



# SWARM FUND

*The Blockchain for Private Equity*

*The first globally live security token platform,  
coming to market by tokenizing funds  
and other assets*

**White Paper**

April, 2018 / V0.91

*Contents of the white paper are subject  
to changes and improvements.*

# Abstract

Swarm's governance-first model has been designed to bring \$1 trillion in real assets into the blockchain world by creating a platform for regulatory engagement and a fully compliant legal container for highly profitable and scalable investments.

As with other highly successful network models like Visa, our infrastructure is fully accessible and entirely governed by its community members. We use a token-based, stake-weighted, liquid democracy system to provide both an early adopter incentive and input into long-term decision making. This is augmented by a reputational system, which helps streamline capital deployment and allow a fusion of human and artificial intelligence.

We launch with multiple partner funds (distressed real estate, art, renewables, hedge funds) who have already deployed \$100mm+ with 30+% IRR and team members who have built platforms that handle over \$20B in transactions per month. Our market infrastructure allows funds to automate creation, fundraising, deployment, distribution, and reporting via a process language that is an enhancement of currently available smart contract technology.

# Disclaimer

The attached white paper is meant to describe Swarm's currently anticipated plans for developing its business and its SWM Tokens. Nothing in this document should be treated or read as a guarantee or promise of how Swarm's business will develop or of the utility or value of SWM; the document outlines our current plans, which could change at our discretion, and the success of which will depend on many factors outside our control, including market-based factors and factors within the cryptocurrency industries, among others.<sup>1</sup>

Any statements about future events are based solely on our analysis of the issues described in this document, and our analysis may prove to be incorrect.

Purchasing SWM is subject to many potential risks, some of which are described in this paper, and some of which are provided in the FAQ on SWM Tokens and the Token Offering and in the risk disclosures for the Token Offering. These documents, along with additional information about our business and the SWM, are available on our website.<sup>1</sup> Purchasers of SWM could lose all or some of the value of the funds used to purchase SWM.

<sup>1</sup> Make sure to review:

<https://docs.swarm.fund/swarm-otc-risk-disclosures.pdf>

<https://docs.swarm.fund/swarm-otc-token-term-sheet.pdf>

<b>1. INTRODUCTION</b>	<b>5</b>
1.1 Overview	5
1.2 The Ultimate Value Proposition	6
1.3 Current Investment Drawbacks	7
1.4 Mission Statement: Why We Created Swarm Fund	8
<b>2. SWARM INNOVATIONS</b>	<b>10</b>
2.1 Liquid Democracy	10
<b>3. SWARM TOKEN</b>	<b>13</b>
3.1 Two-tiered Token Model	13
3.2 Token Utility and Value	14
<b>4. SWARM PLATFORM MODEL</b>	<b>20</b>
4.1 Swarm Layers	20
4.2 Platform Components	22
<b>5. SWARM APPLICATIONS</b>	<b>25</b>
5.1 Characteristics of Pilot Asset Classes	25
5.2 Crypto Hedge Fund	26
5.3 Distressed Real Estate	26
5.4 Solar Installations	26
5.5 Purpose-driven Funding Pools	27
<b>6. TOKEN OFFERING</b>	<b>28</b>
6.1 Token Offering in Brief	28
6.2 Token Allocation	28
<b>7. ROADMAP</b>	<b>29</b>
7.1 Key Activities	29
7.2 Finances	30
7.3 Development Roadmap	31
<b>8. LEADERSHIP</b>	<b>32</b>
8.1 Core Team	32
8.2 Capital Market Advisors	35
8.3 Technology Advisors	36
8.4 Governance and Organizational Design Advisors	36
8.5 Partners	37
<b>9. LEGAL INNOVATIONS</b>	<b>38</b>
<b>10. MEDIA COVERAGE</b>	<b>40</b>
<b>11. REFERENCES</b>	<b>41</b>

# 1. Introduction

## 1.1 OVERVIEW

The Swarm Fund team plans to help the crypto world grow to \$1 trillion by bringing tokenized real-world assets through partner funds.

The Swarm Fund team has managed \$10B in portfolios and built platforms which handle \$25B of monthly deal flow and already has several pre-selected funds which generate 30+% IRR through scalable models powered by artificial intelligence.

Swarm token holders will govern the platform in which all of this will happen and receive additional tokens on the private blockchain. This will allow them to participate in all of the subfunds.

This system is designed to be adaptable for full regulatory compliance in multiple jurisdictions. The corridor between the public and private blockchain tokens is additionally designed to be fully AML/KYC compliant and to follow the model of existing exchanges.

Swarm is building technology bottom-up, with a fully operational liquid democracy platform for making key decisions related to investment opportunities on Swarm.

Our technology and blockchain co-op model will likely also be useful for other industry verticals besides finance.

*People should participate if they believe in the value proposition of democratizing finance, collaborative ownership, high returns, and the soundness of both the team and technology.*

Swarm goes beyond the typical ICO approach:

Standard ICO Approach	Swarm Approach
Utility token on public blockchain	Utility token on public blockchain, and unlimited security tokens on private blockchain
Unclear underlying value	Sub-tokens backed by existing highly profitable sub-funds holding real assets
Single Swiss nonprofit foundation	Seven inter-networked legal entities in different jurisdictions united by one platform co-op
Unclear relation with regulators	Direct relationships with regulators in multiple jurisdictions and organized legal conferences with extremely positive responses
Prototype product or no product	Working alpha product of utility layer and private blockchain asset structure
No governance	Liquid democracy model on foundation level as well as for each security token separately – allows users to vote on any kind of issue
No experience delivering product	Team includes two previous CEOs with proven track records building and selling companies and private equity domain experience
Token value is derived from velocity of token transfer	Token value is derived from functioning as “gas” of all fund operations and token transactions on the network
Unknown or non-existent AML/KYC	Fully compliant investor qualification (AML/KYC, etc.) through private blockchain implementation fully implementing local jurisdictions

## 1.2 THE ULTIMATE VALUE PROPOSITION

From the standpoint of organizational design, Wall St. is a collection of archaic incentive models waiting for a fully peer-to-peer organization to disintermediate and redistribute the wealth that is monopolized by a small group of insiders. Wall St. insiders are able to manipulate market prices by creating artificial scarcity and promoting fear and ignorance of other models.

Peer-to-peer models consistently beat protectionist monopoly-based models because they directly incentivize top performers rather than creating multiple levels of opaque hierarchy, and because they layer dynamically-generated reputation on top of these models.

Additionally, peer-to-peer models are a perfect substrate for the utilization of artificial intelligence and a much higher degree of automation in general. Peer-to-peer models combined with models of cooperative ownership also allow a high degree of resistance to abuse of big data, as well as integration with other governance systems to offset any potential abuses.

Systems are a product of their incentives. If the existing Wall St. model has incentives for protectionism and hierarchy, Swarm Fund has incentives for early identification of talent and rewards that proportionally follow high performance.

### 1.3 CURRENT INVESTMENT DRAWBACKS

#### Crypto Asset Holders

The investment landscape for crypto asset holders is largely limited in choice to either a selection of established crypto currencies, (e.g. Bitcoin, Ether, Ripple etc.) or a selection of more recently issued tokens (i.e. altcoins). While overall crypto asset developments are extremely positive, both asset categories have significant challenges associated with them from an investment perspective.

- ◆ For Bitcoin and Ether, volatility is a major factor. Holding a significant portfolio of Bitcoin and Ether implies that the net asset value fluctuates by a significant percentage on a monthly basis. As an investment, this could be desired, but for the purpose of predictable preservation of value, it is highly undesirable.
- ◆ For investment in altcoins, the challenges are primarily related to the evaluation of assets prior to investment, and lack of liquidity post investment. It is also difficult for many investors to clearly understand the market dynamics of the coins.
- ◆ Although the two million crypto asset transactions every week between people, businesses, and charities suggest a significant value exchange, the grand question of the intrinsic value of Bitcoin and its peers remains.<sup>1</sup>

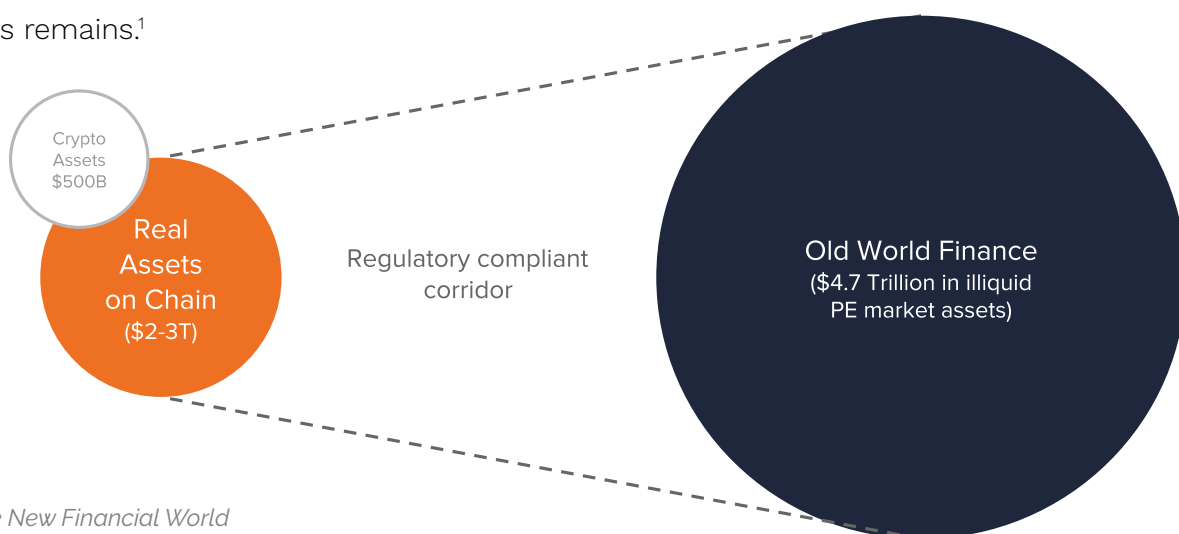
Meanwhile, tokens that store digital value are breaking into the mainstream investment landscape as a new asset class in which to allocate investment capital. This is largely driven by an increasing awareness of the extreme returns generated by the early investors in this category. But for the mainstream investor, this new asset class presents challenges; namely, the workflow basics of navigating trading, and maintaining asset security.

