The S&P Kensho New Economies Composite Index ended the year on a positive note (+9.65% for the quarter, +37.29% for the year), outperforming the S&P Composite 1500® by almost 700 basis points.

All eight sectors posted gains for both the quarter and the full year, with Clean Power being a top performer both for the quarter (+18.21%) and the full year (+62.95%). In a reversal from last quarter, Human Evolution was the top performing sector, up 21%.

Among Kensho subsectors, Genetic Engineering, which overlaps heavily with Human Evolution, was the top performer, up 30%. Enterprise Collaboration was the laggard, down 2%.

The S&P Kensho New Economies are a family of indices describing the industries and innovations of the Fourth Industrial Revolution. Rapid developments in artificial intelligence and robotics, coupled with exponential processing power and ubiquitous connectivity, are driving structural changes in the global economy, disrupting existing industries and forging new ones.

The S&P Kensho New Economies Composite Index is designed to measure the performance of companies involved in the New Economies 21st Century Sectors, including a dynamically adjusted list of companies drawn from all of the S&P Kensho Subsector Indices. The S&P Kensho New Economies Select Index measures a subset of the five best-performing subsector indices.
GICS SECTOR EXPOSURE SUMMARY

INDEX | CONS DISC | CONS STAPLES | ENERGY | FINANCIALS | HEALTH CARE | INDUSTRIALS | MATERIALS | REAL ESTATE | INFO TECH | COMM. SVCS. | UTILITIES
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
New Economies Composite | 10.85% | 0.00% | 0.93% | 2.05% | 12.57% | 22.03% | 1.79% | 0.00% | 33.21% | 8.12% | 8.45%
New Economies Select | 4.5% | 0.0% | 2.0% | 2.1% | 17.9% | 1.1% | 0.0% | 0.00% | 37.1% | 4.6% | 22.1%
Clean Power | 2.9% | 0.0% | 2.5% | 1.0% | 33.0% | 3.8% | 0.0% | 0.0% | 20.1% | 0.7% | 37.1%
Democratized Banking | 5.0% | 0.0% | 33.3% | 1.5% | 0.0% | 0.0% | 0.0% | 0.0% | 50.5% | 9.3% | 0.0%
Final Frontiers | 0.0% | 0.0% | 3.8% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 78.4% | 3.4% | 0.0%
Future Communication | 9.6% | 0.0% | 0.0% | 0.0% | 0.9% | 0.0% | 0.0% | 0.0% | 38.7% | 50.8% | 0.0%
Future Security | 0.0% | 0.0% | 0.0% | 0.0% | 3.2% | 37.9% | 0.0% | 0.0% | 59.5% | 0.0% | 0.0%
Human Evolution | 0.0% | 0.0% | 0.0% | 0.0% | 97.4% | 0.0% | 0.0% | 0.0% | 2.6% | 0.0% | 0.0%
Intelligent Infrastructure | 6.8% | 0.0% | 1.9% | 0.0% | 0.0% | 48.1% | 0.0% | 0.0% | 36.1% | 3.6% | 3.5%
Smart Transportation | 39.3% | 0.0% | 0.5% | 0.0% | 0.0% | 25.2% | 1.3% | 0.0% | 27.6% | 6.1% | 0.0%

