



## **Rules and Methodology**

S-Network Sector Low Volatility Index  
(Ticker: SLOWX)

September 2019

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## 1. *General Description of the S-Network Sector Low Volatility Index (Ticker: SLOWX)*

The S-Network Sector Low Volatility Index (Ticker: SLOWX) is a portfolio of large-capitalization stocks listed on US stock exchanges that have been screened for low daily price volatility.

SLOWX's constituents must be constituents of the S-Network US Equity Large-Cap 500 Index (Ticker: SN500), which comprises the 500 largest capitalization stocks listed in the United States and whose principal place of business is the US, as determined by S-Network.

SLOWX includes five stocks each from 10 GICS sectors for a total of 50 stocks. The 10 GICS sectors are:

- **Energy,**
- **Materials,**
- **Industrials,**
- **Consumer Discretionary,**
- **Consumer Staples,**
- **Health Care,**
- **Financials,**
- **Information Technology**
- **Communication Services, and**
- **Utilities.**

The 50 stocks are equal-weighted on the dates of each quarterly rebalancing.

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## 2. *The Index Committee*

The SLOWX Index Committee ("The Committee") will be composed of no less than three members. The Committee Chairman will have extensive experience with and expertise in US equity markets. The other members will have experience in financial markets, indexes and/or financial products.

The Committee will be responsible for overseeing the activities of the calculation agent, and approving all changes to the index related to its quarterly reconstitutions and rebalancings. The Committee will be responsible for approving any changes in the official index rules, as defined herein.

The Committee will meet quarterly, either in person or via teleconference, to discuss index issues and organize the quarterly reconstitutions.

The composition of the Committee may from time to time be changed to reflect changes in market conditions.

All members of the index committee and their advisors shall comply with the S-Network Global Indexes code of conduct and ethics with respect to the disclosure and use of material non-public information.

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### **3. Screening and Selection Methodology for SLOWX**

SLOWX's constituents are derived from the constituents of the SN500 as of SLOWX's quarterly reconstitution date, which is at the close of trading on the third Friday of the third month of each calendar quarter. SN500 constituents are the 500 largest capitalization stocks listed in the US and whose principal place of business is the US, as determined by S-Network. The selection process for the SN500 excludes certain types of securities including REITs, Business Development Corporations and MLPs.

Stocks selected for SLOWX are the five stocks in each of the 10 specified sectors that have the lowest daily price volatility over the previous year. Volatilities are updated quarterly on the last business day of the second month of each calendar quarter and the revised volatilities are applied on the quarterly reconstitutions.

Volatilities are calculated using the following methodology. Daily standard deviation is calculated using the following formula:

$$\sigma = \frac{\sum \sqrt{(x - \mu)^2}}{n - 1}$$

Where  $x = px(t)/px(t-1)-1$   
 $n =$  number of observations

Daily standard deviation is then annualized by multiplying it by the square root of 252.

If insufficient data is available to calculate at least 252 observations, then no volatility score is calculated and the company is ineligible for inclusion in SLOWX.

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### **4. Weighting Methodology for SLOWX**

Stocks included in SLOWX are equal-weighted as of the second Friday of the last month of each calendar quarter ("Record Date") and these share weights are implemented as of the close of business on the third Friday of the last month of each calendar quarter.

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### **5. Index Value at Inception**

SLOWX had a value at inception of 1000, on its inception date of December 31, 1999. SLOWX is calculated on both a Price Only and on a Total Return basis.

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### **6. Index Changes**

The Indexes are reconstituted and rebalanced quarterly on the third Friday of the last month of each calendar quarter. Index changes take place at each reconstitution date, except in the event of certain corporate actions, such as mergers, acquisitions, and delistings. In such cases, the change is applied on the effective date of the action, unless otherwise determined by the Index Committee. Whenever possible, changes will be announced at least two business days prior to their implementation.

