

Index Methodology Guide for the FactSet US Tech Top 20 Index™

Version 1.0 – February 27, 2023

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Index Introduction and Objective

1.1 Index Overview

The FactSet US Tech Top 20 Index is an equity benchmark designed to track the performance of large market capitalization U.S. companies that are involved in providing products and services related to robotics and automation, cloud, content applications and platforms, e-commerce, and semiconductors.

The FactSet US Tech Top 20 Index is a float-adjusted, modified market capitalization weighted index. The index is reconstituted and rebalanced semi-annually.

The FactSet US Tech Top 20 Index is calculated and maintained by Solactive AG based on a methodology developed by FactSet. It is calculated on a price, total and net total return basis in U.S. Dollar (USD). The index is calculated continuously, and on an end-of-day basis, from Monday to Friday from 3:30 PM to 10:50 PM CET (Central European Time). Index values are distributed via various data channels and market data vendors, including the price marketing services of Boerse Stuttgart AG. End-of-day price and total return values of the index may also be obtained from FactSet upon request.

Whenever possible, constituent changes to the index are announced five business days before becoming effective.

1.2 Inception Date and Base Value

The Index Inception Date was June 10, 2016 with a base value of 1000.00. The inception date refers to when the first back-tested index value was calculated. The back test is based on a similar methodology used to calculate the index when it was officially launched on February 27, 2023.

1.3 Index Valuation Days

Index Valuation Days are business days, Monday to Friday where the Tokyo Stock Exchange is opened for trading.

1.4 Commencement Date

The index commencement date was February 27, 2023. Commencement date refers to when the index was officially launched with continuous and end-of-day calculations.

1.5 Reconstitution and Rebalance Schedule

The index is reconstituted and rebalanced semi-annually after the close of the second Friday in June and December each year ("Reconstitution Day").

If any of the existing or new index components is not trading on Reconstitution Day/Rebalance Day due to an exchange holiday, the reconstitution/rebalance is moved to the next Japan business day.

The data used to reconstitute and rebalance the index is as of the close of last business day of May and November ("Selection Day"). Subsequent adjustment to the index composition may be made to account for corporate actions that occur between the Selection Day and the Reconstitution Day or Rebalance Day.

Index Construction

2.1 Constituent Selection and Weighting Schema

1. Select primarily listed common stocks and ADRs in NASDAQ.
2. Exclude ADRs with headquarters located in China or Hong Kong.
3. Rank the securities, in descending order, based on total market capitalization and select the top 300 ranked securities.
4. Select securities with three-month Average Daily Trading Value (ADTV) of at least USD \$100 Million.
5. Select securities which are classified to one of the 139 RBICS Focus sub-industries as defined by FactSet's Revere Business Industry Classification System (RBICS). RBICS Focus sub-industries are grouped into Automation (Robotics), Cloud, Contents/Platforms, E-Commerce, and Semiconductor categories.

RBICS ID	RBICS Name	Category
401020151510	3D Modeling/Rapid Prototyping Automation Providers	Automation (Robotics)
401025102025	Alt. Energy Autonomous Heavy Duty Truck Makers	Automation (Robotics)
401025101525	Alt. Energy Autonomous Transit Vehicle Production	Automation (Robotics)
202010151020	Alternative Energy Car Manufacturers	Automation (Robotics)
202010101010	Auto Exterior Comfort/Safety/Electronics Products	Automation (Robotics)
202010101015	Auto Interior Comfort/Safety/Electronics Products	Automation (Robotics)
551525151010	Automotive and Marine Electronics Manufacturing	Automation (Robotics)
401025101515	Autonomous Commercial/Transit Vehicle Production	Automation (Robotics)
401025102015	Autonomous Control Truck Production	Automation (Robotics)
401025101535	Conventional Autonomous Transit Vehicles Makers	Automation (Robotics)
401025102035	Conventional Engine Autonomous Truck Makers	Automation (Robotics)
401015101545	Electric Vehicle Batteries Manufacturing	Automation (Robotics)
201515351010	Electric Vehicle Charging Stations	Automation (Robotics)
401020152510	General Factory Automation Makers	Automation (Robotics)
551515301510	Global Positioning Systems (GPS) Manufacturing	Automation (Robotics)
502010154010	Household Robot Makers	Automation (Robotics)
401020151010	Industrial Robots and Robotic Assembly Line Makers	Automation (Robotics)
451020303015	Lithium Compounds Manufacturing	Automation (Robotics)
401020202010	Machine Vision and Quality Control Manufacturing	Automation (Robotics)
401020151015	Material Handling/Conveyor Equipment Manufacturing	Automation (Robotics)
401015101520	Mixed Heavy-Duty and High-End Batteries Makers	Automation (Robotics)
401020202510	Monitoring and Control Sensor/Instrument Products	Automation (Robotics)
401015101020	Motion Control and Precision Motors Manufacturing	Automation (Robotics)
401020151525	Multi-Industry-Specific Factory Machinery Makers	Automation (Robotics)

