

Frequently Asked Questions

The S&P 3AI Indices

Artificial intelligence (AI) and machine learning are reshaping how financial markets process information, identify potential outperformance and manage risk. This evolution is also opening new possibilities for index construction. By incorporating machine-learning-driven alpha forecasts into transparent, rules-based methodologies, indices can be constructed using vast and complex datasets, supporting more adaptive, data-driven approaches.

S&P Dow Jones Indices (S&P DJI) is helping advance this evolution through the launch of the [S&P 500® 3AI Top 100 Index](#) and [S&P World 3AI Top 300 Index](#). The S&P 3AI Indices leverage 3AI's Alpha Intelligence scores (3AI Scores) within S&P DJI's established index framework to identify companies that exhibit high forecasted excess return potential, providing a systematic, AI-enabled approach to stock selection.

This FAQ provides an overview of the S&P 3AI Indices, including their methodology, the role of 3AI's machine-learning-driven forecasts, validation and governance processes, back-tested performance characteristics and their potential relevance for market participants.

- 1. How are the S&P 3AI Indices constructed?** The S&P 3AI Indices track companies within their respective underlying universes that exhibit the highest forecasted alpha, as measured by 3AI Scores. The methodology for the S&P 500 3AI Top 100 Index selects the top 100 companies from the [S&P 500](#), while the S&P World 3AI Top 300 Index methodology selects the top 300 companies within the [S&P World Index](#).

At each quarterly rebalance, companies are ranked by their 3AI Scores, and the highest-ranked companies are selected until the target constituent count is reached. Selected constituents are then weighted in proportion to their 3AI Scores, assigning higher weights to companies with stronger forecasted alpha, subject to a 40% GICS® sector cap and a 4.5% single-stock cap.

- 2. Who is 3AI?** 3AI is a London-based, AI-driven investment intelligence company founded in 2018. Its team combines decades of institutional asset management experience with deep expertise in machine learning and applied data science. 3AI has received multiple industry awards, including becoming the first AI firm to win "Trading System of the Year" at the 2025 Futures & Options World International Awards.

3AI specializes in applying machine learning to generate systematic alpha forecasts, which are supplied to several tier-one hedge funds, systematic asset managers and

institutions. 3AI's AI technology produces forecasts, known as 3AI Alpha Intelligence Scores, for over 20,000 stocks globally. S&P DJI has a commercial agreement with 3AI that allows S&P DJI to develop, calculate and license indices that leverage 3AI Scores.

- 3. What is machine learning and what role can it play when incorporated into index construction?** Machine learning is a branch of AI in which computers learn from data and make predictions or decisions without being explicitly programmed for a specific task. Rather than relying solely on pre-defined rules, machine learning models can learn from large and diverse datasets, adapting as new information becomes available.

When incorporated into index construction, machine learning may enhance the ability to process and interpret complex data at scale. These may include fundamental, technical, macroeconomic, sentiment or alternative data that may be difficult to evaluate using traditional rules-based approaches alone. Machine learning can also help identify relationships across variables, detect non-linear patterns and generate systematic forecasts, such as expected return, risk or alpha.

For indices, these capabilities may support a more dynamic and data-driven approach to constituent selection and weighting. However, robust governance, transparency, model validation and risk controls remain essential to help ensure the approach is systematic, repeatable and appropriate for index use.

- 4. What are the 3AI Alpha Intelligence Scores?** The 3AI Scores are proprietary forecasts generated by 3AI that provide a 12-month excess return forecast for each company relative to a global universe of approximately 20,000 stocks.

The scores are produced through a fully systematic, machine-learning-based process supported by validation checks and oversight procedures. S&P DJI incorporates 3AI Scores into the index construction process to help select constituents and determine weightings within the S&P 3AI Indices.

- 5. How are the 3AI Alpha Intelligence Scores generated?** The 3AI Scores are generated using a series of machine learning models that process a broad range of data to identify patterns and produce forecasts. The scores are updated weekly using newly available data, allowing the forecasts to evolve over time as the underlying information set expands.

The final 3AI Score combines two scores. The first is a **bottom-up single stock score**, which analyzes hundreds of company-level data, including fundamental data, technical indicators, factors and other alternative datasets. The second is a **top-down business cycle score**, which analyzes macroeconomic and sector-level data. The final score is calculated as the simple average of these two scores.

To improve reliability and help manage model risk, the combined score is further refined through a **Bayesian Believability Layer**. This layer applies statistical techniques to

adjust for potential overconfidence in the model outputs and to account for uncertainty, serving as an additional validation and risk-control mechanism.

6. What validation processes and human oversight are in place for these indices?

Although the forecasts are generated through a systematic machine-learning process, multiple validation checks and oversight procedures are embedded across both the score generation and index construction processes.

