

## Announcement

### Methodology changes of the Indxx Global Internet of Things Thematic Index

**New York – August 10, 2022** - Effective August 10, 2022, the following are the changes in the methodology of the Indxx Global Internet of Things Thematic Index:

- Reconstitution and Rebalancing Rules (Section 1.7)
- Semi- Annual Review (Section 1.8)

Below is the amended methodology which will be effective from August 10, 2022.

August 2022

# INDXX GLOBAL INTERNET OF THINGS THEMATIC INDEX METHODOLOGY

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# 1. INDXX GLOBAL INTERNET OF THINGS THEMATIC INDEX

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## 1.1 INDEX DESCRIPTION

The Indxx Global Internet of Things Thematic Index is designed to track the performance of companies listed in developed markets that are expected to benefit from the increased adoption of the Internet of Things (IoT), including companies involved in the development and manufacturing of semiconductors and sensors for IoT applications, customized end-to-end integrated IoT products and solutions, and standardized IoT applications across a diverse set of segments including but not limited to smart grids, smart homes, smart cities, connected cars and the industrial internet.

The index has a base date of June 30, 2010 with an initial value of 1,000.

The index is currently available in the following versions:

- Net Total Return (Bloomberg Ticker: ISNSRNT)
- Total Return (Bloomberg Ticker: ISNSR)

## 1.2 CREATION OF MASTER LIST

### 1.2.1 Initial Universe

To be eligible for inclusion in the Initial Universe, securities must have:

- Their country of listing in a Developed Market. Developed Markets are defined by Indxx in its 'Country Classification and Investability Requirements' document.
- A minimum total market capitalization of \$300 million.
- A 6-month average daily turnover greater than or equal to \$2 million.
  - In case of a Significant IPO, a security must have an average daily turnover greater than or equal to \$2 million since the IPO launch date.
- Traded on 90% of the eligible trading days in the last 6 months.
  - In case a security does not have a trading history of 6 months (only IPOs), to be considered for inclusion, in case of Significant IPOs, the IPO must have been listed at least 10 calendar days prior to the 'Selection Date', and in the case of other IPOs, 3 calendar months prior to the 'Selection Day'.
  - Additionally, unless the security is a Significant IPO, the security must have traded on 90% of the eligible trading days for the 3 months preceding the 'Selection Day' (this requirement shall not apply to Significant IPOs).
  - An IPO is considered to be a "Significant IPO" if its company level total market capitalization is greater than the company level total market capitalization of at least 50% of the on-going index constituents as of previous 'Reconstitution Selection Day'.

### 1.2.2 Free Float

All securities must have a minimum free float equivalent to 10% of shares outstanding.

### 1.2.3 Maximum Price

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

### 1.2.4 Security Type

The following security types are eligible for inclusion:

- Common Stock
- ADR
- GDR

### 1.2.5 Share Classes

- The existing share class/listing in the portfolio is retained if it satisfies all the eligibility criteria of the index
- If an ADR of the company exists, it is given preference over all other share classes
- The most liquid share class/listing is considered for inclusion.

## 1.3 SECURITY SELECTION PROCESS

An extensive research is undertaken with focus on identifying the industries and business segments that are expected to benefit from the increased adoption of IoT. The industries identified through this research-based approach are subject to change at every annual reconstitution.

Indxx has defined Internet of Things as being comprised of the following sub-themes:

Sub-Theme	Description
<b>Semiconductors and Sensors</b>	These are companies that provide the necessary technology hardware for IoT implementation, which includes developers and manufacturers of semiconductors and sensors with primary IoT applications.
<b>Networking Infrastructure/Software</b>	These are companies that provide end-to-end IoT solutions with complete (or partial) ecosystem covering sensor-embedded objects, networking and computing devices, big data analytics, IoT software services and IoT security.
<b>Equipment, Vehicle and Infrastructure/Building Technology</b>	These are companies that are involved in developing and providing IoT products and services for industrial and governmental applications including but not limited to smart grids, smart meters, smart cities, connected cars and the industrial internet. This segment does not include companies which are primarily consumers of industrial IoT products and services.

<p><b>Consumer IoT Technology</b></p>	<p>These are Companies that are involved in developing and providing IoT products and services for consumer applications with a focus on developing innovative solutions including but not limited to smart security, smart home solutions and wearable connected devices. This segment does not include companies which incorporate IoT solutions as a minor component or value-added feature in their products.</p>
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Only those companies that derive a significant portion (greater than 50%) of their revenues from the above industries/segments or have stated their primary business to be in products and services focused on the above industries/segments are considered as 'pure-play' IOT companies and are eligible for inclusion in the index. Companies that have demonstrated these industries/segments to be growth focus areas through internal R&D investments, joint ventures, partnerships and/or acquisitions are eligible for inclusion in the index. In addition, companies with diversified revenue streams that (1) are identified as critical to the IoT ecosystem due to scale in certain IoT technologies and services, (2) have a distinct business unit focused on IoT products and services, and (3) have a core competency that is expected to also benefit from the increased adoption of IoT are eligible for inclusion in the Selection List.

