

# **S&P Kensho Moonshots Index** *Methodology*

October 2020

# Table of Contents

Introduction	3
<b>Index Objective &amp; Highlights</b>	<b>3</b>
<b>Supporting Documents</b>	<b>3</b>
<b>Index Universe</b>	<b>4</b>
<b>Eligibility Factors</b>	<b>4</b>
<b>Multiple Share Classes and Dual Listed Companies</b>	<b>4</b>
<b>Constituent Selection</b>	<b>5</b>
<b>Constituent Weightings</b>	<b>5</b>
<b>Diversification Constraint</b>	<b>6</b>
<b>Index Calculations</b>	<b>6</b>
Index Maintenance	7
<b>Annual Reconstitution</b>	<b>7</b>
<b>Corporate Actions</b>	<b>7</b>
<b>Other Adjustments</b>	<b>8</b>
<b>Currency of Calculation and Additional Index Return Series</b>	<b>8</b>
<b>Base Date and History Availability</b>	<b>8</b>
Index Data	9
<b>Calculation Return Types</b>	<b>9</b>
Index Governance	10
<b>Index Committee</b>	<b>10</b>
Index Policy	11
<b>Announcements</b>	<b>11</b>
<b>Pro-forma Files</b>	<b>11</b>
<b>Holiday Schedule</b>	<b>11</b>
<b>Rebalancing</b>	<b>11</b>
<b>Unexpected Exchange Closures</b>	<b>11</b>
<b>Recalculation Policy</b>	<b>11</b>
<b>Contact Information</b>	<b>11</b>
Index Dissemination	12
<b>Tickers</b>	<b>12</b>
<b>Index Data</b>	<b>12</b>
<b>Web site</b>	<b>12</b>

Appendix I – Early Stage Composite Innovation Score	13
<b>Early-Stage Composite Innovation Score</b>	<b>13</b>
<b>Resources Allocated to Innovation</b>	<b>13</b>
<b>Adjustments for Raw R&amp;D Ratio Calculation</b>	<b>13</b>
<b>R&amp;D Expenditure Adjustment</b>	<b>13</b>
<b>Adjusted R&amp;D Ratio Calculation</b>	<b>14</b>
<b>Adjusted R&amp;D Ratio:</b>	<b>14</b>
<b>Innovation Sentiment Score</b>	<b>14</b>
Appendix II – Sample Innovation-Related Terms	15
<b>Sample of Innovation-related Terms (Synonyms)</b>	<b>15</b>
Disclaimer	16

# Introduction

## Index Objective & Highlights

The S&P Kensho Moonshots Index measures the performance of 50 U.S.-listed companies with the highest Early-Stage Composite Innovation Score, subject to market capitalization and liquidity criteria. Index constituents are first equal weighted, but are then adjusted to account for the liquidity, industry group, and diversification constraints detailed in *Index Construction*.

The Early-Stage Composite Innovation Score is the combination of the resources a company allocates to innovation and the degree to which the company stresses an innovative culture and mission, as indicated by the Innovation Sentiment Score. The Innovation Sentiment Score reflects the density of innovation-related words and phrases in the company’s latest annual filing.

*For more information on the Early-Stage Composite Innovation Score, please refer to Appendix I.*

## Supporting Documents

This methodology is meant to be read in conjunction with supporting documents providing greater detail with respect to the policies, procedures and calculations described herein. References throughout the methodology direct the reader to the relevant supporting document for further information on a specific topic. The list of the main supplemental documents for this methodology and the hyperlinks to those documents is as follows:

Supporting Document	URL
S&P Dow Jones Indices’ Equity Indices Policies & Practices Methodology	<a href="#">Equity Indices Policies &amp; Practices</a>
S&P Dow Jones Indices’ Index Mathematics Methodology	<a href="#">Index Mathematics Methodology</a>
S&P Dow Jones Indices’ Global Industry Classification Standard (GICS) Methodology	<a href="#">GICS Methodology</a>

This methodology was created by S&P Dow Jones Indices to achieve the aforementioned objective of measuring the underlying interest of each index governed by this methodology document. Any changes to or deviations from this methodology are made in the sole judgment and discretion of S&P Dow Jones Indices so that the index continues to achieve its objective.

