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Index Methodology Guide

ISE-CCM NANOTECHNOLOGY INDEX™

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Chapter 1. Introduction

This document summarizes the methodology and rules used to construct, calculate, and maintain the **ISE-CCM Nanotechnology Index™.**

The ISE-CCM Nanotechnology Index (ISE-CCM_NTI) provides a sampled, benchmarking system for investors interested in this emerging sector.

The field of nanotechnology represents one of the most diverse and compelling fields in terms of its potential to revolutionize they way in which atoms and molecules are understood and used as the fundamental building blocks of matter. Research and development opportunities are quite literally unlimited in terms of the number of potential scientific applications that can employ nanotechnology. For instance, the fields of biotechnology, chemistry, physics, information technology, engineering, and manufacturing are all actively studying nanotechnology. Nanotechnology is also expected to lead to a wave of profound innovation in industries such as energy, aerospace, healthcare, agriculture, just to name a few.

In January 2000, then President Bill Clinton offered a glimpse into the sector's potential in a speech introducing the National Nanotechnology Initiative (NNI): "Imagine the possibilities - materials ten times the strength of steel, shrinking all of the information housed at the Library of Congress into the size of a sugar cube – detecting cancerous tumors when they are only a few cells in size." Clearly the potential of nanotechnology is significant.

Nanotechnology involves the science and technology of building electronic circuits and devices from single atoms and molecules. It specifically covers matter size of 1 to 100 nanometers (a nanometer is a billionth of a meter). Applications involve the intended ability to manipulate materials to fundamentally improve processes, materials, and devices on an 'atomic' scale.

Nanotechnology research and development is receiving significant funding from the federal government (estimated funding stood at $0.98 billion for fiscal year 2004 – nearly 2x the amount of funding committed to researching and mapping the human genome). Projected funding for fiscal year 2005 stands at approximately $1.08 billion (source: National Science Foundation). In 2001 the NNI was federally established, securing nanotechnology as one of the most important areas of focus for federal research and funding. The NNI estimates its budget has more than doubled since its creation and that approximately 20 federal agencies are currently studying and working with nanotechnology. It also estimates that $4 billion in taxpayer funds have been committed to the sector.

Foreign governments have also announced major commitments to the technology: the EU is estimated to be just behind the U.S. in terms of funding ($0.95 billion) followed by Japan ($0.90 billion) and the rest of the world combined ($0.90 billion). In aggregate, fiscal year 2004 global government R&D was estimated at just under $4 billion. The NNI estimates that private sector spending is similar in size to global public spend. Growth going forward is only expected to accelerate from these initial levels.

The **ISE-CCM_NTI** is calculated and maintained by Standard & Poor's based on a methodology developed by ISE and CCM in consultation with Standard & Poor's.

Chapter 2. Index Description

The ISE-CCM Nanotechnology Index is a sampled, equal-weighed index that is adjusted for free-float shares. It is a “RIC” (Regulated Investment Company) compliant index of up to 20 select, small, mid, and large capitalization US listed companies. These Nanotechnology companies are some of the largest, most liquid, and most mature, and most diverse of the entire sector.

The Index uses an equal-weighted methodology due to the diversity in market capitalization size among the component stocks. The resulting uniform weight distribution prevents a few large component stocks from dominating the index and distorting an index return that is representative of an industry sector. Quarterly rebalancing events are used to “re-set” the weighting of each component such that each component has an equal influence on the index performance.

The Index has been constructed specifically to isolate “Nanotechnology Companies” in order to present an accurate and pure representation of the Nanotechnology Sector. The ISE-CCM Nanotechnology Index is calculated on a price and total return basis. The price Index is calculated in real-time and disseminated via the Options Price Reporting Authority (OPRA) and market data vendors every day the U.S. equity markets are open. The total return Index is calculated on an end-of-day basis. Both sets of values are freely available on ISE’s website, www.iseoptions.com.

The Index attempts to contain up to 20 different component stocks at all times. New companies are added to the Index only when there is a vacancy. Companies may not apply, and may not be nominated, for inclusion in the Index. Companies are added or removed by the ISE and CCM based on the methodology described herein. Whenever possible, ISE will publicly announce changes to the index on its website at least five trading days in advance of the actual change.

OBJECTIVE

The objective of the ISE-CCM Nanotechnology Index is to provide investors with the ability to track the Nanotechnology Sector. This is accomplished through ongoing analysis of the benchmark companies included in the Index which are directly involved with research and development of Nanotechnology, and related products/services.