## 1.4 FINAL COMPOSITION

From the Selection List:

- The top 'pure-play' IoT companies by market capitalization will form the final portfolio. The index is capped at 100 companies.
- If fewer than 100 companies qualify to be eligible for inclusion, the index committee would consider a secondary list of companies with diversified revenue streams. These companies must have a marginal presence in IoT ecosystem. All those companies will also be part of final portfolio until the number of constituents in the portfolio reaches 100.

## 1.5 WEIGHTING

The index is weighted as follows:

- Components are weighted based on their security-level market capitalization.
- The Index is modified market cap-weighted at the time of reconstitution. A single security weight cap of 6% and single security floor of 0.3% is applied.
- A single security weight cap of 2% and an aggregate weight cap of 30% is applied to companies with diversified revenue streams that (1) are identified as critical to the IoT ecosystem due to scale in certain IoT technologies and services, (2) have a distinct business unit focused on IoT products and services, and (3) have a core competency that is expected to also benefit from the increased adoption of IoT. The excess weight is proportionately distributed among the remaining securities.
- The aggregate weight of all the components with a weight greater than 5% is capped at 40%. All remaining securities are capped at 4.5%.
- A sub-industry weighting cap of 50% is also applied to the index.

## 1.6 BUFFER RULES

Buffer Rules are employed to reduce Portfolio Turnover. The following buffer rules apply:

### 1.6.1 Market Capitalization

A constituent shall continue to be included in the Initial Universe if its market capitalization is greater than or equal to 80% of the previously defined market capitalization limit. To illustrate, if an existing index member qualifies all other selection criteria but doesn't qualify the market capitalization criteria to the extent of 20% deviation then it will be retained in the investible universe.

### 1.6.2 Liquidity

A constituent shall continue to be included in the Initial Universe if its 6-month ADTV is greater than or equal to 70% of the previously defined liquidity limit. To illustrate, if an existing index member qualifies all other selection criteria but doesn't qualify liquidity criteria to the extent of 30% deviation then it will be retained in the investible universe

### 1.6.3 Continued Representation in the Portfolio

Additionally, an existing index constituent shall continue to remain in the index if it is part of top 120 companies by market cap, even if it isn't a part of the top 100 constituents

## 1.7 RECONSTITUTION AND REBALANCING RULES

- The index follows an annual reconstitution and rebalancing schedule. The new portfolio becomes effective at the close of second Friday of March each year. This day is called the 'Effective Day.'
- The security selection and portfolio creation process start on the close of the nearest Friday falling at least one month before the Effective Day, called the 'Selection Day.' The selection list is created based on the data as of the Selection Day.
- Weights are calculated at the close of the seventh trading day prior (six trading day prior) to the Effective Day. Index Shares are frozen using weights as of this day.

## 1.8 SEMI-ANNUAL REVIEW

To effectively capture IPOs and changes in the structure of a company's business due to corporate actions, the index composition will be reviewed on a Semi-Annual basis.

- Any new addition or deletion to the index becomes effective on the close of second Friday of September. This day is called the 'Review Effective Day.'
- The selection date shall be the nearest Friday falling at least one month before the Review Effective Day. This day is called the 'Review Selection Day.'
- The weights calculation shall take place at the close of the seventh trading day prior to the Review Effective Day. This day is called the 'Review Weight Freeze Day.'

On the 'Review Selection Day', the following evaluations are partaken:

- IPO Review-
  - For IPOs with less than 6 calendar months of trading history as of the 'Review Selection Date' to be considered for inclusion, the IPO must have been listed at least 10 calendar days prior to the 'Review Selection Date', in the case of Significant IPOs, and 3 calendar months prior to the 'Review Selection Day', in the case of other IPOs.
  - Additionally, unless the security is a Significant IPO, the security must have traded on 90% of the eligible trading days for the 3 months preceding the 'Review Selection Day' (this requirement shall not apply to Significant IPOs).
  - Finally, the security must have an available average daily turnover greater than or equal to \$2 million.
  - If an IPO meets aforesaid criteria and all other standard criteria outlined in section 1.2, then it will be eligible for inclusion in the index.
  - An IPO is considered to be a "Significant IPO" if its company level total market capitalization is greater than the company level total market capitalization of at least 50% of the on-going index constituents as of previous 'Reconstitution Selection Day'.
  - To qualify for inclusion, all Significant IPOs must be pure-play IoT IPOs that satisfy the above conditions.
  