Within the score generation process, 3AI applies a range of validation procedures, including monitoring universe stability, auditing raw data completeness and accuracy, assessing correlation and stability against historical norms, conducting regular forecast stability checks and verifying final data completeness prior to delivery. Human oversight is an integral part of this framework, with a focus on validation, governance and interpretation, rather than discretionary overrides.

Once the scores are delivered to S&P DJI, the index construction process is managed by S&P DJI in accordance with its established index governance and operational controls. Rebalance results are validated by S&P DJI's calculation team and reviewed through the relevant committee process. Together, these procedures are designed to support disciplined, transparent and reliable index construction, as well as ongoing index maintenance.

7. What does the back-tested performance of the S&P 3AI Indices show? The S&P 500 3AI Top 100 Index and S&P World 3AI Top 300 Index were launched on Dec. 1, 2025, and Dec. 22, 2025, respectively, with back-tested performance data available from Sept. 30, 2004.

Across the over 20-year back-tested period, the S&P 500 3AI Top 100 Index posted an annualized total return of 14.07%, outperforming the S&P 500 by 281 bps annualized. Over the same back-tested period, the S&P World 3AI Top 300 Index had an annualized total return of 14.06%, outperforming the S&P World Index by 421 bps annualized (see Appendix).

This outperformance was accompanied by higher volatility relative to the respective benchmarks over the full back-tested period. The S&P 500 3AI Top 100 Index recorded an annualized volatility of 19.77%, compared with 14.83% for the S&P 500. The S&P World 3AI Top 300 Index recorded an annualized volatility of 19.01%, compared with 15.23% for the S&P World Index (see Appendix).

From a factor perspective, attribution across the full back-tested history indicates that the indices have not exhibited a persistent long-term bias toward any single factor. Instead, factor weights have shifted over time based on where the model has identified the strongest forecast excess return.

- 8. How do the S&P 3AI Indices differ from core equity indices, and how might the two complement each other?** By targeting companies that exhibit the strongest forecasted excess return, the S&P 3AI Indices provide a systematic approach to identifying potential long-term outperformance relative to their respective benchmark universes. As distinct building blocks, they may complement broad market indices—and over the full back-tested period, they have outperformed their respective benchmark universes.

A key characteristic of the S&P 3AI Indices is their historical ability to adapt to changing market regimes. Rather than maintaining static weights or fixed factor tilts, the indices rebalance toward companies that exhibit the strongest forecasted excess returns as markets shift and new information becomes available. This adaptability is reflected in changing index weightings as company fundamentals, market conditions and broader macroeconomic dynamics evolve.

The indices may also demonstrate distinct diversification characteristics. Historically, their excess returns have exhibited relatively low correlations over the full back-tested period versus broad benchmarks, smart beta strategies and other alpha-oriented strategies. These correlation characteristics have varied over time as the model dynamically reweights toward companies exhibiting the strongest forecast alpha (see Appendix).

- 9. How can the S&P 3AI Indices be viewed relative to the broader range of equity strategies in the marketplace?** These indices can primarily be viewed as systematic alpha approaches, with methodologies that incorporate forecasted excess return into the constituent selection process. A key differentiator is that the alpha engine is entirely systematic and powered by machine learning. Rather than relying on discretionary security selection, the methodologies use scalable, rules-based forecasting that leverages a broad set of data to select constituents.

The indices are also distinct from traditional factor approaches. While factor approaches typically reflect well-established risk premia, these indices aim to forecast which securities are most likely to outperform at a given point in time. The machine learning framework also allows the methodology to move beyond predefined linear factor relationships by identifying nonlinear interactions and evolving patterns within the data.

Appendix

Exhibit 1: S&P 500 3AI Top 100 Index Performance

Period	S&P 500	S&P 500 3AI Top 100 Index
Annualized Performance (%)		
Full Period	11.26	14.07
YTD	10.21	18.69
1-Year	22.32	33.08
3-Year	20.61	20.77
5-Year	13.41	16.84
10-Year	15.51	18.18
15-Year	14.36	16.71
Annualized Volatility (%)		
Full Period	14.83	19.77
Risk-Adjusted Return		
Full Period	0.76	0.71
Tracking Error (%)		
Full Period	-	8.58