Deletions are made at any time in the event a stock is liquidated, de-listed, files for bankruptcy or is acquired. Upon deletion, the weight of the removed stock is reallocated proportionately to the remaining constituents. Additions are made only upon the effective date of the quarterly reconstitution.

If a constituent stock fails to meet the Indexes' eligibility criteria because it has been deleted from the SN500, the stock shall remain in the index until the quarterly reconstitution date, when it will be deleted from the Index.

If a stock is deleted from the SN500 after the snapshot date for additions and deletions pursuant to quarterly rebalancings but before the rebalancing date, the stock will be deleted from the index and a replacement stock will be chosen.

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## ***7. Roles of the Parties in the Quarterly Reconstitutions***

Three parties participate in the quarterly reconstitutions: The Calculation Agent (S-Network Global Indexes), which is responsible for applying the relevant index rules to the Indexes; The Index Publisher (S-Network Global Indexes), which is responsible for overseeing the activities of the Calculation Agent; and The SLOWX Index Committee, which is responsible for reviewing and approving the changes to the Indexes that are recommended by the Index Publisher.

Data used for the quarterly reconstitutions are as of the close of US trading on the last business day of the month preceding the reconstitution month. ("Snapshot Date").

The Index Publisher will submit to the SLOWX Index Committee its recommended changes to the Indexes five business days following the Snapshot Date.

The SLOWX Index Committee will approve or reject the changes and notify the Index Publisher of its decisions not later than eight business days following the Snapshot Date.

Within 24 hours of notification by the SLOWX Index Committee to the Index Publisher of its approval of changes, the Index Publisher will post a press release on the Indexes' web site announcing the changes.

Changes to the Indexes related to the quarterly reconstitutions are implemented in conjunction with the quarterly rebalancing as of the close of trading on the third Friday of the last month of each calendar quarter.

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## ***8. Roles of the Parties in the Quarterly Rebalancings***

Three parties participate in the quarterly rebalancings: The Calculation Agent, which is responsible for applying the relevant index rules to the Indexes; the Index Publisher, which is responsible for overseeing the activities of the Calculation Agent; and The SLOWX Index Committee, which is responsible for reviewing and approving the changes to the Indexes that are recommended by the Index Publisher.

Data used for the quarterly rebalancings is as of the close of US trading on the second Friday of the last month of each calendar quarter (the "Record Date"). Share weights for the rebalanced Indexes are computed as of the Record Date.

The Index Publisher will submit its recommended weights to the SLOWX Index Committee or its designee within two business days following the Record Date.

The SLOWX Index Committee will approve or reject the changes and notify the Index Publisher of its decisions not later than three business days following the Record Date.

Upon notification by the SLOWX Index Committee to the Index Publisher of its approval of the weights, the Index Publisher will issue pro forma index weights to all relevant licensees

Changes to the Indexes related to the quarterly rebalancings are as of the close of trading on the third Friday of the last month of each calendar quarter.

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## 9. Ongoing Maintenance and Handling of Corporate Actions

In addition to the scheduled quarterly reviews, the Indexes reviewed on an ongoing basis. Changes in index composition and related weight adjustments are necessary whenever there are extraordinary events such as liquidations, conversions, delistings, bankruptcies, mergers or takeovers involving index components. In these cases, each event will be taken into account on its effective date. Whenever possible, the changes in the index's components will be announced at least two business days prior to their implementation date.

Eligible Securities. In the event that a component no longer meets the eligibility requirements described herein, it will be removed from the index on the effective date of the next rebalancing.

Mergers. If two index constituents merge, their component positions will be replaced by the surviving stock immediately. If an index constituent merges with a non-component stock, its component position will be replaced by the new stock, provided the new stock meets the eligibility criteria for SLOWX. If the combined stock fails to meet the eligibility criteria for SLOWX, it will be deleted from the index unless otherwise determined by the Index Committee. If deleted, the weight of the merged index constituent shall be redistributed proportionately to the remaining constituents in the index.

