

MSCI ACWI IMI Robotics & AI ESG Filtered Index

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1 Introduction

The MSCI ACWI IMI Robotics & AI ESG Filtered Index (the 'Index') aims to represent the performance of a set of companies associated with the increased adoption and utilization of artificial intelligence, robots and automation while excluding those involved in certain controversial businesses or with relatively low ESG Controversies and Ratings scores.

2 MSCI ESG Research

The Index uses company ratings and research provided by MSCI ESG Research. In particular, this index uses the following three MSCI ESG Research products: MSCI ESG Ratings, MSCI ESG Controversies Score and MSCI ESG Business Involvement Screening Research. For details on MSCI ESG Research’s full suite of ESG products, please refer to: <https://www.msci.com/esg-investing>

2.1 MSCI ESG Ratings

MSCI ESG Ratings provides research, analysis and ratings of how well companies manage environmental, social and governance risks and opportunities.

MSCI ESG Ratings provides an overall company ESG rating - a seven-point scale from ‘AAA’ to ‘CCC’. In addition, the product provides scores and percentiles indicating how well a company manages each key issue relative to industry peers.

For more details on MSCI ESG Ratings, please refer to: <https://www.msci.com/esg-ratings>.

2.2 MSCI ESG Controversies Score

MSCI ESG Controversies (formerly known as MSCI Impact Monitor) provides assessments of controversies concerning the negative environmental, social, and/or governance impact of company operations, products and services. The evaluation framework used in MSCI ESG Controversies is designed to be consistent with international norms represented by the UN Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, and the UN Global Compact. MSCI ESG Controversies Score falls on a 0-10 scale, with “0” being the most severe controversy.

For more details on MSCI ESG Controversies Score, please refer to: <https://www.msci.com/documents/10199/acbe7c8a-a4e4-49de-9cf8-5e957245b86b>

2.3 MSCI ESG Business Involvement Screening Research

MSCI ESG Business Involvement Screening Research (BISR) aims to enable institutional investors to manage environmental, social and governance (ESG) standards and restrictions reliably and efficiently.

For more details on MSCI ESG Business Involvement Screening Research, please refer to http://www.msci.com/resources/factsheets/MSCI_ESG_BISR.pdf

3 Constructing the Index

The index is constructed by selecting stocks from the MSCI ACWI Investable Market Index (IMI) (the 'Parent Index') based on rules explained in the following sections.

3.1 Determining the Eligible Universe

The eligible universe of the Index is constructed by selecting all securities from the Parent Index which are constituents of the MSCI ACWI IMI Robotics & AI Index¹. Further filtering is applied as detailed below

3.1.1 ESG exclusion criteria

Controversial business exclusion criteria

Securities of companies involved in following businesses are excluded from the eligible universe:

- Controversial Weapons
- Conventional Weapons
- Nuclear Weapons
- Civilian Firearms
- Tobacco
- Thermal Coal
- Oil Sands
- UN Global Compact Violators

Please refer to Appendix 1 for more details of these criteria.

ESG Controversy Score

- ESG Controversy Score = 0 ('Red Flag' companies) – Companies involved in very severe business controversies as defined by the MSCI ESG Controversies Methodology are excluded from the eligible universe.
- Missing Controversy Score – Companies not assessed by MSCI ESG Research's MSCI ESG Controversy Scores are excluded from the eligible universe.

¹ Please refer to <https://www.msci.com/index-methodology> for the methodology of the MSCI ACWI IMI Robotics & AI Index

ESG Rating

- Missing ESG Rating – Companies which are not rated by MSCI ESG Research for an MSCI ESG Rating are excluded from the eligible universe.

3.1.2 Liquidity screening criteria

Securities that have a 3-month average daily trading value (3M ADTV) less than 3 million USD are excluded from the eligible universe. For the calculation of ADTV, please refer to Appendix 2.

3.1.3 Size screening criteria

Securities that have a free-float market capitalization less than 200 million USD are excluded from the eligible universe.

3.1.4 Emerging Markets (EM) country filter

Emerging Markets (EM) securities from only the below select markets are eligible for inclusion in the final index:

- China
- Taiwan
- South Korea
- South Africa
- Brazil
- Thailand
- Malaysia
- Mexico

3.2 Filtered Universe

Filtered universe is constructed by excluding securities from the eligible universe which are in the bottom quartile by ESG Industry Adjusted Score.

