

# **Construction Rules for the Morningstar® Global Digital Infrastructure & Connectivity Index**<sup>SM</sup>

#### Morningstar Indexes

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#### Overview

The Morningstar® Global Digital Infrastructure & Connectivity Index<sup>SM</sup> provides exposure to the top 50 companies identified using research provided by Morningstar's Equity Research team, as positioned to experience meaningful economic benefits as a producer of promising digital infrastructure technologies consisting of two themes: infrastructure as a service and current next-generation connectivity (5G).

Please refer to Appendix 1 for more details on the digital infrastructure themes.

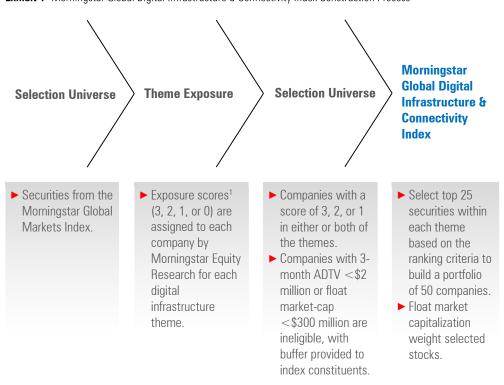
This index does not incorporate environmental, social, or governance criteria.

#### **Performance Inception Date**

The inception date of the index is Dec 2, 2020, and the performance inception date, when the first backtested index values were calculated, is Dec. 15, 2017.

#### **Index Construction**

Exhibit 1 Morningstar Global Digital Infrastructure & Connectivity Index Construction Process



#### **Assigning Stocks to the Index**

#### **Selection Universe**

At each reconstitution, constituents of the Morningstar Global Digital Infrastructure & Connectivity Index are derived from the corresponding Morningstar Global Markets Index (benchmark). For more details on benchmark construction, refer to the Construction Rules for the Morningstar Global Markets Index.

#### **Security Selection**

To be eligible for the index, all constituents must meet the following criteria in sequence:

- ▶ If a company has more than one eligible share class:
  - ▶ Select the one that is a current index constituent.
  - ▶ Otherwise, select the most liquid share class determined by Morningstar Indexes.



<sup>1</sup> Please refer to Appendix 1 for more details.

For additional details, refer to the "Assigning Stocks to the Index" section.

- ➤ Securities with average three-month trailing daily trading volume less than \$2 million or free-float market capitalization of less than \$300 million are ineligible for the index. Current index constituents are eliminated if they have average three-month trading volume less than \$1.5 million or free-float market capitalization of less than \$200 million.
- ► The theme in which a company is assigned a higher exposure score is assigned as the primary theme for that company. Analyst discretion is used to determine the primary theme for companies with equal exposure scores to both themes.
- ► Within each primary theme, qualifying potential constituents are ranked in the order that emphasizes exposure to that theme. The ranking criteria are given below by descending order of absolute preference:
  - ► Exposure score for primary theme.
  - Exposure score for the nonprimary theme.
  - ► Current index constituents are given preference.
  - ► Free-float market capitalization, preferring smaller over larger.
- ► Companies ranked in the top 25¹ within each primary theme group are selected for the index.
- ► Constituents are float-market-capitalization weighted.
- ➤ To minimize bias toward any one theme, the primary theme group weights in the index are ensured to be equal to 50% during each reconstitution. The weights of the securities within each primary theme group are maintained in the proportion of their weights as assigned in the prior step.
- As a final step, individual security weights are capped at 2.5% to avoid concentration risk and the excess weights are redistributed over the other constituents of the primary theme group in the proportion of their existing weights. In the unlikely event that security weight capping of 2.5% cannot be achieved due to lack of enough constituents, a security weight capping of 5% shall be applicable for constituents in a primary theme.

#### **Number of Stocks**

The index contains 50 stocks based on a transparent ranking system subject to selection and eligibility criteria at reconstitution. However, if securities fall short of the selection and eligibility criteria, or if securities are added or deleted as a result of corporate actions after reconstitution, the index can have more or fewer than 50 securities. During reconstitution, if the number of securities is less than the target, the weight of the constituents will be determined based on the index weighting scheme. The schedule

<sup>1</sup> In case less than 25 securities are eligible in a given theme, all such stocks will be selected for inclusion in the final index. The number of final index constituents will be less than 50 in such a scenario.



for reconstitution and corporate actions is available in the "Index Maintenance and Calculation" section.

#### **Index Weighting**

The index constituents are float-market-capitalization weighted within each primary theme group. During reconstitution, each primary theme group is assigned a weight of 50% each. Individual security weights are capped at 2.5%, with the excess weights redistributed over the other constituents of the primary theme group in proportion to their existing weights. In the unlikely event that security weight capping of 2.5% cannot be achieved due to lack of enough constituents, a security weight capping of 5% shall be applicable for constituents in a primary theme.

For more details, refer to the Morningstar Indexes Calculation Methodology.

#### **Index Maintenance and Calculation**

#### Scheduled Maintenance

The index is reconstituted and rebalanced annually and implemented after the close of business on the third Friday of December and is effective the following Monday. If that Monday is a holiday, it is effective on the immediately following business day.

Because the reconstitution of the Morningstar Global Digital Infrastructure & Connectivity Index is less frequent than the parent index, the securities excluded from the parent index at the reconstitution effective date are also deleted from Morningstar Global Digital Infrastructure & Connectivity Index. For clarity, this means that any constituent excluded in the parent index during its reconstitution also is excluded from the Morningstar Global Digital Infrastructure & Connectivity Index at the same reconstitution. It will not be replaced, and its weight is reallocated among existing constituents in the primary theme in the proportion of their existing weights.

