

BlueStar Augmented and Virtual Reality Index

Index Methodology Guide 1.2

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Chapter 1: Introduction and Index Description

This document summarizes the methodology and rules used to construct, calculate, and maintain the BlueStar Augmented and Virtual Reality Index (“BAUG”).

BAUG is a rules-based index that tracks the performance of a group of globally-listed stocks of companies involved in a range of industries, collectively defined by BlueStar Indexes as Augmented and Virtual Reality companies. Index components are reviewed semi-annually for eligibility, and weights are re-set accordingly.

Companies may not apply and may not be nominated for inclusion in the Index. Companies are added or removed by BlueStar based on the methodology described herein. The BlueStar Index Advisory Committee advises on index methodology construction and adherence to the methodology guide as it relates to decisions on which companies shall be considered Augmented and Virtual Reality companies. The BlueStar Index Advisory Committee serves a strictly advisory function and is not responsible for making decisions on which companies to add or remove from the Index. Whenever possible, BlueStar will publicly announce changes to the index on its website at least five trading days in advance of the actual change. The Index is calculated and maintained by Solactive AG based on a methodology developed by BlueStar.

BAUG is calculated on a price and total return basis in real-time. The total return index is disseminated in real-time via the price marketing services of Boerse Stuttgart AG every day the exchange of at least one index component is open. Real-time index values for the total return index are available on Bloomberg by entering “BAUGTR INDEX <GO>”, and end-of-day values are freely available on BlueStar’s or Solactive’s website, www.bluestarindexes.com and Solactive.com, respectively, and/or through market data vendors.

Chapter 2: Index Construction

This chapter outlines and defines the key steps in constructing and calculating the index, including: eligibility requirements, formulas, initial component selection, and special adjustments

2.1 Base Date and Value

BAUG has the following variants, base dates and values:

Name	Index Symbol	Base Date	Base Value
BlueStar Augmented and Virtual Reality Index (Price Index)	BAUG	Dec. 18, 2015	100
BlueStar Augmented and Virtual Reality Index Total Return	BAUGTR	Dec. 18, 2015	100

2.2 Component Eligibility Requirements

All the following requirements must be met for a company's security to be included in BAUG:

1. Companies whose business activity, products, or services include one of the following in relation to the development or commercialization of Augmented and Virtual Reality technology are considered for inclusion in the Index: Gaming systems, artificial intelligence for augmented and virtual reality such as machine vision and natural language processing, graphic processing units, augmented and virtual reality cloud computing infrastructure and big data management, simultaneous localization and mapping, displays including holographic and adaptive interfaces, and sensors for depth perception, positioning and biometrics.
2. BlueStar screens a broad universe of globally-listed publicly-traded common equity securities of companies for those that might be considered Augmented and Virtual Reality companies. BlueStar researches company annual filings, investor and analyst presentations, sell-side research reports, industry reports and trade journals, and company descriptions on bona-fide sources such as public websites and Bloomberg LP, to determine which companies are to be considered Augmented and Virtual Reality companies and included in the Global Universe of Augmented and Virtual Reality Companies.
3. Companies included in the global universe of Augmented and Virtual Reality companies are then screened to meet Index market capitalization and liquidity criteria. Only those companies included in the global universe of Augmented and Virtual Reality companies which have a free-float-adjusted market capitalization of at least \$150 million USD equivalent and a six-month average daily value traded of at least \$250,000 USD equivalent will be selected for inclusion in the index. For securities that do not have six months of average daily value traded data available, three months of data will be used and their eligibility for inclusion will be reviewed by the BlueStar Index Advisory Committee, which will consider factors such as liquidity over the time frame for which data is available, lock-up periods, and market capitalization.

