



**NYSE[®] Technology Index[™]
(NYTECH)**

Version 2.1
Valid from
December 10, 2018

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Version History:

Version 2.1 (Effective December 10, 2018)

The methodology for the NYSE® Technology Index™ (NYTECH) is being updated to change the announcement and reference dates for the annual Index rebalance, in order to provide additional time between announcement and effectiveness of the rebalance.

Version 2.0 (Effective April 20, 2018)

The new methodology format for the NYSE® Technology Index™ (NYTECH) is being released to provide greater details and clarity into the Index governance, structure, and maintenance. There is also an update being made to the announcement and reference dates for the annual Index rebalance and to the correction of index calculations.

Version 1.0 (Effective September 1, 2017)

The methodology document covers the newly-rebranded NYSE® Technology Index™. The Index was formerly known as the Morgan Stanley Technology Index (MSTI), and prior to that, the Morgan Stanley High Technology 35 Index (MSHTI).

1. Index summary

Factsheet	
Full Names	NYSE® Technology Index™
Index Types	Price Return (USD): NYTECH Gross Total Return (USD): NYTECHTR
Index Description	The NYSE Technology Index is an equal-dollar weighted Index designed to objectively represent the technology sector by holding 35 of the leading U.S. technology-related companies. Index compositions and corporate actions, including rebalance information, can be accessed from NYSE Market Data at www.nyse.com/market-data/indices .
Eligible Stocks	Common stocks and ADRs listed on a major U.S. exchange (NYSE, NASDAQ, NYSE American)
Number of Constituents	Fixed - 35
Weighting	Equal- dollar weighted
Review of Composition	Announced annually after the close of trading on the second Friday of December
Effective Date of the Rebalance	Effective annually after the close of trading on the third Friday of December
Calculation Frequency	Price Return (USD): Every 15 seconds between 09:30 & 18:00 ET Gross Total Return (USD): Once daily between 18:00 ET and 19:15 ET
Base Date	December 16, 1994
Base Level	200.00
Historic Data Available Since	December 16, 1994
Bloomberg Code	NYTECH <INDEX> / NYTECHTR <INDEX>
Reuters Code	.NYTECH / .NYTECHTR
Launch Date	June 30, 1995
Website	https://www.theice.com/market-data/indices

2. Governance

Index Sponsor & Administrator

ICE Data Indices, LLC (“IDI”) is the Index Sponsor and the Index Administrator.

IDI is responsible for the day-to-day management of the Index, including retaining primary responsibility for all aspects of the Index determination process, including implementing appropriate governance and oversight, as required under the International Organization of Securities Commission’s Principles for Financial Benchmarks (the IOSCO Principles). The Governance Committee is responsible for helping to ensure IDI’s overall compliance with the IOSCO Principles, by performing the Oversight Function which includes overseeing the Index development, design, issuance and operation of the indices, as well as reviewing the control framework. IDI is also responsible for decisions regarding the interpretation of these rules and the Governance Committee is responsible for reviewing all rule book modifications and Index constituent changes with respect to the Index to ensure that they are made objectively, without bias, and in accordance with applicable law and regulation and IDI’s policies and procedures. Consequently, all IDI’s and the Governance Committee discussions and decisions are confidential until released to the public.

Cases not covered in rules

In cases which are not expressly covered in these rules, operational adjustments will take place along the lines of the aim of the Index. Operational adjustments may also take place if, in the opinion of the Index Administrator, it is desirable to do so to maintain a fair and orderly market in derivatives on this Index and/or this is in the best interests of the investors in products based on the Index and/or the proper functioning of the markets.

Any such modifications described under this section or exercise of Expert Judgment will also be governed by any applicable policies, procedures and Guidelines in place by IDI at such time.

