



Nasdaq Yewno Global Innovative Technologies Ex Disputable IndexSM Methodology

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1. INTRODUCTION

The Nasdaq Yewno Global Innovative Technologies Ex Disputable Index is designed to track the performance of companies that are not engaged in disputable activities but are engaged in the following sectors:

- Artificial Intelligence;
- Robotics;
- Automotive Innovation;
- Healthcare Innovation;
- Internet of Things; and
- Data Computing & Processing

Yewno has created a new sector and sub-sector classification reviewing innovative technologies by analyzing millions of approved patents to link them to the above sectors (for more detail on the mapping of sectors to specific sub-sectors, please refer to Appendix A). Patents show the extent in which a company has intellectual property and invests in research and development. Since research and development spending of a company is not necessarily reflected in its current revenue but more rather likely realized in its future revenue, the Index aims to select companies which are likely to be innovative in their space based on their patent data linked to the sectors outlined in this document.

2. SECURITY ELIGIBILITY

Index eligibility is limited to specific security types only. The security types eligible for the Index include common stocks, ordinary shares, depository receipts (both American and Global), depository shares, shares of beneficial interest or limited partnership interests and tracking stocks.

2.1 ELIGIBILITY CRITERIA

To be included in the Index, a security must meet the following criteria:

- be a part of the Nasdaq Yewno Global Disruptive Technology Benchmark Index (NYDTB);
- as determined by Institutional Shareholder Services, Inc (ISS, <https://www.issgovernance.com/>) companies are eligible if and only if they derive less than 5% of their revenue on the following activities:
 - Alcohol = Alcohol
 - Armament = Military equipment
 - Gambling = Gambling
 - Nuclear = Nuclear Power (which covers the full value chain for nuclear power)
 - Sex Industry = Pornography
 - Tobacco = Tobacco
 - Weapon = Cluster Munitions, Anti-Personal Mines, Depleted Uranium Arms and Armor, Nuclear Weapons, Biological Weapons, Chemical Weapons
- have a Pure and Contribution Score (explained below) related to any of the sub sectors in Appendix A;
- have a minimum worldwide market capitalization of \$500 million;
- have a minimum three-month average daily dollar trading volume of \$5 million;

- one security per issuer is permitted¹;
- be in the top 25% of Pure and Contribution Scores within each market size segment and sub-sector;
- be listed on any of the eligible stock exchanges listed in Appendix B;
 - excludes China A shares;
- may not have entered into a definitive agreement or other arrangement which would likely result in the security no longer being Index eligible; and
- may not be issued by an issuer currently in bankruptcy proceedings.

3. INDEX CALCULATION

The Nasdaq Yewno Global Innovative Technologies Ex Disputable Index is a modified market cap weighted index. The value of the Index equals the aggregate value of the Index share weights, also known as the Index Shares, of each of the Index Securities multiplied by each such security's Last Sale Price², and divided by the divisor of the Index. The divisor serves the purpose of scaling such aggregate value to a lower order of magnitude which is more desirable for reporting purposes. The Index began on May 25, 2018, at a base value of 1,000.00. The Excess Return version of the Index began on June 15, 2018, at a base value of 1000.00.

Ten versions of the Index are calculated – a price return index, a total return index, a net total return index, and two excess return indexes based off the net total return index. Every index is calculated in both USD and EUR.

- The price return index in USD (Nasdaq: NYGITXDP) is ordinarily calculated without regard to cash dividends on Index Securities.
- The total return index in USD (Nasdaq: NYGITXDT) reinvests cash dividends on the ex-date.
- The net total return index in USD (Nasdaq: NYGITXDN) reinvests cash dividends on the ex-date and adjusts for an Index Security's country of incorporation withholding rate.
- The excess return index in USD (Nasdaq: NYGITXDE) calculates a 3% net dividend off of NYGITXDN.
- The excess return index in USD (Nasdaq: NYGITXDE5) calculates a 5% net dividend off of NYGITXDN.
- The price return index in EUR (Nasdaq: NYGITXEP) is ordinarily calculated without regard to cash dividends on Index Securities.
- The total return index in EUR (Nasdaq: NYGITXET) reinvests cash dividends on the ex-date.
- The net total return index in EUR (Nasdaq: NYGITXEN) reinvests cash dividends on the ex-date and adjusts for an Index Security's country of incorporation withholding rate.
- The excess return index in EUR (Nasdaq: NYGITXEE) calculates a 3% net dividend off of NYGITXEN.
- The excess return index in EUR (Nasdaq: NYGITXEE5) calculates a 5% net dividend off of NYGITXEN.

