of designing customized security token designated with certain contract terms and achieving automatic compliance. For example, the Smart Contract provides programmatic regulatory compliance enabling more efficient security sales and investment exist. Even the compliance is slightly
more complex with an STO than an ICO, compliance can be hard-coded into the security token through new standards developed on the blockchain. The KYC/AML process can be coded in such way for accredited investors such that securities regulation is hard to violate. For another example, security token issuer who desires to issue one type of security token with voting rights can also imbedded the terms on top of its protocol, in such way that for token holders to participate on vital decisions relating to underlying asset of a security token. As the security token becomes more programmable, platforms that invest the most in programmable interfaces are likely to achieve relevant in the security market and enable the creation of developer communities.

III. Main Market Players of STO

Figure 4. Main Market Players of STO

A. SEC

SEC, the financial watchdog in the U.S., is the main regulator for STO U.S. market. People who plan to issue security token need to register or file with Division of Corporation Finance in SEC. Generally, for the security token issued under the regulation of public offering, the review period lasts three to four

10 Tokeny.com
months from filing-submission to application in effect. The similar period is required for the qualification for the security token issued under Reg A+.

B. Issuer

Issuers are companies who want to issue security tokens. Background information of issuers should be reviewed by independent legal delegates/attorneys. After completing the compliance required by offering regulations, security tokens are ready to be launched.

C. Investor

Investors are people who seek to invest in security tokens. Investors should be verified under Know Your Customers (KYC) and Anti Money Laundering (AML) requirements of regulations. Verified investors are then eligible to buy security tokens, subject to any additional requirements imposed by their broker, issuer, or secondary market.

D. Professional Service Provider

Investor accreditation providers are professionals who validate the legitimacy of investors, which mainly involve the KYC and AML processes. In some cases, legal advisors also get to be introduced or connected to issuers by platforms to provide compliance support to token issuers.

E. Platforms

There are three types of platforms which either specifically provide issuance and exchange services, or function as a hybrid platform that combines both.

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[Platform Logos]
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F. Secondary Trading

In the secondary market, there are emerging cryptocurrency exchanges and several traditional stock exchanges that are planning to provide trading services. Each of them has different advantages. Emerging cryptocurrency exchanges accumulate the experience in cryptocurrency trading, while traditional stock exchanges have complete licenses and experience in dealing with local regulators. These days, emerging
cryptocurrency exchanges are speeding up their licensing processes as well. Some of them have gained the Alternative Trading System (ATS) and the Registered Investment Advisors (RIA) licenses.

IV. How to Launch an STO?

A. Tokenization

Turn off-chain shares and assets including equity, real-estate, or fine art, into tokens by dividing into fractional ownership stakes.
Case 1: Tokenization: Aspen Coin – Tokenized Real-Estate Asset

The St. Regis Aspen Resort is a popular luxury property located near the Rocky Mountains in Colorado. In August 2018, with the help of Templum Market, Aspen Digital Inc, the single-asset real estate investment trust (REIT), launched the Aspen coins which represent the common share of the St. Regis Aspen Resort enabled by ERC-20 protocols. It converted $18 million, a portion of property’s $224 million valuation, into fractional ownership stakes to allow for investment. Each real estate token represents a common equity position in the St. Regis Aspen Resort and has been given its own S&P CUSIP: 04531E208.

Originally, it planned to launch a mini IPO in February 2018 under the Reg A+ exemption rules by its single-asset real-estate investment trust. However, it decided to shift to tokenization after recognizing the huge potentials and benefits of STO.

B. Issuance

In the U.S., the issuer shall complete applicable SEC filings to qualify the token as a security. The most common practices are to apply for Reg +, Reg D, Reg CF and Reg S. Launch the STO with legal and financial advisory support, as well as necessary KYC/AML processes, in order to ensure the compliance and financial viability of token issuance. Cases of issuance under different regulations will be provided in Chapter V.

C. Secondary Trading

Investors can execute secondary trading of security tokens on secondary trading platforms that have the broker-dealer/Alternative Trading System (ATS) licenses. The platform, ideally, should perform functions including the broker-dealer service, custodian/wallet as well as clearing and settlement.

