



Narwhal

&



DIGITAL WAVES

Assets of Innovation

Advisor

Manager

Overview



Company Name – AMC Issuer

Narwhal

Sector

Crypto / DeFi Investments

Management

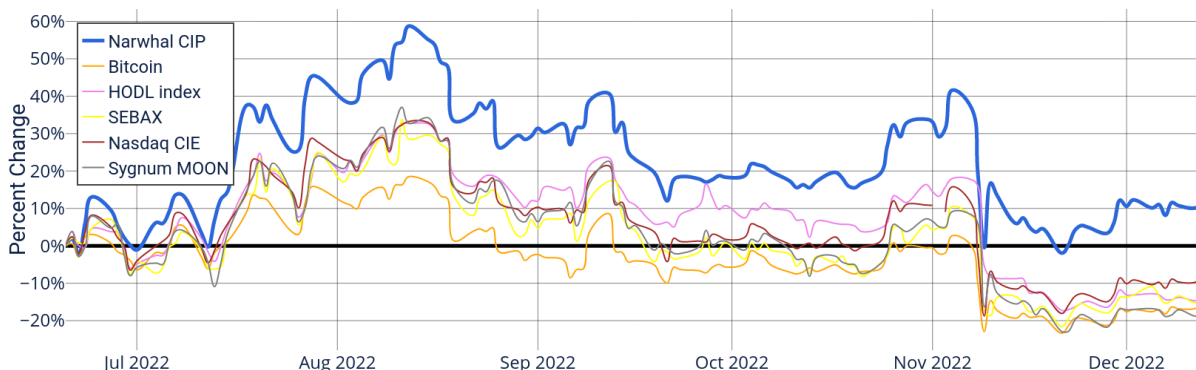
Griffin White (Co-CEO)

Sascha Kouba (Co-CEO)

Crypto Index Plus is an optimized index of the crypto-asset marketplace, for the major Layer 1 and Layer 2 blockchains. Crypto Index Plus is re-balanced at regular intervals based on a **Fundamentals-Based** Indexing procedure. Crypto Index Plus integrates **on-chain data** into our **machine-learning based** optimization procedure, **stakes assets** and mitigates counterparty risk by executing and settling transactions on-chain, to produce **better returns** than our peers, at a lower drawdown and **reduced value at risk**.

Crypto Index Plus | Historical Performance

Live Trading: NAV Percent Change Over Time - Narwhal vs. Five Largest Crypto Indices by A.U.M.



The performance of Narwhal’s Crypto Index Plus is **significantly better** than that of its peers, for example as MOON, HODL, and SEBAX. This **outperformance of Narwhal’s competition** during the last year can mainly be attributed to Narwhal’s use and subsequent **modelling of on-chain data**, Narwhal’s **usage of Markowitz optimization** to determine the composition of the Index, including a **broader search space** to identify emerging value-adding crypto projects, and **shorter rebalancing intervals**.

Biggest problems with current bankable crypto indexes:

- ❖ Market-cap weighted methods produce **portfolios consisting mainly of Bitcoin and Ethereum**.
- ❖ **Market-cap weighted methods do not take advantage of new value added projects to the crypto ecosystem.**
- ❖ **Monthly rebalancing is too slow** for such a volatile sector and misses short-lived market opportunities.
- ❖ Market cap weighted methods **ignore the wealth of on-chain data we have** available to make better predictions about future movements and volatility.
- ❖ Assets inherit **major counterparty risk** from custodian.

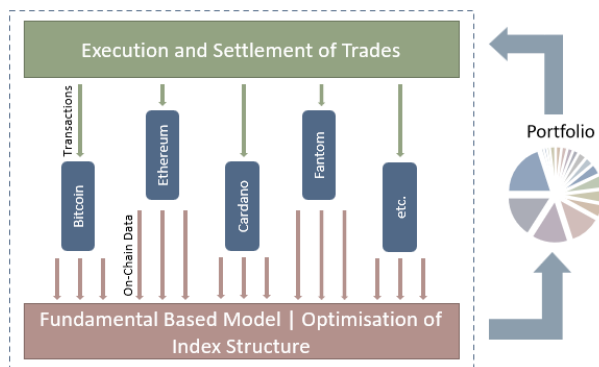
Our solution:

- ❖ A **fundamentals-based index**, using on-chain indicators of price movement, a method which has historically outperformed Market-Cap Weighted Indices.
- ❖ By **including a broader search space**, we can identify value-adding projects that more broadly map the crypto-asset ecosystem.
- ❖ **Rebalancing at shorter intervals** allows us to take advantage of short-lived opportunities in a highly volatile market.
- ❖ **Assets are staked** to compound returns for investors.
- ❖ **On-chain settlement and execution** mitigates counterparty risk.



About Narwhal

Narwhal provides **secure access to DeFi** for institutions & larger players. Narwhal's team is made up of **analysts, mathematicians, and computer scientists**. Narwhal is in the process of rolling out **three revolutionary investment products** within the next two quarters: **Crypto Index Plus**, **Alpha Heavy**, and **Digital Liquid**.



Strategy Guidelines

The objective of Crypto Index Plus is to apply **the vast array of on-chain and proprietary datasets** available in the crypto-asset universe to derive price estimates from the flow of value, value creation, and other key indicators of price movement.

Although a vast array of on-chain data exists, very few structured products leverage these data for asset pricing. Crypto Index Plus, however, uses over **1000 on-chain features to train our machine learning models used to predict price predictions**. Those predictions are used to optimize portfolio weights via Markowitz optimization.

Digital assets achieve **exceptional returns** in general, but they also carry novel systematic risks in the form of network exploits. Crypto Index Plus uses strict criteria on asset safety scores to qualify assets for potential investment, for increased protection of investors. Crypto Index Plus has implemented the most cutting-edge quantitative risk management paradigm to date in the digital asset space.

A comprehensive overview of the strategy employed for Crypto Index Plus, as well as Narwhal's risk management methodology, can always be found online at www.narwhal.ch.

Key Elements

- ❖ Crypto Index Plus more successfully capitalizes on the **upward momentum** enjoyed by smaller, value-adding projects in the crypto-asset universe.
- ❖ **On-chain data is indexed on a daily basis** and fed to a machine learning model for subsequent Markowitz optimization.
- ❖ All assets are **staked on-chain** to further boost returns.
- ❖ Crypto Index Plus includes a **more comprehensive index of the crypto-asset universe** by evaluating many assets (as opposed to SEBAX, MOON and HODL, NCIE and Wisdom Tree Basket Index, which index relatively few).
- ❖ The Crypto Index Plus **rebalances more frequently** than the other available indices, improving reactivity to the rapid market changes which are characteristic of the crypto-asset universe.
- ❖ Crypto Index Plus leverages **on-chain data to make better market predictions**.
- ❖ Crypto Index Plus implements a **Fundamentals-based** approach over many blockchains, while maintaining model simplicity and quantitative accuracy.
- ❖ All assets are **fully insured against network attacks**.
- ❖ All assets are protected by multi-party-computational security (**MPC-Security**).

Terms

AMC Name	Crypto Index Plus
Legal Structure	Actively Managed Certificate
Base Currency	CHF
Asset Class	Crypto-Assets
Rebalancing Period	Variable
Short	No
Number of holdings	Up to 30
Minimum Investment	CHF 2'000
Certificate Launch	30 January 2022
Custody	Copper
Redemption Period	Monthly
Management Fee	2.5% p.a.
Performance Fee	0% p.a.

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