3.3 Security selection

Securities in the filtered universe are ranked in descending order of their relevance score as calculated in section 2.6.2 of MSCI ACWI IMI Robotics & AI Index Methodology. If multiple securities have the same relevance score, then the security having a higher weight in the Parent Index is given a higher rank.

Securities in the top half of the ranked universe are eligible for inclusion in the final index. The final number of securities in the index is determined as:

$N = \text{Minimum} (\text{Maximum} (\text{Securities in the top half of the ranked universe}, 60), 250)$

The top 'N' securities from the ranked universe are selected for inclusion in the Index. If the number of securities in the universe is below 60, all the securities in the universe are selected for inclusion in the index.

3.4 Final Universe

At each rebalancing, all the securities eligible for inclusion are reweighted in line with MSCI Adaptive Capped Indexes Methodology², with fixed multiplier L set to 5. Further capping is applied as described below.

3.4.1 Emerging Markets (EM) weight capping

Aggregate weight of Emerging Markets (EM) securities in the final index is capped at aggregate weight of Emerging Markets (EM) in the Parent Index + 10% to limit the geographical exposure of the index to Emerging Markets.

3.4.2 Security weight capping

Additionally, index constituents' weights are capped at 15% at the security level to mitigate concentration risk.

² For details please refer to the MSCI Adaptive Capped Indexes Methodology (Available on <https://www.msci.com/index-methodology>)

3.5 ESG Profile Check

The final universe calculated in Section 3.4 is assessed against the minimum requirements detailed in the below table.

In case the final universe is found deficient on any of the minimum requirements, then the weights of the securities in the final universe are determined through an iterative process as described in Appendix 3. The iterative downweighting process also maintains capping at 15% security level to mitigate concentration risk.

Minimum Requirements	Values	Reference Index
Carbon Emission Intensity relative to the Reference Index	Target Carbon Emission Intensity lower than the Reference Index	MSCI ACWI IMI Robotics & AI Index
Weighted Average Board Independence relative to the Reference Index	Target Weighted Average Board Independence higher than the Reference Index	MSCI ACWI IMI Robotics & AI Index

4 Maintaining the Index

4.1 Semi-Annual Index Review

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

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

In general, MSCI uses the company business segment names, business description and revenue data as of the rebalancing date of the Semi-Annual Index Review.

In general, MSCI uses MSCI ESG Research data (including MSCI ESG Ratings, MSCI Climate Change Metrics, MSCI ESG Controversies Scores and MSCI Business Involvement Screening Research) as of the end of the month preceding the Index Reviews. For some securities, such data may not be published by MSCI ESG Research by the end of the month preceding the Index Review. For such securities, MSCI will use ESG data published after the end of month, when available. This approach aims to capture timely updates to ESG Ratings of the constituents and coincides with the rebalancing of the relevant MSCI Parent Indexes.

As an exception, the Index will not be reviewed at the November 2021 Semi-Annual Index Review. The index constituents will not be updated as per the rules described in section 3 (Constructing the Index) and there will be no update in GICS-based exclusions for November 2021 Semi-Annual Index Review. Treatment of Parent Index deletions will be as described in section 4.3 (Ongoing event-related maintenance).

4.1.1 Security selection buffer rules

To reduce index turnover and enhance index stability, a buffer rule of 25% is applied during the on-going semi-annual index reviews. For example, if the 'index' targets 60 securities, buffers are applied between rank 46 and 75. The securities in the ranked universe (as detailed in section 1.8) with a relevance score rank at or above 45 will be added to the final index on a priority basis. The existing constituents that have a relevance score rank between 46 and 75 are then successively added until the number of securities in the final index reaches 60. If the number of securities is below 60 after this step, the remaining securities in the ranked universe with the highest relevance score rank are added until the number of securities in the final index reaches 60.

4.2 Annual Index Review

The set of relevant words (as described in section 2.1) of MSCI ACWI IMI Robotics & AI Index Methodology are reviewed by MSCI during the May Semi-Annual Index Review.

4.3 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	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. 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.

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.

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

Appendix 1: Controversial Business Exclusion Criteria

Companies whose activities meet the following values and climate change-based criteria, as evaluated by MSCI ESG Research, are excluded from the Index.