Takeovers. If an index component is taken over by another component stock, the former will be removed from the index immediately upon completion of the takeover. If an index component is taken over by a non-component stock, it will be replaced by the acquiring stock immediately, if the acquiring stock meets the eligibility criteria for SLOWX. If the acquiring stock does not meet the eligibility criteria for SLOWX, the acquiring stock will be deleted from the Indexes and the weight of the removed stock will be reallocated proportionately to the remaining constituents in the index.

Conversions. If an index component is converted to a non-eligible financial security, it will be deleted from the Indexes on the date of the next rebalancing, unless otherwise determined by the Index Committee.

Share Offerings and Share Buy-Backs. All Share Offerings and Buybacks that result in an increase or decrease of a constituent stock's shares outstanding will be implemented at the quarterly reconstitution.

Tender Offers. Tender offers will be accepted at least one day prior to the expiration of the tender offer, provided management of the company for which the tender offer is being made is in favor of the tender offer.

Rights Offerings. Rights will be executed, provided the rights are "in the money," on the effective date. The cost of executing the rights will be derived proportionately from the remaining constituents in the Indexes.

Spin-Offs. In the event of a spin-off, the spun-off company's stock will be sold on the effective date of the spin-off and the proceeds will be reinvested directly back into the parent organization.

Removal of a Stock from the S-Network US Equity Large-Cap 500 (SN500). If a current component of SLOWX is removed from the SN500 pursuant to a reconstitution, it will be deleted from the Index on the Index's next quarterly reconstitution date.

Removal of Stocks Due to Delisting, Bankruptcy or Extreme Financial Distress. If an index constituent is de-listed by its primary market, or is in bankruptcy proceedings, it will be removed from the index.

\* If an index component is de-listed by its primary market due to failure to meet financial or regulatory requirements, it will be removed from the indexes and its weight will be reallocated to the remaining constituents in the relevant index.

\* If an index component enters bankruptcy proceedings, it will be removed from the indexes and will remain ineligible for re-inclusion until it has emerged from bankruptcy. However, the Committee may, following a review of the bankrupt company and the issues involved in the filing, decide to keep the stock in the indexes.

\* The Committee may, at its discretion, remove a stock it has determined to be in extreme financial distress from the Indexes, if the Committee deems the removal necessary to protect the integrity of the Indexes and the interests of investors in products linked to the Indexes.

Pricing of Stocks in Extreme Financial Distress for Index Maintenance.

\* When a stock is suspended from trading due to financial distress and subsequently de-listed by its primary market prior to resumption of trading, the Calculation Agent will use the best-available alternate pricing source to determine the value at which the stock should be removed from the index.

\* If the stock's primary market price is no longer available due to its suspension or de-listing, a current price from another exchange, such as a regional or electronic marketplace, may be used. In the absence of those prices in the case of U.S. securities, OTC Bulletin Board, OTC Equity (non-OTCBB stocks), and Pink Sheet traded prices could be applied in that order.

\* If neither a traded price nor a bid/asked range is available, the Committee will evaluate the status of the suspended stock. The Committee may consult with managers of portfolios linked to indexes in which the stock is a constituent in determining the value of the stock. If the Committee concludes that the security has become worthless or is likely to remain too illiquid to be traded, it will be removed from the Indexes at .01 local currency of the stock.

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## ***10. Calculation and Dissemination of Index Values***

The Calculation Agent will calculate closing values for both the price and total return Indexes based on closing prices as reported by the relevant exchanges.

The Index Publisher will post the following files to its FTP server prior to 7:00PM EST each trading day:

Closing Index File (CLS.SNC) – Index constituents, closing prices, weights, share weights and related data as of the day's close.

Adjusted Closing Index File (ADJ.SNC) – Index constituents, closing prices, weights, share weights and related data as of the next trading day’s open.

Corporate Action File (SNA) – Data related to upcoming corporate actions for the Indexes’ constituent stocks.

Index Values File (SNL) – Closing values for the price and total return indexes, including divisors.