Rule book changes

The Governance Committee reviews all rule book modifications and Index changes to ensure that they are made objectively, without bias and in accordance with applicable law and regulation and IDI’s policies and procedures. These rules may be supplemented, amended in whole or in part, revised or withdrawn at any time in accordance with applicable law and regulation and IDI applicable policies and procedures. Supplements, amendments, revisions and withdrawals may also lead to changes in the way the Index is compiled or calculated or affect the Index in another way.

Limitations of the Index

All the NYSE indices produced by IDI (“the NYSE Indices”) may be subject to potential limitations, such as a decline in the pool of available eligible securities due to advancements in technology,

shifts in demographic spending or the economy, changes in regulation or accounting rules, consolidation in certain sectors or industries, or other factors. Other limitations may include the ability of the Benchmark to operate in illiquid or fragmented markets.

By design, the Index is focused on companies and Industries contained in the technology sector. As the underlying markets transform due to consolidation and technology transformation, the companies included in the Index will adjust and change accordingly.

IDI seeks to manage and mitigate these limitations through the Benchmark design, review and oversight process.

3. Index Description

The NYSE Technology Index (“NYTECH” or “Index”) is an equal-dollar weighted Index designed to objectively represent the technology sector by holding 35 of the leading U.S. technology-related companies.

4. Publication

4.1 The opening, intraday and closing or daily publication of Index values.

Opening

The first Index level is calculated and published around 09:30 ET, when the U.S. equity markets open for their regular trading session. The calculation of that level utilizes the most updated prices available at that moment. In the case of constituents that have a non-traded, halted or suspended status, or have not opened for the current day, the previous day's reference prices (primary exchange official closes) or estimated prices (for IPOs, buyouts and swap offers) are used.

Dissemination frequency

The level of the price return Index is in principle published every 15 seconds to the ICE Data Global Index Feed (ICE Data GIF). The calculated Index levels incorporate the latest traded price of each constituent from within the regular trading session, normally 09:30 to 16:00 ET. The Index only holds equities listed and traded in the U.S., and thus, intraday calculations of the Index would incorporate trades on a consolidated level, from all exchanges including those not designated as the official primary exchange.

The gross total return Index is calculated and published once daily between 18:00 and 19:15 ET.

The Indices are calculated on those days specified as Index business days. Index business days will be classified as days on which the U.S. Equity Markets (NYSE, NASDAQ and NYSE American) are open for a full or partial day of trading.

Closing level

The closing level is the last level disseminated on the trading day and uses the official close prices from the primary listing market for each constituent. For constituents that have non-traded, halted or suspended status, or have not opened for the current day, the previous day's reference prices (primary exchange official closes) or estimated prices (for IPOs, buyouts and swap offers) are used instead. In the case of exceptional market conditions, the Index Administrator reserves the right to utilize other prices in the calculation of the official closing level, as indicated below in Section 4.2.

Sources of Data

The Consolidated Tape (CTS/UDTF) is the primary market data source for U.S. equity real-time and closing prices. Additional sources of data less commonly used include market data vendors, company announcements, exchange announcements and other official sources.

4.2 Exceptional market conditions and corrections

The Index Administrator retains the right to delay the publication of the opening level of the Index. Furthermore, the Index Administrator retains the right to suspend the publication of the level of the Index if it believes that circumstances prevent the proper calculation of the Index.

If Index constituent prices are cancelled, the Index will not be recalculated unless the Index Administrator decides otherwise.

Reasonable efforts are made to ensure the correctness and validity of data used in real-time Index calculations. If incorrect price or corporate action data affects Index daily closing values, they are corrected retroactively as soon as possible and all revisions are communicated out to the public and market data vendors.

There is the possibility of an exchange or market-wide event resulting in the normal closing auction not going off or official closing prices not being available. In those situations, the Index will take guidance from the respective exchange(s) and address on an event-by-event basis. Exchange or market-wide events include, but are not limited to, the following:

- Volatility Halts
 - LULD (Limit Up / Limit Down)
 - Market Wide Circuit Breaker
- Technological Problems / Failures
- Natural Disaster or Other BCP-Related Event

4.3 Changes to the Index

Announcement policy

Changes to the Index methodology will be announced by an Index announcement which will be distributed by IDI via www.nyse.com/indices and NYSE Market Data at www.nyse.com/market-data/indices

As a general rule, the announcement periods that are mentioned below will be applied. However, Emergency actions, including urgently required corporate action treatments, often resulting from late notices from the relevant company or exchange, may require the Index Administrator to deviate from the standard timing.

