

# AiPEXAR

An Artificially Intelligent Equity Index  
with IBM Watson™



**HSBC**

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# An Artificially Intelligent Equity Index

The suite of AI Powered US Equity Indexes are the first and only rules-based equity strategies to use IBM Watson to turn data into investment insight.

By working around the clock to keep up with the increasing volume of data created every day, the AI Powered US Equity Adjusted Total Return Index ("AiPEXAR") uses the power of Artificial Intelligence ("AI") to continually improve processes, in an effort to build an informational advantage as markets evolve and as new information becomes available.

AiPEXAR seeks to identify companies whose stock prices are poised for potential growth through an objective selection process that is like a fundamental approach, only thousands of times faster and broader in scope.

## Award Winning Innovation



SPi is a market intelligence company that provides market intelligence, reference data and lifecycle information for the structured products industry.

In 2021, the HSBC AI Powered US Equity Indexes won the Best New Index award. This award recognises, following the Index Standard methodology, the best non-traditional index provider of the year, which outlines their methodology, innovation, and value to investors.



# The Future of Investing

For investors seeking to grow their wealth by investing in equities, the birth of Big Data represents an unprecedented opportunity. Each new piece of data represents a new possible insight on a company or the markets that can lead to better investment decisions.

However, the sheer amount of data now available to investors is staggering, and the gap between what is available and what humans can take in and analyze is wide and will only continue to grow.



By some measures, **90%** of the data that exists today has been created in just the past **two years**, and data continues to explode at an **exponential pace**.\*



Much of this data is **non-traditional**; newer data such as social media posts, satellite imagery, and website traffic patterns must be **analyzed and organized** to be useful.\*



Recent advances in machine learning and cloud computing enable AI systems to analyze and **continuously learn from the vast amount of data** being generated each day.\*

Successful investment strategies of the future must keep up with the growing amount of data being generated each day.

\* Please see the IBM website for more information. Information contained in IBM's website is not incorporated by reference in, and should not be considered as part of, this brochure.



# AI Powered Equity Investing

The AI professionals at EquBot developed AiPEXAR to not only keep up, but also to thrive in an increasingly complex world of data by using AI techniques including Natural Language Processing and Machine Learning.



AiPEXAR is a new kind of equity strategy utilizing IBM Watson's Artificial Intelligence. Watson enables AiPEXAR to understand the equity markets and to read and analyze millions of traditional (e.g. financial statements) and non-traditional (e.g. news articles) data sources each day. With Watson, AiPEXAR is able to build intuition, experience, and to continuously learn as headlines break and new information becomes available.

Applying what it has learned, AiPEXAR objectively evaluates and scores a universe of Large and Mid Cap U.S. publicly traded companies in order to find those whose stock prices are poised for growth and rebalances its portfolio monthly by following a 3-step equity selection process. AiPEXAR is 100% composed of US equities selected by the AI at all times and will not invest in cash or other instruments.

AiPEXAR can identify and quantify relationships that are not readily apparent to humans. Rather than one analyst's opinion, AiPEXAR selects stocks based on the insights uncovered by an entire army of simulated research analysts and traders who are in complete coordination, allowing for information learned by one to be instantly known by all.





## AiPEXAR 3-Step Monthly Equity Selection Process:



### 1. Score

Scores for the companies included in the Solactive US Large & Mid Cap Index are calculated based on:

- **Financial Health Score:** evaluates a company's fundamentals and key figures.
- **Management Score:** assesses a company's management strength and thought leadership.
- **News & Information Score:** measures a company's market sentiment, economic, and geopolitical risks.



### 2. Select

Approximately 250 companies with the highest combined Financial Health, Management, and News and Information Scores are selected for the portfolio.