Closing values for the Indexes will be transmitted to the Chicago Mercantile Exchange prior to 7:00PM EST for redistribution to various vendors and providers of financial data via the NYSE Global Index Feed.

Index values will be distributed using the following tickers:

**The S-Network Sector Low Volatility Index**

Price Index: SLOWX

Total Return Index: SLOWXTR

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## 11. Calculation and Adjustments

### 1. Input Data Sources

\* Stock prices are provided by Thomson Reuters. The most recent closing prices of constituent stocks are used for index calculation.

\* The number of shares is determined separately for each class of stock. This information is obtained from regulatory filings and a variety of data vendors. The data also may be sourced from the constituent stocks themselves.

\* Corporate actions are sourced from public news services, regulatory filings and data vendors. The constituent stocks themselves may be used as an additional source.

2. Index Formula. The index is calculated using a Laspeyres formula. This formula is used for the calculation of the return index and the price index. The only difference is that the divisor  $D_t$  is different for the two indexes (return index and price index).

The index is computed as follows:

$$Index_t = \frac{\sum_{i=1}^n (p_{it} * q_{it})}{(C_t \sum_{i=1}^n (p_{i0} * q_{i0}))} * Base Index Value = \frac{M_t}{B_t} * Base Index Value$$

The above mentioned formula can be simplified as:  $Index_t = \frac{M_t}{D_t}$

Where:

$D_t$  =  $B_t$ /base index value = divisor at time ( $t$ )  
 $n$  = the number of stocks in the index  
 $p_{i0}$  = the closing price of stock  $i$  at the base date

$q_{i0}$	=	the number of shares of stock $i$ at the base date
$p_{it}$	=	the price of stock $i$ at time ( $t$ )
$q_{it}$	=	the number of shares of stock $i$ at time ( $t$ )
$C_t$	=	the adjustment factor for the base date market capitalization
$t$	=	the time the index is computed
$M_t$	=	market capitalization of the index at time ( $t$ )
$B_t$	=	adjusted base date market capitalization of the index at time ( $t$ )

Dividend payments are not taken into account in the price indexes, whereas dividend payments are reinvested in the index constituents of the total return index on a proportional basis. The adjustment protects the indexes from the effects of changes in index composition and the impact of corporate actions.

3. Divisor Adjustments. Corporate actions affect the share capital of component stocks and therefore trigger increases or decreases in the index. To avoid distortion, the divisor of the index is adjusted accordingly.
4. Changes in the index's market capitalization due to changes in the composition (additions, deletions or replacements), weighting (following quarterly reviews, corporate actions (mergers, or special cash or stock distributions of other stocks) result in a divisor change to maintain the index's continuity. By adjusting the divisor, the index value retains its continuity before and after the event. For rights offerings, the Calculation Agent will price the rights during the subscription period, not before or after. Alternatively, the Calculation Agent may start pricing the rights after the ex-date and before the subscription period, under the condition that the rights are priced daily.

\* Formulae for Divisor Adjustment. The following formulae will be used for divisor adjustments. (Note: No divisor adjustments are necessary for stock splits, since market capitalization does not change and the share number and share price are adjusted prior to the opening of trading on the split's ex-date.)

$$D_{t+1} = D_t * \left( \frac{\sum(p_{it} * q_{it}) \mp \Delta MC_{t+1}}{\sum(p_{it} * q_{it})} \right)$$

Where:

$D_t$	=	divisor at time ( $t$ )
$D_{t+1}$	=	divisor at time ( $t+1$ )
$p_{it}$	=	stock price of stock $i$ at time ( $t$ )
$q_{it}$	=	the number of shares of stock $i$ at time ( $t$ )
$\Delta MC_{t+1}$	=	add new components' market capitalization and adjusted market capitalization (calculated with adjusted closing prices and shares effective at time $t+1$ and/or minus market capitalization of stocks to be deleted (calculated with closing prices and shares at time $t$ ))

Note: If the current trading price of an issue is unavailable, the previous trading session's closing price is used. However, if the issue is affected by any corporate action that requires an adjustment, then the adjusted price is used.