# Eligibility Criteria

## Index Universe

At each rebalancing the index universe comprises all securities publicly listed in the U.S.

## Eligibility Factors

As of each rebalancing reference date, securities must satisfy the following to be eligible for index inclusion:

- **Security Type.** Be common equity securities, including depositary receipts.
- **Exchange Listing.** Be listed in the U.S. on the NYSE, Nasdaq, or Cboe exchanges.
- **Size.** Have a minimum security level unadjusted market capitalization of US\$ 100 million and a maximum security level unadjusted market capitalization of the 90<sup>th</sup> percentile value of stocks meeting the Security Type and Exchange Listing criteria. A 20% buffer applies to the maximum size cutoff, whereby a company's market cap must rise above 120% of the maximum market cap value before it becomes ineligible for the index.
- **Liquidity.** Have a minimum three-month average daily value traded ("3M ADVT") of US \$1 million. The 3M ADVT is calculated as the average of the number of shares traded each day multiplied by that day's closing price over the three months prior to the relevant rebalancing reference date.
- **R&D & Revenue Criteria.** Report positive R&D and revenue figures in the latest-available company-issued filings or prospectus to the SEC.

## Multiple Share Classes and Dual Listed Companies

Each company is represented once by the Designated Listing. For more information regarding the treatment of multiple share classes, please refer to Approach B within the Multiple Share Classes section of S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

# Index Construction

## Constituent Selection

At each annual reconstitution, the eligible companies are ranked by Early-Stage Composite Innovation Score. The highest ranking 50 companies are selected and form the index, subject to the below constraints:

**In-Scope Products and Services.** Only companies that are constituents of at least one S&P Kensho New Economy Index, or are classified within one of the following GICS sub-industries, are considered for inclusion in the index.

GICS Code	Sub-Industry
50102010	Wireless Telecommunication
45102030	Internet Services & Infrastructure

For more information on the S&P Kensho New Economy Indices, please refer to the S&P Kensho New Economy Indices Methodology available at [www.spdji.com](http://www.spdji.com).

**GICS Industry Group.** To ensure diversification, each GICS Industry Group is capped at 10 constituents. If more than 10 companies in a single industry group are eligible the industry group is capped at 10, and any remaining eligible companies are excluded. The index then selects the highest ranking eligible companies, by Early-Stage Composite Innovation Score, from another industry group that is not capped. This process proceeds iteratively until no industry group exceeds the 10 constituent maximum.

**Tie-Breaker Rule.** If the 50<sup>th</sup> and 51<sup>st</sup> highest ranked eligible companies share the same Early-Stage Composite Innovation Score, the following tie-breakers are applied:

- If one of the two companies is a current constituent the constituent remains in the index.
- If both companies are non-constituents, or if they are both current constituents, the company with the higher Adjusted R&D Ratio is selected.

For more information on the Adjusted R&D Ratio, please refer to Appendix I.

## Constituent Weightings

At each reconstitution and rebalancing, the index is first equal weighted. Then, constituents' weights are adjusted to ensure that each constituent is able to target a daily capacity of US \$50 million, without exceeding 25% of the 3M ADVT requirement, and subject to the diversification constraint below. Single constituent weights are reduced until the 3M ADVT threshold is met, and any excess weight is proportionally redistributed to the remaining constituents, as detailed below:

1. Setting the maximum 3M ADVT threshold to 25%  $3M ADVT_{\%, max}$ . At each rebalancing, S&P Dow Jones indices may determine that a different target daily capacity is more appropriate, and reserves the use of discretion when implementing this parameter.
2. Calculating the maximum allowable daily capacity amount for each Index Component as follows:  
 $Max_{\$i} = 3M ADVT_{\%, max} \times 3M ADVT_i$
3. Calculating the allocated daily capacity amount for each Index Component based on its initial weight:  
 $N_{\$i} = N_{\$index} \times W_{i, Initial}$
4. Reallocating weight as necessary, for each Index Component in the following manner in order to satisfy the constraint set forth in Step 3 above:

- a) If an Index Component's allocated daily capacity amount is above its maximum allowable daily capacity amount, the adjusted weight for that Index Component is capped by its maximum allowable daily capacity amount and is set equal to:

$$W_{i,o} = \text{Max}_{\$i} / N_{\$index}$$

- b) The excess weight from Step 4(a), if any, of the Index Components is calculated as the sum of the excess weight of each of those Components using the following formula:

$$W_e = \sum (W_{i,Initial} - W_{i,o})$$

- c) Step 4 is repeated, if necessary, with the initial weight of each Index Component set equal to its adjusted weight calculated in the prior iteration of Step 4, until  $W_e$  is equal to zero, such that all Index Components satisfy the maximum allowable daily capacity amount constraint set forth in Step 3 above.

where:

$N_{\$index}$  = total target daily capacity for the Index

$3M\ ADVT_{\%,max}$  = the maximum allowable percentage of an Index Component's 3M ADVT

$W_{i,Initial}$  = initial weight of Index Component  $i$

$\text{Max}_{\$i}$  = maximum allowable daily capacity amount for Index Component  $i$

$3M\ ADVT_i$  = the 3M ADVT for Index Component  $i$

$N_{\$i}$  = allocated daily capacity amount for Index Component  $i$

$W_{i,o}$  = adjusted weight for Index Component

$W_e$  = excess weight to be redistributed to the Index Components

$R_c$  = number of remaining Index Components that have not yet reached their maximum allowable daily capacity amount

### Diversification Constraint

If the sum of the weights of all index constituents with an individual weight over 4.5% exceeds 45% of the total index weight (the "Diversification Constraint"), the following process occurs:

1. Rank all constituents with a weight greater than 4.5% in descending order, first by individual constituent weight and then by 3M ADVT.
2. Iteratively redistribute the weight from the lowest-ranked constituent to all constituents not exceeding the 4.5% threshold. The process continues until the diversification constraint is satisfied.

### Index Calculations

The index is calculated by means of the divisor methodology used for all S&P Dow Jones Indices' equity indices.

*For more information on the index calculation methodology, please refer to the Non-Market Capitalization Weighted section of S&P Dow Jones Indices' Index Mathematics Methodology.*

# Index Maintenance

## Annual Reconstitution

The index reconstitutes annually, effective after the close on the third Friday in June. The reconstitution reference date is after the close of the first Friday in June. During the annual reconstitution the universe is reviewed for eligibility, and constituents are selected and weighted.

In addition, the index also rebalances semi-annually, effective after the close on the third Friday in December. The rebalancing reference date is after the close of the first Friday in December. During the rebalancing no new index universe is established, with companies retaining the Early-Stage Composite Innovation Score determined in the June reconstitution. The remaining eligibility criteria are reassessed, and constituents are then selected and weighted.

**Additions.** Except for mergers/acquisitions and spin-offs (see below table for details), companies can only be added to the index at the time of the reconstitution and rebalancing.

**Deletions.** Between the reconstitution and rebalancing, deletions can occur due to acquisitions, mergers, and spin-offs, or due to bankruptcies, delisting from eligible exchanges, or suspensions. Deletions due to delistings, acquisition or any other corporate event resulting in the deletion of the stock from the index will cause the weights of the rest of the stocks in the index to change. Relative weights will stay the same.

## Corporate Actions

The table below lists the most common corporate events affecting the index on a daily basis, as well the treatment and divisor impact.

