



Swarm

Product Case Study

Swarm is an open Market Access Protocol and a decentralized STO issuance platform for asset tokenization through fundraising.

We've been working together with the Swarm team since December 2018.

01 Investor Onboarding Platform

02 Fundraising Platform

03 Swarm Regulatory Compliant Token Contract



First of all—Swarm is a non-profit. They rapidly transformed from a mere issuance platform and now provide open infrastructure to create, issue, and trade digital securities. Their company offers free tokenization and strives to remove the barriers between investors and investments.

Tokenization Toolkit is a platform framework that allows for the representation of assets as digital tokens. It allows for complete token management across chains, as well as for tokens representing security to be programmed for compliance, to facilitate dividend payments, be sold as a fundraising mechanism, and much more.

Anyone who can add value to the ecosystem of digital securities can freely participate. In order for all participants to stay fully compliant regardless of their jurisdiction, Tokenization Toolkit uses Swarm's Compliance Toolkit that operates on Market Access Protocol. That's where our team kicks in.

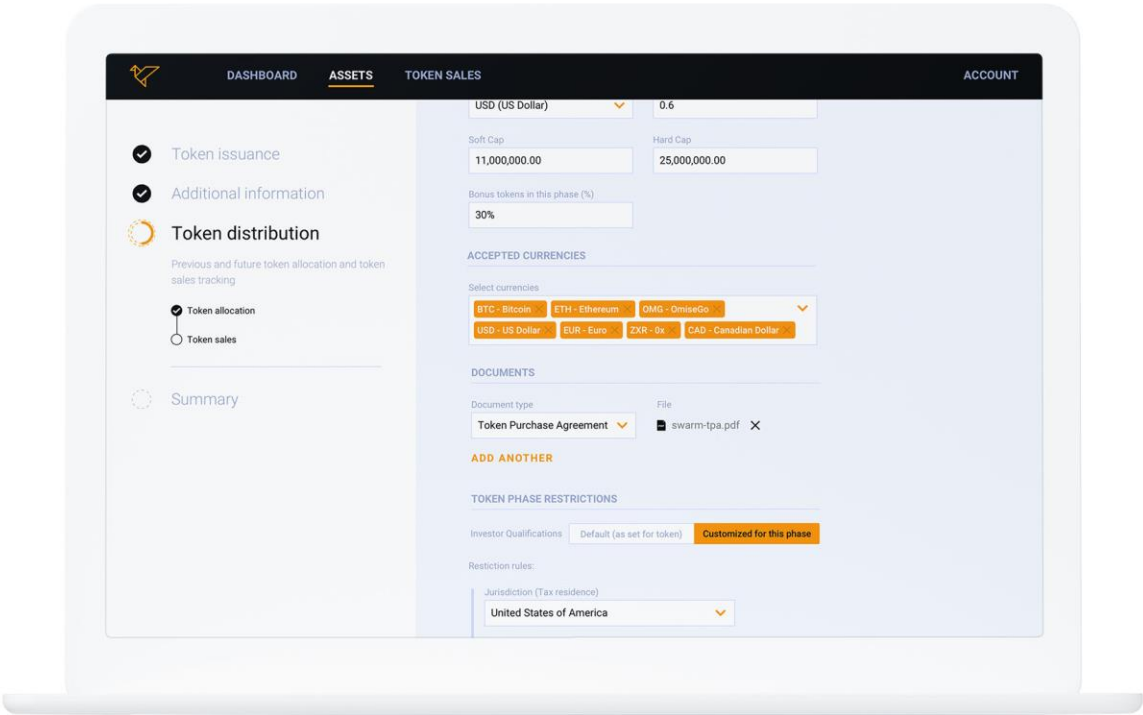
MVP Workshop worked extensively alongside Swarm to create the first-ever globally compliant protocol.

The platform and MAP create an open-source decentralized system that can be interpreted as a registry of STOs, asset tokens, certificate issuers, claims, certificates, and associations that are architected as a decentralized network of nodes with a blockchain layer as a foundation, and it can be used for the transfer or purchase of digital securities both inside and outside of blockchains.

It preserves the privacy of personal information by using certificates that prove the authenticity of the investor's claim without revealing the underlying data.

Simply put, after a successful STO issuance on the platform, investors are able to trade with their token using MAP that further allows certificate and token issuers, as well as investors, wallets and exchanges to apply a compliance layer to all of their cryptocurrency-based digital assets. It realizes the transfer of digital assets and ownership assets more easily by automating and managing transactions and agreements between the parties.

The Investor Onboarding and Fundraising Platforms backed by the SRC-20 Token Smart Contract are already live and currently serving two active STOs: **Resolute Fund** and **INDX Capital**.



01 Investor Onboarding Platform

CHALLENGE

Make the otherwise complex, cumbersome, and tedious process of Investor onboarding a simple, intuitive and enjoyable journey.

