

# The Purpose and Function of Indiciium

## Introduction

Index funds have been an important financial instrument since their introduction in 1974 because they allow investors to expose themselves to a wide range of assets without exerting the effort to research and trade each component of the portfolio individually. The proven potential of cryptocurrency for appreciating in value makes it a perfect candidate for indexing, despite the sparse number of projects currently intent on doing so. What's more, global finance has revealed a fantastic depth and demand for indices of modern markets such that there will likely always be room for competitive cryptocurrency indexing. Indiciium will be a pioneer of advanced cryptocurrency index products by offering algorithmically weighted baskets that are focused on specific styles. This decentralized autonomous company will exist both as an abstract conglomerate driven by a decentralized voting base as well as a federated board of individuals with well-defined roles within the company. Indiciium is currently a proto-business and an experimental development project, though it is seeking avenues for legal incorporation.

Indiciium will adopt a tokenized business model through the PeerAssets (PA) protocol designed in 2016 by Peerchemist. There are many advantages of utilizing the PA protocol. It is inexpensive and efficient in addition to being blockchain agnostic, implying that the company can copy its issued tokens to any desired host blockchain in the event of a cataclysmic event on the chain it is launched on. To further pursue stability and longevity for the tokens used by the company, Indiciium will launch on the Peercoin blockchain, which is known for its efficient design and small size despite five years of successful operation. The public immutability of blockchains will provide Indiciium with an unprecedented level of transparency and permanence when compared with index funds used in global finance.

The initial voting token issued by Indiciium will be labeled 'Indiciium' itself and will represent ownership in the company. Profit made by Indiciium that is not used to finance additional development or expansion of services may be distributed to Indiciium token holders in the form of dividends as per the PA protocol or direct buybacks on the open market. Indiciium holders will also be entitled to voting rights. While voting will be used to build, establish, and elect roles on the board, votes are simply publicly accessible signals on the host blockchain and the board members will have final say over daily operations within the company.

## Product Overview

The global financial market has advanced the concept of asset indices far beyond simplistic weightings based on market capitalization or centralized human management. Algorithmic baskets assembled by targeting fund features have blossomed in strategy and quantity in recent years as investors seek more complex underlying structure for diversification. Analysis of ‘smart beta’, which responds to the volatility of the composite assets, has pushed to the cutting edge of competitive investment and maintains a controversial position as a fresh approach to forming indices. Particularly in the realm of cryptocurrency, price stability is often a sought after property for hedging rapidly fluctuating assets while remaining within the prolific economy. Indiciu’s initial prototype will showcase a minimal variance index designed to master these critical variables.

There are numerous use cases for cryptocurrency basket products. For example:

1. Long-term storage of wealth that has exposure to the broader cryptocurrency market while maintaining a low risk of losing the entirety of its value when compared with singular assets that can individually fail.
2. Short-term, minimal variance indices act as a stable transfer of value because their average volatility is reduced compared to their underlying assets. This allows a customer to transfer cryptocurrency funds via blockchain protocol without exposure to a high volatility market.
3. In the medium-term, traders can arbitrage the difference between the local price of the basket token on-exchange and the total nominal value of the backing assets. They can also use an index as a hedge against an individual asset that is exceedingly volatile when compared with other cryptocurrencies.

In addition, investment in a basket product provides a user with comprehensive exposure to technologically advanced markets without having to research and understand the diverse assets themselves. Under the same umbrella, investors can use Indiciu’s chosen coins as suggestions for their own personal investment choices, and marketing teams can use inclusion in a basket as promotion for their respective coins. Indiciu will maintain a symbiotic relationship with traders and cryptocurrency communities, further developing the young cryptocurrency economy.

Several profit sources for Indiciu can be taken from customers in exchange for the services provided. The first is a transaction fee enforced by protocol that can be charged for each blockchain transfer of tokens. This fee can be static, a percentage of transaction volume, or any arbitrary function determined by Indiciu through the PeerAssets protocol. A fee of 1% per token transfer, for example, would be prudent. Another form of fee can be taken when customers interact with the supply of the product directly. For example, a fee of 5% could be charged when a customer receives a basket product directly from Indiciu in exchange for an equivalent value of Bitcoin. The final source of revenue can be taken periodically from the basket token value as a semi-continuous maintenance charge. As the value of a cryptocurrency basket is expected to grow with time, even when compared with other cryptocurrencies, customers may happily accept a small depreciation of the nominal token value, such as 5% per year.

Beyond the minimal variance basket, Indicium could potentially host a plethora of additional basket compositions, each targeted at a different investment factor, such as momentum, liquidity, quality, size, or value. Another possible product is to group indices based on their constituent blockchain features, such as anonymity, proof of stake, or other decentralized companies. The index tokens would not take on the features of these blockchains, but they would provide a good hedge if those features are considered desirable by the market. One particularly ambitious goal is the exchange traded fund (ETF). ETFs can be traded on-exchange for their constituent basket entities making direct use of the local exchange economy and facilitating arbitrage. Indicium may even open its own exchange sometime in the future to facilitate the trading of such funds.