Corporate Action	Adjustment Made to Index	Divisor Adjustment?
Spin-Offs	Spin-offs are ineligible for index inclusion. A spun-off company is added to the index at a zero price prior to the open on the ex-date (no divisor adjustment). The spun-off company is removed after at least one day of regular way trading (with divisor adjustment).	
Mergers and Acquisitions	In cases of mergers involving two index constituents, the merged company deemed to be the acquirer in the transaction remains in the index, provided it meets all eligibility requirements. If the acquisition payment type is stock-based, the acquirer's index shares increase proportionately to the terms of the transaction. If the acquisition payment type is not stock-based, the acquirer's index shares remain at pre-merger levels.  When a merger or acquisition of a constituent by a non-constituent occurs, the surviving entity is analyzed to determine if the characteristics of the surviving entity are expected to remain aligned with the index objective. This may result in the surviving company replacing the constituent. This is applicable if the acquisition payment type is cash or stock-based. Additional information will be announced in the daily corporate events file (.SDE). When the acquiring company is added to an index that the target company was a constituent of, the acquirer's index shares are determined using closing prices on the announcement date.	
Rights Offering	The price is adjusted to the Price of the Parent Company minus (the Price of the Rights Offering/Rights Ratio). Index shares change so that the company's weight remains the same as its weight before the rights offering.	No
Stock dividend, stock split, reverse stock split	Index shares are multiplied by and price is divided by the split factor.	No
Share Issuance, Share Repurchase, Equity Offering or Warrant Conversion	None.	No
Special Dividends	Price of the stock making the special dividend payment is reduced by the per share special dividend amount after the close of trading on the day before the dividend ex-date.	Yes



For more information on corporate actions, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

### Other Adjustments

In cases where there is no achievable market price for a stock being deleted, it can be removed at a zero or minimal price at the Index Committee's discretion, in recognition of the constraints faced by investors in trading bankrupt or suspended stocks.

### Currency of Calculation and Additional Index Return Series

The index calculates in U.S. dollars.

In addition to the indices detailed in this methodology, additional return series versions of the indices may be available, including, but not limited to: currency, currency hedged, decrement, fair value, inverse, leveraged, and risk control versions. For a list of available indices, please refer to [S&P DJI's All Indices by Methodology Report](#).

For information on various index calculations, please refer to S&P Dow Jones Indices' Index Mathematics Methodology.

For the inputs necessary to calculate certain types of indices, including decrement, dynamic hedged, fair value, and risk control indices, please refer to the Parameters documents available at [www.spdji.com](http://www.spdji.com).

### Base Date and History Availability

Index history availability, base date, and base value are shown in the table below.

Index	Launch Date	First Value Date	Base Date	Base Value
S&P Kensho Moonshots Index	10/26/2020	07/01/2014	07/01/2014	100

# Index Data

## Calculation Return Types

S&P Dow Jones Indices calculates multiple return types which vary based on the treatment of regular cash dividends. The classification of regular cash dividends is determined by S&P Dow Jones Indices.

- Price Return (PR) versions are calculated without adjustments for regular cash dividends.
- Gross Total Return (TR) versions reinvest regular cash dividends at the close on the ex-date without consideration for withholding taxes.
- Net Total Return (NTR) versions, if available, reinvest regular cash dividends at the close on the ex-date after the deduction of applicable withholding taxes.

In the event there are no regular cash dividends on the ex-date, the daily performance of all three indices will be identical.

For a complete list of indices available, please refer to the daily index levels file (“.SDL”).

*For more information on the classification of regular versus special cash dividends as well as the tax rates used in the calculation of net return, please refer to S&P Dow Jones Indices’ Equity Indices Policies & Practices Methodology.*

*For more information on the calculation of return types, please refer to S&P Dow Jones Indices’ Index Mathematics Methodology.*

# Index Governance

## **Index Committee**

An S&P Dow Jones Indices' Index Committee maintains the index. The Index Committee meets regularly. At each meeting, the Index Committees review pending corporate actions that may affect index constituents, statistics comparing the composition of the indices to the market, companies that are being considered as candidates for addition to an index, and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting companies, treatment of dividends, share counts or other matters.