Values- based Exclusions Criteria:

- Controversial Weapons
 - All companies with any tie to Controversial Weapons (cluster munitions, landmines, depleted uranium weapons, biological/chemical weapons, blinding lasers, non-detectable fragments and incendiary weapons), as defined by the methodology of the MSCI Ex-Controversial Weapons Indexes available at <https://www.msci.com/index-methodology>.
- Nuclear Weapons
 - All companies that manufacture nuclear warheads and/or whole nuclear missiles.
 - All companies that manufacture components that were developed or are significantly modified for exclusive use in nuclear weapons (warheads and missiles).
 - All companies that manufacture or assemble delivery platforms that were developed or significantly modified for the exclusive delivery of nuclear weapons.
 - All companies that provide auxiliary services related to nuclear weapons.
 - All companies that manufacture components that were not developed or not significantly modified for exclusive use in nuclear weapons (warheads and missiles).
 - All companies that manufacture or assemble delivery platforms that were not developed or not significantly modified for the exclusive delivery of nuclear weapons.
 - All companies that manufacture components for nuclear-exclusive delivery platforms.
- Civilian Firearms
 - All companies classified as “Producer” of firearms and small arms ammunitions for civilian markets. It does not include companies that cater to the military, government, and law enforcement markets.

- All companies deriving 5% or more revenue from the distribution (wholesale or retail) of firearms or small arms ammunition intended for civilian use.
- Tobacco
 - All companies classified as a “Producer”
 - All companies deriving 5% or more aggregate revenue from the production, distribution, retail and supply of tobacco-related products.
- Conventional Weapons
 - All companies deriving 10% or more revenue from the production of conventional weapons and components

Climate Change- based Exclusions Criteria:

- Thermal Coal
 - All companies deriving 5% or more revenue (either reported or estimated) from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties. It excludes: revenue from metallurgical coal; coal mined for internal power generation (e.g. in the case of vertically integrated power producers); intra-company sales of mined thermal coal; and revenue from coal trading.
 - All companies deriving 5% or more revenue (either reported or estimated) from the thermal coal based power generation.
- Oil Sands
 - All companies deriving 5% or more revenue from oil sands extraction, which own oil sands reserves and disclose evidence of deriving revenue from oil sands extraction. Companies that derive revenue from non-extraction activities (e.g. exploration, surveying, processing, refining) or intra-company sales are not excluded. Additionally, companies that own oil sands reserves with no associated revenue are also not excluded.
- Global Norms – United Nations Global Compact Compliance
 - All companies that fail to comply with the United Nations Global Compact principles.

Appendix 2: Calculation of 3-Month Average Daily Traded Value (ADTV)

$$ADTV = ATV / 252$$

Where:

- ADTV = 3-month Average Daily Traded Value
- ATV = 3-month Annualized Traded Value

For details on the calculation of ATV, please refer to the MSCI Index Calculation Methodology (<https://www.msci.com/index-methodology>)

Appendix 3: ESG Profile Check

The ESG Profile Check is applied on the securities of the final universe with the objective of meeting all the minimum requirements detailed in the table in Section 3.5.

Starting with the Final Universe, an iterative down weighting process is applied in order to meet with the minimum requirements for the Indexes. The iterative down weighting stops when all the requirements defined in above are met. The steps followed in the iterative downweighting are outlined below:

Step 1. Check whether all targets for the Index are met. If all targets are met, then no downweighting is required.

Step 2. Identify stocks that are either in bottom quartile by Board Independence (%) (i.e. with lowest scores) or are in the top quartile by Carbon Emissions Intensity (i.e. with highest carbon intensity). These stocks form the “downweighting group”. Rest of the stocks from the Final Universe form the “upweighting group”.

Step 3. Select the worst-scoring stock in the “downweighting group” and reduce its weight in steps of 25% (free weight) and distribute the free weight among the stocks of the “upweighting group” in proportion of their weight at Step 2. A stock cannot be down weighted by more than 75% of its weight in Step 2. Stock weight in ‘upweighting group’ is capped at 15%.

Step 4. If the targets are still not met, then select the next worst-scoring stock and repeat Step 3.

Step 5. Relaxation Steps:

- a. If all stocks in the “downweighting group” have been down weighted by 75% and targets are still not met, then repeat Step 3 and 4 by down weighting worst-scoring stock by 90% of its weight from Step 2.
- b. If targets are not met at Step 5a, then repeat Step 3 and 4 by excluding the worst-scoring stock – down weighting the worst-scoring stock by 100%.

Worst-scoring Stocks:

- a. In Step 1, if targets are not met on Carbon Emissions Intensity, then the worst-scoring stock is the stock with largest Carbon Emissions Intensity.
- b. If in Step 1, the target on Carbon Emissions Intensity is met, and the target on Weighted Average Board Independence is not met, then the worst-scoring stock is the stock with lowest Board Independence (%).

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