- Corporate Action Review – At the time of review, all existing index constituents are checked for corporate actions that have become effective in the last 6 calendar months and that have significantly altered the company's business operations. These corporate actions include Spin-offs, Mergers or Acquisitions, divestiture, etc., that may significantly change the fundamentals of a company's business operations. Only companies that still comply with the index objectives will be retained in the index.

Any change (addition/ deletion) in the index composition due to the IPO review and/or Corporate Action Review will be determined as of 'Review Selection Day', where new weights shall be calculated as below.

- Addition/Deletion – Additions/deletions shall be weighted as per the methodology outlined in section 1.5. The difference in the weights (from additions/deletions) shall be proportionately adjusted (added/removed) among the remaining constituents based on the security level market capitalization.

## 1.9 CORPORATE ACTIONS

The corporate action guidebook is present in the Announcements section of our website, under 'Index Documents.'



## 2 APPENDIX

### 2.1 METHODOLOGY CHANGES

Methodology changes since November 2020 are as follows:

Section	Previous Value	New Value	Effective Date (close)
1.2.1	<ul style="list-style-type: none"> <li>A 6-month average daily turnover greater than or equal to \$2 million.</li> </ul>	<ul style="list-style-type: none"> <li>A 6-month average daily turnover greater than or equal to \$2 million.               <ul style="list-style-type: none"> <li>In case of a Significant IPO, a security must have an average daily turnover greater than or equal to \$2 million since the IPO launch date.</li> </ul> </li> </ul>	Nov 30, 2020
	<ul style="list-style-type: none"> <li>Traded on 90% of the eligible trading days in the last 6 months.               <ul style="list-style-type: none"> <li>In case a security does not have a trading history of 6 months (only IPOs), such a 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 for the past 3 months.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Traded on 90% of the eligible trading days in the last 6 months.               <ul style="list-style-type: none"> <li>In case a security does not have a trading history of 6 months (only IPOs), to be considered for inclusion, in case of Significant IPOs, the IPO must have been listed at least 10 calendar days prior to the 'Selection Date', and in the case of other IPOs, 3 calendar months prior to the 'Selection Day'.</li> <li>Additionally, unless the security is a Significant IPO, the security must have traded on 90% of the eligible trading days for the 3 months preceding the 'Selection Day' (this requirement shall not apply to Significant IPOs).</li> <li>An IPO is considered to be a "Significant IPO" if its company level total market capitalization is greater than the company level total market capitalization of at least 50% of the on-going index constituents as of previous 'Reconstitution Selection Day'.</li> </ul> </li> </ul>	

Section	Previous Value	New Value	Effective Date (close)
1.8	<p>IPO Review – To be considered for inclusion, the IPO must have been listed at least 3 calendar months prior to the ‘Review Selection Day.’ Additionally, the security must have traded on 90% of the eligible trading days for the 3 months preceding the ‘Review Selection Day.’ If an IPO meets aforesaid criteria and all other standard criteria outlined in section 1.2, then it will be eligible for inclusion in the index.</p>	<p>IPO Review-</p> <ul style="list-style-type: none"> <li>For IPOs with less than 6 calendar months of trading history as of the ‘Review Selection Date’ to be considered for inclusion, the IPO must have been listed at least 10 calendar days prior to the ‘Review Selection Date’, in the case of Significant IPOs, and 3 calendar months prior to the ‘Review Selection Day’, in the case of other IPOs.</li> <li>Additionally, unless the security is a Significant IPO, the security must have traded on 90% of the eligible trading days for the 3 months preceding the ‘Review Selection Day’ (this requirement shall not apply to Significant IPOs).</li> <li>Finally, the security must have an available average daily turnover greater than or equal to \$2 million.</li> <li>If an IPO meets aforesaid criteria and all other standard criteria outlined in section 1.2, then it will be eligible for inclusion in the index.</li> <li>An IPO is considered to be a “Significant IPO” if its company level total market capitalization is greater than the company level total market capitalization of at least 50% of the on-going index constituents as of previous ‘Reconstitution Selection Day’.</li> <li>To qualify for inclusion, all Significant IPOs must be pure-play IoT IPOs that satisfy the above conditions</li> </ul>	Nov 30, 2020
1.7	The index follows an annual reconstitution and rebalancing schedule. The new portfolio becomes	The index follows an annual reconstitution and rebalancing schedule. The new portfolio becomes effective at	Aug 10, 2022

Section	Previous Value	New Value	Effective Date (close)
	effective at the close of last trading day of June each year. This day is called the 'Effective Day.'	the close of second Friday of March each year. This day is called the 'Effective Day.'	
1.8	Any new addition or deletion to the index becomes effective on the close of last trading day of December. This day is called the 'Review Effective Day.'	Any new addition or deletion to the index becomes effective on the close of second Friday of September. This day is called the 'Review Effective Day.'	Aug 10, 2022

### 3 DISCLAIMER

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