#### Market Problems in Traditional Investing

Over the last 15 years, a simple S&P 500 index fund outperformed 92% of large-cap funds. Meanwhile, the percentages of mid-cap and small-cap funds lagging their benchmarks were 95% and 93%, respectively. The odds of an actively-managed domestic equity mutual fund performing better than an index fund are nearly as bad as 1 out of 20.<sup>2</sup>

Finding products with high investment return is a challenge, which increases as the target return increases. The marquee products offering more than 10% returns are invariably hard to access (Bridgewater generally requires that its clients have a minimum of \$5 billion of investable assets<sup>3</sup>).

Take real estate as an example. Investors



*Bridge to the New Financial World*

<sup>1</sup> "Look, this is a perfect asset for a speculative bubble...There is a finite supply. There is no intrinsic value. If anybody is persuading you that it should somehow be related to some GDP or gold...put down the Kool-Aid and back away." Henry Blodget, founder and CEO of Business Insider, on CNBC's Squawk Alley

<sup>2</sup> <http://www.marketwatch.com/story/why-way-fewer-actively-managed-funds-beat-the-sp-than-we-thought-2017-04-24>

<sup>3</sup> <https://www.elitetrader.com/et/threads/so-you-want-bridgewater-to-manage-your-money-there-is-one-small-condition.290936/>

mostly face three major challenges:

- ◆ The most exciting deals are for insiders only; accessing them requires working through middlemen that are costly, sometimes untrustworthy, and who often only operate locally.
- ◆ Large amounts of money are required to participate in the best opportunities.
- ◆ Worst of all, investment is often tied down for an indefinite amount of time.

Combinations of these challenges are part of any traditional investment product category, e.g. private equity and hedge funds.

#### **1.4 MISSION STATEMENT: WHY WE CREATED SWARM FUND**

Swarm is a fully decentralized capital marketplace platform built on blockchain technology that is entirely owned by the community.

Our vision is to allow anyone, anywhere in the world, to participate in value creation within the crypto asset category and to capture opportunity in new types of asset-backed tokens, including in real estate, hedge funds, solar installations, and many more.

Swarm transforms financial opportunities from exclusive to inclusive. We provide access and tradability so that anyone can take part and have their crypto funds work for them.

With Swarm, we will:

- ◆ Make it extremely simple for hands-off or novice crypto investors to participate in a composite of wealth creation resulting from utilizing the crypto space.
- ◆ Create a viable framework and hub for crypto investors to invest into alternative, asset-backed token opportunities, in order to escape market volatility.
- ◆ Introduce a new alternative liquidity hub for project owners with attractive underlying economics to find capital and engage with the investor community.

#### **Core Objective: Follow The Experts**

Swarm allows experts to run their own syndicates and have other crypto investors join them in projects and deal opportunities, with no middlemen involved.

We are building an ecosystem of experts with any kind of edge (track record, trading ability, unique data, unique deal access, etc.) in order to allow crypto investors to follow and co-invest with them.

This changes the mechanics of the traditional fund/GP model, as investments can be as large or small as the investor wants them to be, and they can operate the fund structures very flexibly. Also, it breaks up the syndicates of gatekeepers and rigid structures of institutional capital as it is deployed today.

#### **Core Objective: Combine Token Flexibility With Real Opportunities**

Crypto investors have appreciated the flexibility and immediate market-making function that tokenization has introduced. Tokens and their underlying smart contracts represent the ultimate opportunity for two parties to come together and interact without middlemen. One benefit is the freedom to trade or co-own tokens. That is the freedom we want to bring to any kind of asset. When a participant likes an opportunity running on Swarm, they will be able to pool funds together with others and invest as little or as much as they want in order to realize the project and see the opportunity grow. At the same time, all projects become tradable, asset-backed tokens. Participants can buy or sell these tokens whenever they want; they decide how long to engage. All trades are made using blockchain technology, making them fast, transparent, and secure.



### **Core Objective: Collective Intelligence**

We believe in the swarm intelligence hypothesis that decentralized networks can out-compete traditional centralized entities, and that the trust and transparency embedded in blockchains greatly facilitates this.

The foundational element of the blockchain is data transparency, which provides a basis for an unprecedented degree of machine-driven methods to generate insights and take actions.

Ultimately, with Swarm we envision a degree of investment automation that helps participants make informed and data-driven investment decisions, while using reputational scores to maintain the health of the market. Our automation can go even further, to where every step of the investment process, from workflows to establishment of legal structures, will eventually be automated, creating an efficient system without single points of failure or control.

*With Swarm we envision an unseen degree of investment automation.*

## 2. Swarm Innovations

### 2.1 LIQUID DEMOCRACY

#### Network Democracy as Liquid Democracy

Network democracy is a stake-weighted delegated voting system (liquid democracy) that also provides options for enhanced stake and programmable liquidity.

Stake-weighted means that voting power is directly proportional to the amount of stake you have in a project. In the blockchain world, this is typically called your "tokens" or "coins." In the world of stock, this would be called your "stock" or "shares."

Liquid democracy involves "delegated voting" and implies that a user can delegate their vote to another party at any point, for as long a duration as they desire. This allows users to maintain a degree of control without having to participate in minute decision making. This is in some ways similar to the decision an investor makes when they give someone capital for a project; the key distinction is that in a liquid democracy, the investor retains control of the capital.

Stake-weighted liquid democracy is a highly flexible governance model that accommodates any structure, from one-member-one-vote, to traditional corporate arrangements, to novel forms of collectives. It also appropriately incentivizes the many different types of possible contributions to a network (code, community contributions, funding) and allows for both decision-making capability and rewards. It also integrates with other automated decision-making structures, such as futarchy.

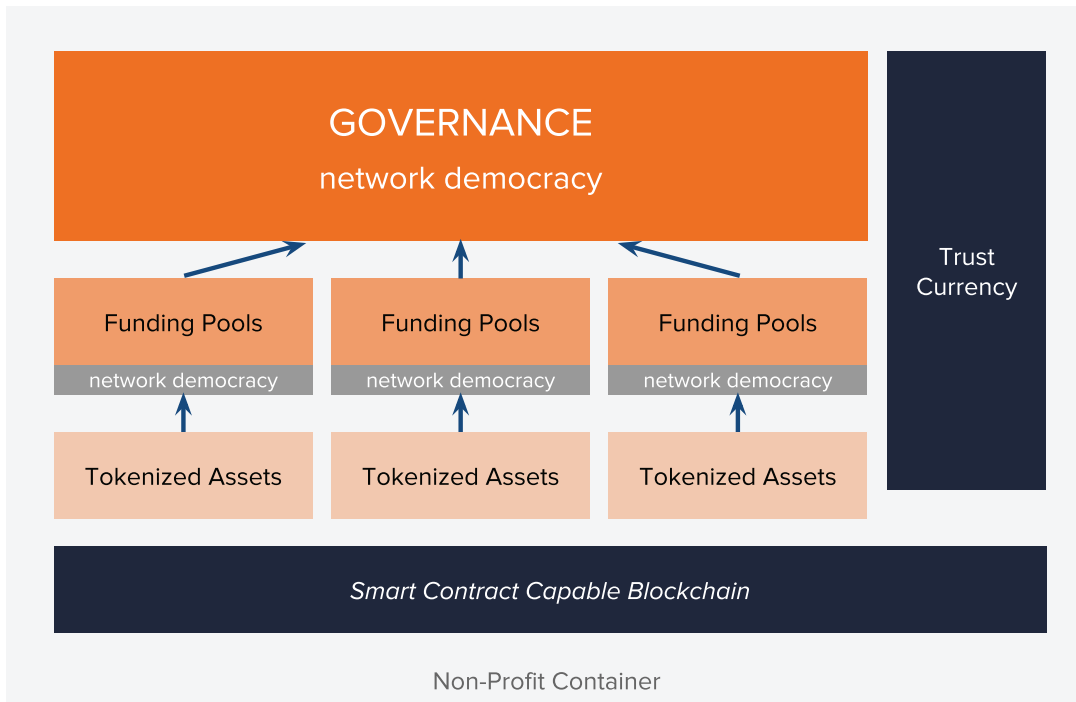
Swarm employs an **enhanced voting stake** process. The enhanced voting stake makes use of a locking period and is a proposed addition to the stake-weighted liquid democracy (which does not allow tokens to be traded for a certain period). This can also allow a person to have a proportionally higher voting weight if they have a provable long-term stake in the network.