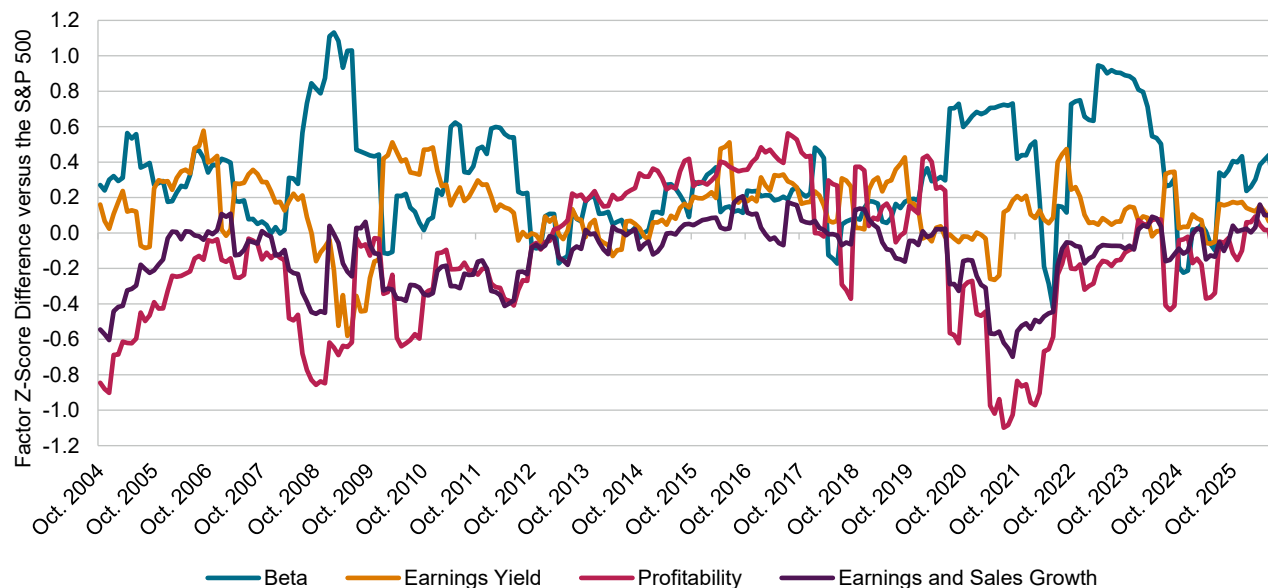
Source: S&P Dow Jones Indices LLC. Data from Sept. 30, 2004, to June 30, 2026. The S&P 500 3AI Top 100 Index was launched on Dec. 1, 2025. All data prior to such date is back-tested hypothetical data. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Exhibit 2: S&P World 3AI Top 300 Index Performance

Period	S&P World Index	S&P World 3AI Top 300 Index
Annualized Performance (%)		
Full Period	9.86	14.06
YTD	9.41	18.84
1-Year	21.35	25.84
3-Year	19.79	22.59
5-Year	11.91	15.08
10-Year	13.63	17.33
15-Year	11.45	14.78
Annualized Volatility (%)		
Full Period	15.23	19.01
Risk-Adjusted Return		
Full Period	0.65	0.74
Tracking Error (%)		
Full Period	-	6.81

Source: S&P Dow Jones Indices LLC. Data from Sept. 30, 2004, to June 30, 2026. The S&P World 3AI Top 300 Index was launched on Dec. 22, 2025. The S&P World Index was launched on Feb. 13, 2009. All data prior to such date is back-tested hypothetical data. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Exhibit 3: S&P 500 3AI Top 100 Index Rolling Factor Exposures (Z-Score) Difference versus the S&P 500



Source: S&P Dow Jones Indices LLC. Data from Sept. 30, 2004, to June 30, 2026. The S&P 500 3AI Top 100 Index was launched on Dec. 1, 2025. All data prior to such date is back-tested hypothetical data. Index performance based on total return in USD. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Performance Disclosure/Back-Tested Data

The S&P 500 3AI Top 100 Index was launched December 1, 2025. The S&P World 3AI Top 300 Index was launched December 22, 2025. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance, and is based on the index methodology in effect on the index launch date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. In addition, forks have not been factored into the back-test data with respect to the S&P Cryptocurrency Indices. For the S&P Cryptocurrency Top 5 & 10 Equal Weight Indices, the custody element of the methodology was not considered; the back-test history is based on the index constituents that meet the custody element as of the Launch Date. Also, the treatment of corporate actions in back-tested performance may differ from treatment for live indices due to limitations in replicating index management decisions. Complete index methodology details are available at www.spglobal.com/spdji. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results.

Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations. Back-tested performance is for use with institutions only; not for use with retail investors.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate S&P DJI's ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using "Backward Data Assumption" (or pulling back) of ESG data for the calculation of back-tested historical performance. "Backward Data Assumption" is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as "product involvement") were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on "Backward Data Assumption" please refer to the [FAQ](#). The methodology and factsheets of any index that employs backward assumption in the back-tested history will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used.

Index returns shown do not represent the results of actual trading of investable assets/securities. S&P Dow Jones Indices maintains the index and calculates the index levels and performance shown or discussed but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US \$100,000 investment for a 12-month period (or US \$10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US \$1,650), the net return would be 8.35% (or US \$8,350) for the year. Over a three-year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US \$5,375, and a cumulative net return of 27.2% (or US \$27,200).

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