S&P Dow Jones Indices considers information about changes to its indices and related matters to be potentially market moving and material. Therefore, all Index Committee discussions are confidential.

S&P Dow Jones Indices' Index Committees reserve the right to make exceptions when applying the methodology if the need arises. In any scenario where the treatment differs from the general rules stated in this document or supplemental documents, clients will receive sufficient notice, whenever possible.

In addition to the daily governance of indices and maintenance of index methodologies, at least once within any 12-month period, the Index Committee reviews the methodology to ensure the indices continue to achieve the stated objectives, and that the data and methodology remain effective. In certain instances, S&P Dow Jones Indices may publish a consultation inviting comments from external parties.

*For information on Quality Assurance and Internal Reviews of Methodology, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

# Index Policy

## Announcements

All index constituents are evaluated daily for data needed to calculate index levels and returns. All events affecting the daily index calculation are typically announced in advance via the Index Corporate Events report (.SDE), delivered daily to all clients. Any unusual treatment of a corporate action or short notice of an event may be communicated via email to clients.

## Pro-forma Files

In addition to the corporate events file (.SDE), S&P Dow Jones Indices provides constituent pro-forma files each time the index rebalances. The pro-forma file is typically provided daily in advance of the rebalancing date and contains all constituents and their corresponding weights and index shares effective for the upcoming rebalancing. Since index shares are assigned based on prices seven business days prior to the rebalancing, the actual weight of each stock at the rebalancing differs from these weights due to market movements.

*Please visit [www.spdji.com](http://www.spdji.com) for a complete schedule of rebalancing timelines and pro-forma delivery times.*

## Holiday Schedule

The indices are calculated all business days of the year when the equity market is open. The only days the indices are not calculated are on days when all exchanges where an index's constituents are listed are officially closed.

*A complete holiday schedule for the year is available at [www.spdji.com](http://www.spdji.com).*

## Rebalancing

The Index Committee may change the date of a given rebalancing for reasons including market holidays occurring on or around the scheduled rebalancing date. Any such change will be announced with proper advance notice where possible.

## Unexpected Exchange Closures

For information on Unexpected Exchange Closures, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

## Recalculation Policy

For information on the recalculation policy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

*For information on Calculations and Pricing Disruptions, Expert Judgment and Data Hierarchy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

## Contact Information

For questions regarding an index, please contact: [index\\_services@spglobal.com](mailto:index_services@spglobal.com).

# Index Dissemination

Index levels are available through S&P Dow Jones Indices' Web site at [www.spdji.com](http://www.spdji.com), major quote vendors (see codes below), numerous investment-oriented Web sites, and various print and electronic media.

## Tickers

The table below lists headline indices covered by this document. All versions of the below indices that may exist are also covered by this document. Please refer to [S&P DJI's All Indices by Methodology Report](#) for a complete list of indices covered by this document.

Index	Bloomberg
S&P Kensho Moonshots Index	KMOON

## Index Data

Daily constituent and index level data are available via subscription.

*For product information, please contact S&P Dow Jones Indices, [www.spdji.com/contact-us](http://www.spdji.com/contact-us).*

## Web site

*For further information, please refer to S&P Dow Jones Indices' Web site at [www.spdji.com](http://www.spdji.com).*

# Appendix I – Early Stage Composite Innovation Score

## Early-Stage Composite Innovation Score

The Early-Stage Composite Innovation Score is the combination of the resources a company allocates to innovation and the degree to which the company stresses an innovative culture and mission, as indicated by the Innovation Sentiment Score described below. The calculation steps described below reference a Base Universe of securities that satisfy the Security Type, Exchange Listing, and R&D & Revenue criteria listed in *Eligibility Factors*. The Early-Stage Composite Innovation Score is calculated as the product of the resources allocated to innovation and its innovation sentiment score:

$$\text{Early-Stage Composite Innovation Score} = \text{Adjusted R\&D Ratio} * \text{Innovation Sentiment Score}$$