Traditional model:

$$V_w = S$$

A **funding pool** is an organization governed by network democracy that distributes funds. It can be structured similarly to an investment fund, in which case it seeks opportunities or some other purpose (e.g., advocacy, education). Funds that go into any funding pool can be allocated by a higher-level network democracy or received independently.

A key element of the Swarm Platform is the use of **tokenized assets**. Swarm may be used to govern other real-world assets, such as real estate and other tokenized elements derived from classic investment vehicles. Specific details of these deal opportunities are made available to members of the network.



*Swarm Platform as a Representation of Holonic Principles*

### Trust Network

The trust network is made up of many independent trust endorsements (i.e. vectors), which create accountability and allow automation.

as a positive one is important for separating signal from noise (an example of a similar problem being Facebook fake news). As with other open networks, it has an open-access policy and the nature of the endorsements is pseudonymous.

### Trust Equation

$$\sum_{i=1}^{\infty} \vec{i}^t = T$$

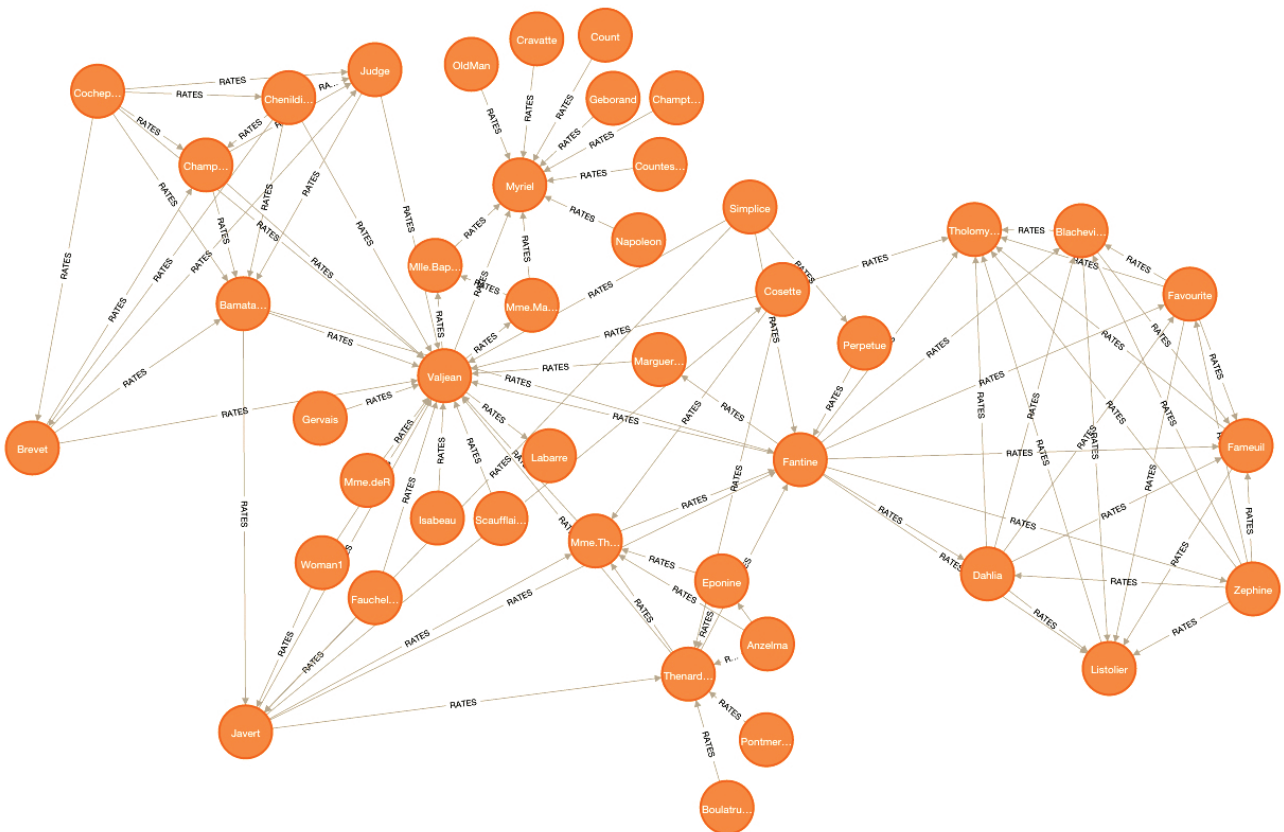
The trust is the sum of all trusted parties and their recommendations from the standpoint of an individual (here represented as vectors, which can be positive or negative). In this case, we record all of these endorsements and allow multiple levels of ascription and derivation. Trust currency is made up by individual immutable **trust vectors**. Each trust vector  $i^t$  is an endorsement. A endorses B for X. This has a timestamp and an optional weight represented as a number from [-1 .. 0 .. 1]. The ability to provide a negative filter as well

## Trust Graph

These vectors are optimally represented as a graph. This graph illustrates that trust (including what we believe to be true) can be derived from the various trust vectors on the network.

The **implications of a trust model** are numerous. An open reputation ledger built of individual trust vectors is a critical element in the Swarm Platform.

It helps incentivize positive overall social contributions and augments the network more generally. It also allows full automation. For example, portfolio allocation decisions can be made by artificial intelligence. It also makes certain other accountability mechanisms less necessary due to the strong social component.



Swarm Trust Vectors

## 3. Swarm Token

The token distributed during the token launch is known as the Swarm Token, or SWM. The SWM token is a standard ERC20 token (on the Ethereum platform) that allows one to use the Swarm software platform.

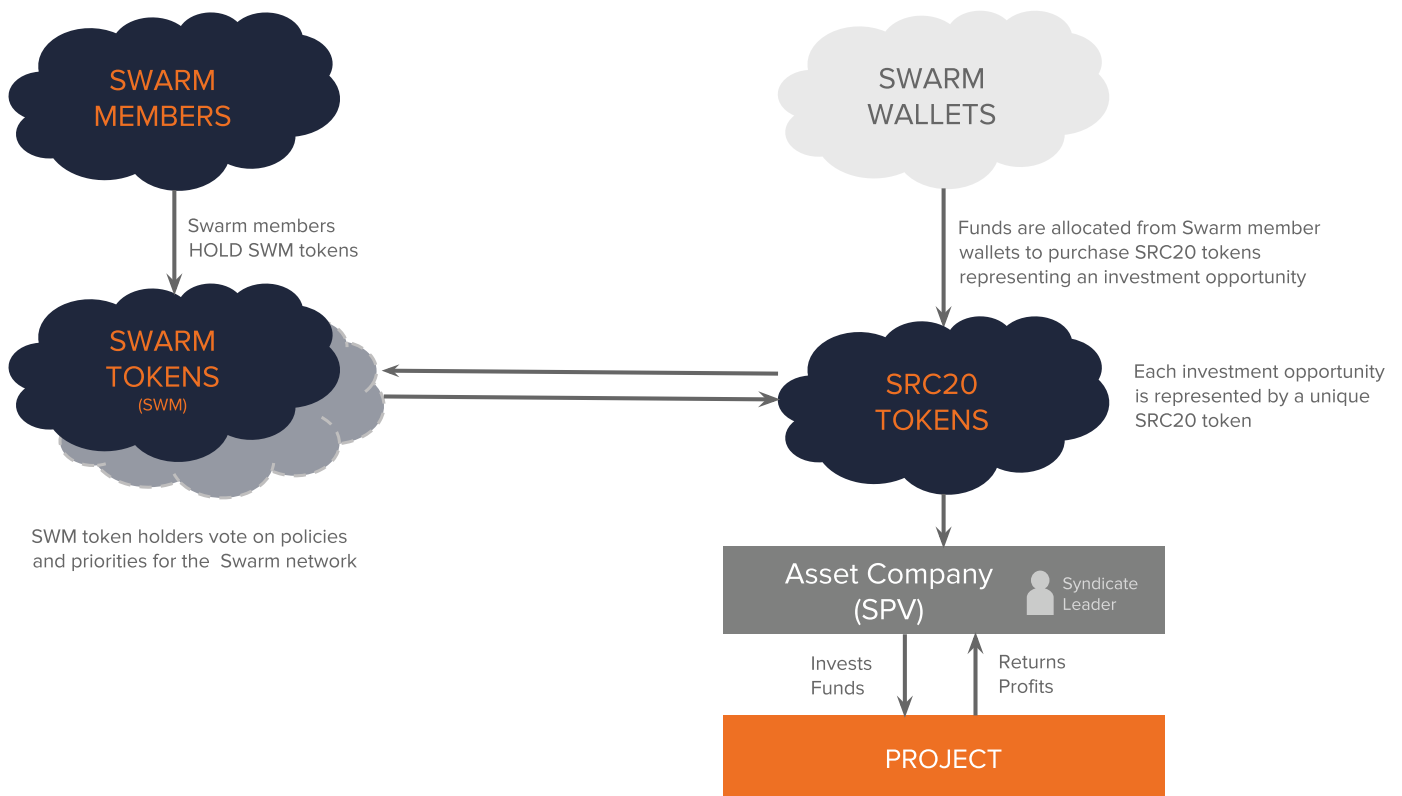
The utility unlocked by the SWM token is the ability to create sub-funds, participate in token offerings of Swarm projects, get access to information that is exclusive to our network, and execute network governance functions. Member participation is key to the Swarm platform. Over time, more functionality will be released that helps generate swarm intelligence for the benefit of the network. This follows the model pioneered by Visa, SWIFT, and other consortia where common infrastructure is maintained by member organizations.