552015301010	Multiple Industry-Specific Software	Automation (Robotics)
202010151010	Multi-Type Car Manufacturers	Automation (Robotics)
401020152515	Other Automation Support Product Manufacturing	Automation (Robotics)
352015102020	Surgical Robotic Systems	Automation (Robotics)
551030102020	Test, Measurement and Metrology Equipment Makers	Automation (Robotics)
202010101025	Vehicle Autonomous Control Electronics Makers	Automation (Robotics)
201510102020	Vehicle Autonomous Control Software	Automation (Robotics)
552015151510	Business Intelligence Software	Cloud
552010201010	Colocation and Data Center Services	Cloud
551515351510	Customer Premises Network Security Equipment	Cloud
552015351510	Data Storage Infrastructure Software	Cloud
552015152515	Diversified Customer Relationship Software	Cloud
552015153015	Diversified Enterprise Resource Planning Software	Cloud
552015352010	Diversified IT Infrastructure Software	Cloud
552015152015	Document Management Software	Cloud
552015153020	Financial and Compliance ERP Software	Cloud
552015401010	General and Mixed-Type Software	Cloud
552015153510	General Enterprise Management Software	Cloud
552020251510	General Infrastructure and Network Consulting	Cloud
552015153025	Human Resources ERP Software	Cloud
552010201510	Managed Hosting Services	Cloud
552015353010	Network Administration Software	Cloud
552015353015	Network Security Access Policy Software	Cloud
552015353020	Network Security Software	Cloud
552010202010	Other Hosting Services	Cloud
552015353025	Other Network Software	Cloud
552015253010	Productivity Software	Cloud
552015102520	Software Development Software	Cloud
552010101010	Automotive Classifieds and Directories Media/Sites	Contents/ Platforms
552010101015	Career Classifieds and Directories Media and Sites	Contents/ Platforms
552010351015	Communication and Collaboration Content Sites	Contents/ Platforms
303010153030	Cryptocurrency Trading and Exchanges	Contents/ Platforms
552010151010	Diversified Electronic Media and Sites	Contents/ Platforms
552010101020	Education Information and News Media and Sites	Contents/ Platforms
552015251010	Educational Software	Contents/ Platforms
552010301010	Execution and Quote Platforms Services	Contents/ Platforms
552010101025	Finance Information and News Media and Sites	Contents/ Platforms
552010301015	Financial Reference Data Content Providers/Sites	Contents/ Platforms
552010351020	General Consumer Content Providers	Contents/ Platforms
552010351025	General Entertainment Content Providers and Sites	Contents/ Platforms
552010101030	General Information and News Media and Sites	Contents/ Platforms
552010301020	General Professional Content Providers and Sites	Contents/ Platforms
552010301025	Institutional Financial and Research Content Sites	Contents/ Platforms

