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# INDXX GLOBAL ROBOTICS & ARTIFICIAL INTELLIGENCE THEMATIC INDEX METHODOLOGY

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# 1. INDXX GLOBAL ROBOTICS & ARTIFICIAL INTELLIGENCE THEMATIC INDEX

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## 1.1 INDEX DESCRIPTION

The Indxx Global Robotics & Artificial Intelligence Thematic Index is designed to track the performance of companies that are expected to benefit from the increased adoption and utilization of robotics and artificial intelligence (“AI”).

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: IBOTZNT)
- Total Return (Bloomberg Ticker: IBOTZ)

## 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 robotics and artificial intelligence as being comprised of the following sub-themes:

Industrial Robots and Automation	Providing robots and robotic automation products and services with a focus on industrial applications.
Unmanned Vehicles and Drones	Companies that are involved in the development and production of unmanned vehicles (including hardware and software for autonomous cars), drones and robots for both military and consumer markets.
Non-industrial Robotics	Developing robots and AI that are used for non-industrial applications, including but not limited to agriculture, healthcare, consumer applications and entertainment.
Artificial Intelligence	Developing applications, technologies and products that utilize AI for data analysis, predictive analytics, task automation and other applications.

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

Aerospace & Defense	Miscellaneous Commercial Services	Industrial Conglomerates
Computer Processing Hardware	Motor Vehicles	Industrial Machinery
Electronic Components	Oilfield Services/Equipment	Internet Software/Services
Electronic Equipment/Instruments	Semiconductors	Medical Specialties
Electronic Production Equipment	Telecommunications Equipment	Auto Parts: OEM
Electronics/Appliances	Trucks/Construction/Farm Machinery	Electrical Products
Engineering & Construction	Marine Shipping	Packaged Software

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' robotics or artificial intelligent 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' robotics or artificial intelligent companies. These companies are also included in the 'Selection List' for the index.

- Marginal:

Companies with diversified revenue streams that generate 1-10% of their revenue from the above-mentioned sub-themes and that have a distinct business unit focused on robotics or AI are considered as 'marginal' companies. These companies are also included 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. If fewer than 30 pure-play and quasi-play companies qualify to be eligible for inclusion, the index committee shall consider the list of marginal companies (based on market capitalization) for inclusion until the number of constituents in the index reaches 30.

## 1.5 WEIGHTING

The index is weighted as follows:

- Components are weighted based on their security-level market capitalization.
- A single security cap of 8% and a single security floor of 0.3% is applied.
- 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%.

## 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.

### 1.6.2 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.

### 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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