### 3.1 TWO-TIERED TOKEN MODEL

The Swarm ecosystem has two types of tokens. The Swarm token (SWM) is a utility token, and the essential element that powers the Swarm ecosystem. It is used as Gas to implement the token economics on Swarm. Proofs create a self-enforcing mechanism, encouraging a thriving decentralized network of participants. Participating providers and consumers on the network use the SWM token to settle transactions on the platform and provide other services to operate the network. The SWM token also grants access to Swarm's governance technology, which is used to govern any significant decision made on the platform.

The second token category on Swarm is the security token layer, whereby each investment opportunity on Swarm is represented by its own security token, supporting the

SRC20 token standard. The SRC20 standard implements fundamental characteristics to support regulatory compliant issuance of security tokens, such as transfer restrictions.



Basic structure of the Swarm Token

### 3.2 TOKEN UTILITY AND VALUE

In general, incentives and counter-incentives - elements of Game Theory - are not new in blockchain projects, and act as core functions that encourage desired behaviour in a decentralized system.

Bitcoin's Proof-of-Work (PoW) incentivizes miners to process transactions on the network, thereby securing it in return for a monetary reward to the first miner that solves an arbitrary mathematical problem and creates a new block.

The 2nd generation model with Proof-of-Stake (PoS) is a more efficient protocol for validating transactions. New block creators are chosen deterministically, there is no block reward, and instead, the chosen block creator is rewarded proportionally to their wealth, or stake in the network. In other words, with PoS, incentives are constructed to buy and hold some of the coins being minted, with miners incentivized by transaction fees.

Now we're seeing the rise of projects inspired by "The Third Wave of Crypto" - decentralized projects that provide incentives and rewards that promote deeper collaboration and real-world interaction, incorporate machine learning and artificial intelligence, and bring real assets to the blockchain. We're now moving on from incentives that encourage support of the network and proving blocks, to rewarding important value-adding services to the community of token holders (in addition to the core value proposition central to the system).

NEO's users are rewarded GAS to create a network that deploys and runs smart contracts. SIA tokens incentivize data hosts to stay online, building a network of decentralized storage with sufficient redundancy. Simply put, we're seeing the first signs of blockchain-based self-sustaining ecosystems that disentangle massive inefficiencies in the current economy.

In this spirit, we have been designing a crypto-economic token model that we believe achieves far more than its core vision of

democratizing finance. We're going further than opening up alternative high-performing investment opportunities to all people rich and poor.

At Swarm, we're building a distributed system that is AI-powered, community-governed, and will evolve into a self-sustaining and efficient global resource marketplace.

### Swarm Token Utility Model

The token model has two core elements:

- ◆ The SWM tokens are created for the network to govern a market infrastructure for a large pool of assets running on the Swarm Network. The Swarm (SWM) utility token has a limited supply of 100M tokens.
- ◆ The SRC20 tokens are security tokens, minted by the syndicate manager of each investment opportunity, that represent ownership of that investment.

In that context, the SWM token has three essential functions on the Swarm platform, each of which add to its value in a unique way, and each incentivized by the network.



### The SWM Token is the essential element which powers the Swarm ecosystem

Proofs create a self-enforcing incentive mechanism encouraging a thriving decentralized network

#### TOKEN HOLDERS

#### SWM As Voice

SWM is used to govern by vote, the direction of the platform

#### SERVICE PROVIDERS

#### SWM As Value

SWM is the incentive and the reward for services provided on the platform

#### PROJECT OWNERS

#### SWM As Gas

SWM is required to launch new investment opportunities and to keep them operational

## SWM as Gas

SWM functions as the core element that powers investments to operate.

On the investment side, fund managers are required to pay SWM when they launch new investment opportunities and to keep them operational for their duration. We call this **Gas for Fund Operations (GFO)**, and it has the following characteristics:

- ◆ GFO is calculated as a percentage of Net Assets Under Value (in \$USD) and is payable in SWM
- ◆ GFO is withdrawn on an ongoing basis, as needed, in order to fund operations
- ◆ Subject to iteration by early adopters, initial GFO will be in the range of 0.6 - 1.0%

Fund managers are required to continuously maintain a positive balance of SWM to cover their expected GFO needs. Managers are able to plan their purchase of SWM at times optimal to them, taking into account market forces, their own expert analysis, and future investment requirements. In future iterations, this will be fully powered by artificial intelligence. For example, a real estate fund that expects to make a large investment in a year's time may opt to front-load their purchase of SWM now, taking advantage of current prices and known market conditions.

SWM raised from GFO is automatically sent to a smart contract that acts as a Proof-of-Service pool. This pool is then used to reward third-party actors that provide additional value-adding operational services such as audit, accounting, or marketing services, further adding value to the platform as a whole and promoting its growth.

On the other side of the equation, **investors** are required to pay SWM when they **allocate** capital to an investment. We call this **Gas for Capital Deployment (GCD)** and it can be thought of as a traditional placement fee that, in contrast to other private equity

capital placements, allows for tradeability and liquidity. However, rather than directly paying GCD to the fund, Swarm offers investors a strategic choice.

Investors choose between:

- ◆ **Liquidity:** Investors can opt to keep their investment liquid and tradeable, in which case the corresponding GCD is forfeited, but they receive regular returns on their investment, or
- ◆ **Commitment:** Investors can opt to lock their investment for a fixed period of time, correspondingly locking their GCD for the same amount of time. Capital, returns, and the full amount of locked GCD is **fully refunded** at the end of the locking period. Note that investors could choose liquidity at first and once they gain comfort with the investment, later move into a commitment on a lower basis (as some of the GCD will already have been released on a prorated basis). Subject to iteration by early adopters, initial GCD will be in the range of 1.0 - 1.5%

Strategically opting to lock one's GCD acts as a **Proof-of-Commitment**, and brings enormous benefits for both investors and fund managers:

- ◆ Fund managers can act on investments with far greater certainty knowing investor funds are committed, and can recycle and reinvest capital rather than paying returns out regularly, giving them a greater ability to negotiate using their assets.
- ◆ Investors who lock their GCD can also benefit from potential appreciation in the value of SWM once their chosen locking period has ended.

Swarm's Proof-of-Commitment is so powerful that we've introduced a further incentive mechanism to encourage it, especially for those funds to whom capital commitment is strategically important. Fund managers are given the option to match an investor's GCD commitment with their own, in any ratio they like. This greatly amplifies investors' potential



returns at the expiration of the lock. As an example, a solar installation in California, for whom capital commitment is important, may offer 2-for-1 GCD matching as incentive for a 3-year lock, meaning that investors who choose to commit their investment receive a bonus of double their locked SWM tokens at the end of the locking period.

GCD Proof-of-Commitment allows investors to effectively neutralize their placement gas and therefore boost their returns, while giving plannability and certainty to managers. Both win.

### **SWM as Voice**

Perhaps the most revolutionary feature of the Swarm platform - and the one we are very passionate about - is its Liquid Democracy voting module. Swarm is built with governance designed into the core, and at every level. Blockchain is maturing beyond payment systems, stores of value, and distributed applications (Dapps). We are entering the age of real assets on the blockchain. Art installations, marijuana plantations, and community-funded infrastructure are all going to be conceptualized, debated, crowd-funded, realized, and managed on the blockchain. None of these functions can be performed without a layer of governance, arguably the most fundamental and important utility of SWM.

Direct governance of investments is necessary and important, as we are not building Swarm to be another middleman. The ultimate goal is to found an ecosystem of independently governed engagements; an upgraded iteration of the DAO.

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### **Incentivized Governance**

- ▶ Governance is inherently key to Swarm
- ▶ The foundation allocates budgets to incentivize governance
- ▶ Only token holders have voting rights in platform & investment-level decisions
- ▶ Voters are rewarded with SWM for participating & taking actions to improve the system

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### **Self-governance ensures the evolution of the platform**

- ▶ Swarm's governance model enables direct representation for minorities
- ▶ Through Liquid Democracy, votes can be delegated to those with domain-specific knowledge
- ▶ Delegation grants better-informed individuals greater voting power
- ▶ Through incentivized governance, the Swarm Foundation is building a fully decentralized, self-governing

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### **Proof-of-Participation**

- ▶ Participants get rewarded for making proposals & voting on the

## SWM as Value

SWM's value derives directly from its powers as incentive and reward; powers that combine asset management with resource efficiency, powers that strengthen community engagement, and powers that derive and keep value within the platform.