552010351030	Media Download and Streaming Digital Content Sites	Contents/ Platforms
552015251510	Mobile Platform Applications Software	Contents/ Platforms
552015102515	Multimedia Design and Engineering Software	Contents/ Platforms
552010301030	Multi-Type Financial Data Content Providers/Sites	Contents/ Platforms
552010101035	Other Classifieds and Directories Media and Sites	Contents/ Platforms
552015202510	Other Games Software	Contents/ Platforms
552010101040	Real Estate Classifieds and Directories Sites	Contents/ Platforms
551515453010	Smart Phone Manufacturing	Contents/ Platforms
552010351510	Web Navigation Sites and Software	Contents/ Platforms
552010351515	Web Portal Sites and Software	Contents/ Platforms
552010351520	Web Search Sites and Software	Contents/ Platforms
552010251015	E-Commerce Service Providers	E-Commerce
303010153015	Electronic Payment Processing	E-commerce
202510101015	Internet Accessories Retail	E-Commerce
202510201530	Internet Apparel Retail	E-Commerce
201510201525	Internet Automotive Parts Sales	E-Commerce
202520101520	Internet Building Materials / Garden Supply Retail	E-Commerce
501015103010	Internet Department Stores	E-Commerce
202515103510	Internet Electronics Retail	E-Commerce
202515152010	Internet Entertainment Retail	E-Commerce
202520152510	Internet Furniture and Home Furnishings Retail	E-Commerce
201510151520	Internet Motor Vehicle Sales	E-Commerce
501015251510	Internet Off-Price Retail	E-Commerce
201515251015	Internet Pet and Pet Supply Retail	E-Commerce
501020151510	Internet Pharmacies and Drug Retail	E-Commerce
501015301510	Internet Warehouse / Superstore Retail	E-Commerce
303010153020	Mixed Electronic Transaction Processing	E-commerce
501020101510	Other Internet Health and Personal Care Retail	E-Commerce
303015101030	Payment Processing Software	E-Commerce
551030101010	Assembly Equipment Manufacturing	Semiconductor
551020401510	Audio Multimedia Semiconductors	Semiconductor
551020103020	Autonomous Vehicles Semiconductors	Semiconductor
551020401530	Cryptomining Semiconductors	Semiconductor
551030102510	Diversified Semiconductor Capital Equipment Makers	Semiconductor
551030152010	Diversified Semiconductor Manufacturing Services	Semiconductor
551020201010	Diversified Semiconductors	Semiconductor
551020251010	Flash Memory Semiconductors	Semiconductor
551030101510	Flat Panel Display-Specific Equipment Makers	Semiconductor
551020101010	General Analog and Mixed Signal Semiconductors	Semiconductor
551020103015	General Automotive Semiconductors	Semiconductor
552015101510	IC-Level Electronic Design Software	Semiconductor
551020401515	Image Sensor and Image Capture Semiconductors	Semiconductor
551020151010	Light Emitting Diode Discrete Semiconductors	Semiconductor

551020302510	Microprocessor (MPU) Semiconductors	Semiconductor
551020401520	Multimedia Semiconductors	Semiconductor
551020401010	Networking Semiconductors	Semiconductor
551020401015	Other Communications Semiconductors	Semiconductor
551020151510	Other Discrete Semiconductors	Semiconductor
551030101515	Other Front End Processing Equipment Makers	Semiconductor
551020251510	Other Memory Semiconductors	Semiconductor
551020251015	Other Nonvolatile Memory Semiconductors	Semiconductor
551020151015	Other Optoelectronics Discrete Semiconductors	Semiconductor
551020101510	Other Power Analog and Mixed Signal Semiconductors	Semiconductor
551020303010	Other Processor Semiconductors	Semiconductor
551020351010	Other Programmable Logic and ASIC Semiconductors	Semiconductor
551020402010	Other Specialized Semiconductors	Semiconductor
551020402510	Peripheral Semiconductors	Semiconductor
551020102010	Power, Control and Mixed Signal Semiconductors	Semiconductor
551020351510	Programmable Logic Device Semiconductors	Semiconductor
551020102510	RF Analog and Mixed Signal Semiconductors	Semiconductor
551020403010	Security and Identification Semiconductors	Semiconductor
551030151510	Semiconductor Assembly and Packaging Services	Semiconductor
551030102010	Semiconductor Components/Subsystems Manufacturing	Semiconductor
551030151010	Semiconductor Foundry Services	Semiconductor
551030151515	Semiconductor Packaging and Testing Services	Semiconductor
551030102015	Semiconductor Process Analysis Tool Manufacturing	Semiconductor
551030151520	Semiconductor Testing Services	Semiconductor
551020103010	Specialty Analog and Mixed Signal Semiconductors	Semiconductor
551020401525	Video Multimedia Semiconductors	Semiconductor
551020252010	Volatile Memory Semiconductors	Semiconductor
551030101525	Wafer Blank Makers and Equipment Manufacturing	Semiconductor
551030101020	Wafer Processing Subsystem Equipment Manufacturing	Semiconductor

6. In each category, rank the securities by their float-adjusted modified market capitalization, in descending order, and select the top 3 ranked securities.

Rank all securities that are ranked 4 or below based on their float-adjusted modified market capitalization and select the top ranked securities regardless of the category until the index constituents reaches 20 securities.

7. Weight securities by float-adjusted modified market capitalization. Individual security's weight is capped at 8%, and excess weights are redistributed proportionally among remaining uncapped securities.

Aggregated weight of each category is capped at 25%.

In addition to the above selection schema, FactSet may at its discretion and in consultation with index licensee, modify one or more selection criterion to ensure relevant and timely capture of the

them. Whenever possible, any modifications shall be announced 60 days prior to annual Reconstitution Day.