2.3 Initial Component Selection

The following steps are taken to assign weights to BAUG components at each semi-annual rebalance period:

1. Establish the list of index components according to Chapter 2.2
2. Determine the index weight of each security in the list of index components:

$$W_i = \frac{1}{N}$$

Where:

W_i = Weight for component i
 N = Total number of index components

3. Set liquidity thresholds:
 - a. Calculate six-month average daily value traded in USD equivalent for each component based on the daily closing price and number of shares traded
 - b. Set percentage of average daily value traded threshold to 1000%
 - c. Set investment threshold to \$1 billion USD
4. Determine component percentage of average daily value traded given the investment threshold and the calculated weight of the component using the following equation:

$$ADV_{\%i} = \frac{W_i * \$100,000,000,000}{ADV_{\$i}}$$

Where:

$ADV_{\%i}$ = Percentage of six month average daily value traded for component i
 $ADV_{\$i}$ = Six month average daily value traded for component i

5. If the component percentage of average daily value traded is greater than the percentage average daily value threshold then assign component a Final Weight, FW, such that its percentage average daily value traded is equal to the percentage average daily value traded threshold using the following steps:
 - a. Calculate the component's FW based on the investment threshold and six-month average daily value traded threshold using the following equation:

$$FW_i = \frac{1000\% * ADV_{\$i}}{\$100,000,000,000}$$

Where:

FW_i = Final weight for component i

- b. Take the aggregate difference between the W and FW of those components whose W was modified in step 5a, above, and distribute evenly among stocks whose W was not modified in step 5a, above to find their Final Weight such that each component now has a Final Weight, FW_i.

2.4 Dividend Treatment

The price index does not take normal dividend payments into account. Dividends are accounted for by reinvesting them daily. BAUG uses the ex-dividend date to determine the total daily dividends for each day. Special dividends require an index divisor adjustment, as described in Chapter 3, to prevent such distributions from distorting the price index.

2.5 Index Equations

1. The price index is calculated using the following basic equations:

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

Where:

$I_{(t)}$ = Index value at time (t)
 $D_{(t)}$ = Divisor at time (t)
 n = Number of stocks in the index
 t = The time that the index is calculated
 $P_{i(t)}$ = Price of stock i at time t in USD terms
 $S_{i(t)}$ = Number of assigned shares of stock i at time t

Where:

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

Where:

$I_{(t-1)}$ = Index value at time $t-1$
 $D_{(t)}$ = Divisor at time t
 n = Number of stocks in the index
 $P_{i(t-1)}$ = Closing price of stock i at time $t-1$ in USD terms
 $S_{i(t-1)}$ = Number of assigned shares of stock i at time $t-1$

Where:

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

Where:

$I_{(0)}$ = Index value at time 0
 $D_{(0)}$ = Divisor at time 0
 n = Number of stocks in the index
 $P_{i(0)}$ = Closing price of stock i at time 0 in USD terms
 $S_{i(0)}$ = Number of assigned shares of stock i at time 0

2. Assigned shares are the number of shares needed for each component such that the component conforms to the weighting distribution outlined in Chapter 2.3.5
3. Changes to the index composition require divisor adjustments to retain index continuity before and after specific events, as outlined in Chapter 3. Divisor changes are made according to the following equation:

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

Where:

$D_{(t+1)}$ = Initial Divisor after changes are made to the index

Chapter 3: Index Maintenance

This chapter describes the circumstances that require index changes, as well as the details on performing those changes

3.1 Divisor Changes

Changes to the index composition due to corporate actions or component eligibility changes will require adjustments to the index divisor, as follows:

*Spinoff**

1. Subtract the following from the price of the parent company:

$$\frac{\text{Spinoff stock price}}{\text{Share exchange ratio}}$$

2. Adjust the component's assigned shares such that its weighting is not changed because of the spinoff

Special Cash Dividend

1. Subtract special dividend from share price

Rights Offering

1. Subtract the following from the price of the parent company:

$$\frac{\text{Price of rights}}{\text{Rights ratio}}$$

2. Adjust the component's assigned shares such that its weighting is not changed because of the rights offering

Divisor changes are usually made on the date the corporate action becomes effective. For example, BAUG uses the ex-dividend date rather than the payment date to determine when making divisor adjustments.

*If a company being spun-off is only trading on a "when-issued" basis, the "when-issued" price will be used to adjust the parent company's closing price.

3.2 Details of Share Changes

Stock splits and reverse splits do not require index divisor adjustments because the corresponding change to the stock price equally offsets the number of assigned shares, therefore not affecting the component's influence in the index.