Optimal behavior is clear within the system - for all actors - and is summarized in the table below:

- ◆ Investors choose between two powerful strategies when allocating their resources.
- ◆ Fund managers plan and optimize their operational requirements according to their

specialized knowledge, and further compete by matching incentives.

Infrastructure and service providers are incentivized to continuously innovate and advance the virtuous competitive cycle of delivering more at lower cost.

While initial monetary policies for gas prices will be set by the foundation, future policy will be voted on and iterated by early participants. Successful interaction amongst all stakeholders will, over time, permit the Swarm Foundation to act as mentor and guide, moving on from its role as architect and administrator.

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### Investors

- ▶ The user decides his/her strategy
- ▶ They can choose to forfeit or lock the SWM token, choosing between liquidity & commitment

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### Syndicates

- ▶ The syndicate is incentivized to plan & purchase SWM from the market at the optimal time to power future requirements & in appreciation of SWM
- ▶ Matching investor commitments allow more mechanics to come into play

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### Infrastructure Providers

- ▶ As the ecosystem matures, the incentives to provide services to the network grow
- ▶ At the same time, for any specific service, the greatest rewards naturally flow to actors who performed most efficiently

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### SWARM

- ▶ The foundation's core role is to develop the initial trials of the system components & hand them over to other actors over time
- ▶ As SWM circulates amongst all network members, the foundation's role naturally devolves to a state of distributed self-governance

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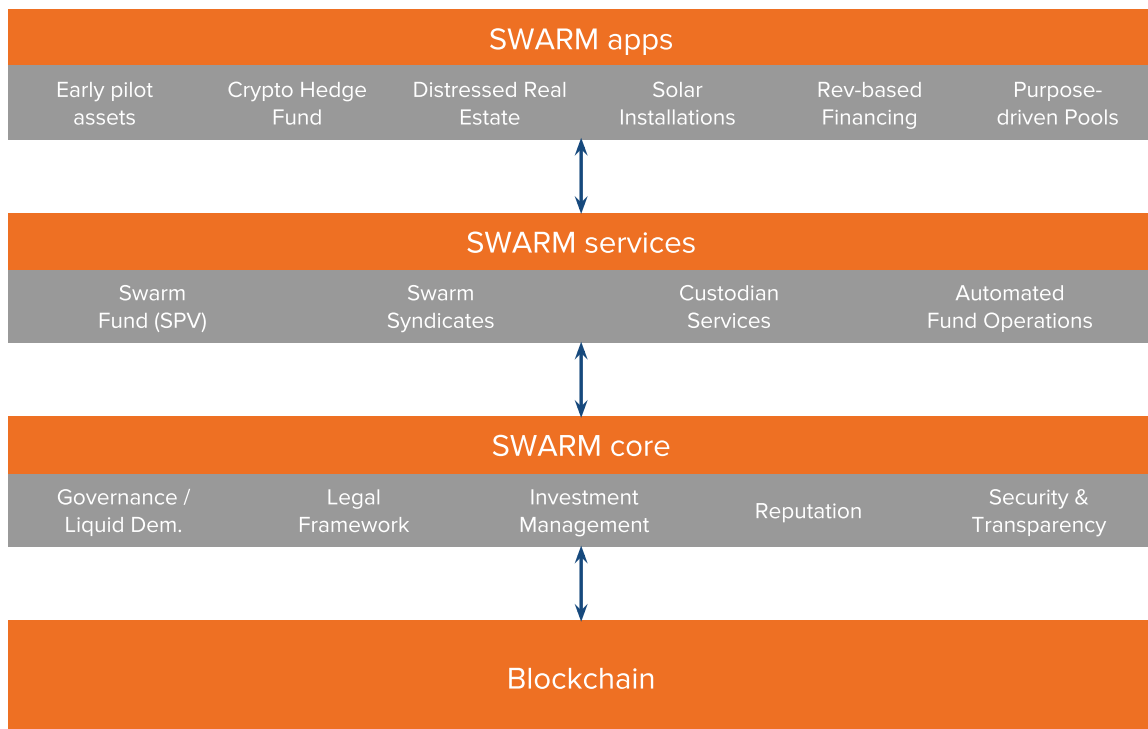
*Swarm seeks to not only create interesting software, but also a community of those interested in sharing their project opportunities with other Swarm participants.*



# 4. Swarm Platform Model

## 4.1 SWARM LAYERS

The Swarm platform will be composed of three primary layers: Core, Services, and Application.



*Primary Layers of the Swarm Platform*

### Layer 1: Swarm Core

The Core layer provides the foundational system components and smart contracts for Swarm use: network governance token management with consensus via liquid democracy, and a management interface. This also includes system replications of the preferred legal frameworks, reputational engine, and decentralized collaboration, as well as foundational processes around security and data transparency.

The Core layer framework allows for the creation and management of new projects. It is and always will be free and open to use.

## **Layer 2: Swarm Services**

The Swarm Services layer will offer additional services on top of Swarm Core. These services are meant to make it extremely easy for any participants to build investment applications on top of Swarm and serve the marketplace in the most creative way.

These services will include full-stack setup of vertical Swarm funds (via Special Purpose Vehicles, or SPVs), operating Swarm syndicates, asset custodian services, and any automation of ongoing investment operations. More features will be introduced to best meet the requirements of the evolving marketplace. Application templates, customization tools, and advanced data processing capabilities will allow our users to execute their visions faster while lowering the barrier to entry for new investment applications to come to market. While applications and participants are welcome to interact with Swarm on the Core level, we will be offering Swarm Services to accelerate the go-to-market process and reduce operational costs. Swarm Services will be offered using a license-fee model.

## **Layer 3: Swarm Applications**

On the highest layer, on top of the Swarm Services layer or directly operating on the Swarm Core, is the Swarm Applications layer. These applications are both front-end as well as in some cases application back-ends that are specific to target investment use cases and/or target segments.

*Our vision for Swarm is to have a wide variety of investment applications built on the same platform technology and liquidity pool.*

Some of these applications may be built by Swarm, while others will be built by third parties. Our vision for Swarm is to have a wide variety of investment applications built on the same platform technology and liquidity pool. These applications will likely charge additional fees or use alternative business models such as market making, information selling, or revenue/profit sharing. As further described in the following section, many of such Swarm applications may include the release of their own utility tokens as a core component of their business model.

## 4.2 PLATFORM COMPONENTS

### **Liquid Democracy Voting Module**

Governance is core to Swarm's mission. And core to that mission is to create infrastructure that allows participants to vote on issues in a trustless, transparent, and auditable way, which can persist outside of Swarm as an organization.

Therefore Swarm is creating a "Liquid Democracy Voting Module" ("LDVM"), which has been the basis of all voting that the Swarm organization has performed internally and externally, and first versions are already available.

The LDVM is intended to be configurable by any developer, integrated with other platforms, and executed outside of the Swarm platform. The LDVM will be able to be customized to specific voting populations, issue discoveries, and consensus methods, as well as voting processes.

Further, a major objective of new voting systems is to relieve participants of ongoing voting obligations or complexities around voting. With the LDVM, users are able to delegate their votes to others in a persistent fashion, and differentiated by issue category and duration. With these abilities, the governance of the foundation, as well as each of the underlying SRC20 tokens and related legal entities, can be performed in completely new ways; for example, there is no longer a necessity for board structures.

The LDVM is intended to become a universally applicable voting engine for any part of the Swarm platform, and to be usable beyond Swarm in other related or even unrelated projects. In particular, the open architecture of this module will lead to exciting new applications and use cases well beyond Swarm.

### **Purpose-Driven Funding Wallets ("Blackbird")**

One of the use cases powered by the LDVM will be the Blackbird wallet. A Blackbird wallet is a smart, multi-user wallet that collects funds and deploys them to a target address that is approved using a stake-weighted majority. Each Blackbird Wallet can potentially have connections to realize its purpose on the Swarm network, but not necessarily.

Blackbird will allow the pooling of capital, such as for a purpose that has yet to be specified, and all participants together make decisions along the way about the deployment of capital. As the purpose gets further specified, more participants gain confidence and invest more capital, and so on. While a setup like this can have many different

use cases, the first iteration of the wallet will be used (1) as a one-time fund collection and deployment instrument and (2) an evergreen (ongoing) fund collection and deployment instrument.

There are a number of powerful use cases that can be powered by Blackbird wallets. Think of Uber drivers pooling their capital to buy a corner position in Uber. Or the creation of a foundation to offset the carbon footprint of the blockchain.

### **Artificial Intelligence Infrastructure for the AI-driven Investment Economy**

The name "Swarm" is a reference to "Swarm Intelligence," a form of decentralized intelligence. In the natural world, it manifests in self-organizing communities like ant colonies, flocking birds, and schooling fish. Swarm intelligence is also employed at the vanguard of artificial intelligence technology. Swarm (the company) is taking a practical, multi-phasic approach to solving real-world problems, while building the infrastructure and ecosystem that will allow for decentralized intelligence to occur.