## Resources Allocated to Innovation

The resources allocated to innovation are assessed by calculating the Adjusted R&D Ratio for each company. The Adjusted R&D Ratio is comprised of the company's Raw R&D Ratio divided by the adjusted mean R&D Ratio for their respective GICS Industry Group, as detailed below. Company R&D expenditures and revenue figures are those reported in the latest company-issued filings or prospectus to the SEC; specifically 10-Ks, 20-Fs, 40-Fs, and S-1 filings:

$$\text{Raw R\&D Ratio} = \text{Company's Adjusted R\&D expenditure} / \text{Adjusted Revenue}$$

## Adjustments for Raw R&D Ratio Calculation

**Maximum Revenue Adjustment.** The revenue figure used to calculate the Raw R&D Ratio (Ratio Revenue) is capped at the mean revenue of companies in the Base Universe, plus 3 standard deviations:

$$\text{Ratio Revenue} = \text{MIN} (\text{Annual Company Revenue}, \mu_{\text{rev}} + 3 * \sigma_{\text{rev}})$$

where:

$$\mu_{\text{rev}} = \text{Arithmetic mean of annual revenue of all companies in the Base Universe}$$

$$\sigma_{\text{rev}} = \text{Standard deviation of annual revenue of all companies in the Base Universe}$$

**Minimum Revenue Adjustment:** For a security whose Ratio Revenue falls at or below the 10<sup>th</sup> percentile value of annual revenue in the Base Universe, its Ratio Revenue is set to the 10<sup>th</sup> percentile value of annual revenue.:

$$\text{Adjusted Revenue} = \text{MAX} (10\text{th percentile Annual Revenue of the Base Universe}, \text{Ratio Revenue})$$

## R&D Expenditure Adjustment

The Adjusted R&D Expenditure for companies with an R&D expenditure above the 25<sup>th</sup> percentile value of companies in the Base Universe is equal to the company's stated R&D expenditure. For companies with an R&D expenditure at or below the 25<sup>th</sup> percentile value, the following adjustment is made:

$$\text{Adjusted R\&D Expenditure} = \text{Company R\&D Expenditure} * \text{MAX} (0, (\text{Company R\&D Expenditure} - \text{U.S. \$1 million}) / 25^{\text{th}} \text{ percentile R\&D Expenditure of the Base Universe})$$

## Adjusted R&D Ratio Calculation

The company's Adjusted R&D Ratio is calculated by dividing its Raw R&D Ratio by the mean Raw R&D Ratio of the GICS Industry Group the company is in, subject to the winsorization process described below. The GICS Industry Groups is composed of all companies in the Base Universe.

### GICS Industry Group Mean Raw R&D Ratio

- Winsorization: The population of each GICS Industry Group is first ranked in ascending order by the Raw R&D Ratio values. The Raw R&D Ratio value for securities that lie above the 95<sup>th</sup> percentile rank in each GICS Industry Group is set as equal to the value of the 95<sup>th</sup> percentile ranked security for the purposes of calculating the GICS Industry Group mean only.
- The mean Raw R&D Ratio of each GICS Industry Group is based on the average of the top quartile of the winsorized Raw R&D Ratios in that industry group.
- The GICS Industry Groups are then ranked in descending order by their mean Raw R&D Ratios. The mean Raw R&D Ratios for each of the GICS Industry Groups ranked in the bottom half of all industry groups is set to the mean Raw R&D Ratio of the median GICS Industry Group.