INDEX | CONS DISC | CONS STAPLES | ENERGY | FINANCIALS | HEALTH CARE | INDUSTRIALS | MATERIALS | REAL ESTATE | INFO TECH | COMM. SVCS. | UTILITIES
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
3D Printing | 0.0% | 0.0% | 0.0% | 0.0% | 11.0% | 26.3% | 0.0% | 0.0% | 62.7% | 0.0% | 0.0%
Adv Transport Systems | 10.3% | 0.0% | 6.8% | 0.0% | 58.0% | 0.0% | 0.0% | 0.0% | 3.3% | 21.5% | 0.0%
Alternative Finance | 0.0% | 0.0% | 40.1% | 4.7% | 0.0% | 0.0% | 0.0% | 0.0% | 11.1% | 4.0% | 0.0%
Autonomous Vehicles | 49.6% | 0.0% | 0.0% | 0.0% | 6.2% | 0.0% | 0.0% | 0.0% | 38.7% | 5.5% | 0.0%
Clean Energy | 6.6% | 0.0% | 6.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 3.1% | 84.3% | 0.0%
CleanTech | 4.1% | 0.0% | 0.0% | 0.0% | 47.8% | 5.4% | 0.0% | 0.0% | 32.9% | 9.8% | 0.0%
Cyber Security | 1.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 81.8% | 0.0% | 0.0%
Digital Communities | 6.8% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 6.1% | 87.1% | 0.0%
Distributed Ledger | 6.9% | 0.0% | 18.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 63.8% | 13.3% | 0.0%
Drones | 4.0% | 0.0% | 3.8% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 14.1% | 3.2% | 0.0%
Electric Vehicles | 62.9% | 0.0% | 0.0% | 0.0% | 0.0% | 24.5% | 2.9% | 0.0% | 9.7% | 0.0% | 0.0%
Enterprise Collaboration | 0.0% | 0.0% | 0.0% | 0.0% | 4.4% | 0.0% | 0.0% | 0.0% | 87.7% | 7.9% | 0.0%
Future Payments | 4.3% | 0.0% | 9.1% | 0.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0%
Genetic Engineering | 0.0% | 0.0% | 0.0% | 0.0% | 52.1% | 12.9% | 9.2% | 0.0% | 25.8% | 0.0% | 0.0%
Nanotechnology | 7.4% | 0.0% | 2.9% | 0.0% | 48.6% | 20.7% | 0.0% | 0.0% | 14.4% | 0.0% | 0.0%
Roboticics | 4.0% | 0.0% | 9.1% | 0.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0%
Smart Borders | 7.9% | 0.0% | 2.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 41.9% | 34.1% | 0.0%
Smart Buildings | 7.9% | 0.0% | 2.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 79.3% | 17.9% | 0.0%
Space | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 58.7% | 18.0% | 0.0%
Virtual Reality | 17.2% | 0.0% | 0.0% | 0.0% | 0.0% | 6.0% | 0.0% | 0.0% | 34.6% | 0.0% | 0.0%
Wearables | 17.5% | 0.0% | 0.0% | 0.0% | 0.0% | 47.9% | 0.0% | 0.0% | 34.6% | 0.0% | 0.0%

Source: S&P Dow Jones Indices LLC and/or its affiliates. Data as of December 31, 2019.
### Key to Factor Scorings for Indices

Factor Definitions

Each constituent of the S&P 1500 index is provided with a factor "score" for each of Beta, Volatility, Momentum, Dividend, Size, Value and Quality.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Measurement at single-stock level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volatility</td>
<td>Trailing 12-month daily return volatility</td>
</tr>
<tr>
<td>Momentum</td>
<td>Twelve-month price change as of one month ago (&quot;13 minus 1 momentum&quot;), divided by the daily volatility during the twelve-month period that ended one month ago. For more details, see the S&amp;P Momentum methodology.</td>
</tr>
<tr>
<td>Value</td>
<td>The average of (normalized) earnings to price ratio, book to price ratio and sales to price ratio. For more details, see the S&amp;P Value methodology.</td>
</tr>
<tr>
<td>Beta</td>
<td>Trailing 1 year beta of stock daily returns to the benchmark’s return.</td>
</tr>
<tr>
<td>Dividend</td>
<td>Trailing 12-month dividend</td>
</tr>
<tr>
<td>Quality</td>
<td>The average of the (normalized) return on equity, the negative of the accruals ratio and the negative of the financial leverage ratio. For more details, see the S&amp;P Quality methodology.</td>
</tr>
<tr>
<td>Size</td>
<td>Free-float market capitalization</td>
</tr>
</tbody>
</table>

### Index Factor Ranking and Factor Diagram Scaling

Index Scores

Each index is provided a score in each factor from -100% to +100% based on how much of the total capitalization of the benchmark would must be excluded in order to provide a portfolio of stocks with similar exposure to that factor. This is done by examining a ranked series of hypothetical cap-weighted portfolios, including or excluding an increasing number of the stocks with the highest or lowest scores. An illustration of the process may be found at this link.

Factor Diagram Axis

- **Single-stock portfolio with the highest possible factor score**
- **Portfolios with a tilt against the factor begin by excluding the highest-ranked stock and end up concentrated in the lowest-ranked stocks**
- **Weighting matters** to the ranking of the index. Each the ranked portfolios of stocks is given a factor score through the capitalization-weighted average. Factor indices can use alternative weightings, which can provide higher factor exposures with fewer stocks.

### Factor Exposure Summary Relative to S&P 1500

- The diagrams below illustrate factor exposures relative to the S&P 1500 across Kensho sectors.