Case 2: Token Exchange: Open Finance Network

Open Finance Network (OFN) is a secondary trading platform that provides liquidity for security tokens. It partners with asset tokenization platforms including Tokensoft, Harbor, Polymath, Securitize and Swarm Fund so that the tokens generated from these platforms can be traded on the Open Finance. It deploys the Open Finance Network Token on the exchange, which is an ERC-20 compliant security token that serves as a license to transact.

OFN offers the Investor Passport service, which is a single sign-on button with two factors authentication of KYC/AML information so that investors can easily access live trading and access services from OFN partners including Tokensoft, Harbor, Polymath, Securitize, without wasting time on repetitive verification work. OFN also provides security token protocol, Smart Security Standards (known as S3) and issuance mechanism to facilitate a compliance layer on top of the public blockchain that only allows tokens to be exchanged when regulation and compliance requirements are met. It is also the first trading platform to integrate with Market Access Protocol (MAP).
VI. Applicable Regulations of STO

There are two types of offerings: “Registered Offering” and “Exempt Offering”. Registered offering refers to a public offering of securities registered with the SEC and with appropriate state securities commissions. Initial Public Offering (IPO) is a typical case of a registered offering.

SEC regulation, as they pertain to Security Token Offerings (STOs), fall into exempt offerings, which can be divided into four categories: Regulation A (Reg A+), Regulation D (Reg D), Regulation Crowdfunding (Reg CF) and Regulation S (Reg S). As traditional registered offering is time-consuming and expensive, smaller or early-stage companies tend to choose regulation exemption to issue security tokens.

![Figure 6: Applicable Regulations of STO](image)

A. Public Offering Exemption: Regulation A (Reg A+)

Regulation A (Reg A+) can be found at 17 C.F.R. §§ 230.251 through 263. It applies to public offerings of security token and can be thought of as an alternative to a small registered IPO. Companies are entitled to “test the water” under Reg A+ rules, which means they are allowed to promote a potential offering and see how much interest they receive before formally submitting their filing to the SEC.

Regulation A creates two tiers of offerings, Tier 1, and Tier 2. Under the Tier 1 rules, the aggregate funding is capped at $20 million within a 12-month period, and the financial statements filed with Form

11 Id.
Tier 1 security tokens may be sold to both accredited and non-accredited investors. Under Tier 2, the aggregate funding cap is raised to $50 million within a 12-month period, however, the issuer must file audited financial statements with Form 1-A. Tier 2 investors can be accredited or non-accredited. Non-accredited investors cannot make a purchase larger than 10% of the greater of his/her annual income or net worth, or the revenue or net assets for its most recently completed fiscal year end. Under Tier 2, the issuer must also file several reports, including an annual report (Form 1-K), semi-annual report (Form 1-SA), and current reports (Form 1-U).

**Box 1: Pros and Cons of STO Under Reg A+**

**Pros:**
- Enjoy “Testing the Water” before a pursuing of STO.
- No required holding period before resale of security tokens.
- Offer to the general public and not just accredited investors.
- Tier 2 offerings exempt from state Blue Sky registration and qualifications.

**Cons:**
- Require reviewed or audited financial statements of issuers.
- Require filing annual reports, semi-annual reports and current reports with the SEC under Tier 2.
- The amount of time required to review by SEC is much longer than other exemption. There are no security tokens issued under Regulation A currently.

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12 17 C.F.R. § 230.251(a)(1).
13 17 C.F.R. § 230.251(a)(2).
14 Id.
The process of STO using Regulation A is similar to that of the registered offering. Issuers require file Form 1-A, known as the offering statement, and a preliminary offering circular, which loosely corresponds to a prospectus. The offering statements should contain two years of financial information. For a Tier 2 offering, that financial information must be in accordance with U.S. GAAP and audited by PCAOB licensed auditor. The registration statement is subjected to the federal antifraud provisions. Issuers must also file an exit report upon completion of the offering using for 1-Z.

