



INDEX METHODOLOGY

NASDAQ CTA GLOBAL VIDEO GAMES SOFTWARE INDEX

PLAYR2

INDEX DESCRIPTION

The Nasdaq CTA Global Video Games Software Index is designed to track the performance of a selection of Developer/Publisher companies engaged in the global Video Games industry. The companies are selected based on classification by Consumer Technology Association (CTA).

SECURITY ELIGIBILITY CRITERIA

Security types

A security must be classified as a common stock, ordinary share, REIT or depositary receipt. If a security is a depositary receipt, references to its “issuer” are references to the issuer of the underlying security.

Multiple securities per issuer

One security per issuer is permitted.

If an issuer has multiple otherwise-eligible securities, one of which is an Index Security as of the Reconstitution Reference Date, only that security may be eligible. If an issuer has multiple otherwise-eligible securities and none is an Index Security as of the Reconstitution Reference Date, only the security with the highest three-month average daily traded value may be eligible.

Geographies

A security’s issuer must be determined by CTA to be domiciled outside of China or Russia.

Industry or sector

A security must not be allocated by the Industry Classification Benchmark (ICB) to the Open End and Miscellaneous Investment Vehicles sector. ICB is a product of FTSE International Limited that is used under license.

CTA has created a Sector and Subsector classification process to define businesses related to Video Games and Esports. The Sector and Subsector definitions are outlined in Appendix A. A security must meet the following criteria based on CTA's classification and determination:

- A security's issuer must be classified under the Developer/Publisher Sector (see Appendix A).
- A security's issuer must not be classified as a Social Casino Gaming company.
- A security not in the Index as of the Index Reconstitution Reference Date must be issued by a company that derives at least 50 percent of its revenue from Gaming.
- A security in the Index as of the Reconstitution Reference Date must be issued by a company that derives at least 40 percent of its revenue from Gaming.

Market capitalization

A security not in the Index as of the Index Reconstitution Reference Date must have a market capitalization of at least \$500 million (USD).

A security in the Index as of the Reconstitution Reference Date must have a market capitalization of at least \$300 million (USD).

Liquidity

A security not in the Index as of the Index Reconstitution Reference Date must have a three-month average daily traded value of at least \$1,000,000 (USD).

A security in the Index as of the Reconstitution Reference Date must have a three-month average daily traded value of at least \$500,000 (USD). If a security has less than three months of trading history, the average daily traded value is calculated using the security's entire trading history.

Float

At least 20 percent of a security's total shares outstanding must be publicly available for trading (float shares).

Other criteria

If, at reconstitution, Nasdaq becomes aware that an issuer or security will soon undergo a fundamental change that makes it ineligible, Nasdaq will remove the security from consideration. This includes entering into a definitive merger or acquisition agreement or other pending arrangement that would make it ineligible for Index inclusion, a filing of bankruptcy or similar protection from creditors, or other events as described in Section 3 of **Corporate Actions and Events Manual – Equities**.

INDEX CALENDAR

Reconstitution schedule

The Index is reconstituted semi-annually in March and September by applying the Semi-Annual Constituent Selection Process. Extraordinary additions are made monthly in all other months by applying the Monthly Constituent Selection Process.

Reconstitution reference dates

Unless otherwise specified, the Security Eligibility Criteria and Constituent Selection Processes are applied using data as of the third Friday of the month prior to the Reconstitution and Extraordinary Addition Effective Dates.

Reconstitution announcement dates

Index Reconstitutions are announced in early March and September. Extraordinary additions are announced in the early part of all other months.

Reconstitution effective dates

Index Reconstitutions become effective at market open on the first trading day following the second Friday of March and September. Extraordinary additions become effective at market open on the first trading day following the second Friday of each month when an extraordinary addition is made.

Rebalance schedule

The Index is rebalanced quarterly in March, June, September and December, and during any month when an extraordinary addition is made, by following the Constituent Weighting Process.

Rebalance reference dates

Unless otherwise specified, the Index Rebalance is applied using data as of the third Friday of the month prior to the Rebalance Effective Date.

Rebalance announcement dates

Index Rebalances are announced in early March, June, September and December, and in the early part of any month in which the Index undergoes an Extraordinary Addition.

Rebalance effective dates

Index Rebalances become effective at market open on the first trading day following the second Friday in March, June, September and December, and in any month in which the Index undergoes an Extraordinary Addition.