2.2 Index Return Formulas

The price, total and net total returns levels of the index are calculated using the following formulas.

$$I_{(t)} = \frac{\sum_{i=1}^n S_{i(t)} \times P_{i(t)}}{D_{(t)}}$$

where:

$I_{(t)}$ = Index value on Index Valuation Day (t)

$D_{(t)}$ = Divisor on Index Valuation Day (t)

n = Number of stocks in the index

$P_{i(t)}$ = Closing price of stock (i) on Index Valuation Day (t)

$S_{i(t)}$ = Number of allocated shares of stock (i) on Index Valuation Day (t)

and on Inception Date, where (t) = 0, the initial divisor is calculated as follows:

$$D_{(0)} = \frac{\sum_{i=1}^n S_{i(0)} \times P_{i(0)}}{I_{(0)}}$$

where:

$I_{(0)}$ = Price Returns Index value on Index Inception Date

$D_{(0)}$ = Divisor on Index Inception Date

n = Number of stocks in the index on Index Inception Date

$P_{i(0)}$ = Price of stock (i) on Index Inception Date

$S_{i(0)}$ = Number of allocated shares of stock (i) on Index Inception Date

Allocated shares (“S”) are the number of shares required for each constituent such that all constituents are float-adjusted modified market capitalization weighted. Allocated shares (“S”) would be adjusted accordingly to account for Corporate Actions.

Net total return is calculated to account for the effect of tax withholding on dividends by adjusting dividend taken out due to tax payment.

2.3 Index Divisor Adjustments

From time to time, the index divisor is adjusted to account for corporate actions that could distort index value and continuity using the following formula:

$$D_{(t+1)} = D_{(t)} \times \frac{\sum_{i=1}^n AS_{i(t+1)} \times AP_{i(t+1)}}{\sum_{i=1}^n S_{i(t)} \times P_{i(t)}}$$

where:

- $D_{(t+1)}$ = Divisor for Index Valuation Day (t+1) after CA and rebal adjustment
 $D_{(t)}$ = Divisor for Index Valuation Day (t)
 $AP_{i(t+1)}$ = Adjusted price of stock (i) calculated for open on Index Valuation Day (t+1) after CA adjustment
 $P_{i(t)}$ = Closing price of stock (i) on Index Valuation Day (t)
 $S_{i(t)}$ = Number of allocated shares of stock (i) on Index Valuation Day (t)
 $AS_{i(t+1)}$ = Adjusted number of allocated shares of stock (i) for open on Index Valuation Day (t+1) after CA adjustment.

Divisor adjustments are generally implemented on the date the corporate action becomes effective, such that for example, the ex-dividend date rather than the payment date is used to time the divisor adjustment.

Find below a detailed calculation for AP, AS, and S in case of corporate actions and rebalancing.

$AP_{i(t)}$ = Adjusted price of stock (i) is determined for the open on Index Valuation Day (t) shall mean:

- If index constituent opens ex-date in respect of the corporate action, then $AP_{i(t)}$ is determined as per Corporate Action Adjustment Section.
- Otherwise

$$AP_{i(t)} = P_{i(t-1)}$$

$S_{i(t)}$ = Number of allocated shares of stock (i) on Index Valuation date (t) is determined as

$$S_{i(t)} = AS_{i(t)}$$

$AS_{i(t)}$ = Adjusted number of allocated shares of stock (i) for open on Index Valuation Day (t) after CA adjustment is determined as:

- If such day opens immediately following the Rebalancing Day (t-1) and if:
 - index constituent opens ex-date in respect to corporate action, then $AS_{i(t)}$ is determined as per Corporate Action Adjustment Section with $S_{i(t-1)}$ replace with:

$$S_{i(t-1)} = \frac{I_{(t-1)} \times Weight_{i(t-1)}}{P_{i(t-1)}}$$

- index constituent does not opens ex-date in respect to corporate action, then $AS_{i(t)}$ is determined as:

$$AS_{i(t)} = \frac{I_{(t-1)} \times Weight_{i(t-1)}}{P_{i(t-1)}}$$

- On any other day:

- index constituent opens ex-date in respect to corporate action, then $AS_{i(t)}$ is determined as per Corporate Action Adjustment Section
- Otherwise:

$$AS_{i(t)} = S_{i(t-1)}$$

where $Weight_{i(t-1)}$ is determined as per Section 2.1.

2.4 Corporate Action Adjustments

Special Cash Dividend:

$$AP_{i,t} = P_{i,t-1} - D_{i,t}$$

Where

t = Index Valuation Date (t) is ex-date for corporate action.