Following the filing of the registration statement, the Division of Corporate Finance of SEC will review the filing and may request that the issuer provides additional information or exhibits. In response and in addition to providing the requested information, the issuer may be required to amend the filing. The review process is a major driver of the timing of the STO under Regulation A. The SEC usually provides the first comment letter within four to six weeks of filling. Upon the completion of the Division’s review, the registration statement may be declared as "qualified”, indicating the legitimacy of commencing sales. The amount of time needed to complete the qualification can vary widely. It may take months to address complicated accounting comments.

Although marketing activities can occur before the registration is declared qualified, Regulation A restricts the issuer from making offers or selling security tokens until filings are submitted to the SEC.

16 17 C.F.R. §§ 230.252, 253, 254
17 17 C.F.R. § 230.257.
19 Id.
In particular, no security token offering may be made until the offering statement (Form 1-A) is filed with the SEC. Following the qualification of the offering statement, the issuer may pursue sales and must file a final offering circular no later than two business days after it is first used.

Security tokens offered under the Reg A+ rules are considered as unrestricted security, which does not require holding period before resale. However, it comes with limitations on the amount that can be transferred in the first year. The aggregate secondary trading cap is limited to no more than 30 percent of the aggregate offering size. After the first year, non-affiliates will not be limited while resale amounts of affiliates will be subject to a $6 million cap under Tier 1 and a $15 million cap under Tier 2.

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21 17 C.F.R. § 230.251(d)(1).
23 § 230.251.
Case Study of Reg A+ —— Start Engine

StartEngine is a crowdfunding, ICO and STO platform, facilitating investment for start-up businesses. Founded in 2014, StartEngine has helped nearly 150 companies to raise capital by equity crowdfunding or ICOs under regulation CF, D, and A+. Based on the company’s financial report, StartEngine has achieved a revenue of $2,421,061 in the most recent fiscal year. On the SEC’s and FINRA’s approval of StartEngine as a broker-dealer and Alternative Trading System, StartEngine plans to operate a secondary marketplace for security tokens in the coming future.

Basic STO info

Regulation A+ Offering: Tier 2
Common shares(tokens):
Up to 1,000,000 shares
$10 per share
$500 minimum investment
No voting rights
Preferred shares(tokens):
Up to 1,136,363 shares
$8.8 per share
$200,000 minimum investment

The company is seeking to raise up to $10 million. The shares of Common Stock and Preferred Stock will be recorded in the form of Tokens on the Ethereum Blockchain.

STO Fees & Expenses

Audit Fee: $22,000
Legal Expense: $35,000
State Filing Fee: $10,000
Escrow Service Expenses:
- a license fee of $2.50 per transaction processed
- $250 for escrow account set up fee.
- $2 per domestic investor (individual) and $5 per domestic investor (entity) for AML check and $75 for international investors (entities))
- $3.00 per investor (one-time accounting fee upon receipt of funds)
- a cash management fee of 1% of funds

STO Service

Escrow Agent: Prime Trust
Legal Delegate: CrowdCheck Law
Registered Transfer Agent: StartEngine Secure
Auditor: DDBMcKennon

The company has not engaged commissioned sales agents or underwriters. The company will use its existing website(www.startengine.com), to provide information with respect to the offering.
B. Private Offering Exemption: Regulation D

Regulation D can be found at 17 C.F.R. §§ 230.500 through 508. The exemption is invoked by filing Form D for each new offering of security tokens within 15 calendar days from the first sale of the offering. Form D must be filed electronically using the EDGAR system.

There are three distinct paths to sales of security tokens under Regulation D. The first is under § 230.504, which provides a limited exemption for security offerings up to $5 million over a 12-month period for both accredited and non-accredited investors.

The second way is under § 230.506(b), which implicates no dollar limit and allows sales to both accredited and qualified non-accredited investors. The qualified non-accredited investors must have “such knowledge and experience in financial and business matters that he is capable of evaluating the merits and risks of the prospective investment.” The downside to § 506(b) is that no more than 35 sophisticated investors are allowed.

The third way of selling security tokens under Regulation D is the most popular, § 230.506(c). Like § 230.506(b), there is no dollar cap on this provision. Only accredited investors are eligible to purchase security tokens, and the issuer must take reasonable steps to verify that the investor is indeed accredited.

