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# 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).

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 primary listing in a Developed Market. Developed Market is defined by Indxx in its 'Country Classification and Investability Requirements' document.
- A minimum market capitalization of \$100 million.
- A 6-month average daily turnover greater than or equal to \$2 million.
- Traded for at least 90% of the total trading days over the last 6 months on their respective stock exchanges, and at least 90% of the total trading days over the last 3 months for an Initial Public Offering ("IPO") security.

### 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 universe. This rule is not applicable for existing constituents. Existing constituents shall remain in the 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

If multiple share classes exist for a company, the following preference order is followed:

- If an ADR of the company exists, it is given preference over all other share classes.

- In all other cases, the most liquid share class is considered for inclusion in the portfolio.

### 1.3 SECURITY SELECTION PROCESS

Based on extensive research, Indxx has defined segments that are expected to benefit from the increased adoption of IoT as being comprised of the following sub-themes:

Semiconductors and Sensors	Includes developers and manufacturers of semiconductors and sensors with primary IoT applications.
Networking Infrastructure/Software	For industrial and governmental applications but not limited to smart grids and does not include companies which are primarily consumers of industrial IoT products and services
Equipment, Vehicle and Infrastructure/Building Technology	Consumer applications but not limited to smart security, smart home solutions and wearable connected devices and does not include companies which incorporate IoT solutions as a minor component or value-added feature in their products.
Consumer IoT Technology	Companies that are involved in developing and providing innovative solutions but not limited to smart security, smart home solutions and wearable connected devices excluding minor component or value-added feature in their products.

These sub-themes are comprised of companies in the following FactSet Industries:

Aerospace & Defence	Miscellaneous Commercial Services	Engineering & Construction
Auto Parts: OEM	Miscellaneous Manufacturing	Industrial Conglomerates
Building Products	Motor Vehicles	Industrial Machinery
Catalog/Specialty Distribution	Movies/Entertainment	Industrial Specialties
Computer Communications	Other Consumer Specialties	Information Technology Services
Computer Peripherals	Packaged Software	Insurance Brokers/Services
Computer Processing Hardware	Personnel Services	Internet Software/Services
Data Processing Services	Pulp & Paper	Medical Specialties
Electrical Products	Semiconductors	Miscellaneous
Electronic Components	Specialty Telecommunications	Wireless Telecommunications
Electronic Equipment/Instruments	Telecommunications Equipment	Electronics/Appliances
Electronic Production Equipment	Trucks/Construction/Farm Machinery	
Electronics Distributors	Wholesale Distributors	

The industries and sub-themes identified through this research-based approach are subject to change at every annual reconstitution.

Companies are classified into one of the following three types based on revenue:

- Pure Play:

Companies from the Master List that derive revenue greater than or equal to 50% from the above sub-themes are considered as 'pure-play' IOT companies. These companies are included in the 'Selection List' for the index.

- Quasi Play:

Companies with diversified revenue streams that generate at least 10% (but less than 50%) of their revenue from the above sub-themes are considered as 'quasi-play' IOT companies. These companies are considered for inclusion in the 'Selection List' for the index.

## 1.4 FINAL COMPOSITION

From the Selection List:

- The top 100 'pure-play' companies by market capitalization will form the final index.
- If fewer than 100 pure-play companies are eligible for inclusion, the index includes quasi-play companies (based on market capitalization) until the total index component count reaches 100.

## 1.5 WEIGHTING

The index is weighted as follows:

- Components are weighted based on their security-level market capitalization.
- A single security cap of 6% and a single security floor of 0.3% is applied to 'pure-play' companies.
- A single security cap of 2% and aggregate weight cap of 30% is applied to 'quasi-play' companies.
- The aggregate weight of all the components with a weight greater than 5% is capped at 45%. All remaining securities are capped at 4.75%.
- 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.

### 1.6.1 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.

### 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 the top 120 companies by market capitalization, even if it is not 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 last trading day of June 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 to the Effective Day. Index Shares are frozen using weights as of this day.

## 1.8 MID TERM REVIEW

- The index follows a mid-term review for inclusion of IPOs. The effective day for addition of IPOs during the mid-term review is the last trading day of December.
- The IPO identification process starts at the close of the nearest Friday falling at least one month before the effective day. Potential inclusions in the mid-term review must meet tradability, liquidity and market capitalization criteria as of this day.
- Any new addition to the portfolio at the time of review will be added at its market capitalization weight, calculated at the close of seventh trading day prior to the Effective Day. The new addition's index shares will be frozen using weights as of this day.

## 1.9 CORPORATE ACTIONS

Indxx standard Corporate Actions for market cap weighted indices apply. The corporate action guidebook is present in the Announcements section of our website, under 'Index Documents'.

## 2. DISCLAIMER

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