

**Indxx Blockchain Index  
Methodology**

**December, 2017**

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# Table of Contents

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Index Description.....3

Creation of Master list.....3

Security Selection.....4

Weighting.....5

Buffer Rules.....5

Reconstitution and Rebalancing Rules.....6

Corporate Actions.....7

Total Return Indices.....9

Index Policy .....9

Disclaimer.....10

# Indxx Blockchain Index

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## Index Description

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*Indxx Blockchain Index tracks the performance of the exchange-listed common stock (or corresponding **American Depositary Receipts (“ADRs”) or Global Depositary Receipts (“GDRs”)**) of companies with their primary listing in Developed or Emerging market countries (as defined by Indxx) that are either actively using, investing in, developing, or have products that are poised to benefit from blockchain technology.*

## Creation of Master List

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### *Universe*

- The security should either have its primary listing or be incorporated in Developed and Emerging markets as defined by Indxx.
- Companies must have a minimum market capitalization of \$250 million and a minimum average daily turnover for the last 3 months greater than or equal to \$1 million.
- The security must have traded on 90% of the eligible trading days in the last 6 months. If a security does not have a trading history of 6 months (e.g., IPOs), that security must have started trading at least 3 months before the start of the reconstitution/rebalancing process, and should have traded on 90% of the eligible trading days in the last 3 months.

For more information, please refer to the document ‘Country Classification and Investability Requirements’, by visiting the ‘Index Documents’ section on <http://www.indxx.com/>.

### *Free Float*

All constituents in the Universe must have free float equivalent to 20% of shares outstanding for inclusion in the Master List.

### *Maximum Price*

Securities trading at a price of \$10,000 or above are ineligible for inclusion in the Master List. This rule is not applicable for existing constituents. Existing constituents shall remain in the Master List irrespective of the stock price.

### *Security Type*

Common Stock, ADRs, GDRs, and REITs.

If a company has two or more security types, the most liquid security type will be considered for inclusion in the Master List.

The security selection process is based on extensive research performed by Indxx to determine each company in the Master List that has been derived after applying the above criteria.

Indxx analyzes each company in the Master List via the following research process:

- The first step in the process is to research each company's products, services, and any use or test cases related to blockchain technology.
- The second step is to research each company's latest annual reports and press releases in the last one year. Any publicly available resources from the company, including investor presentations related to blockchain technology, are analyzed as well.
- The third step is to research various news outlets and industry reports describing the extent of each company's exploration into blockchain technology. These sources can include details of blockchain technology's impact on a company, reports that describe a company's future plans on blockchain, and any use or test cases on blockchain or other relevant details relating to a company's exposure to blockchain technology.

Based on the results of this process, Indxx reviews the Master List of securities and ranks the companies into a 3-tiered scoring system, based on how poised they are to benefit from blockchain technology, as detailed below.

Tier 1 – Active Enablers

Tier 2 – Active Users

Tier 3 – Active Explorers

*Active Enablers* – Active Enablers are the companies that

- i) Are actively developing blockchain technology products or systems for their own use internally, but also for sale and support for other companies
- ii) Are direct service providers for blockchain technology
- iii) Have business models that rely on delivering products or services that utilize blockchain technology

Active Enablers are companies that stand to benefit from blockchain technology via multiple avenues. These benefits include the efficiencies and revenues from their own development and adoption of blockchain technology and also through the commercialization and support of blockchain related systems to other companies. Companies that fall under this category are assigned a score of 1 as they are most likely to benefit from blockchain technology.

*Active Users* – Active Users are companies that

- i) Are using blockchain technology which is generally supported by an Active Enabler
- ii) Have at least one use or test case of using blockchain technology

Active Users are companies that stand to benefit from the reduction in cost or improved efficiency from using blockchain technology. While potentially significant, the direct revenue impact may currently still be limited. Companies that fall under this category are assigned a score of 2.

*Active Explorers* – Active Explorers are companies that

- i) Have publicly disclosed that they are active in exploring the incorporation of blockchain technology into their business
- ii) Have a press release on their website or a news article stating that they have started working on the blockchain technology space

However, currently these companies do not have at least one use case or test case on blockchain technology and are not currently directly incorporating blockchain technology into their business. Companies that fall under this category are assigned a score of 3.