The first phase of AI at Swarm is a simple approach: providing users and industry professionals with tools to make more informed investment decisions via products of machine learning. Within the Swarm ecosystem, we are rolling out a practical reinforcement learning algorithm that uses a multi-armed bandit approach (i.e., an algorithm that acquires knowledge by performing multiple experiments simultaneously, assessing results, and quickly learning to optimize outcomes). This will be combined with some traditional financial analytics models (EMA, MACD, Ichimoku Cloud), along with more sophisticated ML models (LSTM, Phased-LSTM and others). We anticipate this taking a few months to roll out, as the algorithms require sufficient data and voting within the ecosystem in order to provide a robust model. A deep roster of funds are in the pipeline to get listed on the Swarm platform, and our astute AI will analyze them all. Not only will we deploy our bots for the direct benefit of Swarm platform participants; we will also offer these tools and infrastructure to Swarm syndicates to create crypto hedge funds that trade using machine learning algorithms (ML) in addition to traditional trading strategies.

The second phase will advance the platform in a few very important ways: First, it will allow for active trading based on individual configuration and preferences within the Swarm platform. Some may individually use the tools, and others may create funds and offer them as syndicates on top of the platform. Swarm members will be able to participate in those strategies via the Swarm platform. There are a

few key advancements in this phase: The goal will be to employ a large ensemble of models whose number will be determined by market factors. Using many reinforcement learning agents, or "bots," we can program them to compete with each other, honing their "intelligence," and maximizing potential rewards. A master algo will choose how to execute trades based on observed potential rewards and observed market behavior. The goal is to decentralize the AI, eventually achieving proper Swarm Intelligence (Today we are getting closer, but still not entirely decentralized from a model perspective.). A key component of this phase is the ability of models to give information to other models. This mutual informing can be both adversarial and constructive in nature. Models that can win the vote of the trade get more reward. By doing so, models learn to capture and maximize reward across many different market conditions while tailored to different trading preferences by investors.

The third phase is a big and extremely exciting one. In Phase 3, we will fully decentralize the ability to trade within the Swarm network, and link with other technologies. While Phase 2 allowed the Swarm professionals to build out fund organizations upon which Swarm members can vote and invest, Phase 3 will allow any individual quant and model builder to tokenize their own models and strategies, and to effectively create their own funds. These models can be trading algorithms, or models that serve other monetary purposes. For example, a model builder can provide a language model with the ability to parse and make sense of Twitter or Telegram feeds. Then, other models can tap that model for information. The goal is to create the core market infrastructure and a network of incentives to allow for both model competition and genetic evolution of performance and fitness, thus allowing for model primitives to evolve, which then generalize to different domains. We will release more technical information on this in the near future.



# 5. Swarm Applications

## *Swarm-Supported Asset Types*

With the Swarm investment platform serving as a technology reference framework as well as a global liquidity hub, decentralized application developers will be able to create new classes of investment assets that can be used in any number of simple or complex applications.

The following section lays out defining characteristics of asset classes in which to pilot the Swarm Platform, followed by subsequent sections that highlight a number of use cases that Swarm has identified as interesting target markets and which are readily deployable using the Swarm Platform.

### 5.1 CHARACTERISTICS OF PILOT ASSET CLASSES

When launching a marketplace technology it is critically important to (a) build trust with the participants and (b) provide curated pilot use cases that allow the marketplace to take off in the right direction and with the right momentum. In identifying the first target asset use cases, we have tried to balance both. Particularly in light of issues that led to the rise and fall of the DAO, we approached this project with significant diligence and preparation, before being able to bring a market-ready proposal to the community.

We strongly felt it was important in the early stages to (1) demonstrate tangible platform viability, (2) be able to show viability and material attractiveness, and (3) be able to quickly scale within the use cases if they prove their efficacy by meeting or exceeding expectations.

Therefore, we invested significant efforts into identifying asset classes that have the following key characteristics, among others:

- ◆ Have the ability to start with small amount of investment.
- ◆ Show continuous tangible returns.
- ◆ Represent a range of risk-reward profiles that are relevant to the crypto investor community and provide relevant alternative asset profiles (e.g. 20%+ ROI annually, focused on global impact, etc.).
- ◆ Are well-established and understood from an assessment/ratings perspective.
- ◆ Scale to significant size quickly

## 5.2 CRYPTO HEDGE FUND

Investing in crypto assets presents unique challenges, revolving around trading workflows and asset security. It requires expert knowledge to properly navigate the market and be aware of the latest market dynamics in specialized market verticals, starting with liquidity movements, arbitrage opportunities, or proper assessment of the latest market-influencing industry news.

The syndicate with which we are collaborating forms a crypto hedge fund that strives to be “ahead of the curve” with the goal to simplify value creation for crypto investors by offering the best experience to engage with a network of investors, collaborators, and opinion makers. The objective is to present an incentivized platform for vertical experts to trade on their unique market knowledge or data and to provide uncorrelated, risk-adjusted alpha relative to industry benchmarks. The composite investment strategy includes right-frequency trading into 1) a highly curated portfolio of crypto assets, 2) derivatives market-making, and 3) mining proof-of-stake tokens. The goal is to create a blend of selected best trades based on proprietary algorithms, market-neutral quantitative models, and fully automated execution.

*We'll create a blend of selected best trades based on proprietary algorithms, market-neutral quantitative models and fully automated execution.*

## 5.3 DISTRESSED REAL ESTATE

Real estate investments present a unique opportunity for private equity real asset engagements. Especially interesting are sub-market segments like distressed real estate primarily focused on judicial foreclosure states. The syndicate leader we have partnered with has created a machine-driven platform to identify negative equity real estate in foreclosure auctions, and acquire these “Subject To” existing liens from an impartial federal bankruptcy trustee. During the very long judicial foreclosure timelines, this provides 2-3+ years of rental income, and in some cases the fund is even able to clear liens at a steep discount and immediately sell the property at profit. This produces exceptionally high cash returns and is an excellent opportunity, even in an economic downturn.

## 5.4 SOLAR INSTALLATIONS

There is no doubt that renewable energy, and particularly solar, is on the rise and an interesting asset category. The unit economics of producing, installing and maintaining solar panels have improved significantly and made the investment case an interesting opportunity with 20%+ annual returns. Additionally, there are significant tax breaks in various regions globally, especially in California, which presents additional major economic benefits. The syndicate operators we have been evaluating have been successfully building an investment platform specifically for this application.

## 5.5 PURPOSE-DRIVEN FUNDING POOLS

Swarm is also aiming to help generate impact investments for nonprofits and social enterprises that help meet significant community needs and address humanity's grand challenges. We are working to ensure basic needs are met for all people, while sustaining and improving quality of life and mitigating future risks. We hope to involve individuals and institutions who are using their resources for social good, and are looking beyond simply making traditional philanthropic gifts. We seek to help them leverage their capital directly, with a purpose they deeply care about, and perhaps even earn a small gain over time.

We believe the crypto community has successfully proven that it can build incentives for the community itself to create desired outcomes. We envision purpose-driven funding pools, that incentivize the entrepreneurial community to create solutions to meet the challenges and compete for the "bounty" by delivering a "social Proof-of-Stake", similar to the way the X-Prizes have fueled innovation.

*We believe the crypto community has successfully proven that it can build incentives for the community itself to create desired outcomes.*

# 6. Token Offering

## 6.1 TOKEN OFFERING IN BRIEF

The Swarm organization created 100M tokens, and budgeted 33M tokens to be sold to purchasers. Of these, 8.2M were sold in Q4 2017.

In the current token offering, we are projecting to sell 20M tokens, targeting a raise of \$23.75M USD denominated in ETH. Should the demand be higher, the Swarm Foundation can decide to re-allocate token budgets to expand the sale.

With the above, the cap share distribution changes in favor of the community. As such, a higher market demand within the sale simply allows for more exchange listings on the SUN network and augments the value of the platform.

Our method of drip liquidity ensures that earlier token holders cannot immediately “dump” all of their tokens after the purchase. After the token generation, the members voted to introduce a liquidity option that releases the token liquidity in 4 equal releases every 84 days. The first liquidity release started on Nov 6, 2017, and full liquidity will be reached on Jul 16, 2018.

## 6.2 TOKEN ALLOCATION

Of the total 100M tokens created, 33M tokens will go to contributors (past Swarm members, advisors, a pool for future contributors), while 33M tokens are assigned to the core team.