3.3 Scheduled Component Changes and Review

BAUG has a semi-annual review in June and December of each year. Fundamental data, prices and trading volumes are captured on the Tuesday before the second Friday of June and December. The new number of assigned shares for each component is determined based on the component's weight as determined in 2.3 and the closing price of that component on the Tuesday before the second Friday of June and December. Component changes are announced and made available after the close on the second Friday of June and December. Component changes are made after the close on the third Friday of June and December and are effective at the opening on the Monday following the third Friday of June and December.

3.4 Interim Component Changes

1. Component changes may occur between regularly-scheduled review periods if a specific corporate event makes an existing component ineligible. The following events may require a component's removal or replacement:

Merger or Acquisition

If a merger or acquisition results in one component absorbing another, the resulting company will remain a component and the absorbed company will be removed or replaced. If a non-component company absorbs a component company, the original component will be removed, unless the non-component company, after absorbing the assets of the component company, would be considered a Augmented and Virtual Reality company as described in Chapter 2.2. If a component is the target of an acquisition BlueStar may decide to remove or reduce the weight of that component after the "go-shop" period concludes to reduce potential volatility or liquidity risk in the index.

Spin-Off

The spun-off company will be added to the index according to the transaction terms of the effective date. Furthermore, the spun-off company will remain in the index until the next ordinary rebalance date. The parent company will remain in the index provided it fulfills all the selection criteria.

Bankruptcy

A component company will be removed and replaced immediately after bankruptcy filing. Exceptions are made on a case-by-case basis. For example, a security may not be removed immediately if bankruptcy filing is not the result of operating or financial difficulties.

Delisting

A component company will be removed or replaced immediately after being delisted from its primary market.

Whenever possible, interim component changes are announced on BlueStar's publicly-available website at least three trading days prior to component changes becoming effective.

Chapter 4: Index Calculation and Dissemination

This chapter summarizes calculation and dissemination practices, quality assurance practices, and the circumstances requiring calculation corrections.

4.1 Price Calculation

Price and total return indexes for BAUG are calculated by Solactive AG on both an end-of-day and real-time basis. The BAUG is calculated using the last traded price for each company in the Index from the relevant exchanges and markets.

Index values are rounded to two decimal places and divisors are rounded to 14 decimal places.

4.2 Calculation Frequency and Dissemination

BAUG is calculated on a real-time basis beginning when the first traded price of any of the Index components is received by Solactive AG. Prices are delivered to Boerse Stuttgart AG every 15 seconds and subsequently published at that frequency. Total return index values are available on a real-time basis through the Bloomberg information system under the index symbol “BAUGTR INDEX”. End-of-day total return index values are posted on BlueStar’s and Solactive AG’s publicly available websites, www.bluestarindexes.com and www.Solactive.com, respectively.

If the exchange a stock is listed on is closed or 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 last traded price for that stock will be used for all subsequent Index calculations until trading resumes.

4.3 Input Data

Solactive AG uses various quality assurance tools to audit, monitor, and maintain the accuracy of its input data. While every reasonable effort is taken to ensure high standards of data integrity, there is no guarantee against errors. Please refer to the Data Correction section for more detail.

The index closing price is calculated using the closing prices issued by the primary exchange for each component stock in the index. If the primary exchange changes the closing price of a component stock, the new price will be used to calculate the index closing price.

4.4 Data Corrections

Incorrect index component data, corporate action data, or Index Divisors will be corrected upon detection or as soon and feasible.

Incorrect intraday index tick data will not be corrected. However, incorrect opening and closing values will be corrected as soon as possible after detection.

Appendices

This section provides additional information related to BAUG as well as changes to this document.