¹ If an issuer has multiple securities, the security with the highest dollar trading volume will be selected for possible inclusion into the Index.

² For purposes of this document, Last Sale Price refers to the last regular way trade reported on such security's Index Market. The Index Market is the listing market for which prices are received and used by Nasdaq in the Index calculation and generally will represent the most liquid trading market of the Index Security. If a security does not trade on its Index Market on a given day or the Index Market has not opened for trading, the most recent last sale price from the Index Market (adjusted for corporate actions, if any) is used. For securities where Nasdaq is Index Market, the Last Sale Price may be the Nasdaq Official Closing Price (NOCP) when Nasdaq is closed.

All Indexes reflect extraordinary cash distributions.

The Indexes are calculated during the trading day and are disseminated once per second. The Indexes are calculated five (5) days a week, Monday through Friday, starting by the earliest time zone Asia/Tokyo and close by the latest time zone America/New York.

The Index is calculated as follows:

3.1 PRICE RETURN DIVISOR

The Divisor serves the purpose of scaling an Index Market Value to a lower order of magnitude which is recommended for reporting purposes. The Divisor is adjusted to ensure that changes in Index Securities either by corporate actions or index participation occurring outside of trading hours do not affect the value of the Index. All Divisor changes occur after the close of Index Security markets contained in the Index.

The Price Return Index Divisor for day t is calculated as the ratio of the Start Of Day (SOD) market value and the previous day index value as follows:

$$\text{Price Return Index Divisor}_t = \frac{\text{Index SOD Market Value}_t}{\text{Index Value}_{t-1}}$$

3.2 PRICE RETURN INDEX VALUE CALCULATION

The Price Return Index value reflects changes in market value of Index Securities during the trading day and is calculated without regard to ordinary cash dividends, but includes special dividends and the formula is as follows:

$$\text{Price Return Index}_t = \frac{\text{Index Market Value}_t}{\text{Index Divisor}_t}$$

3.3 GROSS TOTAL RETURN INDEX

The Gross Total Return Index value reflects ordinary cash and special dividends and the formula is as follows:

$$\text{Gross Total Return Index}_t = \text{Gross Total Return Index}_{t-1} \times \frac{\text{Price Return Index}_t + \text{IDP}}{\text{Price Return Index}_{t-1}}$$

where:

Gross Total Return Index_t = the value of the Gross Total Return Index on current day

Gross Total Return Index_{t-1} = the previous day's closing Gross Total Return Index value

Price Return Index_t = the value of the Price Return Index on current day

$Price\ Return\ Index_{t-1}$ = the previous day's closing Price Return Index value

$$IDP(Index\ Dividend\ Points) = \frac{Index\ Dividend\ Market\ Value_t}{Price\ Return\ Index\ Divisor_t}$$

$Index\ Dividend\ Market\ Value_t$ = sum of the Index Security Dividend Market Values (SOD or EOD) for all Index Securities on current day

$Index\ Security\ Dividend\ Market\ Value_t$ = dividend per share for Index Security with ex-dividend date on the current day multiplied by the Index Shares of that Index Security multiplied by $Fx\ rate_{t-1}$

$Fx\ rate_{t-1}$ = the previous Closing Spot Rate at 16:00:00 US

3.4 NET TOTAL RETURN INDEX

The Net Total Return Index value reflects ordinary cash and special dividends adjusted for withholding tax rates for each country represented in the Index:

$$Net\ Total\ Return\ Index_t = Net\ Total\ Return\ Index_{t-1} \times \frac{Net\ Price\ Return\ Index_t + NetIDP_t}{Net\ Price\ Return\ Index_{t-1}}$$

where:

$Net\ Total\ Return\ Index_t$ = the value of the Net Total Return Index on current day

$Net\ Total\ Return\ Index_{t-1}$ = the previous day's closing Net Total Return Index value

$Net\ Price\ Return\ Index_t$ = the value of the Net Price Return Index on current day

$Net\ Price\ Return\ Index_{t-1}$ = the previous day's closing Net Price Return Index value

$$Net\ Price\ Return\ Index_t = \frac{Net\ Price\ Return\ Index\ Market\ Value_t}{Net\ Price\ Return\ Index\ Divisor_t}$$

Net Price Return Index value is not publically distributed. It is calculated only as the basis for the Net Total Return Index.

$$Net\ IDP(Net\ Index\ Dividend\ Points) = \frac{Index\ Net\ Dividend\ Market\ Value_t}{Net\ Price\ Return\ Index\ Divisor_t}$$

where:

$Net\ Index\ Dividend\ Market\ Value_t$ = sum of the Security Dividend Market Values (SOD or EOD) adjusted for withholding tax rate (WTR) for all Index Securities on current day

$Net\ Index\ Security\ Dividend\ Market\ Value_t$ = dividend per share adjusted for withholding tax rate for Index Security with ex-dividend date on the current day multiplied by the Index Shares of that Index Security multiplied by $Fx\ rate_{t-1}$

$Fx\ rate_{t-1}$ = the previous day's Closing Spot Rate at 16:00:00 US.

3.5 EXCESS RETURN INDEX

The Excess Return Indexes are calculated according to the following formula:

$$ER_t = ER_{t-1} \left(\frac{NR_t}{NR_{t-1}} - ExcRt \times \frac{day}{365} \right)$$

ER_{t-1} = Excess Return Index Value previous calculation date

ER_t = Excess Return Index Value on t

NR_{t-1} = Net Return Index Value previous calculation date

NR_t = Net Return Index Value on t

ExcRt = 3% or 5%

day = number of calendar days between business day $t - 1$ and t

4. INDEX DISSEMINATION

The Indexes are calculated during the trading day and are disseminated once per second with the exception of the Excess Return Index, which is disseminated once per day at 17:40:00 ET . The Indexes are calculated five (5) days a week, Monday through Friday, starting by the earliest time zone Asia/Tokyo and close by the latest time zone America/New York.

5. INDEX EVALUATION

The Index Securities are evaluated quarterly in January, April, July, and October. The above Eligibility Criteria are applied using market data through the end of November, February, May, and August, respectively. In addition, the Index utilizes Yewno's Pure and Contribution Scores for each company within each sub-sector which are defined as:

- Pure Score – the extent to which a company is involved in a particular sub-sector relative to all the other sub-sectors that it is involved in; and
- Contribution Score – the extent to which a company is involved in a particular sub-sector relative to the other companies also involved in that sub-sector

The top 100 securities ranked by market cap that make it through this screening process are selected to be in the final basket.

Additionally, if at any time during the year other than the evaluation dates, an Index Security undergoes a fundamental alteration such as, but not limited to, its issuer filing for bankruptcy proceedings, switching its listing to an ineligible listing venue, conducting activities that are not legal under applicable law or if it undergoes major corporate actions such as merger & acquisition (M&A) activity that would make the Index Security ineligible for inclusion in the Index, the security is removed from the Index and is not replaced. In all

cases, a security is removed from the Index at its Last Sale Price. If, however, at the time of its removal the Index Security is halted from trading on its primary listing market and an official closing price cannot readily be determined, the Index Security may, in Nasdaq's discretion, be removed at a zero price. The zero price will be applied to the Index Security after the close of the market but prior to the time the official closing value of the Index is disseminated, which is ordinarily 17:16:00 ET.