CONSTITUENT SELECTION

Semi-annual constituent selection process

All securities that meet the applicable Security Eligibility Criteria are included in the Index.

Monthly extraordinary addition process

Each month outside of a Reconstitution month, any security that meets all of the Security Eligibility Criteria as well as five additional eligibility criteria is additionally selected for inclusion in the Index.

- A security must have begun trading on or after the most recent Monthly Addition Reference Date and before the current Monthly Addition Reference Date.
- A security must have a market capitalization higher than 80 percent of Index Securities as of the Monthly Addition Reference Date.
- A security must have a market capitalization of at least \$500 million (USD).
- A security must have an average daily traded value of at least \$1 million (USD).
- A security must derive at least 50 percent of its revenue from Gaming.

CONSTITUENT WEIGHTING

Constituent weighting scheme

The Index is a modified theme-adjusted free float market capitalization-weighted index.

Constituent weighting process

A Theme-Weighted Free Float Market Value is calculated for each Index Security by multiplying a security's free float market capitalization by its issuing company's revenue percentage from Gaming.

Each Index Security's initial weight (w_i^0) is determined by dividing each Index Security's Theme-Weighted Free Float Market Value by the aggregate Theme-Weighted Free Float Market Value of all Index Securities.

Initial weights (w_i^0 s) are then adjusted via an iterative process to determine the minimum Redistribution Factor (RF) that satisfies the security weight constraints. In each iterative adjustment, the relationship between a security's adjusted weight w_i^A and its initial weight w_i^0 is defined as follows:

$$w_i^A = w_i^0(1 - RF) + \frac{RF}{n}$$

The first iteration uses $RF = 0$. At one basis point increments, increasing values of RF are used in each successive iteration, repeated until the following conditions are met:

- The aggregate weight of securities with weights above five percent may not exceed 40%.
- The sum of all final weights equals 100% (i.e., $100\% = \sum w_i^F$).

- The relationship between each Index Security’s final weight w_i^F and initial weight w_i^0 is defined as follows:

$$w_i^F = w_i^0(1 - RF) + \frac{RF}{n}$$

For additional information about index weighting, see **Nasdaq Index Weight Calculations**.

INDEX MAINTENANCE

Deletion policy

If, at any time other than an Index Reconstitution, Nasdaq determines that an Index Security has or will undergo a fundamental alteration that would make it ineligible for Index inclusion, the Index Security is removed as soon as practicable. Such alternations may include a merger, acquisition or other major corporate event that would otherwise adversely affect the integrity of the Index.

Corporate actions

In the interim periods between scheduled index reconstitution and rebalancing events, individual Index securities may be the subject to a variety of corporate actions and events that require maintenance and adjustments to the Index. With the exception(s) noted below, specific treatment of each type of corporate action or event is described in **Nasdaq Corporate Actions and Events Manual – Equities**, which is incorporated herein by reference.

In certain cases, corporate actions and events are handled according to the weighting scheme or other index construction techniques employed. Wherever alternate methods are described, the Index will follow the “Non-Market Cap Corporate Action Method.”

Index share adjustments

Other than as a direct result of corporate actions, the Index does not normally experience share adjustments between scheduled Index rebalance and reconstitution events.

ADDITIONAL INFORMATION

Announcements

Nasdaq announces Index-related information via the Nasdaq Global Index Watch (GIW) website at <http://indexes.nasdaqomx.com>.

For more information on the general Index Announcement procedures, please refer to the **Nasdaq Index Methodology Guide**.

Holiday schedules

The Index is calculated Monday through Friday and does not close for holidays, as it is a Global Index.

Unexpected market closures

For information on Unexpected Market Closures, please refer to the **Nasdaq Index Methodology Guide**.

Calculation types

For information on the Index calculation types as well as the mathematical approach used to calculate the Index(es), please refer to the **Nasdaq Index Policies & Procedures: Calculation Manual – Equities & Commodities**.

Recalculation and restatement policy

For information on the Recalculation and Restatement Policy, please refer to the **Nasdaq Index Recalculation Policy**.

Data sources

For information on data sources and the classification of dividends and associated tax rates, please refer to the **Nasdaq Index Methodology Guide**.

Contact information

For any questions regarding an Index, please contact the Nasdaq Index Client Services team at indexservices@nasdaq.com.