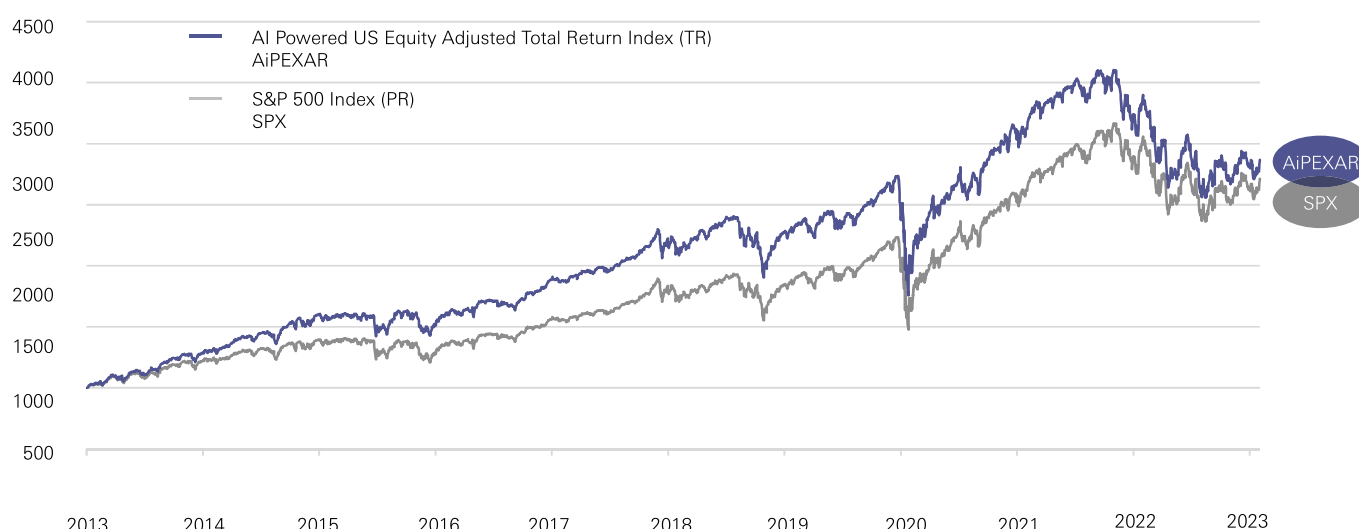
### 3. Diversify & Adjust

Companies are assigned portfolio weights, with the largest weights going to the companies with the highest combined scores, subject to strategic constraints<sup>1</sup>.

<sup>1</sup> Constraints include: diversification; market liquidity limits; weight allocation; and caps at 2.6% of the Solactive US 500 Index's volatility at each monthly rebalance. For more information on the index methodology, please see the AI Powered US Equity Adjusted Total Return Index Guideline published by Solactive AG. Information contained in these Index Guidelines or otherwise available from Solactive is not incorporated by reference in, and should not be considered a part of, this brochure.

# Performance: Simulated & Historical

The AI Powered US Equity Adjusted Total Return Index would have provided growth through a variety of market environments due in part to a monthly equity selection process intended to adapt to market changes and mitigate potential risks. While real-time calculations began on July 14, 2021, the graph below illustrates how AiPEXAR would have provided long-term positive returns with low volatility.



**AiPEXAR**

**11.11%**  
compound  
annual return

**SPX**

**10.50%**  
compound  
annual return

## Key Statistics and Characteristics

Index returns as of 3/31/2023	AI Powered US Equity Adjusted Total Return Index (TR)	S&P 500 Index (PR)
1 Y	-13.63%	-9.29%
3 Y	40.49%	58.99%
5 Y	37.51%	59.16%
10 Y	186.78%	171.30%
10 Y Volatility	17.65%	17.65%

Bloomberg Ticker	AiPEXAR
Asset Class	Equity
Geographical Focus	United States
Launch Date	7/14/2021
Type of Return	Adjusted Return
Index Sponsor	EquBot, Inc.
Calculation Agent	Solactive AG
Adjustment Factor <sup>1</sup>	5.0% per year

<sup>1</sup> AiPEXAR Index values shown here, and as calculated and published by Solactive AG, are net of the 5.0% p.a. Adjustment Factor, or decrement. The graph and table above set forth the hypothetical back-tested performance of the Index from February 28, 2013 through July 14, 2021 and actual index performance thereafter through March 31, 2023. See the risk factors and "Use of Simulated Returns" herein.