6. INDEX MAINTENANCE

Index Share changes are not made outside of the evaluation and rebalancing; however changes arising from stock dividends and stock splits are made to the Index on the evening prior to the effective date of such corporate action. In the case of certain spin-offs or rights issuances, the price of the Index Security is adjusted and a corresponding adjustment is made to the Index Shares such that the weight of the Index Security does not change as a result of the action.

A special cash dividend announced by the listing exchange, will result in an adjustment to the Last Sale Price of an Index Security prior to market open on the ex-date for the special amount distributed. A corresponding adjustment will be made to the Index Shares of the security such that the weight of the Index Security will not change as a result of the action. A special dividend may also be referred to as extra, extraordinary, non-recurring, one-time, unusual, etc.

Ordinarily, whenever there is a change in Index Shares, a change in an Index Security or a change to the price of an Index Security due to spin-offs, rights issuances or special cash dividends as mentioned above, the divisor is adjusted to ensure that there is no discontinuity in the value of the Index which might otherwise be caused by any such change.

All changes are announced in advance and are reflected in the Index prior to market open on the Index effective date.

6.1 INDEX REBALANCING

The Index employs a modified market cap weighting methodology. The Index is rebalanced such that the minimum weight of a security does not fall below 0.25%. The excess weight of any security that is below 0.25% is reduced proportionally from the rest of the securities that have a weight above 0.25%. The Index Shares are then calculated by dividing the dollar value for each Index Security based on the modified market cap weight by the corresponding Last Sale Price of the security at the close of the last trading day in December, March, June, and September. The changes are effective after trading on the third Friday in January, April, July, and October, respectively.

7. GENERAL ANNOUNCEMENT POLICY

Nasdaq announces Index-related information via our premier service Global Index Watch at <http://indexes.nasdaqomx.com>.

Generally, the list of additions and deletions as a result of each Quarterly Evaluation is publicly announced via an announcement on the Global Index Watch (GIW).

Corporate actions are implemented in the Indexes in accordance with the Index maintenance rules. Announcement is made prior to the effective date of the corporate actions.

In the event that a change has been made to an Index intraday, an announcement will be made to inform clients of the change.

In the event that an Index calculation has been corrected historically an announcement will be provided and clients are asked to update their databases accordingly.

8. DISCRETIONARY ADJUSTMENTS

Nasdaq may, from time to time, exercise reasonable discretion as it deems appropriate in order to ensure Index integrity.

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APPENDIX A

The following table shows the sectors as well as the specific sub-sectors within each sector that are covered in this index.

#	Sector	Sub-Sector
1	Artificial Intelligence	Deep Learning
2	Artificial Intelligence	Image Recognition
3	Artificial Intelligence	NLP
4	Artificial Intelligence	Speech Recognition & Chatbots
5	Automotive Innovation	Autonomous Vehicles
6	Automotive Innovation	Electric Vehicles
7	Automotive Innovation	Hybrid Vehicles
8	Data Computing & Processing	3D Graphics
9	Data Computing & Processing	Big Data
10	Data Computing & Processing	Blockchain
11	Data Computing & Processing	Cloud Computing
12	Data Computing & Processing	Cyber Security
13	Data Computing & Processing	Quantum Information & Optics
14	Data Computing & Processing	Virtual Reality & AR
15	Healthcare Innovation	Bioinformatics
16	Healthcare Innovation	Human Augmentation
17	Healthcare Innovation	Robotic Surgery
18	Internet of Things	Digital Currency
19	Internet of Things	Internet of Things
20	Internet of Things	Mobile Payments
21	Internet of Things	Wearable Technology
22	Robotics	3D Printing
23	Robotics	Drones