#### S&P Kensho New Economies Composite

#### S&P Kensho New Economies Select

<table>
<thead>
<tr>
<th>INDEX</th>
<th>LOW VOLATILITY</th>
<th>MOMENTUM</th>
<th>VALUE</th>
<th>HIGH BETA</th>
<th>DIVIDEND</th>
<th>QUALITY</th>
<th>SMALL SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>S&amp;P Composite 1500®</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>New Economies Composite</td>
<td>-59.5%</td>
<td>0.0%</td>
<td>-4.6%</td>
<td>28.5%</td>
<td>-27.4%</td>
<td>-4.5%</td>
<td>32.8%</td>
</tr>
<tr>
<td>New Economies Select</td>
<td>-44.7%</td>
<td>5.3%</td>
<td>-1.6%</td>
<td>4.6%</td>
<td>-30.3%</td>
<td>0.4%</td>
<td>45.4%</td>
</tr>
<tr>
<td>Clean Power</td>
<td>-36.8%</td>
<td>4.5%</td>
<td>27.8%</td>
<td>-37.3%</td>
<td>-4.6%</td>
<td>-31.2%</td>
<td>66.1%</td>
</tr>
<tr>
<td>Democratized Banking</td>
<td>-49.3%</td>
<td>5.8%</td>
<td>-14.7%</td>
<td>33.5%</td>
<td>-38.9%</td>
<td>4.1%</td>
<td>23.0%</td>
</tr>
<tr>
<td>Final Frontiers</td>
<td>-16.3%</td>
<td>43.5%</td>
<td>-4.2%</td>
<td>-0.7%</td>
<td>-4.6%</td>
<td>-19.4%</td>
<td>46.6%</td>
</tr>
<tr>
<td>Future Communication</td>
<td>-85.5%</td>
<td>-28.8%</td>
<td>-23.4%</td>
<td>78.4%</td>
<td>-62.8%</td>
<td>-4.5%</td>
<td>19.1%</td>
</tr>
<tr>
<td>Future Security</td>
<td>-41.8%</td>
<td>8.5%</td>
<td>-0.3%</td>
<td>9.0%</td>
<td>-25.2%</td>
<td>-6.5%</td>
<td>63.0%</td>
</tr>
<tr>
<td>Human Evolution</td>
<td>-77.2%</td>
<td>-19.1%</td>
<td>-35.4%</td>
<td>19.3%</td>
<td>-56.0%</td>
<td>9.3%</td>
<td>59.6%</td>
</tr>
<tr>
<td>Intelligent Infrastructure</td>
<td>-66.9%</td>
<td>-23.2%</td>
<td>25.3%</td>
<td>40.0%</td>
<td>-29.9%</td>
<td>6.2%</td>
<td>56.9%</td>
</tr>
<tr>
<td>Smart Transportation</td>
<td>-81.5%</td>
<td>-36.1%</td>
<td>66.0%</td>
<td>78.4%</td>
<td>-15.0%</td>
<td>-4.5%</td>
<td>49.3%</td>
</tr>
</tbody>
</table>

Source: S&P Dow Jones Indices LLC and/or its affiliates. Data as of December 31, 2019.
COMMENTS

- Dispersion decreased across most S&P 500 and Kensho sectors and subsectors, especially in Human Evolution and Wearables.
- Correlations increased across all S&P 500 sectors and most Kensho sectors and subsectors, especially in Clean Power and Final Frontiers.

SECTOR DISPERSION AND CORRELATION

The charts above decomposed volatility into its two main components: dispersion and correlation. The dispersion and correlation data points are each sector's average monthly value over the trailing 12 months. Trailing annualized volatility is included in parentheses. Index dispersions shown based on calendar month stock-level index-weighted dispersion. Index correlation based on single stock daily total returns during each calendar month. See "Implications of Sector Dispersion" for more information.

- The charts above decomposed volatility into its two main components: dispersion and correlation. The dispersion and correlation data points are each sector's average monthly value over the trailing 12 months. Trailing annualized volatility is included in parentheses. Index dispersions shown based on calendar month stock-level index-weighted dispersion. Index correlation based on single stock daily total returns during each calendar month. See "Implications of Sector Dispersion" for more information.

- See "At the Intersection of Diversification, Volatility and Correlation" for details on the relationship between correlation and dispersion.
- See "Dispersion: Measuring Market Opportunity" for the definition of index dispersion and more information on the uses of dispersion.