### Adjusted R&D Ratio:

$$\text{Adjusted R\&D Ratio} = \frac{x}{\mu}$$

where:

$x$  = Raw R&D Ratio for a given company

$\mu$  = company's GICS Industry Group mean Raw R&D Ratio

### Innovation Sentiment Score

Each company's Innovation Sentiment Score reflects the density of innovation-related words and phrases in the company's latest annual SEC filing, as of each rebalancing reference date:

$$\text{Innovation Sentiment Score} = \sum_1^n \left( \frac{tf_i}{j} \right) * \log \frac{N}{df_i}$$

where:

$n$  = number of identified innovation-related terms, synonyms, and phrases

$i$  = each identified innovation-related term, synonym, or phrase

$tf_i$  = the frequency that term  $i$  appears in the filing

$j$  = length of text referenced in company's filing

$N$  = number of filings in the eligible universe

$df_i$  = number of filings containing reference to term  $i$

Each company's Innovation Sentiment Score is normalized to a value between 1 and 5:

$1 + 4 * (\text{Innovation Sentiment Score}_{[i]} / \text{maximum value in the Full Universe of Innovation Sentiment Score values})$

## Appendix II – Sample Innovation-Related Terms

### Sample of Innovation-related Terms (Synonyms)

innovate	v	imagine	v
innovation	n	ingenious	a
innovative	a	inspirational	a
innovator	n	inspire	a
accelerate	v	inventive	a
aspire	v	modern	a
breakthrough	a	new	a
create	v	novel	a
creative	a	original	a
cutting-edge	a	originate	v
different	a	pioneer	n
disrupt	v	pioneering	a
dream	v	radical	a
experimental	a	resourceful	a
forward-looking	a	revolution	n
forward-thinking	a	revolutionary	a
futuristic	a	revolutionize	v
game-changing	a	trailblazing	a
groundbreaking	a	transform	v
imaginative	a	transformative	a



# Disclaimer

Copyright © 2020 S&P Dow Jones Indices LLC. All rights reserved. STANDARD & POOR'S, S&P, S&P 500, S&P 500 LOW VOLATILITY INDEX, S&P 100, S&P COMPOSITE 1500, S&P MIDCAP 400, S&P SMALLCAP 600, S&P GIVI, GLOBAL TITANS, DIVIDEND ARISTOCRATS, S&P TARGET DATE INDICES, GICS, SPIVA, SPDR and INDEXOLOGY are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"). DOW JONES, DJ, DJIA and DOW JONES INDUSTRIAL AVERAGE are registered trademarks of Dow Jones Trademark Holdings LLC ("Dow Jones"). These trademarks together with others have been licensed to S&P Dow Jones Indices LLC. Redistribution or reproduction in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. This document does not constitute an offer of services in jurisdictions where S&P Dow Jones Indices LLC, S&P, S&P Trucost Limited, SAM (part of S&P Global), Dow Jones or their respective affiliates (collectively "S&P Dow Jones Indices") do not have the necessary licenses. Except for certain custom index calculation services, all information provided by S&P Dow Jones Indices is impersonal and not tailored to the needs of any person, entity or group of persons. S&P Dow Jones Indices receives compensation in connection with licensing its indices to third parties and providing custom calculation services. Past performance of an index is not an indication or guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index may be available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor, and S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. Prospective investors are advised to make an investment in any such fund or other vehicle only after carefully considering the risks associated with investing in such funds, as detailed in an offering memorandum or similar document that is prepared by or on behalf of the issuer of the investment fund or other investment product or vehicle. S&P Dow Jones Indices LLC is not a tax advisor. A tax advisor should be consulted to evaluate the impact of any tax-exempt securities on portfolios and the tax consequences of making any particular investment decision. Inclusion of a security within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, nor is it considered to be investment advice.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof ("Content") may be modified, reverse-engineered, reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively "S&P Dow Jones Indices Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN "AS IS" BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be

liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

S&P Global keeps certain activities of its various divisions and business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions and business units of S&P Global may have information that is not available to other business units. S&P Global has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.

The Global Industry Classification Standard (GICS<sup>®</sup>) was developed by and is the exclusive property and a trademark of S&P and MSCI. Neither MSCI, S&P nor any other party involved in making or compiling any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.