Regarding any sales to non-accredited investors, prior to the sale, the issuer must provide (1) non-financial statement information, (2) financial statement information, (3) a brief description in writing of any material written information concerning the offering that has been provided by the issuer to any accredited investor, but not previously provided to the non-accredited investor, and (4) notice to the non-accredited investor that the security tokens cannot be resold unless they are registered.

24 17 C.F.R. § 230.503(a).
25 17 C.F.R. § 230.503(b).
26 37 C.F.R. § 230.504.
27 37 C.F.R. § 230.506(b).
28 Id.
29 17 C.F.R. § 230.506(c).
30 Id.
Security tokens purchased under the Regulation D are “restricted securities”, which means investors should hold those tokens for one year in general before selling them. However, Section 4(a)(7) enables investors to sell securities tokens without holding requirements, but shares must be of a class authorized and outstanding for at least 90 days prior to sale and only accredited investors can buy them. tZero, who issues one of the first STOs on a decentralized public network, leverages the exemption to enable accredited new investors to buy their tokens after the 90-day period of issuance.

Box 2: Pros and Cons of STO under Reg D

Pros:
- No limit amounts of offerings for 506(b) and 506(c).
- No requirements for financial statements and financial disclosures to accredited investors.
- Easy and time-saving process.

Cons:
- Under 506(b) and 504, the issuer cannot use general solicitation or advertising to market the securities.
- Under 506(c), only accredited investors can invest the security.
- No right to enjoy “Test the Waters”.
- Issuers should hold the security token for a year before resale in general.

Figure 8: Flow Diagram of STO under Reg D

Preparation:
- Organize a team with security attorneys, accountants, broker-dealers, consultants and market advisors.
- Prepared documents including Private Placement Memorandum (PPM), subscription agreement, etc.

Issuance:
- Announced the selling period of the offering.
- Conduct KYC/AML process to verify the accredited investors, sophisticated investors and unsophisticated investors.
- Distribute security tokens to the subscribers.

Filing:
- A regulation D offering commenter is required to file Form D with SEC within 15 days after the first sale of securities in the offering.

Trading:
- The security tokens issued under Regulation D are restricted securities which can only be traded to non-accredited investors on designated platform 1 year after the close of the offering.

Case Study of Reg D (rule 506c) —— tZERO

tZERO Group, Inc. (“tZERO”) is a majority-owned subsidiary of Overstock.com, focusing on the development and commercialization of financial technology (FinTech) based on cryptographically-secured, decentralized ledgers – more commonly known as blockchain technologies. tZREO builds an exchange platform that seeks to offer traders access to the security token secondary market by providing encrypted accounts, a trading venue, and clearing settlement services. Since its inception, tZERO has pioneered the effort to bring greater efficiency and transparency to capital markets through the integration of blockchain technology.

<table>
<thead>
<tr>
<th>Basic STO Info</th>
<th>Basic Service Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Token</strong>: ERC-20 compliant token</td>
<td><strong>Broker-dealer:</strong></td>
</tr>
<tr>
<td><strong>Type</strong>: Preferred Equity Tokens (no voting right)</td>
<td>• Americas Executions, LLC</td>
</tr>
<tr>
<td><strong>Token Supply</strong>: 26,228,771</td>
<td>• Fusion Analytics Securities, LLC</td>
</tr>
<tr>
<td><strong>Average Token Price</strong>: $5.14</td>
<td>• Chardan Capital Markets, LLC</td>
</tr>
<tr>
<td><strong>Total amount raised</strong>: $134,794,328</td>
<td><strong>Issuance Platform</strong></td>
</tr>
<tr>
<td><strong>Distribution Date</strong>: October 12th</td>
<td>• SAFTLaunch</td>
</tr>
<tr>
<td><strong>Holders</strong>: 1079 addresses</td>
<td>• StartEngine Crowdfunding</td>
</tr>
<tr>
<td><strong>STO Period</strong>: 2017/12/18-2018/08/06</td>
<td><strong>Advisor</strong></td>
</tr>
<tr>
<td><strong>Payment accepted</strong>: USD, BTC or ETH valued in USD</td>
<td>• Alchemist Group LLC</td>
</tr>
<tr>
<td></td>
<td>• Liquid Digital Holdings LLC</td>
</tr>
<tr>
<td></td>
<td>• Distributed Network Advisors LLC</td>
</tr>
<tr>
<td></td>
<td><strong>Others Marketing Advisors</strong></td>
</tr>
<tr>
<td></td>
<td>(Not disclosed)</td>
</tr>
</tbody>
</table>