SOLUTION

We designed the Onboarding Platform that will serve its purpose - to enable Investors to easily take part in a fully regulated STO. This is accomplished by fulfilling all of the requirements while at the same time explaining how it works and why it is important, removing any uncertainty and necessary burden of the process.

RESULTS

- Product design for complete Investor onboarding flow, starting from the universal Swarm Investor Pass account for sign-up/sign-in, through mandatory KYC/AML flows and optional Bank onboarding flows for fiat investments, and finally, specific Terms & Conditions defined by the Token Issuer.
- Investor Onboarding further customized for respective Resolute Fund and INDX brandings and specific requirements: different jurisdiction-specific compliance requirements (e.g., Accredited Investor) and different external KYC/AML and Bank services providers



02 Fundraising Platform

CHALLENGE

Build a Fundraising Platform, as a complement to the Investor Onboarding, that will further enable Investors and Token Issuer to participate in and monitor the progress of the STO.

SOLUTION

We designed and built a Fundraising Platform that enables Investors to take actions through investing, viewing detailed history and status of his investments and monitor the overall STO progress. Also, providing the Token Issuer with the ability to monitor the progress of his STO and all the transactions made by all Investors.

RESULTS

- Product design and development of the Investor Dashboard with multi-crypto and multi-fiat investing functionality, all personal investment details, an overview of the STO progress and details including current and future phases details, etc.
- Product design and development of the Token Issuer Dashboard that enables tracking of all of the Investors' transactions, different statistics, the progress of the STO, etc.
- Product Design and development of Public Fundraising Progress widget
- Developed Swarm Collect backend service (a.k.a. "Watcher") that monitors STO and reacts on specific events and triggers with predefined actions
- Integrated Copper custodian services provider enabling support for multi-cryptocurrencies investments
- Enabled support for multi-currency fiat investments
- Implemented support for multi-STO events running in parallel each with their own specific requirements.

INDX Token

INDX

Current stake required

\$183,498

50,000 SWM

Collected so far:

\$18,349,736 (73.5%)

Softcap <input checked="" type="checkbox"/>	Hardcap	Status
\$15,000,000	\$25,000,000	Funded, Ongoing

Current price	Next phase price	Bonus tokens
\$0.5	\$0.75	25%

This phase ends in:

12 04 37 59

DAYS HOURS MINS SECS

No. of investors	Top investment
22,430	\$128,043.53

Supported currencies
BTC, ETH, All ERC-20, EUR, USD, CAD, XRP, BCH, DAI, SWM

Investments per:

COIN	COUNTRY
BTC 51.3%	\$11,403,504.04
ETH 27.1%	\$11,403,504.04
USD 17.6%	\$11,403,504.04
XRP 11.3%	\$11,403,504.04
Other 6.2%	\$11,403,504.04

TRANSACTIONS

INVESTORS

[EXPORT CSV](#)

Timestamp	Status	Amount	Currency	Value in USD
21/02/2019 12:34 PM	<input checked="" type="checkbox"/> Completed	1,245.0435	ETH	\$32,564,034.21
21/02/2019 12:34 PM	<input type="checkbox"/> Pending...	12.0034	BTC	\$32,564,034.21
21/02/2019 12:34 PM	<input checked="" type="checkbox"/> Completed	1,245.0435	XRP	\$32,564,034.21
21/02/2019 12:34 PM	<input checked="" type="checkbox"/> Completed	1,245.0435	USD	\$1,245.045

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[EXPORT CSV](#)

<input type="radio"/> Name	Email address	Investments	Country
<input type="radio"/> Emily Griffin	leopold_hane@yahoo.com	\$0.00	Bolivia
<input type="radio"/> Dominic Benson	patience_waelchi@gmail.com	\$23,403.05	Hong Kong
<input type="radio"/> Emma Morrison	freddy_roob@stark.us	\$0.00	Macedonia
<input checked="" type="radio"/> Gerald Douglas	will_meggie@pfeffer.biz	\$45,075.01	Estonia



03 Swarm Regulatory Compliant Token Contract

CHALLENGE

Enable and enforce that only qualified Investors, represented by their wallets, can participate in a token sale and also that all secondary market tradings are regulatory compliant.

SOLUTION

We designed and developed a suite of Smart Contracts that enable creation and management of the SRC-20 Token Smart Contracts which, in turn, adhere to different on- and off-chain transfer restriction rules defined by the Token Issuer in line with the regulatory requirements, throughout the life of the token.

RESULTS

- Designed and developed **Regulatory Compliant Token Contract suite** that includes SRC-20 Token Smart Contract and additional contracts which implement factory that Swarm uses to create new SRC20 tokens, and a registry/manager of this tokens that handles burn/mint in relation to SWM token staking, and auxiliary contracts for features of the SRC20 tokens such as transfer restrictions, feasibility and authority and delegate rules
- Testing and preparing the Regulatory Compliant Token Contract suite for network-wide deployment, with additional support for future on-chain rules
- SRC-20 Token Smart Contract audited by Coinspect and found no security issues.

More to come...