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INDXX ARTIFICIAL INTELLIGENCE AND BIG DATA INDEX METHODOLOGY

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1. INDXX ARTIFICIAL INTELLIGENCE AND BIG DATA INDEX

1.1 INDEX DESCRIPTION

The Indxx Artificial Intelligence and Big Data Index is designed to track the performance of companies that are positioned to benefit from the development and utilization of Artificial Intelligence (“AI”) technology in their products and services, as well as companies that produce hardware used in Artificial Intelligence applied for the analysis of Big Data. The index intends to reflect the performance of companies engaged in applications of AI including but not limited to: AI developers, AI-as-a-service (“AlaaS”), AI hardware, and quantum computing.

The index has a base date of January 31, 2014 with an initial value of 1,000.

The index is currently available in the following versions:

- Net Total Return (Bloomberg Ticker: IAIQ)

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 or incorporation in the following countries: United States, Canada, Taiwan, South Korea, Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Israel, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, Australia, Hong Kong, Japan, New Zealand, or Singapore. In addition, ADRs and GDRs of companies incorporated or with primary listing in China are eligible for inclusion.
- A minimum market capitalization of \$2 billion for Category 1 and \$500 million for Category 2. Each category is described in more detail below.
- A 6-month average daily turnover greater than or equal to \$2 million for both Category 1 and Category 2.
- 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 meet at least one of the following criteria (A) minimum free float equivalent to 10% of shares outstanding or (B) minimum free float market capitalization of \$1 billion.

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 artificial intelligence and big data as being comprised of Category 1 and Category 2. In case a security qualifies for both inclusion in Category 1 and Category 2, the security will be included in the Category for which it scores higher in the research framework defined below.

These categories are comprised of companies from the following FactSet Industries:

Category 1		
Sub - Categories	Description	FactSet Industries
Artificial Intelligence Developers	This category includes companies that develop AI and use AI in their own products. Companies that have developed internal AI capabilities (organically or through acquisition) and are applying artificial intelligence technology to enhance their products and services are the focus. AI applications include but are not limited to language/image processing and recognition, automated communications, threat detection, recommendation generation, and other predictive analytics. The companies are considered for inclusion in this category based on the level of AI involvement of the companies.	<ul style="list-style-type: none"> • Advertising/Marketing Services • Aerospace & Defense • Biotechnology • Cable/Satellite TV • Computer Communications • Computer Peripherals • Computer Processing Hardware • Data Processing Services • Electronic Equipment/Instruments • Financial Publishing/Services • Industrial Conglomerates • Industrial Machinery • Information Technology Services • Insurance Brokers/Services • Internet Retail • Internet Software/Services • Medical Specialties • Miscellaneous Commercial Services • Packaged Software • Semiconductors • Telecommunications Equipment
Artificial Intelligence-as-a-Service ("AlaaS")	Companies that provide artificial intelligence capabilities to their customers	

	as a service. Companies in this segment typically offer cloud-based platforms that allow their customers to apply artificial intelligence techniques without needing to make a direct investment in AI-related infrastructure.	<ul style="list-style-type: none"> • Other Consumer Services
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Category 2		
Sub - Categories	Description	FactSet Industries
Artificial Intelligence Hardware	Companies that produce semiconductors, memory storage and other hardware that is utilized for artificial intelligence applications.	<ul style="list-style-type: none"> • Computer Communications • Computer Peripherals • Computer Processing Hardware • Data Processing Services • Electronic Production Equipment • Information Technology Services • Internet Software/Services • Miscellaneous Commercial Services • Packaged Software • Semiconductors • Telecommunications Equipment • Electronic Components • Electronic Equipment/Instruments • Financial Publishing/Services • Industrial Machinery • Insurance Brokers/Services • Tools & Hardware • Electrical Products • Electronics/Appliance Stores • Electronics/Appliances • Engineering & Construction • Industrial Conglomerates • Miscellaneous • Miscellaneous Manufacturing
Quantum Computing	Companies that are at the forefront of developing quantum computing technology, which is in the process of being commercialized and is expected to have significance in AI and big data applications in the future.	

- The industries and categories identified through this research-based approach are subject to change at every annual reconstitution.
- After the initial screening of FactSet Industries described above, extensive research is undertaken with a focus on identifying the business segments that facilitate Artificial Intelligence and Big Data analysis in their respective categories. Only those companies that provide direct exposure to AI or have stated their primary business to be in products and services focused on AI products, services, or utilization are eligible for inclusion in the index.