**STO Fees & Expenses**

- **Sales Commission Fee**: $1,924,027
- **Advisory and Other Service Fees**: Customary fees not disclosed
  - Expected 2.3 million tokens as compensation for advisory
C. **Regulation Crowdfunding Exemption: Regulation CF**\(^{32}\)

The exemption under Regulation Crowdfunding sets a funding cap of only $1,070,000 within a 12-month period but allows for straightforward investment from unsophisticated investors. Regulation Crowdfunding offerings can be invoked by filing Form C and an offering statement disclosure.\(^{33}\)

Under this exemption, the investors’ maximum investment is strictly limited. Where the investors’ annual income/net worth is less than $1,070,000, the maximum investment is capped at the greater of $2,200 or 5% of the lesser of the investor’s income or net worth.\(^{34}\) During any 12-month period, an investor may not purchase more than $1,070,000 in all Regulation Crowdfunding offerings.\(^{35}\)

All Regulation Crowdfunding offerings must be conducted through a single intermediary website selected by the issuer.\(^{36}\) The intermediary must be a broker-dealer or a funding portal that maintains registration with both the SEC and FINRA. Where the intermediary provides frequent updates as to the progress of the issuer’s funding on its website, as many presently do, the issuer must file a Form C-U indicating the total amount of security tokens sold when the offering closes.\(^{37}\) Additionally, the issuer must post on its website and electronically file, via EDGAR, annual reports using Form C-AR no later than 120 days after the end of its fiscal year.

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Figure 9: Flow Diagram of STO under Reg CF

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\(^{32}\) https://www.sec.gov/info/smallbus/secg/rccomplianceguide-051316.htm

\(^{33}\) Id.

\(^{34}\) Id.

\(^{35}\) Id.

\(^{36}\) Id.

\(^{37}\) Id.
Box 3: Pros and Cons of Reg CF

Pros:
- Enjoy general advertising.
- Exempt from compliance with state security laws or “Blue Sky Laws”.
- Allow for unsophisticated investors.

Cons:
- Strictly limited maximum investment.
- Different requirements of financial statements based on the amount of investment.
- Requirement of a single intermediary website with fully compliance.
- The security can’t be resold for a year without registering them in general.

Case Study of Reg CF —— Gab AI Crowdfunding Offering

Gab AI Inc. is a social networking platform that offers telecommunications and social networking services, namely, providing live-streaming of video, online chat rooms, and electronic bulletin boards for the transmission of messages among users in the field of general interest.

Basic STO Info

- **Capital raised:** $1,067,287.85
- **Selling period:** 2018/09/19-2018/11/18
- **Tokens (Shares) sold:** 267,947
- **Investors:** 1,892
- **Purchase price per token:** $4
- **Type of token:** Class B Non-Voting Common Stock
- **Blockchain:** Ethereum Blockchain
- **Dividend right:** Yes
- **Restriction on transfer:** 1 year from the closing of the offering

Service Providers

- **Auditor:** dbbmckennon
- **Intermediary:** StartEngine as the host of the small OPO

Service Expenses and Fees:
- **Accounting/Audit Fee:** $37,500 (Reg A+ Offering document used here)
- **StartEngine Service Fee:** 6% of the offering amount (covering escrow fees, AML fees, transaction fees, disbursement fees, and SEC filing review)
D. Sale to Non-US Investors: Regulation S Exemption

Regulation S comprises five rules, including Rules 901-905. It exempts registration with the SEC for the sale of security tokens to non-U.S. investors. A company that makes their offering under Reg S is also allowed to use other regulation exemptions to raise capital in the U.S.