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Chapter 3. 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.

3.1. Base Date and Value

The ISE-CCM Nanotechnology Index has the following base date and value:

Index	Base date	Base value
ISE-CCM Nanotechnology Index	December 31, 2000	25

3.2. Component Eligibility Requirements

All of the following requirements must be met in order for a company to be eligible for inclusion:

1. The component security must be U.S.–based. The ISE and CCM use several factors in determining a company's nationality, including, but not limited to: registration location, accounting principles used for financial reporting, and location of headquarters.
2. The component security must be a "reported security" as defined in Rule 11Aa3-1 under the Exchange Act, and its common stock listed on the New York Stock Exchange (NYSE), American Stock Exchange (AMEX), or Nasdaq National Market System (Nasdaq).
3. The component security must be listed on a major stock exchange for the past 120 days.
4. Public float of at least 25% of the stock.
5. Must be an operating company and not a closed-end fund, exchange-traded fund (ETF), holding company, investment vehicle, or royalty trust (REIT).

The following market capitalization, liquidity, and weighting concentration requirements must also be satisfied:

1. Each component security has a market capitalization of at least $100 million.
2. Trading volume of each component security has been at least one million shares for each of the last six months, except that for each of the lowest weighted component securities in the index that in the aggregate account for no more than 10 % of the weight of the index, trading volume has been at least 500,000 shares for each of the last six months.
3. No single component security represents more than 24% of the weight of the index.
4. The five highest weighted component securities in the index do not in the aggregate account for more than 50% of the weight of the index. This particular requirement will be satisfied at least on the first day of January and July of each year.

The ISE and CCM will, in most cases, use the quantitative ranking and screening system described herein. However, subjective screening based on fundamental analysis or other factors may be used, if in the opinion of the ISE and CCM, certain components should be excluded from the index.

3.3. Float-Adjustment

Components of the ISE-B&S Water Index are float-adjusted to reflect the number of shares available to investors according to S&P's proprietary methodology. The float-adjusted number of shares is used during the component eligibility process at initial component selection and at scheduled reviews.

The float-adjusted number of shares for each stock is determined by assigning each stock an availability factor. That factor represents the percentage of shares deemed available (i.e., tradable) on the open market, and is developed by excluding certain types of holdings. Shares may be excluded for three reasons: corporate cross-holdings, private control block holdings, or government holdings. Private control blocks are considered to be any entity acting alone or in concert that possess a holding greater than or equal to 10% of the issue's total capitalization.

3.4. Dividend Treatment

The price indexes do not take normal dividend payments into account. Dividends are accounted for by reinvesting them on a daily basis. ISE-CCM 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 4) to prevent such distributions from distorting the price index.

3.5. Index Equations

The ISE-CCM Nanotechnology Index is an equal-weighted index, calculated according to the following basic equations:

$$Index\ Value = \frac{Combined\ Market\ Value\ of\ Assigned\ Shares\ of\ All\ Components}{Divisor}$$

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

where:

$I_{(t)}$ = Index value at time (t)

$D_{(t)}$ = Divisor at time (t)

n = Number of stocks in the index

t = The time the index is calculated

$P_{i(t)}$ = Price of stock (i) at time (t)

$S_{i(t)}$ = Number of assigned shares of stock (i) at time (t)

The initial index divisor is determined using the following equation:

$$D_{(o)} = \frac{\sum_{i=1}^{n} P_{i(o)} \, x \, S_{i(o)}}{I_{(o)}}$$

where:

$I_{(o)}$ = Base index value at base date (December 31, 1998)

D_o = Initial divisor at base date

n = Number of stocks in the index

$P_{i(o)}$ = Closing price of stock (i) at base date

$S_{i(o)}$ = Number of assigned shares of stock (i) at base date

Assigned shares are the number of shares needed for each component, such that the component is equally represented in the index by its weighting.

Changes to the index composition require divisor adjustments in order to retain index continuity before and after specific events (as outlined in Chapter 4 – Index Maintenance). Divisor changes are made according to the following formula:

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

where:

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

$P_{i(t+1)}$ = Price of each stock after index changes

$S_{i(t+1)}$ = Number of assigned shares of each stock after index changes

$D_{(t)}$ = Divisor before changes are made to the index

$P_{i(t)}$ = Price of each stock prior to index changes

$S_{i(t)}$ = Number of assigned shares of each stock prior to index changes

3.6. Initial Component Selection

The following steps are taken to select the initial components for the ISE-CCM Nanotechnology Index.

