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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 listed in developed markets that are expected to benefit from the increased adoption and utilization of robotics and Artificial Intelligence (“AI”), including companies involved in Industrial Robotics and Automation, Non-Industrial Robots, Artificial Intelligence and Unmanned Vehicles.

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 country of listing in either 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.
- 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), 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.

### 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 segments that would be positively impacted by robotics and AI. The industries identified through this research-based approach are subject to change at every annual reconstitution.

Indxx has defined Robotics and Artificial Intelligence as being comprised of the following sub-themes:

Sub-Theme	Description
<b>Industrial Robots and Automation</b>	These are companies that provide robots and robotic automation products and services with a focus on industrial applications.
<b>Unmanned Vehicles and Drones</b>	These are 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.
<b>Non-industrial Robotics</b>	These are companies that are involved in developing robots and AI that are used for non-industrial applications, including but not limited to agriculture, healthcare, consumer applications and entertainment.
<b>Artificial Intelligence</b>	These are companies that develop or directly deliver Artificial Intelligence in form of products, software, or systems. These companies should sell Artificial Intelligence and not utilize/leverage it to enhance their products.

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' robotics and AI 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 final Selection List.

## 1.4 FINAL COMPOSITION

From the Selection List:

- The top 'pure-play' robotics and AI 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, all these companies would be a part of the final portfolio.
- If fewer than 30 companies qualify to be eligible for inclusion, the index committee would consider a secondary list of companies with diversified revenue streams that (1) have a distinct business unit focused on robotics or Artificial Intelligence, and (2) have a core competency that is expected to augment the adoption of robotics or Artificial Intelligence for inclusion till the count reaches 30.

## 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 8% and 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. 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 trading on the 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 (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 last trading day of December. 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 - 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.
- 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 to 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 DISCLAIMER

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