## Technical Structure

The algorithmic model that Indicium will use for its products requires active trading of its customer funds. Trading bots will be used to execute orders on-exchange and withdraw funds to cold storage, reducing the window of third party risk as much as possible. While Indicium may eventually build smarter bots that can create profit from continuous trading practices and offer insurance against exchange default, the initial operation will restrict itself to minimizing exposure to such risks. The bots will be run from virtual production servers and steps will be taken to ensure protection against explicit attack vectors. Exchange accounts will be chosen to simultaneously minimize risk of fund seizure and exchange default based on reputational history and 'know your customer' procedures for each relevant exchange. Only a fraction of the total funds backing an index will be held on-exchange at any given moment.

Using application programming interfaces (APIs) for high-volume exchanges, Indicium's oracle can be automated to ensure direct and efficient application of a given basket algorithm. Redundant servers will be utilized to determine the proper readjustment of funds in order to rebalance an index as the active markets change. In the event where Indicium manages several indices that move independently of one another, the trading process may approach 100% efficiency as trading between Indicium-owned baskets can be done solely via internal accounting with no third-party or blockchain service required. In any other event, the oracle will request a transfer of funds or trigger a trading strategy in a bot on-exchange to actualize the algorithmic index strategy. Verification of the accounting can be done in a decentralized fashion via automated accounting software run locally by an interested party, such as a token holder. This will allow token holders to gain insight into Indicium's portfolio and balances without the risk of such reports being compromised by a central entity.

A majority of the cryptocurrency backing an index will be stored in multiple signature (multisig) reserves hosted entirely on the blockchain. The keys to these reserves will be separated to drastically limit the potential for compromised funds. When the accounting server requests a transfer of assets from multisig reserve, a transaction will be forged, signed, and broadcast on the relevant network in order to move funds onto exchange for active trading. This method will ensure that indices are extremely unlikely to lose value due to a loss of underlying assets.

## Governance

Indicium's token holder base will be formed through two rounds of general distribution, in addition to merit-based awards. The first round, Series A, has been completed using the Peercoin community forums and served to fund the development of a prototype index as a proof of concept.

- 50% of the initial token distribution will be distributed in Series A.
- 40% of the initial token distribution will be distributed in Series B and will likely be performed with the aid of an accredited coin offering service to reach a broader voting base.
- 10% of the initial token distribution will be given to founders, advisors, and other parties that will actualize the minimum viable prototype.
- Further token distribution will be at the discretion of board members and other token holders. For example, tokens will be given to board members elected by the token holders that will continue the project throughout its lifetime. Tokens distributed to board members will be considered vested, in that they are obligated to hold these tokens for a predetermined period, such as 2 years.

What will voting tokens be used for?

First and foremost, voting tokens represent the underlying governance model within Indicium. Token holders are empowered to participate in the organization through their voting power as well as their activity in the community. For example, they will be able to utilize their tokens to participate in electing board members for Indicium. These token holders will also be able to vote on aspects of the organization such as the development of future index funds. Finally, voting token holders may also be privy to buybacks or dividends of Indicium's profits barring any legal restrictions and at the discretion of the board members.

Board members will have overarching power in Indicium as they have the final say in the actions of the organization. They will initiate official votes to maximize token holder participation through the PeerAssets protocol, which will allow token holders to vote on any arbitrary motion at will. This will allow for a powerful means of separating the majority token holders' perspective from the vocal minority in the community. However, board members are not required to act on the results of the vote.

Board members will also be elected with specific responsibilities corresponding to their role. While elections are determined by token holder votes, candidates will be selected by the existing board members starting with the original founders. In this way, the peaceful transfer of power is nearly guaranteed because the newly elected board members will be pre-approved before being elected. The technical transfer of the PeerAsset multisig spawning address to the new board will constitute the fundamental transfer of governance. As such, only a minority of the board should be replaced by standard election at any given time. Due to the blockchain agnosticism of PeerAssets, a forking or secession of the political structure would appear identical to a redistribution of the relevant tokens under an alternative multisig spawning address.

## Conclusion

Indicium has great potential for a decentralized autonomous company capable of creating impressive cryptocurrency indices that capture a dynamic cross-section of the rapidly expanding market. The PeerAssets protocol launched on the Peercoin blockchain will provide an efficient, low-cost basis for developing a self-governed organization with the power to revolutionize and stabilize financial cryptocurrency use. It will follow ideals such as transparency and profitability while blazing the way as an organization focused on birthing new function and utility to unite decentralized blockchain projects in an ever-evolving technological space.