Companies with a score of 1 or 2 (Active Enablers and Active Users), are included in the Index as they are actively investing resources into products or services that utilize blockchain technology. Companies that fall under Tier 3 are excluded from the Index, due to the fact that they are not currently directly incorporating blockchain technology into their business.

The index is capped at 100 companies.

If more than 100 names qualify for inclusion in the Index, the 100 constituents for the index shall then be determined by each name's exposure to blockchain technology where blockchain has the most substantial impact on their respective businesses. This shall be accomplished via a multi-faceted approach that may involve but not be limited to (1) business focus, and (2) investment, and (3) market capitalization, and (4) liquidity and, (5) other factors. Each company shall be assigned an individual score for each of the factors, which shall be aggregated. The 100 companies with the highest aggregate scores shall be included in the Index.

If fewer than 100 companies qualify for inclusion in the Index, then all the constituents will be included in the Index

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## **Weighting**

The Index is equal weighted at the time of reconstitution. Each Tier is assigned an aggregate portfolio weight with Active Enablers receiving 50% and Active Users receiving 50%. Companies are weighted equally within each category.

If any of the company in the Active Enabler category has a company level market cap of less than \$500 million as well as 20 day and 3 month ADTV of less than \$3 million, then the company's weight within the Index is capped at 0.50% at the time of rebalance.

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## **Buffer Rules**

Buffer Rules are employed to reduce Portfolio Turnover. The following Buffer Rules are applicable:

### *Market Capitalization*

An existing Index constituent shall continue to remain in the Index even if its Market Capitalization doesn't meet the previously defined criteria limit, but remains within +/- 20% of this limit.

### *Liquidity*

An existing Index constituent shall continue to remain in the Index even if its Liquidity is below the previously defined Average Daily Traded Value limit, but remains within +/- 30% of this limit.

## Reconstitution and Rebalancing Rules

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- The Index follows a semi-annual reconstitution and semi-annual rebalancing schedule. The new portfolio becomes effective at the close of the third Friday of March and September each year. This day is called the 'Effective Day.'
- The security selection and portfolio creation process starts on the close of the nearest Friday falling at least one month before the effective day, called the 'Selection Day.'
- The final portfolio constituents are shortlisted from a selection pool of all eligible securities selected based on the data as of the Selection Day.
- Weights are calculated at the close of the seventh trading day prior to the Effective Day. Index shares are frozen using weights as of this day.

## Periodic Index Review

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To aptly capture companies that are actively investing resources into products or services that utilize blockchain technology, the Selection Process will be reviewed and can be modified at the time of annual reconstitution.

# Corporate Actions

The following corporate actions (such as stock splits, special dividends, spin-offs and rights offerings) are applied to Price Return indices on the ex-date or earlier as decided by the Index Committee.

## Market Cap Weighted Indices:

Corporate Action	Description	Treatment	Adjustment
Company addition and deletion	In case a constituent is added, removed or replaced with another constituent in the Index.	In case of addition and deletion from an index, the divisor is adjusted to reflect the change in market value.	Divisor Adjustment
Stock Split	A stock split is a decision by the company's board of directors to increase the number of shares that are outstanding by issuing more shares to current shareholders.	Stock splits will be adjusted for on the ex- date. The number of shares will increase times the adjustment factor for the split and the stock price will be reduced since the number of shares outstanding has increased.	No divisor adjustment
Rights Issue	Rights Issue gives existing shareholders the right to purchase a proportional number of new shares at a discount to the market price on a stated future date. The rights issued to a shareholder have a value, thus compensating current shareholders for the future dilution of their existing shares' value.	Rights Issue impacts the number of shares as well as price thereby impacting the index divisor reflecting an increase in market cap. The Index committee will decide whether to participate in the rights issue or not. If the subscription price is greater than or equal to the stock closing price, Indxx would not participate in the rights issue.	Divisor Adjustment
Spin-Off	Spin off is the creation of an independent company through the sale or distribution of new shares of an existing business/division of a parent company.	The Index Committee will decide on one of the following options based on internal research.	
	Spun-Off company is not added, only the parent company remains in the Index.	Spin-Off will be adjusted for by changing the divisor to account for the change in market value (reflecting market value of the Spun-Off entity).	Divisor Adjustment
	Spun-Off company added to the Index, another company replaced.	The divisor is adjusted to account for the impact of deletion of a company from the Index.	Divisor Adjustment
	Spun-Off company added to the Index, no company removed.		No Divisor Adjustment
Delisting	Delisting refers to the practice of removing the stock of a company from a stock exchange so that investors can no longer trade shares of the stock on that exchange.	The security would be removed from the index, and the invested amount in the delisted security will be reinvested into the index.	Divisor Adjustment