# Index Collaborators



**IBM Watson** is IBM's suite of enterprise Artificial Intelligence applications and APIs. IBM Watson represents a new era in computing, where **systems understand the world the way humans do**: through intuition, learning, and experience. IBM Watson continuously learns, gaining value and knowledge from interactions over time.



**EquiBot, Inc.** ("EquiBot"), a San Francisco based asset manager, is a member of the **IBM Global Entrepreneur Program** and developed AiPEXAR to provide investors access to the opportunities that AI can uncover. EquiBot was co-founded by the former Director of Engineering at Intel, was the first manager to develop an AI based ETF, and currently manages several funds and separate accounts for institutional investors.



**HSBC** is one of the world's largest banking and financial services companies, an award winning provider of US Structured Products, and is the exclusive licensor of the AI suite of indexes.



# Growing Presence of Artificial Intelligence

The AiPEX indexes are the first of their kind, but likely not the first time investors have encountered AI. Technology similar to that which AiPEXAR uses to gain market insights is already helping to improve our daily lives, even if we don't realize it.



**AI is helping the Mayo Clinic improve their breast cancer early screening results and match patients with clinical trials.\***



**AI is helping our armed forces and law enforcement professionals identify persons of interest with facial recognition.\***



**AI is helping power the billions of online searches each day, and has transformed the communication industry with software such as text message auto completion.\***

# Key Terms and Definitions



## **Artificial Intelligence**

enables computers to do things normally requiring human intelligence, such as visual perception, speech recognition, interpretation of language, and decision-making



## **Natural Language Processing**

is a branch of artificial intelligence that reads, deciphers, understands, and makes sense of human languages



## **Machine Learning**

is a subset of artificial intelligence that gives computers the ability to learn without being explicitly programmed in order to identify patterns and make successful predictions

**For more information on AiPEXAR:**

**Go to: [aipexar.gbm.hsbc.com](https://aipexar.gbm.hsbc.com)**

## Risks Associated with the AI Powered US Equity Adjusted Total Return Index ("AiPEXAR")

**The Adjustment Factor, or decrement, of 5.00% per annum and the monthly Rebalancing Fee of 0.01% of the change in the composition of the Notional Portfolio will always adversely affect the performance of the Index.**

The Index has a decrement feature whereby 5.00% per annum is deducted daily from the Index level. The Index tracks the performance of the Notional Portfolio (as defined below), which is a notional portfolio of stocks selected from the Benchmark. The Notional Portfolio does not have a decrement feature. Also, the Rebalancing Fee of 0.01% of the relevant change in the composition of the Notional Portfolio is deducted from the Index's level every time such composition is rebalanced, which is expected to occur monthly.

Consequently, the Index will always underperform the Notional Portfolio.

**Due to the decrement feature, the Index's level will only increase if the Notional Portfolio's aggregate performance (as reduced by the monthly Rebalancing Fee) exceeds 5.00% per annum.**

The Index level may decline even if the Notional Portfolio level appreciates.

**Any potential benefit from the total return feature of the Notional Portfolio will be reduced by the Index's decrement of 5.00% per annum.**

The Notional Portfolio is calculated as if it were a total return index, reflecting the reinvestment of dividends on its components. Because of the 5.00% per annum decrement feature of the Index, the Index level will always be less than the Notional Portfolio solely modified by the monthly Rebalancing Fee. The 5.00% per annum decrement will be deducted daily from the Index, regardless of whether any dividends were paid on the Index Components (as defined below).

**The Index strategy is not guaranteed to succeed.**

The Index strategy is not guaranteed to be successful. It is impossible to predict whether and the extent to which the Index and the Notional Portfolio will yield positive or negative results. The Index adjusts its exposure to the selected constituents of the Benchmark based on historical economic relationships which may not hold true in the future.

The Index tracks the total return of the Notional Portfolio selected by EquBot from the constituents (the "Index Universe Components") of the Solactive US Large & Mid Cap Index (the "Index Universe") following a methodology based on artificial intelligence ("AI") techniques developed by EquBot, subject to certain allocation constraints. The selection of shares includes a tracking error constraint to cap the Tracking Error between the Index and the Benchmark at 2.60%.