24	Robotics	Nanorobotics
25	Robotics	Spacecraft & Satellites

APPENDIX B

The following table shows the list of all eligible stock exchanges

COUNTRY	ISO COUNTRY CODE	EXCHANGE NAME	MIC CODE
AUSTRALIA	AU	Australian Securities Exchange Limited	XASX
AUSTRIA	AT	Wiener Boerse AG Amtlicher Handel	WBAH
AUSTRIA	AT	Wiener Boerse AG	XWBO
BELGIUM	BE	NYSE Euronext Brussels	XBRU
BRAZIL	BR	Bolsa de Valores, Mercadorias & Futuros de São Paulo	BVMF
CANADA	CA	TMX Group	XTSE
CHILE	CL	Bolsa de Comercio de Santiago	XSGO
CHINA	CN	Shenzhen Stock Exchange	XSHE
CHINA	CN	Shanghai Stock Exchange	XSHG
COLOMBIA	CO	Bolsa de Valores de Colombia	XBOG
CZECH REPUBLIC	CZ	Prague Stock Exchange	XPRA
DENMARK	DK	NASDAQ OMX Copenhagen	XCSE
EGYPT	EG	The Egyptian Exchange	XCAI
FINLAND	FI	NASDAQ OMX Helsinki	XHEL
FRANCE	FR	NYSE Euronext Paris	XPAR
GERMANY	DE	Xetra	XETR
GERMANY	DE	Xetra Frankfurt	XFRA
GREECE	GR	Athens Exchange	XATH
HONG KONG	HK	Hong Kong Exchanges and Clearing Limited	XHKG
HUNGARY	HU	Budapest Stock Exchange	XBUD

INDONESIA	ID	Indonesia Stock Exchange	XIDX
IRELAND	IE	Irish Stock Exchange	XDUB
IRELAND	IE	Irish Stock Exchange Xetra	XEYE
ISRAEL	IL	Tel-Aviv Stock Exchange	XTAE
ITALY	IT	Borsa Italiana (Part of the London Stock Exchange Group)	MTAA
JAPAN	JP	Tokyo Stock Exchange Group, Inc.	XTKS
MALAYSIA	MY	Bursa Malaysia	XKLS
MEXICO	MX	Bolsa Mexicana de Valores	XMEX
MOROCCO	MA	Bourse de Casablanca	XCAS
NETHERLANDS	NL	NYSE Euronext Amsterdam	XAMS
NEW ZEALAND	NZ	New Zealand Exchange Ltd.	XNZE
NORWAY	NO	Oslo Stock Exchange	XOSL
PERU	PE	Bolsa de Valores de Lima	XLIM
PHILIPPINES	PH	Philippine Stock Exchange Inc.	XPHS
POLAND	PL	Warsaw Stock Exchange	XWAR
PORTUGAL	PT	NYSE Euronext Lisbon	XLIS
KOREA	KR	Korea Exchange, KOSDAQ	XKOS
KOREA	KR	KRX Korea Exchange, Stock Market	XKRX
RUSSIA	RU	Micex Stock Exchange	MISX
RUSSIA	RU	Russian Trading System Stock Exchange	RTSX
SINGAPORE	SG	Singapore Exchange	XSES
SOUTH AFRICA	ZA	JSE - Johannesburg Stock Exchange	XJSE
SPAIN	ES	Bolsa de Barcelona	XBAR
SPAIN	ES	Bolsa de Madrid	XMAD
SPAIN	ES	BME - Bolsas y Mercados Españoles	XMCE
SPAIN	ES	Bolsa de Valencia	XVAL
SWEDEN	SE	NASDAQ OMX Stockholm	XSTO
SWITZERLAND	CH	Swiss Exchange	XSWX

SWITZERLAND	CH	SIX Swiss Exchange AG	XVTX
TAIWAN	TW	Taiwan Stock Exchange Corporation	XTAI
THAILAND	TH	Stock Exchange of Thailand	XBKK
TURKEY	TR	Istanbul Stock Exchange	XIST
UNITED KINGDOM	GB	London Stock Exchange	XLON
UNITED STATES	US	NYSE MKT LLC	XASE
UNITED STATES	US	The NASDAQ Stock Market	XNAS
UNITED STATES	US	New York Stock Exchange	XNYS
UNITED STATES	US	CBOE BZX U.S. Equities Exchange	BATS

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