D_{i,t} = Dividend amount corresponding to stock (i) with ex-date (t).

Spin-off Adjustment

If an index constituent (i.e. the parent company) distributes part of its business into a spun-off company, the spun-off company will be added to the Index according to the transaction terms on the ex-date.

The parent company will remain in the Index with unchanged calculation parameters. The spun-off company will remain in the Index until the next ordinary rebalancing.

The spun-off company will be added to the Index with an open price of zero on ex-date.

If the spun-off company does not start to trade on the effective date (i.e. ex-date), a theoretical price for the spun-off company will be implemented (**see the equation below**) as a fixed price until it commences trading, from which time official prices will be used.

$$P_{f(t)} = [P_{i(t-1)} - AP_{i(t)}] \times ShareRatio_{i(t)}$$

Where

$P_{i(t-1)}$ = Closing price of Parent Company on Index Valuation Date (t-1).

$AP_{i(t)}$ = Open price of Parent Company on Index Valuation Date (t).

$P_{f(t)}$ = Price of Spun-off Company on Index Valuation Date (t).

Rights Issue Adjustment

$$AP_{j,t} = \frac{P_{j,t-1} + C_{j,t} \times \text{Share Ratio}_{j,t}}{1 + \text{Share Ratio}_{j,t}}$$

$$AS_{j,t} = S_{j,t-1} \times (1 + \text{Share Ratio}_{j,t})$$

Where

$C_{j,t}$ = Official tender price.

Stock Splits Adjustment

$$AP_{j,t} = \frac{P_{j,t-1}}{\text{Share Ratio}_{j,t}}$$

$$AS_{j,t} = S_{j,t-1} \times \text{Share Ratio}_{j,t}$$

Stock distribution

$$AP_{j,t} = P_{j,t-1} \times \frac{1}{1 + \text{Share Ratio}_{j,t}}$$

$$AS_{j,t} = S_{j,t-1} \times (1 + \text{Share Ratio}_{j,t})$$

Index Maintenance

Constituent changes may occur between review periods due to corporate events that disqualify their eligibility for index inclusion. Adjustments to corporate events are described below:

3.1 Corporate Actions – Delisting

A constituent is removed immediately after being delisted from its primary markets.

3.2 Corporate Actions – Merger or Acquisition

If a merger or acquisition results in one constituent acquiring another, the acquiring company remains a constituent, and the acquired company is removed. If a non-constituent acquires a constituent, the acquired constituent is removed. If a constituent acquires a non-constituent, the acquiring constituent remains a constituent.

3.3 Corporate Actions – Spin-off

If a constituent spins or splits off a portion of its business, both the spun-off company and the parent company (the entity representing the existing constituent) will be kept in the index, and be considered for removal from the index at the next Reconstitution or Rebalance Day should they fail to meet the eligibility criteria in Section 2.1.

3.4 Corporate Actions – Bankruptcy

If a constituent is delisted after bankruptcy, it will be removed immediately with a price of 0 from the index.

Index Calculation and Data Correction

4.1 Index Calculation

Price, Total Return, and Net Total Return values for the FactSet US Tech Top 20 Index are calculated by Solactive AG. The price, total and net total return values are calculated on a continuous and end-of-day basis by using the trading price for each component in the index from relevant exchanges and markets. Index values are rounded to 2 decimal places and divisors are rounded to 6 decimal places.

If trading in a stock is suspended prior to the market opening, the stock's adjusted closing price from the previous day will be used in the index calculation until trading commences. If trading in a stock is suspended while the relevant market is open, the official closing price published by relevant exchange for that stock will be used for all subsequent index calculations until trading resumes.

In case of exceptional market conditions disrupting normal closing auction, or causing official closing prices not being available, Solactive and FactSet reserve the right to utilize other prices in the calculation of the official closing level.

4.2 Data Correction

Incorrect index constituent data, corporate action data, or index divisors will be corrected upon detection. If such errors are discovered within five days of occurrence, they will be corrected retroactively on the day of discovery. If discovered after five days, corrective actions will be decided based on the errors' significance and feasibility of a correction.

4.3 Decision Making in Undocumented Events

A FactSet Index Committee consisting of select employees of FactSet Research Systems Inc. is responsible for amending rules as documented in the Index Methodology Guide due to undocumented or extraordinary events.

Additional Information

5.1 Contact Information

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Version	Release Date	Notes
Version 1.0	February 27, 2023	First Release