\* Adjustments for Corporate Actions. An index divisor may decrease (▼) or increase (▲) or keep constant (■) when corporate actions occur for a component stock. Assuming shareholders receive "B" new shares for every "A" share held for the following corporate actions:

▼ A) CASH DIVIDEND (applied for return index only)

adjusted price = closing price - dividend announced by the stock

■ B) SPECIAL CASH DIVIDEND

adjusted price per share = closing price – special dividend amount

adjusted shares = closing index market capitalization / adjusted price per share

■ C) SPIN-OFF

adjusted price per share = closing price per share – spinoff value

adjusted shares = closing index market capitalization / adjusted price per share

■ D) SPLIT AND REVERSE SPLIT

adjusted price = closing price \* A / B new number of shares = old number of shares \* B / A

■ E) RIGHTS OFFERING

adjusted price = (closing price \* A + subscription price \* B) / (A + B) new number of shares = old number of shares \* (A + B) / A

■ F) STOCK DIVIDEND

adjusted price = closing price \* A / (A + B) new number of shares = old number of shares \* (A + B) / A

▼ G) STOCK DIVIDEND OF A DIFFERENT STOCK SECURITY

adjusted price = (closing price \* A - price of the different stock security \* B) / A

▲ H) COMBINATION STOCK DISTRIBUTION (DIVIDEND OR SPLIT) AND RIGHTS OFFERING

Shareholders receive B new shares from the distribution and C new shares from the rights offering for every A shares held:

\* If rights are applicable after stock distribution (one action applicable to other).  
adjusted price = [closing price \* A + subscription price \* C \* (1 + B / A)] / [(A + B) \* (1 + C / A)]  
new number of shares = old number of shares \* [(A + B) \* (1 + C / A)] / A

\* If stock distribution is applicable after rights (one action applicable to other).  
adjusted price = [closing price \* A + subscription price \* C] / [(A + C) \* (1 + B / A)]  
new number of shares = old number of shares \* [(A + C) \* (1 + B / A)]

▲ I) STOCK DISTRIBUTION AND RIGHTS (NEITHER ACTION IS APPLICABLE TO THE OTHER) adjusted price = [closing price \* A + subscription price \* C] / [A + B + C] new number of shares = old number of shares \* [A + B + C]

5. Computational Precision. Index values are rounded to two decimal places and divisors are rounded to integers. Any values derived by the index calculation engine from a corporate action used for the divisor adjustments and index computations are rounded to seven decimal places.

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## 12. Data Correction Policy

To maintain a high standard of data integrity, a series of procedures have been implemented to ensure accuracy, timeliness and consistency. Input prices are monitored using a variety of computerized range-check warning systems. Fault tolerant methods are employed in the collection of market and corporate action data. Various verification and audit tasks are performed to ensure the quality of the data feeds and related market data. While every effort is taken to ensure the accuracy

of the information used for the index calculation, an index error may occur due to incorrect or missing data, including trading prices, exchange rates, shares outstanding and corporate actions, due to operational errors or other reasons.

1. Intraday Corrections. Reasonable efforts are employed to prevent erroneous data from affecting the indexes. Corrections will be made for bad prices and incorrect or missing corporate actions as soon as possible after detection.
2. 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 on the day it is discovered to prevent an error from being carried forward.

If a divisor error is discovered more than five days after occurrence, the adjustment will depend upon how significant the error is, how far back the error occurred and the feasibility of performing the adjustment

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### **13. Review Schedule**

#### Reconstitutions

Frequency: Quarterly

Effective date: Market close on the third Friday of the last month of each calendar quarter

Advance notice: Approximately 10 business days

#### Rebalancings

Frequency: Quarterly

Effective date: Market close on the third Friday of the last month of each calendar quarter

Advance notice: At least 3 business days