# 7. Roadmap

## 7.1 KEY ACTIVITIES

For the past 6 months we have been executing on key activities, including the launch of the live Swarm platform:

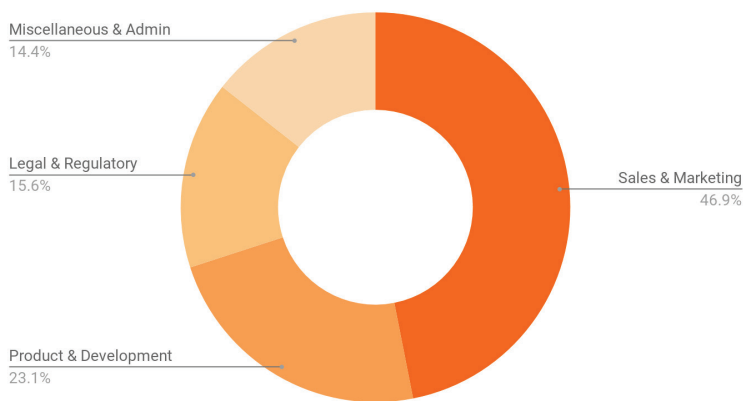
- ◆ Our team developed concrete, trusted investment opportunities, with a goal of showing successes and pushing the marketplace in the right direction.
- ◆ The initial deployment of the Swarm platform went live on Jan 29<sup>th</sup> 2018.
- ◆ Substantial work has been performed toward viable legal frameworks for Swarm initiatives.
- ◆ Implementation of a regulatory framework across different jurisdictions for security tokens has started, including integration with service providers for e-infrastructure and AML/KYC.
- ◆ Ramping up community engagement efforts, Swarm has 14,000+ investors registered on the live platform, with ongoing significant growth.
- ◆ We have developed a pipeline of 35+ funds that want to list on the platform; we are developing onboarding processes and launching them soon.
- ◆ We have created partnerships with exchanges to support SRC20 security tokens.

## 7.2 FINANCES

In our token sale, we are projecting a raise of \$23.75M USD denominated in ETH. For capital allocation, the main principle is that funds will go towards operational expenses and platform development.

Our current team members have managed individual portfolios in excess of \$3B and built platforms with an excess of \$32B in deal flow. Fund usage will be split approximately evenly between platform and application development.

### Use of Contributions



**Product / Development Costs:** Platform development will include building upon and securing core smart contracts, additional frameworks such as a decentralized reputational engine, trading and management interfaces, service-level app templates and customization tools, and integrations with future Ethereum or other blockchain infrastructure such as exchanges, custodian service providers, and stablecoins. We will develop certain custodian components for Swarm wallet holders and work with experts for custodian services (e.g., Ledger).

**Legal & Regulatory Costs:** Legal requirements include corporate setups in different locations for crowdsale, operations, and other licenses. Post-launch, we will work with legal advisors and regulators in different jurisdictions to develop legal opinions of the interpretation with local laws, and become compatible with e-infrastructure and AML/KYC and accreditation infrastructures in various markets. Ongoing resources are required for investment and possible other use cases of legal work. A legal contingency fund will be reserved in case of future need.

**Marketing & Sales:** Sales and business development efforts will be focused on identifying and forming relationships with new projects and existing partnerships that can be built on Swarm. Marketing will be focused on promoting Swarm applications to potential customer segments and markets. Additional efforts will be spent on increasing awareness and knowledge of the Swarm Platform and what can be built with it (applications, etc.).

## 7.3 DEVELOPMENT ROADMAP

### Current State

Swarm has been under development for over 18 months. Since then there have been multiple iterations of the core elements of Swarm. These include the smart contracts powering the framework as well as the general web interface.

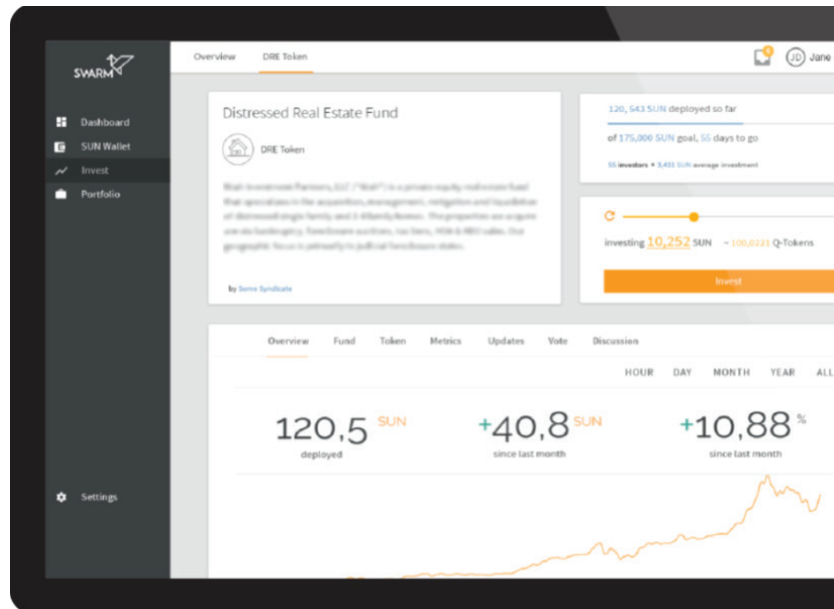
The Swarm platform has a fully operational live implementation since January 2018.

The current operational platform supports key use cases, such as voting within network democracy (including delegation), wallet transfers (ETH/BTC/SWM), and allocation of capital towards investment opportunities.

### Future Development

#### Phase 1 (Quarter 2 2018):

- ◆ Legal automation: Underlying the Swarm platform, our goal is to automate most of the administrative processes related to foundation of SPVs (special purpose vehicles) and fund deployment. We seek to work with e-governance providers to make this as seamless and scalable as possible.
- ◆ SRC20 token standard protocol, with integration to exchanges supporting security tokens.



Current Active Interface - Live platform at <http://invest.swarm.fund>

# 8. Leadership

## 8.1 CORE TEAM



**Philipp Pieper**  
**Co-founder & Chief Executive Officer (CEO)**

Philipp is a serial tech entrepreneur and became interested in decentralized technologies in 2015, when interacting with BitTorrent, Inc. and the Mozilla Foundation. Philipp has been a start-up entrepreneur for the past 15 years and is a veteran in the digital data space. After holding various private equity and management positions within Deutsche Bank and Allianz Group, Philipp was founder and CEO of Proximic, a global data provider for digital media buyers (acquired by comScore in 2015), and is mentor at various accelerators such as Stanford's StartX, Singularity University, as well as TechCode. He holds degrees in engineering and business administration and attended Berlin University of Technology and UC Berkeley, Haas School of Business.



**Timo Lehes**  
**Co-founder & Chief Investment Officer (CIO)**

Timo has over 20 years of experience from starting, running, exiting and investing in software companies. Timo has served as an investor and executive in technology companies, with extensive experience from building, running and investing in software companies and leading various merger and acquisition deals. Throughout his career, Timo has invested in more than 40 companies. With a specific focus on Financial Technology or fintech, he has contributed to the creation of several alternative investment platforms. He currently serves as a board member at BankerBay, the world's largest deal origination platform for mid-market Private Equity deals. He holds degrees in engineering and business administration from Chalmers University of Technology and early stage investing from continuing studies at Stanford School of Business.





**Chris Eberle**  
**Chief Operating Officer (COO)**

Chris is a digital veteran with a passion for building global businesses and communities. He built the Media Partner Services and Operations teams at Facebook, with global responsibility for connecting public figures, creators, and publishers to create authentic content on Facebook and Instagram. He then led teams in Global Business Marketing, responsible for real world experiences that drive online business results with Facebook partners. Prior to Facebook, Eberle was a part of startup exits at Federated Media and Meebo (acquired by Google). Earlier in his career, Eberle spent a decade at AOL, where he started as a contract worker and eventually served in executive roles in marketing and advertising. Chris is an alumnus of Syracuse University and The Harvard Business School.

**Frank Taylor**  
**Head of AI**

Frank brings nearly 20 years of experience with expertise in Statistical Modeling and Machine Learning. He has served as Senior Data Scientist and ML engineer at Hotel Tonight, Earnest Inc., and Personagraph among others, and is advisor to and has provided solutions for a multitude of startups. He is currently directing his efforts toward decentralized machine learning and differential privacy, and is working to advance the domain of Artificial Intelligence in the future decentralized ecosystem.



**“Jazzwall” Sharad Jaiswal**  
**Head of Product & Operations**

Jazzwall has been implementing and orchestrating enterprise IT projects and graduate tech-training programs at Swiss and Wall Street banks for the last decade. Hard to put in a box, he is a project manager, full stack developer, professional photographer, entrepreneur, and very interested in crypto markets.

**Vivian Jane Smith**  
**Project Admin**

Vivian Jane is passionate about connecting real people to real power in ways that support both individual potential and a harmonious global paradigm. To that end, employing two decades of experience as a top sales leader, human wellness guide, and energy medicine practitioner, she is a fervent advocate for the widespread adoption of blockchain technologies that allow decentralized governance and financial sovereignty. Her goal is to empower everyday people by spreading awareness and application of these revolutionary new systems.



**Katerina Kan**

Katerina is a visionary entrepreneur focused on building a sustainable global paradigm in business and communication. She applies the principles of symbiotic environments, energy optimization, and human wellness to her background in administration, management, commerce, and customer service.

## 8.2 CAPITAL MARKET ADVISORS

### **Chris Kitze**

CEO at Safe Cash, co-creator of Flashcoin, and chairman of the Alhabit Digital Currency Foundation, Chris is a serial entrepreneur who has created companies with over \$7 billion of market capitalization over his 25-year career. He's been part of the Lycos' IPO team, was founder and CEO of Xoom.com (IPO: 1998), and was CEO of NBCi, formed by the merger of Xoom.com and Snap.com, in addition to other companies in digital media and payments, such as Wine.com and Unseen.