There is no guarantee that the EquBot AI techniques will select the best performing Index Universe Components from the Benchmark to become constituents of the Index ("Index Components"). The Index may underperform an alternative strategy based upon the Benchmark or any other measure or portion of the US equity market.

**The Index and the Notional Portfolio are purely notional.**

The exposure to the Notional Portfolio is purely notional and will exist solely in the records maintained by or on behalf of Solactive AG ("Solactive"). Although the Notional Portfolio may also be referred to as the "portfolio", the "underlying portfolio" or other similar terms, there is no actual portfolio of assets to which any person is entitled or in which any person has any ownership interest.

**The Index was recently launched and has a limited operating history.**

The Index was launched on July 14, 2021 and therefore has limited historical performance. As a result, limited actual historical performance information is available for you to consider in making an independent investigation of the Index, which may make it difficult for you to evaluate the historical performance of the Index and make an informed investment decision than would be the case if the Index had a longer trading history.

Hypothetical back-tested performance prior to the launch of the Index provided in this document refers to simulated performance data created by applying the Index's calculation methodology to historical prices of the underlying constituents. Such simulated performance data has been produced by the retroactive application of a back-tested methodology in hindsight, and may give more preference towards underlying constituents that have performed well in the past. Hypothetical back-tested results are neither an indicator nor a guarantor of future results.

The hypothetical back-tested performance of the Index prior to July 14, 2021 cannot fully reflect the actual results that would have occurred had the Index actually been calculated during that period, and should not be relied upon as an indication of the Index's future performance.

**Solactive administers, calculates and publishes the Index, the Index Universe and the Benchmark.**

Solactive has the authority to determine whether certain events affecting the Index have occurred including, but not limited to, events affecting the underlying equity constituents of the Index.

Potential investors in any financial instrument of which the Index is an underlying need to be aware that any determination or calculation made by Solactive may affect the Index's level, as applicable, and, as appropriate, the performance of any instruments linked to the performance of the Index. Solactive has no obligation to consider the interest of investors in any such instruments when making any determination or calculation. Such discretion in the decisions taken by Solactive (in the absence of manifest or proven error) are binding on all investors and holders of such instruments.

**The Index selects and weights the Index Components based on AI models; the strategies and views implicit in such models and in the Index are not guaranteed to succeed.**

The strategy of the AI models, and therefore the Index, is not guaranteed to be successful. It is impossible to predict whether and the extent to which any underlying constituents of the Index will yield positive or negative results. The AI models evaluate the Index Universe Components, and the Index selects and weights the Index Components, based on historical data which may not reflect future performance. You should seek your own advice as necessary to assess the Index and the underlying AI models.

**The method by which the Index reweights the Index Components and the reallocation period may negatively affect the Index's level.**

The Index Components are reviewed and the Notional Portfolio is rebalanced monthly. Near the end of each month, the AI models are used to recalculate the AI scores for each Index Universe Component, and these scores are used by EquBot to select and weight the Index Components, subject to pre-determined constraints. The weight of each Index Component selected from the Index Universe Components is subject to a cap (equal to 7.50% unless a lower cap is applicable based on the realized volatility of such underlying) and any excess weight is allocated to the iShares® 1-3 Year Treasury Bond ETF (the "ETF Constituent"). The selection and weight of the Index Components is also subject to a tracking error constraint, which caps the Tracking Error between the Index and the Benchmark at 2.60%. The allocation rules, including the cap, will be followed even where they limit the Index's exposure to positively performing Index Components or increase the Index's exposure to negatively performing Index Components, and may result in lower returns on the Index.

The AI models attempt to estimate the future price of each eligible Index Universe Component over a 1-month time horizon, relative to its current price. There is no way to determine whether any future price will actually be achieved or if any projected growth will occur before the next monthly rebalancing. Additionally, an eligible Index Universe Component that was predicted to perform poorly may outperform those which were selected for inclusion in the Index. The Index's level may be adversely affected if the Index Components do not perform as the AI models predict.

Any changes to the Index Components and their relative weights are made over a three trading day period. This delay between the observed values and the following reallocation may negatively affect the ability of the Index to implement its strategy and the return on the Index.