Inclusion of new constituents

The inclusion of new companies in the Index will typically only occur during the annual rebalance, although there could be exceptions based on a specific corporate action affecting a current constituent. The inclusion of the new company will be announced at least two trading days prior to the effective date of the actual inclusion. For example, for a rebalance effective for

the open on December 24, 2018, the announcement would occur after the close on December 14, 2018.

Due to corporate actions, and because the number of Index constituents is fixed, it is possible that the announcement of an addition to the index could occur prior to the Index's schedule rebalance. At the very latest, all additions will be announced at least one trading day before the effective date of the addition.

Removal of Constituents

Components would be removed from the Index as a result of periodic corporate actions as well as the results of the annual rebalances. All removals will be announced at least one trading day before the effective date of the removal. It should be noted that in the case of mergers and acquisitions, every effort will be made to remove the company at some reasonable time ahead of the suspension in trading in the acquired company. There will be certain situations and corporate actions that would require the removal of a company that has already ceased trading. In those cases, the company will be removed from the Index at its last traded price, or, at the discretion of the Index Administrator, at a derived price that most accurately represents its post-suspension value.

Corporate actions

In case of an event that could affect one or more constituents, the Index Administrator will inform the market about the intended treatment of the event in the Index shortly after the firm details have become available and have been confirmed. When possible, the corporate action will be announced, even if not all information is known, at least one trading day before the effective date of the action. Once the corporate action has been effectuated, the Index Administrator will confirm the changes in a separate announcement.

Rule changes

Going forward, barring exceptional circumstances, the Index Administrator shall announce proposed Rules changes to stakeholders prior to them being implemented. Stakeholders shall also be notified of when the changes shall take effect.

Index Reviews

IDI shall undertake regular reviews of the Index, the methodology and the market which it represents to ensure it continues to meet the Index objective, in accordance with IDI's policies and procedures. Should changes to the Index be required or proposed, this will be communicated to stakeholders in accordance with IDI's policies and procedures.

Consultations

IDI may from time to time consult with stakeholders on proposed material changes that affect the Index in accordance with IDI's policies and procedures including IDI's consultation policy: https://www.theice.com/publicdocs/Consultation_Policy.pdf. Such proposals shall be published to Stakeholders and all feedback received will be considered by the Index Administrator. Any resulting changes to the Index will be announced prior to it being implemented.

Reconstitution/Rebalance: Publication of Results

The new composition of the Index, including the companies to be a part of the Index and their corresponding new Index shares, will be announced at least two trading days before the effective date and can be accessed from NYSE Market Data at www.nyse.com/market-data/indices.

5. Calculation

5.1 Calculation of the Index

The Index is calculated on a Price Return and Gross Total Return basis. The current Index level would be calculated by dividing the current modified Index market capitalization by the Index divisor. The divisor was determined off of the initial capitalization base of the Index and the base level. The divisor is updated as a result of corporate actions and composition changes.

A full description of the formulae used to calculate Index values can be found in the “NYSE Indices - Guide to Index Mathematics” at <https://www.nyse.com/indices/rules>.

6. Index rebalances

6.1 General aim of rebalances and frequency

General aim of the periodical rebalance

The general aim of the annual rebalance of the Index is to ensure that the selection and weightings of the constituents continues to reflect as closely as possible the Index's objective of representing the technology sector by holding 35 of the leading U.S. technology-related companies. The Index Administrator reserves the right to, at any time, change the number of stocks comprising the Index by adding or deleting one or more stocks, or replacing one or more stocks contained in the Index with one or more substitute stocks of its choice, if in the Index Administrator's discretion such addition, deletion or substitution is necessary or appropriate to maintain the quality and/or character of the Index. Such Index constituent changes are reviewed by the Governance Committee to ensure that they are made objectively, without bias and in accordance with applicable law and regulation and IDI's policies and procedures.