Source: S&P Dow Jones Indices LLC and/or its affiliates. Data as of December 31, 2019. Index performance based on total return (USD). Charts and graphs are provided for illustrative purposes. Past performance is no guarantee of future results.
### S&P Kensho New Economies™ Dashboard
December 31, 2019

#### RELATIVE EXCESS RETURN CORRELATIONS - KENSHO SECTORS AND SUBSECTORS

<table>
<thead>
<tr>
<th>INDEX</th>
<th>New Economies Composite</th>
<th>New Economies Select</th>
<th>Democratized Banking</th>
<th>Human Evolution</th>
<th>Clean Power</th>
<th>Final Frontiers</th>
<th>Future Communication</th>
<th>Future Security</th>
<th>Intelligent Infrastructure</th>
<th>Smart Transportation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.00</td>
<td>0.57</td>
<td>0.57</td>
<td>0.64</td>
<td>0.72</td>
<td>0.63</td>
<td>0.52</td>
<td>1.00</td>
<td>0.56</td>
<td>0.43</td>
</tr>
<tr>
<td></td>
<td>1.00</td>
<td>0.57</td>
<td>0.57</td>
<td>0.64</td>
<td>0.72</td>
<td>0.63</td>
<td>0.52</td>
<td>1.00</td>
<td>0.56</td>
<td>0.43</td>
</tr>
<tr>
<td></td>
<td>0.98</td>
<td>0.15</td>
<td>0.64</td>
<td>0.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.08</td>
<td>0.12</td>
<td>0.47</td>
<td>0.64</td>
<td>0.56</td>
<td>0.56</td>
<td>0.37</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Sectors Relative to S&P Composite 1500

<table>
<thead>
<tr>
<th>Sectors Relative to S&amp;P Composite 1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Economies Composite</td>
</tr>
<tr>
<td>New Economies Select</td>
</tr>
<tr>
<td>Democratized Banking</td>
</tr>
<tr>
<td>Human Evolution</td>
</tr>
<tr>
<td>Clean Power</td>
</tr>
<tr>
<td>Final Frontiers</td>
</tr>
<tr>
<td>Future Communication</td>
</tr>
<tr>
<td>Future Security</td>
</tr>
<tr>
<td>Intelligent Infrastructure</td>
</tr>
<tr>
<td>Smart Transportation</td>
</tr>
</tbody>
</table>

#### Subsectors Relative to S&P Composite 1500

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.31</td>
<td>0.07</td>
<td>0.12</td>
<td>0.31</td>
<td>0.07</td>
<td>0.47</td>
<td>0.06</td>
<td>0.07</td>
<td>0.22</td>
<td>0.22</td>
<td>0.08</td>
<td>0.09</td>
<td>0.11</td>
<td>0.38</td>
<td>0.39</td>
<td>0.71</td>
<td>0.33</td>
<td>0.28</td>
<td>0.08</td>
<td>0.09</td>
<td>0.22</td>
<td>0.08</td>
</tr>
</tbody>
</table>

### S&P Dow Jones Indices
A Division of S&P Global

#### INDEX

- New Economies Composite
- New Economies Select
- Democratized Banking
- Human Evolution
- Clean Power
- Final Frontiers
- Future Communication
- Future Security
- Intelligent Infrastructure
- Smart Transportation

#### Sectors Relative to S&P Composite 1500

- New Economies Composite
- New Economies Select
- Democratized Banking
- Human Evolution
- Clean Power
- Final Frontiers
- Future Communication
- Future Security
- Intelligent Infrastructure
- Smart Transportation

#### Subsectors Relative to S&P Composite 1500

- Clean Energy
- Cleantech
- Drones
- Electronic Devices
- Ent. Collaboration
- Future Payments
- Future Security
- Autonomous Vehicles
- Future Transportation
- Advanced Transport
- All Finance
- Autonomous Vehicles
- Extreme Weather
- Nanotechnology
- Robotics
- Space
- Smart Borders
- Smart Buildings
- Smart Grids
- Space
- Virtual Reality
- Wearables

---

**Source:** S&P Dow Jones Indices LLC and/or its affiliates. Data as of December 31, 2019.

---

**Correlation of weekly S&P 1500 and S&P 500 relative performance, three years to December 31, 2019**

**DISPERSION AMONG KENSHO SECTORS, SUBSECTORS, AND EQUAL WEIGHT GICS SECTORS**

**Dispersion among sectors**

**S&P 500 EW**

**Dispersion among subsectors**

**Source:** S&P Dow Jones Indices LLC and/or its affiliates. Data as of December 31, 2019.
including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address. Dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, 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. Closing prices for S&P Dow Jones Indices’ US benchmark indices are calculated by S&P Dow Jones Indices based on the closing price of the individual constituents of the index as set by their primary exchange. Closing prices are received by S&P Dow Jones Indices from one of its third party vendors and verified by comparing them with prices from an alternative vendor. The vendors receive the closing price from the primary exchanges. Real-time intraday prices are calculated similarly without a second verification. 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.