

MSCI ROBOTICS INDEX METHODOLOGY

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1 INTRODUCTION

The MSCI Robotics Index (the 'Index') aims to represent the performance of companies that potentially stand to benefit from increased adoption and utilization of robots and automation.

2 CONSTRUCTING THE INDEX

The Index is constructed by selecting stocks from an MSCI Index (the ‘Parent Index’¹) based on rules explained in the following sections.

The Index includes companies which are determined to have high exposure to business activities such as –

- Robots
- Artificial Intelligence
- Industrial Robots
- Automation
- Non Industrial Robots
- Autonomous Robots

2.1 THE SET OF RELEVANT WORDS AND PHRASES USED FOR CONSTITUENT SELECTION

MSCI uses a broad set of relevant words and phrases derived from the index objective which are important to describing the products and services that facilitate the adoption and utilization of automation and artificial intelligence.

2.2 COMPANY LEVEL DATA USED FOR ASSESSING COMPANY EXPOSURE

The following data is used at the company level:

- Business segment information from company annual reports and vendor data sources: business segment names, assigned SIC Codes² and related revenue
- An English language summary description of the company’s business activities from public sources.

¹ Use of some indexes as Parent Indexes may result in a low number of constituents, which may affect replicability.

² Company’s business segments are assigned with a specific SIC (Standard Industry Classification) description for products and services, used by official agencies within the US government. These descriptions provide additional information on the nature of the segment.

2.3 ELIGIBLE UNIVERSE

All stocks from the Parent Index which satisfy any of the following criteria are selected for the eligible universe.

2.3.1 SELECTION ON BUSINESS SEGMENTS

Company identified business segment names are compared against the set of relevant words. Companies from the parent universe which include at least one relevant word in their business segment names are included in the eligible universe.

2.3.2 SELECTION ON COMPANY SUMMARY DESCRIPTION

The company's summary business description is compared against the set of relevant words. Companies from the parent universe which include at least two distinct relevant words in their summary description are included in the eligible universe.

2.4 SELECTED BUSINESS SEGMENTS

'Selected business segments' are business segments which include at least one relevant word. These are the business segments based on which stocks are selected in section 2.3.1.

2.5 SIC CODE SELECTION

Company business segments are mapped to an SIC code. The SIC Code selection is a set of all the SIC codes which satisfy the following criteria

- The SIC code is mapped to at least one of the 'selected business segments' as described in section 2.4.
- The SIC code is assigned to the business segments of at least two different stocks from the eligible universe. SIC Code 9999 is not selected.

2.6 CALCULATING THE STOCK RELEVANCE SCORE

A relevance score for all stocks in the eligible universe is calculated. The relevance score for a company is calculated by taking into account the portion of company’s revenue which is derived from the selected business segments (as described in section 2.4) and business segments mapped to any SIC Code selected in the SIC Code selection step (as described in section 2.5).

2.6.1 RELEVANCE SCORE DISCOUNT FACTOR

A stock level relevance score discount factor is calculated by normalizing the cumulative frequency of relevant words in the company’s summary description relative to all companies selected on summary business descriptions as described in section 2.3.2.

At a company’s business segment level, the revenue discount factor is applied on revenue from a ‘selected SIC Code’. The revenue discount factor is 1 for revenue derived from ‘selected business segment’.

2.6.2 RELEVANCE SCORE

Relevance score for stocks in the eligible universe is calculated as follows

Relevance score = [revenue from the selected business segments (as described in section 2.4) + relevance score discount factor * revenue from the selected business segments mapped to the SIC Code (as described in section 2.5)] / Total company revenue.

2.7 SELECTED UNIVERSE

Stocks from the eligible universe with a relevance score of 25% or more are included in the selected universe.

2.8 WEIGHTING SCHEME

Stocks included in the index are weighted by the product of relevance score and their float adjusted market capitalization. The weights are then normalized to 100%. Additionally, constituent weights are capped at the issuer level to mitigate concentration risk in the Index. The issuer weight in the Index will be capped at 5%.

3 MAINTAINING THE INDEX

3.1 SEMI-ANNUAL INDEX REVIEW

The Index is reviewed on Semi-Annual basis in May and November to coincide with the May and November Semi-Annual Index Review of the Parent Index, and the changes are implemented at the end of May and November, respectively. In general the pro forma indexes are announced nine business days before the effective date.

During the Semi-Annual Index Review, the eligible universe and selected universe are updated.

In general, MSCI uses the company business segment names, business description and revenue data as of the end of the month preceding the semi-annual index review.

3.2 ANNUAL INDEX REVIEWS

The set of relevant words (as described in section 2.1) are reviewed by MSCI during the May Semi-Annual Index review.

3.3 ONGOING EVENT-RELATED MAINTENANCE

The general treatment of corporate events in the index aims to minimize turnover outside of Index Reviews. The methodology aims to appropriately represent an investor’s participation in an event based on relevant deal terms and pre-event weighting of the index constituents that are involved. Further, changes in index market capitalization that occur as a result of corporate event implementation will be offset by a corresponding change in the Variable Weighting Factor (VWF) of the constituent.

The following section briefly describes the treatment of common corporate events within the Index.

No new securities will be added (except where noted below) to the Index between Index Reviews. Parent Index deletions will be reflected simultaneously.

EVENT TYPE	EVENT DETAILS
New additions to the Parent Index	A new security added to the parent index (such as IPO and other early inclusions) will not be added to the index.
Spin-Offs	All securities created as a result of the spin-off of an existing Index constituent will be added to the Index at the time of event implementation. Reevaluation for continued inclusion in the Index will occur at the subsequent Index Review.
Merger/Acquisition	<p>For Mergers and Acquisitions, the acquirer’s post event weight will account for the proportionate amount of shares involved in deal consideration, while cash proceeds will be invested across the Index.</p> <p>If an existing Index constituent is acquired by a non-Index constituent, the existing constituent will be deleted from the Index and the acquiring non-constituent will not be added to the Index.</p>
Changes in Security Characteristics	A security will continue to be an Index constituent if there are changes in characteristics (country, sector, size segment, etc.) Reevaluation for continued inclusion in the Index will occur at the subsequent Index Review.

Further detail and illustration regarding specific treatment of corporate events relevant to this Index can be found in the MSCI Corporate Events Methodology book under the sections detailing the treatment of events in Capped Weighted and Non-Market Capitalization Weighted indexes.

The MSCI Corporate Events methodology book is available at: <https://www.msci.com/index-methodology>.

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