Rule 903 is the most relevant rule in the case of a U.S.-based issuer. Rule 903 provides that an offer/sale of securities by the issuer shall be deemed to occur outside of the U.S., and therefore exempt from SEC registration, if (1) the offer/sale is made in an offshore transaction, (2) no directed selling efforts are made in the U.S. by the issuer, (3) the “additional conditions” are also satisfied, based on the status of the issuer and whether the securities are in debt or equity. The additional conditions comprise Categories 1-3, although only Categories 2 and 3 are relevant to a US-based issuer. Where the issuer is a reporting issuer and issuing debt securities, the restrictions of Category 2 apply. Where the issuer is non-reporting and issuing debt securities, the restrictions of Category 3 apply. Additionally, where the issuer is reporting and issuing equity securities, the restrictions of Category 3 apply. Generally, where these additional conditions apply, the U.S.-based issuer will need to refrain from making offers and sales to U.S. persons and to persons that would benefit a U.S. person.

**Figure 10: Flow Diagram of STO under Reg S**

Preparation:
- Assemble a team with legal attorney, underwriter, transfer agent, and other service providers to prepare offering memorandum, notice of restriction and other documents

Issuance:
- Conduct market campaign to promote the offering outside the U.S.
- Take KYC/AML check to verify eligible investors
- Distribute security tokens to the subscribers.

Filing:
- File forms (10-Q, 10-K, 10-C5B, 10-KSB) with SEC if applicable

Trading:
- The security tokens issued under Regulation S can only be traded offshore between non-US investors after the close of the offering.

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38 [http://www.columbia.edu/~hcs14/RegS.htm](http://www.columbia.edu/~hcs14/RegS.htm)
Case Study of Reg S —— SPiCE VC

SPiCE announced the launch of their STO in October 2017. That STO is for their VC fund. The VC fund can accept investments from pre-qualified investors (based on country-specific regulations) while offering immediate liquidity in a market that, up to this point, has been completely illiquid.

<table>
<thead>
<tr>
<th>Basic STO Info</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Country of origin:</strong> Singapore</td>
</tr>
<tr>
<td><strong>Token supply:</strong> 130,000,000 SPiCE Token</td>
</tr>
<tr>
<td><strong>Target fund size:</strong> $10,000,000</td>
</tr>
<tr>
<td><strong>Offering price:</strong> $1</td>
</tr>
<tr>
<td><strong>Token type:</strong> ERC 20 compliant token</td>
</tr>
<tr>
<td><strong>Currency accepted:</strong> USD, EUR, ETH and BTC</td>
</tr>
<tr>
<td><strong>Investors:</strong></td>
</tr>
<tr>
<td>1. Up to 99 beneficial owners under Reg D</td>
</tr>
<tr>
<td>2. Unlimited subscribers under Reg S</td>
</tr>
<tr>
<td><strong>Token holder rights:</strong> Profit share right, no voting right, no dividend right</td>
</tr>
</tbody>
</table>

E. Exchange Listing Standards

An issuer that intends to list its security token on a securities exchange must meet the listing standards provided by that particular exchange. Listing standards vary from exchange to exchange. Examples of listing standard criteria may include compliance obligations, such as U.S. Securities Law, Anti Money Laundering (AML), and Know Your Customer (KYC), “bad actor” background checks, assessments of leadership and governance, assessments of engineering and security, assessments of token mission and values, assessment of the risk of price manipulation, and assessments of the token structure, including its interoperability, applicable standards, scaling capability, and availability of source code and documentation.39