Frequency

Changes to the Index constituents may occur during a scheduled rebalance and as a result of the removal of an Index constituent.

The NYSE Technology Index rebalances become effective after the close of the third Friday of December. The rebalance announcement will be made after the close of the second Friday of December. The reference date for all company-specific data and information utilized in the rebalancing process will be taken from the second Friday of December, with exception of the prices utilized to determine the shares, which will be taken from the third Friday.

6.2 Index universe and selection principle

Index Universe

Development and maintenance of the component Universe for the NYSE Technology Index is undertaken by IDI. The Index Universe will consist of all stocks classified as Consumer Discretionary or Technology by IDI that are listed on a major U.S. stock exchange like NYSE, NASDAQ, or NYSE American and are representative of the technology Industry. ADRs are eligible for inclusion in the Index. This determination is completed using publically available information on individual security issuers as well as the industry. Also instrumental in this determination is IDI employees' expertise concerning Index design and development and their knowledge surrounding Index use and stakeholder feedback. IDI may change the composition of the Universe at any time to reflect the conditions of the technology Industry, and to ensure that the pool of component securities continues to represent the Industry, in accordance with the Index requirements.

Selection of constituents

At each annual rebalance, the Index Universe will be screened utilizing a proprietary methodology. The following steps will be executed:

1. Stocks must have a market capitalization (including all share classes and unlisted shares) of \$2 billion
2. Stocks must have a trailing 3 month average daily traded value (ADTV / turnover) of \$10 million on the specific listing line
3. Stocks must meet at least one of the following three revenue- and sales-based criteria:
 - a. Have an increase in sales over the last 12 months (sales from latest quarter compared to the quarter from the prior year)
 - b. Have only one consecutive period of negative sales growth over the last two years (quarter-on-quarter sales growth)
 - c. Have revenue totals (from the last four quarters) that classify it within the top 75 companies within the specific Industry classification designated to it by IDI
4. The Governance Committee will oversee a process to eliminate all consumer discretionary stocks that are not associated as technology-related companies.
5. At least 75% of the Index must be U.S. headquartered. If this rule is violated, then the lowest ranked non-U.S. stocks (on market capitalization and liquidity) will be removed.
6. Stocks will be ranked on a combination of market capitalization and liquidity and the top 35 companies based upon that ranking will be selected

6.3 Periodical update of weighting

Determining constituent weightings at Annual Index Rebalances

Every year after the close of trading on the third Friday of December, the Index portfolio is adjusted by equally weighting the constituents based upon the prices and Index market capitalization as of the close of trading.

The newly adjusted portfolio becomes the basis for the Index's value effective on the first trading day following the annual adjustments. If necessary, a divisor adjustment is made to ensure continuity of the Index's value.

7. Corporate Actions

7.1 General

The Index may be adjusted in order to maintain the continuity of the Index level and the composition. The underlying aim is that the Index continues to reflect as closely as possible the Index's objective of representing the technology sector by holding 35 of the leading U.S. technology-related companies.

Adjustments take place in reaction to events that occur with constituents in order to mitigate or eliminate the effect of that event on the Index performance.

7.1 Removal of Constituents

Any stock deleted from the index as a result of a corporate action such as a merger, acquisition, spin-off, delisting or bankruptcy will be replaced by a new stock. Thus, the total number of stocks in the index will stay constant at 35. The committee would select the next highly ranked stock as of the last annual rebalance. If a company is removed and replaced in the index, the divisor will be adjusted to maintain the index level.

A full description of standard corporate action events and their handling can be found in the "NYSE Indices - Corporate Action Handling Guide" at <https://www.nyse.com/indices/rules>.

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