Corporate Action	Description	Treatment	Adjustment
Acquisition	A corporate action in which a company buys most, if not all, of the target company's ownership stakes in order to assume control of the target firm. There could be three different cases: - Target Company is a part of the index, acquiring company is not; - Acquiring Company is a part of the index, target company is not; - Target and Acquiring companies are a part of the index The treatment below is followed for all the three scenarios.	The Target company would be removed from the index and the Index Committee will decide on one of the following options based on internal research.	
	All cash takeover	No change to acquirer	Divisor Adjustment
	Partial stock takeover	Share change to acquirer	Divisor Adjustment
	All stock takeover	Share change to acquirer	Divisor Adjustment
Merger	Merger is the combination of two or more companies, generally by offering the stockholders of one company securities in the acquiring company in exchange for the surrender of their stock.	The Target company is removed from the Index.  The Index Committee will decide if the Surviving company should be added to the Index. If added, the divisor will be adjusted to reflect the increase in the number of shares.	Divisor Adjustment
Bankruptcy	Bankruptcy is a legal proceeding involving a person or business that is unable to repay outstanding debts.	The security would be removed from the index, and the invested amount in the acquired security will be reinvested into the index.	Divisor Adjustment
Temporary Delisting / Prolonged Trading Suspension	A temporary delisting/trading suspension occurs when a security stops trading on the stock exchange for a certain time period. This usually occurs when a publicly-traded company is going to release significant news about itself.	The security would be removed from the index based on the Index Committee's decision and the invested amount in the acquired security will be reinvested into the index.	Divisor Adjustment
Special Dividends	When a company pays a special dividend, the share price of the company declines by the amount of the dividend.	The Divisor is adjusted to reflect a fall in the price of the company paying the special dividend.	Divisor Adjustment
Bonus Issue of Shares	A bonus share is a free share of stock given to current/existing shareholders in a company, based upon the number of shares owned by them.	The issue of bonus shares increases the total number of shares issued and owned, it does not increase the value of the company. The ratio of number of shares held by each shareholder remains constant.	No Adjustment



## Total Return Indices

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### Total Return Index

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In addition to all the above mentioned corporate actions, ordinary cash dividends will be applied on the ex-date for calculating TR Indices.

### Adjustment in the Index

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All dividend payments will be reinvested in the index, by adjusting the divisor in the total return index on the ex-dividend date.

## Index Policy

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### Index Committee Policy

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The Index Committee is responsible for setting policy, determining index composition, and administering the indices in accordance with the Indxx index methodology. The Index Committee reserves the right to use qualitative judgment to include, exclude, adjust, or postpone the inclusion of a stock. Continued index membership of a constituent is not necessarily subject to the guidelines provided in each of the Indxx index methodology. A stock may be considered for exclusion by the Index Committee on the basis of corporate governance, accounting policies, lack of transparency and lack of representation, despite meeting all the criteria provided in each of the Indxx index methodology.

### Announcements

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Announcements of additions and deletions of constituents, due to various corporate actions mentioned above, in the middle of the year will be decided by the Index Committee. This will be communicated to the client well ahead of time. Also important news items as well as corporate actions with respect to all the constituents of the index will be informed to the client on a weekly basis.

### Holiday Schedule

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The index is calculated when the U.S. equity markets are open. In situations where an exchange is forced to close early due to unforeseen events, the index will be calculated based on the closing prices published by the exchange, or if no closing price is available, the last regular trade reported for each stock before the exchange closed.

## Disclaimer

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