<table>
<thead>
<tr>
<th></th>
<th>Public Offering Exemption: Reg A+</th>
<th>Private Offering Exemption: Reg D</th>
<th>Offshore Offering Exemption: Reg S</th>
<th>Crowdfunding Exemption</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tier 1</strong></td>
<td>Maximum Offering: 20 million</td>
<td>Rule 504: $5 million</td>
<td>No limit</td>
<td>$1,070,000</td>
</tr>
<tr>
<td><strong>Tier 2</strong></td>
<td>Form 1-A</td>
<td>Form D</td>
<td>No specific requirements</td>
<td>No specific requirements</td>
</tr>
<tr>
<td><strong>Notice Required to SEC</strong></td>
<td>No specific requirements</td>
<td>Within 15 days after the first sale</td>
<td>No specific requirements</td>
<td>No specific requirements</td>
</tr>
<tr>
<td><strong>Limits on Unaccredited Buyers</strong></td>
<td>No limit</td>
<td>No limit</td>
<td>Accredited investors only</td>
<td>Limited amount depends on annual incomes</td>
</tr>
<tr>
<td></td>
<td>Limited amount depends on annual incomes. However, this limit doesn’t apply to securities that will be listed on a national securities exchange upon qualification.</td>
<td>Up to 35 investors, who must be sophisticated</td>
<td>Non U.S. Investors Outside the U.S.</td>
<td></td>
</tr>
<tr>
<td><strong>Limits on Accredited Buyers</strong></td>
<td>No limit</td>
<td>No limit</td>
<td>No limit</td>
<td>Non U.S. Investors Outside the U.S.</td>
</tr>
<tr>
<td><strong>General Advertising</strong></td>
<td>No prohibition</td>
<td>General prohibition</td>
<td>General Prohibition</td>
<td>Can’t advertise the terms of the offering except in a notice that directs investors to the intermediary’s platform</td>
</tr>
<tr>
<td><strong>Financial Disclosure</strong></td>
<td>Reviewed financial statements</td>
<td>2-year Audited financial statements</td>
<td>No specific requirements</td>
<td>No specific requirements</td>
</tr>
<tr>
<td><strong>Holding Period Before Resale</strong></td>
<td>No limit</td>
<td>6 months or 1 year in general</td>
<td>Resale freely outside the U.S.</td>
<td>1 year in general</td>
</tr>
<tr>
<td><strong>Intermediary</strong></td>
<td>No specific requirements</td>
<td>No specific requirements for accredited investors</td>
<td>No specific requirements</td>
<td>Through one online platform with broker-dealer license</td>
</tr>
<tr>
<td><strong>Subject to Blue Sky Laws</strong></td>
<td>Partly subject to</td>
<td>Not subject to</td>
<td>Partly subject to or state exemption</td>
<td>Not subject to</td>
</tr>
</tbody>
</table>

Table 3: Reg A+ vs Reg D vs Crowdfunding Exemption
VII. Future of STO

Security token offering is far more than a U.S. phenomenon. By introducing the real-world assets into the blockchain-backed system while also ensuring compliance, security tokens are bridging the gap between the crypto world and the traditional finance world globally. STOs are expected to make the best use of cost-efficient technology innovation to offer an alternative of fundraising and asset management to tech-savvy entrepreneurs and investors across the globe.

Nonetheless, given its compliance nature, STO faces pressures from the current regulatory system. It is still currently centralized and subject to country-specific jurisdictions. Investor qualification and the lock-up period are also barriers for reaching the investment scale potentials in the short run.

Despite all these challenges, however, the long-term potentials of STO cannot be underestimated. Regulators and financial institutions have shown stronger interests in working together with practitioners to pave the way for boosting financial market innovation.

MSX, the fintech arm of Malta Stock Exchange, has partnered with Neufund, a token issuance platform, to pilot a regulated and compliant trading platform for security tokens. These emerging interests are not only seen in this blockchain island country but also seen worldwide with the upcoming experiments of many stock exchanges. London Stock Exchange is collaborating with the UK’s main financial regulator, the Financial Conduct Authority (FCA), to issue tokenized equities. The Australian Securities Exchange (ASX), Australia’s primary stock exchange, started developing infrastructures for its trading platform based on the blockchain technology to replace its Clearing House Electronic Sub-Register System (CHESS) which will be launched in March or April 2021. Switzerland’s primary stock exchange, SIX Swiss Exchange, is working on a “SIX Digital Exchange” (SDX) project to tokenize existing conventional securities and other traditionally illiquid assets. Nasdaq has also been reported to consider developing security token platforms in the near future, which indicates huge interests from the traditional finance giants to embrace the new concept and mindset.

As investors and entrepreneurs, it is critical to understand the nuances of different jurisdictions and assess the viability of STO as to whether it makes sense for their business and compare it with alternatives. Only by doing so, they will be able to really make the most of STO and grow their business together with this revolutionary technology achievement.