### **Anthony Di Iorio**

CEO & Founder at Jaxx & Decentral, Founder at Ethereum. Anthony Di Iorio is a serial entrepreneur, VC, community organizer, and thought leader in the field of decentralized technologies. Born and raised in Toronto, Di Iorio is the former Chief Digital Officer of the TMX Group and Toronto Stock Exchange, founder and CEO of Decentral, a software development company focused on blockchain technologies, and founder and CEO of Jaxx, a multi-token, blockchain interface that provides a unified experience across 9 platforms and devices. In 2013, Di Iorio funded, and along with Vitalik Buterin and 3 others founded the smart contract platform Ethereum.

### **Michael Terpin**

CEO Transform Group (75+ ICOs), CoinAgenda, Alhabit Fund; BitAngels; founder, Marketwired; advisor to blockchain companies. Terpin co-founded BitAngels, the world's first angel network for digital currency startups, which gave birth in 2014 to the successful CoinAgenda series of blockchain investor conferences in North America, Europe/EMEA, Asia and Caribbean/LatAm. He co-founded early blockchain incubator bCommerce Labs; the Bitcoin Syndicate on AngelList (with legendary super-angel Gil Penchina), and the

Dapps Fund, which was a lead investor in the initial crowdsale for Ethereum, Factom, MaidSafe and Storj. He currently heads up the ICO investment committee for Alhabit Fund, and advises numerous blockchain companies. Terpin has led the PR efforts for more than 150 blockchain companies and foundations, including some of the leading token crowdsales. Client successes include the launches of Aeternity, Augur, Bancor, Ethereum, Factom, Gnosis, Golem Network, Lisk, MaidSafe, Qtum, and Tether, as well as ongoing campaigns for Bittrex, Counterparty, Dash, Eos, Kraken, NEM, Neo, Storj and Shapeshift.

### **Mark Oei**

Until end of 2016, Mark was at Sequoia Capital where he served as Managing Director of the venture capital firm's Heritage Fund, a multi-strategy vehicle offering institutional investors and family offices investment exposure to multiple asset classes. As leader of the Real Asset group Mark has been seeking opportunistic real estate investments both domestically and abroad. Earlier, Mark was a managing director focused on real estate at Oaktree Capital Management, one of the largest institutional alternative investment managers in the United States, and was VP at Morgan Stanley focused on acquisitions for the Morgan Stanley Real Estate Funds.

### **Vivek Krishnappa**

Vivek is a board member for the WattTime.org, an advisor for Nexleaf Analytics, an advisor for FinTech and CleanTech Astia and a former managing director for securities lending at Blackrock.

## 8.3 TECHNOLOGY ADVISORS

### **Noah Thorp**

#### **Founder, CEO at COMAKERY**

Noah's career as a technical entrepreneur is built on the principles of rapid feedback through experiments, continuous learning, spirited creativity, and iterating towards excellence. These principles have directed Noah's path through agile software development as a developer, lean product management, responsive org building as a cofounder, and ecosystem building as a platform creator.

### **Bogdan Fiedur**

Full stack developer and entrepreneur. Since the beginning of 2016 involved in "Smart Contract" design and implementation for Ethereum, using Solidity. Knowledgeable in all aspects of e-commerce website, back-end and front-end. Experienced in setting up network environment, running and maintaining servers. Experienced in supervising teams of developers, preparing technical design documents, preparing testing plans and integrating existing applications with newer technologies.

### **David Kammeyer**

Software developer and platform manager.

### **Matthew Tan**

CEO and founder of Etherscan.

## 8.4 GOVERNANCE AND ORGANIZATIONAL DESIGN ADVISORS

### **Christian Jacken**

Co-founder Liquid Democracy, former Global Bitcoin Alliance, EFF supporter.

### **Adam Apollo**

Adam is the founder of the Guardian Alliance and trust.exchange.

### **Brad Nye**

Founder of Tribalize summit and Burning Man organizer.

## 8.5 PARTNERS

**Distributed Lab**  
Blockchain experts

 **SECUREVOTE**

 **TOKENSOFT**

 **AmaZix**

 **WINGS**

**Jaxx**



### **Distributed Labs**

<https://distributedlab.com/>

Distributed Labs is partner in developing Swarm portal application layer and custom blockchain development.

### **SecureVote**

<https://secure.vote>

The award-winning team of SecureVote is responsible for the development of the Swarm Fund Liquid Democracy Voting Module (LDVM). The LDVM is a universally applicable and decentralized voting engine which can be used for any part of the Swarm platform.

### **TokenSoft**

<https://www.tokensoft.io>

Tokensoft is a full-service smart contract development service company with specialization in token sale applications; Tokensoft helped develop the SWM token smart contracts and related technology.

### **AmaZix**

<https://www.amazix.com>

AmaZix provides full community management services and aids Swarm in spreading the mission of our company across the globe.

### **Wings**

<https://www.wings.ai>

We intend to use the Wings prediction service to estimate the target size of our own raise and other sub-asset tokens.

### **Jaxx**

<https://jaxx.io/>

### **FusionICO**

<https://fusionico.pro>

FusionICO is a full-service blockchain advisory firm specializing in Asia markets, and is providing translation, community management, PR, and marketing services for Swarm in Chinese, Japanese, and Korean, as well as performing outreach to investors and institutions in China, Japan, Korea, Malaysia, Taiwan, Thailand, and Vietnam.

## 9. Legal Innovations



Swarm co-organized legal summits at Harvard and Stanford in which the Distributed Collaborative Organisation model was established<sup>5</sup>. Legal experts suggested that the integration of a collaborative governance layer to a distributed organization would make it a membership organization similar to a co-op. We have remained active participants in the evolving platform co-op movement and Internet of Ownership (<https://ioo.coop/>) movements, including a section in the book “Ours to Hack and to Own.” (<https://platform.coop/book>).

Swarm has consistently and openly stated its intent to democratize finance and proactively engaged with regulators including the SEC, FCA, and regulators in several other countries. As a result of advice from top legal experts and regulators, Swarm has operated for the last two years under the unincorporated non-profit association terms as described in the results of the Harvard summit with the intent of creating a global platform cooperative.

To actualize these aims, Swarm has established the following legal entities:

**Swarm Foundation** (Liechtenstein)

**Swarm Operations GmbH** (Germany)

**Swarm Operations LLC** (USA)

**Swarm IP** (Singapore)

The contribution period is a collaboration between the above entities with the intent of taking the “Distributed Collaborative Organization” model and a creating a legal entity owned and governed by the token holders. Rather than depend on a single legal firm to implement this, we will create a bounty system to award the first several teams that manage to create token-governance systems that integrate into the legal and tax systems of respective nation states.

The current board members are Philipp Pieper and Timo Lehes, with three spots left to be filled by either community contributors or managing directors of partner funds, dependent on a vote by the token holders.

Additionally, all of the currency-related aspects of our implementation, including actions of all sub-funds, are performed on a private blockchain implementation. This allows us to implement all standard AML/KYC procedures and reporting as established by industry best practice.

Due to the retrospective nature of regulatory action, the Swarm team can make no guarantees regarding the legality of the platform or launch in any given jurisdiction. Regardless, we are confident in, and proud of, the work we have done to shape Swarm into what we hope is a model of regulatory compliance for decentralized applications and token launches. We will be responsive and collaborative with any regulators as necessary going forward.

# 10. Media Coverage

Swarm Fund has earned international attention from mainstream and larger crypto media.

Some examples:

## **Can Swarm Fund Help The Cryptocurrency Market Finally Enter The Mainstream?**

Forbes, August 16, 2017

<https://www.forbes.com/sites/giovannirodriguez/2017/08/16/can-swarm-fund-help-the-cryptocurrency-market-finally-enter-the-mainstream/#5f4cbdc32e77>

## **Swarm Fund Launches Compliance-Oriented Token Offering Tailored to Evolving Regulatory Environment**

CoinTelegraph, September 6, 2017

<https://cointelegraph.com/press-releases/swarm-fund-launches-compliance-oriented-token-offering-tailored-to-evolving-regulatory-environment>

## **Swarm Fund Aims to Democratize Investing**

Bankless Times, October 17, 2017

<https://www.banklesstimes.com/2017/10/17/swarm-fund/>

## **Swarm Closes \$5.5 million ICO for Alternative Investment Fund**

Coindesk, October 31, 2017

<https://www.coindesk.com/swarm-closes-5-5-million-ico-alternative-investment-fund/>

## **Swarm Fund brings institutional investment opportunities to crypto investors**

AlphaQ, Institutional Asset Manager, Nov 27, 2017

<https://www.alphaq.world/2017/11/23/258631/swarm-fund-brings-institutional-investment-opportunities-crypto-investors>

## **2017: The Year of the Initial Coin Offering**

FTAdviser, December 13, 2017

<https://www.ftadviser.com/investments/2017/12/13/2017-the-year-of-the-initial-coin-offering/>

## **How Will Cryptocurrency Impact the Housing Crisis?**

International Business Times, February 10, 2018

<http://www.ibtimes.com/how-will-cryptocurrency-impact-housing-crisis-2651489>



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**SWARM FUND  
WHITE PAPER**

March 2018

V0.91

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