#### **Corporate Action**

The treatment of corporate actions will be as per the alternatively weighted indexes. Details can be found in the Morningstar Indexes Corporate Actions Methodology rulebook.

#### **Index Calculation and Price Data**

Details about index calculations and price data can be found in their respective rulebooks: Morningstar Indexes Calculation Methodology and Equity Closing Prices Used for Index Calculation.

# Methodology Review and Index Cessation Policy

The index methodology is continually reviewed to ensure it achieves all stated objectives. These reviews take into account corporate action treatment, selection, and maintenance procedures. Subscribers to the index will be notified before any methodology changes are made. For more details, refer to the Morningstar Indexes Methodology Change Policy.



Morningstar also notifies all subscribers and stakeholders of the index that circumstances might arise that require a material change to the index, or a possible cessation of the index. Circumstances that could lead to an index cessation include, but are not limited to, market structure change, product definition change, inadequate supply of data, insufficient revenue associated with the index, insufficient number of clients using the index, and/or other external factors beyond the control of the Morningstar Index Committee.

Because the cessation of the index or benchmark index could disrupt subscriber products that reference this index, all subscribers are encouraged to have robust fallback procedures if an index is terminated. For more details, refer to the Morningstar Index Cessation Process.

#### **Data Correction and Precision**

#### **Intraday Index Data Corrections**

Commercially reasonable efforts are made to ensure the accuracy of data used in real-time index calculations. If incorrect price or corporate action data affects index daily highs or lows, it is corrected retroactively as soon as is feasible.

#### **Index-Related Data and Divisor Corrections**

Incorrect pricing and corporate action data for individual issues in the database will be corrected upon detection. In addition, an incorrect divisor of an index, if discovered within five days of its occurrence, will always be fixed retroactively on the day it is discovered to prevent an error from being carried forward. Commercially reasonable efforts are made to correct an older error subject to its significance and feasibility.

For more details, refer to the Recalculation Guidelines.

# **Computational and Reporting Precision**

For reporting purposes, index values are rounded to two decimal places and divisors are rounded to appropriate decimal places.



# **Appendixes**

# Appendix 1: Morningstar's Global Equity Research Digital Infrastructure & Connectivity Theme Identification

- ➤ Step 1: Managers from Morningstar's Global Equity Research team identify themes related to digital infrastructure with the potential to drive significant economic benefits to those companies providing associated technologies. As of Oct. 8, 2020, the index focuses on two themes:
  - Infrastructure as a service: laas is a solution whereby a public cloud vendor leases commodity equipment and services such as servers, storage, switches, and network access. laaS is closely related to platform as a service, which incorporates the core software needed to make hardware usable. PaaS includes the operating system, hypervisor, database, and development tools, among other solutions. The line between the two has blurred over time. Service agreements can range from on-demand burst capacity or full-time digital infrastructure.
  - Next-generation connectivity, or 5G: 5G refers to the collection of technology standards that forms the foundation of wireless networks under development around the world. The standards seek to enable significant increases in network capacity and speeds, as well as improved network management capabilities. These factors enable the use of millions of devices simultaneously. Future 5G networks will provide critical links for digital infrastructure between consumer devices, sensors, and a host of other users in the field.
- ➤ Step 2: Morningstar's Equity Research managers train analysts on the themes and scoring framework.

  Analysts make forward-looking assessments rather than relying on single point-in-time metrics, such as percentage of current revenue. Typically, they use models to project growth over five, 10, and 20 years. The analysts identify companies that have any revenue exposure to a theme today along with the potential to drive a material net profit increase over the next five years from that theme.

The analysts then score the companies in Morningstar's global coverage from 0-3 on each theme. The thematic exposure scores are designed to share a positive correlation with a given company's beta relative to each theme.

No or little exposure: 0
 Modest exposure: 1
 Moderate exposure: 2
 Significant exposure: 3

► Step 3: Scores are reviewed annually by the Equity Research team before each reconstitution of the index to help ensure the consistency of exposure scores.



# About Morningstar, Inc.

Morningstar, Inc. is a leading provider of independent investment research in North America, Europe, Australia, and Asia. Morningstar offers an extensive line of products and services for individual investors, financial advisors, asset managers, and retirement plan providers and sponsors. Morningstar provides data on approximately 510,000 investment offerings, including stocks, mutual funds, and similar vehicles, along with real-time global market data on more than 17 million equities, indexes, futures, options, commodities, and precious metals, in addition to foreign exchange and Treasury markets. Morningstar also offers investment management services through its investment advisory subsidiaries.

#### **About Morningstar Indexes**

Morningstar® Indexes combine the science and art of indexing to give investors a clearer view into the world's financial markets. Our indexes are based on transparent, rules-based methodologies that are thoroughly back-tested and supported by original research. Covering all major asset classes, our indexes originate from the Morningstar Investment Research Ecosystem—our network of accomplished analysts and researchers working to interpret and improve the investment landscape. Clients such as exchange-traded fund providers and other asset management firms work with our team of experts to create distinct, investor-focused products based on our indexes. Morningstar Indexes also serve as a precise benchmarking resource.

# **Morningstar Index Product Committee**

The Morningstar Index Product Committee is comprised of members who possess a wide array of knowledge in relation to Indexes. The Product Committee is responsible for the governance over the creation and maintenance of all Morningstar branded Indexes, ensuring the highest standards are continuously met. Any matters arising from exceptional or undocumented events will be resolved at the discretion of the Morningstar Index Product Committee.

# **Morningstar Index Oversight Committee**

The Morningstar Index Oversight Committee is comprised of informed and qualified professionals who are responsible for the process governance of Morningstar branded Indexes. The Oversight Committee assesses and where appropriate challenges the decisions of Morningstar Indexes with regards to benchmark decisions.



# **For More Information**

For any queries, reach out to us via indexes@morningstar.com.



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