- As the last step of the research process, the remaining companies are scored by the extent of their exposure to AI using a proprietary framework described in more detail below.

The following are the examples of criteria that are utilized in this framework for the assessment of Category 1 Companies:

Category 1		
Sample Exposure Category	Description	Definitions
Application of AI in Core Products/Services	Company demonstrates the application of AI in products/services defined as "Core"	"Core" - company utilizes AI in majority of the products and services in most of its products.
Provider of AI- as-a-service (AlaaS)	Provides AI capabilities such as those listed above to other companies in a "software-as-a-service" structure (platform for leveraging AI technology without requiring investment in infrastructure)	Company provides AlaaS platform as a complete AI solution to customers; typically leverages cloud infrastructure and eliminates need for customer to invest directly in AI related infrastructure.
Acquisition of AI Company	Company has made a significant acquisition of an AI company	Acquisition must have occurred after 2012
Significant R&D Investment into AI	Company has made a significant R&D investment into AI	Company has publicly announced and/or clearly stated an R&D investment into AI.

The following are the examples of criteria that are utilized in this framework for the assessment of Category 2 Companies:

Category 2		
Sample Exposure Category	Description	Definitions
Hardware is utilized specifically for AI applications (data center, autonomous vehicles) as per company/product details	Companies that are developing hardware that is designed specifically for AI applications (not all producers of GPUs, FPGAs, etc. are designing hardware for AI applications specifically)	The primary "business segments" where hardware is being used for AI applications are (1) data centers/cloud and (2) embedded systems such as autonomous vehicles
Developing quantum computing hardware/technology	Computing that utilizes quantum-mechanical phenomena; has yet to be fully commercialized but significant R&D in the area	Companies that are developing quantum computing hardware/technology - typically this is being done by large technology companies with significant

		R&D budgets and existing computing capabilities
Producer of Graphics Processing Units (GPUs)	Electronic circuit designed to rapidly alter/manipulate memory; increasingly utilized in AI applications	Companies that produce GPUs
Producer of Field Programmable Gate Arrays (FPGAs)	Integrated circuit designed to be configured after it is manufactured (customizable); gaining adoption in AI applications	Companies that produce FPGAs

- A final composite score shall be arrived by combining the scores each company receives through the research framework.
- Each company will be assigned a final percentage score ("Exposure Score") based on the composite score that the company receives in its Category, relative to the total possible score of its Category.

1.4 FINAL COMPOSITION

From the Selection List:

- The top 60 securities from Category 1 and top 25 securities from Category 2 will be selected for the final security selection based on their Exposure Score. Companies must have a positive Exposure Score to be eligible for inclusion.
- If there is a tie-breaker for inclusion among the securities being scored, then the tied securities will be selected for inclusion based on the highest ADTV as of the reconstitution date.
- If there are fewer securities in either category than the target count as defined above, then all the remaining securities with positive Exposure Scores are considered for inclusion in the final portfolio.

1.5 WEIGHTING

The index is weighted as follows:

- Components are weighted based on their security-level market capitalization.
- A single security cap of 3% is applied. Securities with an Exposure score less than 20% receive a security cap of 1%.
- The excess weight is proportionately distributed among the remaining uncapped securities. While retaining the 3% limit for securities with an Exposure Score greater than 20% and the 1% limit for securities with an Exposure Score less than 20%.
- Once the capping for the securities is fulfilled, the securities would be checked for a minimum weight floor of 0.30%. Any security with a weight less than or equal to 0.30% will be given a weight of 0.30%. The weights of the remaining uncapped securities will be proportionately reduced.

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.

1.7 RECONSTITUTION AND REBALANCING RULES

- The index follows an annual reconstitution and a semi-annual rebalancing schedule. The reconstituted portfolio becomes effective at the close of last trading day of January each year. This day is called the 'Reconstitution Effective Day.' The rebalanced portfolio becomes effective at the close of last trading day of July each year. This day is called the 'Rebalanced Effective Day.'
- The security selection and portfolio creation process start on the close of the nearest Friday falling at least one month before the Reconstitution 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 Reconstitution Effective Day (or the Rebalance 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 additions for IPOs during the mid-term review is the last trading day of July.
- The IPO identification process start 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 the seventh trading day prior to the Effective Day. The new addition's index shares will be frozen using weights as of this day.
- The new addition will be included in the index if it receives an Exposure Score that is higher than the lowest scoring company in its respective Category. At the semi-annual rebalance and IPO review, it is possible for a Category to exceed its respective security limit because of an IPO addition.

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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