Appendix A. BlueStar Augmented and Virtual Reality Index Constituents

As of June 5, 2018, Selection Date

Name	Ticker	Exchange	Weight
ADOBE SYSTEMS INC	ADBE	NASDAQ GS	1.62%
ADVANCED MICRO DEVICES	AMD	NASDAQ CM	1.62%
ALPHABET INC-CL A	GOOGL	NASDAQ GS	1.62%
AMBARELLA INC	AMBA	NASDAQ GS	1.62%
APPLE INC	AAPL	NASDAQ GS	1.62%
ASUSTEK COMPUTER INC	2357	Taiwan	1.62%
BANDAI NAMCO HOLDINGS INC	7832	Tokyo	1.62%
CANON INC-SPONS ADR	CAJ	New York	1.62%
CAPCOM CO LTD	9697	Tokyo	1.62%
CORNING INC	GLW	New York	1.62%
CREE INC	CREE	NASDAQ GS	1.62%
DASSAULT SYSTEMES SA	DSY	EN Paris	1.62%
FACEBOOK INC-A	FB	NASDAQ GS	1.62%
FARO TECHNOLOGIES INC	FARO	NASDAQ GS	1.62%
GARMIN LTD	GRMN	NASDAQ GS	1.62%
GOPRO INC-CLASS A	GPRO	NASDAQ GS	1.62%
GREE INC	3632	Tokyo	1.62%
HASBRO INC	HAS	NASDAQ GS	1.62%
HEWLETT PACKARD ENTERPRISE	HPE	New York	1.62%
HIMAX TECHNOLOGIES INC-ADR	HIMX	NASDAQ GS	1.62%
HTC CORP	2498	Taiwan	1.62%
IMAX CORP	IMAX	New York	1.62%
IMMERSION CORPORATION	IMMR	NASDAQ GS	1.62%
INTL BUSINESS MACHINES CORP	IBM	New York	1.62%
KOEI TECMO HOLDINGS CO LTD	3635	Tokyo	1.62%
KONINKLIJKE PHILIPS NV	PHIA	EN Amsterdam	1.62%
LENOVO GROUP LTD	992	Hong Kong	1.62%
LG DISPLAY CO LTD-ADR	LPL	New York	1.62%
LG ELECTRONICS INC	66570	Korea SE	1.62%
LOGITECH INTERNATIONAL-REG	LOGI	NASDAQ GS	1.62%
MATTEL INC	MAT	NASDAQ GS	1.62%
MICROSOFT CORP	MSFT	NASDAQ GS	1.62%
MICRO-STAR INTERNATIONAL CO	2377	Taiwan	1.62%
NETDRAGON WEBSOFT HOLDINGS L	777	Hong Kong	1.62%
NETEASE INC-ADR	NTES	NASDAQ GS	1.62%
NINTENDO CO LTD	7974	Tokyo	1.62%
NORDIC SEMICONDUCTOR ASA	NOD	Oslo	1.62%
NVIDIA CORP	NVDA	NASDAQ GS	1.62%
NXP SEMICONDUCTORS NV	NXPI	NASDAQ GS	1.62%
PANASONIC CORP	6752	Tokyo	1.62%
PLANTRONICS INC	PLT	New York	1.62%
PTC INC	PTC	NASDAQ GS	1.62%
QUALCOMM INC	QCOM	NASDAQ GS	1.62%
RAZER INC	1337	Hong Kong	1.62%
SAMSUNG ELECTRONICS CO LTD	5930	Korea SE	1.62%
SAP SE	SAP	Xetra	1.62%
SEAGATE TECHNOLOGY	STX	NASDAQ GS	1.62%
SILICON MOTION TECHNOL-ADR	SIMO	NASDAQ GS	1.62%
SNAP INC - A	SNAP	New York	1.62%
SONY CORP-SPONSORED ADR	SNE	New York	1.62%
SPLUNK INC	SPLK	NASDAQ GS	1.62%
SQUARE ENIX HOLDINGS CO LTD	9684	Tokyo	1.62%
STARBREEZE AB	STARB	Stockholm	1.62%
STMICROELECTRONICS NV-NY SHS	STM	New York	1.62%
SYNAPTICS INC	SYNA	NASDAQ GS	1.62%
TDK CORP	6762	Tokyo	1.62%
TECHNICOLOR - REGR	TCH	EN Paris	1.62%
TEXAS INSTRUMENTS INC	TXN	NASDAQ GS	1.62%
TOSHIBA CORP	6502	Tokyo	1.62%
UBISOFT ENTERTAINMENT	UBI	EN Paris	1.62%
WALT DISNEY CO/THE	DIS	New York	1.62%
KOPIN CORP	KOPN	NASDAQ GS	1.44%

Appendix B. Document Change History

A history of significant changes to this document is shown in the table below

Issue	Date	Change
1.0	May 1, 2018	Initial publication
1.1	June 19, 2018	Minor edits, updated constituent list
1.2	June 25, 2018	Removal of NTR index; revised wording for treatment of spin-offs under Chapter 3.4