Index dissemination

Index values and weightings information are available through Nasdaq Global Index Watch (GIW) website at <https://indexes.nasdaqomx.com/> as well as the Nasdaq Global Index FlexFile Delivery Service (GIFFD) and Global Index Dissemination Services (GIDS). Similar to the GIDS offerings, Genium Consolidated Feed (GCF) provides real-time Index values and weightings for the Nordic Indexes.

For more detailed information regarding Index Dissemination, see the **Nasdaq Index Methodology Guide**.

Index calculation and dissemination schedule

The Index Value is calculated five (5) days a week, Monday through Friday, once per second from the start of the trading day in Tokyo (09:00:01 Japan Standard Time) until the close of the trading day in New York (17:16:00 Eastern Time).

Website

For further information, please refer to Nasdaq GIW website at <https://indexes.nasdaqomx.com/>.

FTP and dissemination service

Index values and weightings are available via FTP on the Nasdaq Global Indexes FlexFile Delivery Service (GIFFD). Index values are available via Nasdaq's Global Index Dissemination Services (GIDS).

GOVERNANCE

Index governance

Nasdaq Indexes follow the same governance structure. For a detailed list of this information, please see the **Nasdaq Index Methodology Guide**.

Nasdaq Index Management Committee

A methodology document is created for all new Index Methodologies. The methodology document includes the following: Index Objective, Security Eligibility Criteria, Index Construction, Index Maintenance, Index Governance, Index Policy, and Index Dissemination.

The Nasdaq Index Management Committee approves all new Index Methodologies. This committee is comprised of full-time professional members of Nasdaq. The committee meets regularly, and reviews items including, but not limited to, pending corporate actions that may affect Index constituents, statistics comparing the composition of the indexes to the market, companies that are being considered as candidates for addition to an Index, and any significant market events.

For a detailed overview of the Index Management Committee, please see the **Nasdaq Index Methodology Guide**.

Internal reviews of methodology

For a detailed description on internal reviews of the Methodology, please see the **Nasdaq Index Methodology Guide**.

Communication with stakeholders and consultations

For a detailed description on Consultations and Communications with Stakeholders, please see the **Nasdaq Index Methodology Guide**.

Index cessation

Nasdaq has a documented procedure that is followed for Index Cessation that includes termination/retirement of an Index or Index Family.

For more information, please refer to the **Nasdaq Index Cessation Policy**.

Discretionary adjustment

This Index Methodology was created by Nasdaq to achieve the aforementioned objective of measuring the underlying purpose of each Index governed by this methodology document. Any deviations from this methodology are made in the sole judgment and discretion of Nasdaq so that the Index continues to achieve its objective.

For more information on potential adjustments including Calculation and Pricing Disruptions, Expert Judgment, and Unexpected Reconstitution/Rebalances, please refer to the **Nasdaq Index Methodology Guide**.

GLOSSARY OF TERMS AS USED IN THIS DOCUMENT

See **Nasdaq Index Methodology Guide**.

APPENDIX A: CTA VIDEOGAME AND ESPORT SECTORS AND SUBSECTORS

Sectors	Definition
Developer / Publisher	Game developer refers to the company or organization that designs and executes the creation of video games. Game publisher refers to the company or organization that finances the development and distribution of video games. Games can be developed internally by a publisher or externally by a game developer.
Esports	Refers to the company or organization that owns, operates, or develops professional/competitive video game tournaments, leagues, teams, or viewing platforms.
Hardware	Refers to the company or organization that creates video game platforms (e.g., home and portable videogame consoles).
Subsectors	Definition
Consoles	Refers to non-portable gaming devices that connects to a TV or monitor.
Digital / Online	Refers to platforms and services that allow for the creation and distribution or playing of amateur/non-professional games/gaming-related content online.

Esports Media	Refers to platforms and services that allow for the broadcast, coverage and distribution of esports or professional/competitive game-related content.
Mobile / Portable	Refers to portable/handheld gaming devices such as smartphones, tablets and dedicated portable gaming devices.
PC	Refers to computers such as home desktops and laptops.
XR (AR/VR)	Refers to virtual reality, augmented reality, or combination of ("mixed-reality") wearable devices.

DISCLAIMER

Nasdaq may, from time to time, exercise reasonable discretion as it deems appropriate in order to ensure Index integrity, including but not limited to, quantitative inclusion criteria. Nasdaq may also, due to special circumstances, if deemed essential, apply discretionary adjustments to ensure and maintain the high quality of the index construction and calculation. Nasdaq does not guarantee that any Index accurately reflects future market performance.

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