**The Index Universe is exposed to equity risk, including from mid-capitalization companies.**

The Index Universe includes U.S. large-capitalization and mid-capitalization stocks. The Index's level can rise or fall sharply due to factors specific to the Index Universe Components, such as stock price volatility, earnings and financial conditions, corporate, industry and regulatory developments, management changes and decisions and other events, as well as general market factors, such as general market volatility and levels, interest rates and economic and political conditions.

**The Index's level may be determined by reference to the SPDR S&P 500 ETF Trust ("SPY") if the AI models become unavailable.**

In the event that EquBot, the provider of the AI models, no longer provides the applicable AI scores with respect to the eligible constituents, the shares of SPY will be selected as the sole Index Component with a weight of 100%. In such an event, the value of the Index will be determined by reference to SPY, the tracking error constraint and the Adjustment Factor, or decrement.



# Disclosure

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The Index is subject to a decrement. The strategy tracks the adjusted return of a notional dynamic basket of equities, subject to a monthly Rebalancing Fee and an Adjustment Factor, or decrement, of 5.00% per annum (deducted daily). As such, the Index will always underperform the aggregate performance of the equities included in its Notional Portfolio. Accordingly, the Index’s level may decline even if such aggregate performance is positive.

## Important Disclaimer Information

This document is for informational purposes only and intended to provide a general overview of the Index and does not provide the terms of any specific issuance of structured investments. The material presented does not constitute and should not be construed as a recommendation to enter into a securities or derivatives transaction. Prior to any decision to invest in a specific structured investment, investors should carefully review the disclosure documents for such issuance, which contain a detailed explanation of the terms of the issuance as well as the risks, tax treatment and other relevant information.

Investing in financial instruments linked to the Index is not equivalent to a direct investment in any part of the Index. Investments linked to the Index require investors to assess several characteristics and risk factors that may not be present in other types of transactions. In reaching a determination as to the appropriateness of any proposed transaction, clients should undertake a thorough independent review of the legal, regulatory, credit, tax, accounting and economic consequences of such transaction in relation to their particular circumstances. This document contains market data from various sources other than us and our affiliates, and, accordingly, we make no representation or warranty as to the market data’s accuracy or completeness and we are not obligated to update any market data presented in this document. All information is subject to change without notice. We or our affiliated companies may make a market or deal as principal in the investments mentioned in this document or in options, futures or other derivatives based thereon.

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## Solactive AG

Solactive is the administrator and calculation agent of the Index. The financial instruments that are based on the Index are not sponsored, endorsed, promoted or sold by Solactive in any way and Solactive makes no express or implied representation, guarantee or assurance with regard to: (a) the advisability in investing in the financial instruments; (b) the quality, accuracy and/or completeness of the Index; and/or (c) the results obtained or to be obtained by any person or entity from the use of the Index. Solactive does not guarantee the accuracy and/or the completeness of the Index and shall not have any liability for any errors or omissions with respect thereto. Solactive reserves the right to change the methods of calculation or publication and Solactive shall not be liable for any miscalculation of or any incorrect, delayed or interrupted publication with respect to the Index. Solactive shall not be liable for any damages, including, without limitation, any loss of profits or business, or any special, incidental, punitive, indirect or consequential damages suffered or incurred as a result of the use (or inability to use) of the Index.

## Use of Simulated Returns

The Index was launched on July 14, 2021 and therefore has limited historical performance. As a result, limited actual historical performance information is available for you to consider in making an independent investigation of the Index, which may make it more difficult for you to evaluate the historical performance of the Index and make an informed investment decision than would be the case if the Index had a longer trading history.

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The hypothetical back-tested performance of the Index prior to July 14, 2021 cannot fully reflect the actual results that would have occurred had the Index actually been calculated during that period, and should not be relied upon as an indication of the Index’s future performance. Because of the lack of actual historical performance data, your investment in any structured investment linked to the Index may involve a greater risk than investing in a security or other instrument linked to one or more indices with an established record of performance.

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All Sources: Solactive, EquBot, HSBC, Bloomberg, from February 28, 2013 to March 31, 2023

AiPEXAR