1. Rank all common stocks in the industry by unadjusted market capitalization in descending order
2. Remove companies that do not meet the component eligibility requirements

3. If a component has multiple share classes, include the most liquid issue for that company and remove the remaining classes
4. Select the top 20 companies (maximum) in the industry by market capitalization
5. Adjust each component's weighting to 1/n, where 'n' equals the number of component stocks in the index.

The index component list is provided in Appendix A.

Chapter 4. Index Maintenance

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

4.1. Divisor Changes

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

Component change	Adjustment
Component Replacement	Add market value of company to be added, subtract market value for company to be removed
Spinoff*	Subtract the following from the price of the parent company: $\left(\frac{\textit{Spinoff stock price}}{\textit{Share exchange ratio}}\right)$ Adjust the assigned shares such that component's weighting is not changed as a result of the spinoff.
Special Cash Dividend	Subtract special dividend from share price
Rights Offering	Subtract the following from the price of the parent company: $\left(\frac{\textit{Price of rights}}{\textit{Rights ratio}}\right)$ Adjust the assigned shares such that component's weighting is not changed as a result of the rights offering.

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

*Special note on Spin-offs: 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.

4.2. 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 weighting in the index.

4.3. Quarterly Rebalancing and Review

Equal-weighted indexes are rebalanced quarterly in March, June, September, and December each year. Changes are made after the close on the third Friday of those months, and become effective at the opening on the next trading day. Changes are announced on ISE's publicly available website at least five trading days prior to the effective date.

1. Rank all eligible stocks by market capitalization using the requirements of Chapter 3.2.
2. Rank all current component stocks in the Indexes by market capitalization.
3. Remove any component stock that fails to meet the eligibility requirements.
4. Add any non-component stock that meets the eligibility requirements, such that the total number of components is at most 20.
5. Adjust the market capitalization of components such that all components have equal weighting.

4.4. Interim component changes

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

Event	Action
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 replaced. If a non-component company absorbs a component company, the original component will be removed and replaced.
Spin-off	If a component company splits or spins off a portion of its business to form one or more new companies, the resulting company with the highest market value will remain a component as long as it meets the eligibility requirements. The remaining companies will be evaluated for eligibility and possible addition to the index.
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 might not be removed immediately when a bankruptcy filing is not a result of operating or financial difficulties.
Delisting	A component company will be removed and replaced immediately after being delisted from its primary market.

ISE and CCM attempt to maintain a Component Replacement Pool (CRP) for the index at all times for contingency purposes. The CRP contains at least five companies that meet the eligibility requirements and are ranked by float adjusted market capitalization. Components removed from the Index are replaced with those from the CRP in descending order by float adjusted market capitalization.

Whenever possible, interim component changes are announced on ISE's publicly available website five trading days prior to component changes becoming effective.

4.5. Unscheduled component weight adjustments

Unscheduled component weight adjustments may occur between review periods if any component accounts for more than 24% of the index weight. The market capitalization of any component representing more than 24% of the index weight will be adjusted such that its new weight is no more than 20%. Whenever possible, unscheduled component weight adjustments are announced on ISE's publicly available website five trading days prior to the adjustments becoming effective.

Chapter 5. Index Calculation and Dissemination

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

5.1. Price Calculation

Price and total return indexes for the ISE-CCM_NTI are calculated by Standard & Poor's. The price index is calculated on a real-time basis, and the total-return Index is calculated and disseminated on an end-of-day basis. The ISE-CCM_NTI 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.

5.2. Calculation Frequency and Dissemination

The ISE-CCM_NTI price index is calculated on a real-time basis beginning when the first traded price of any of the Index components is received by Standard & Poor's. Prices are delivered to ISE every 15 seconds and subsequently published to the Options Price Reporting Authority at that frequency. Total-return Index values are posted on ISE's publicly available website, www.iseoptions.com.

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.

5.3. Input Data

Standard & Poor's 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. A final check of closing prices is done between one hour and one and one half hours after the close of markets. This timeframe may be expanded at S&P's discretion on days where trading volume is unusually large at the close. For example, futures and options expiration dates, and large index rebalancing dates often result in unusually large volume. Only changes received prior to this final check are used in the closing price calculation.

5.4. Data Correction

Incorrect index component data, corporate action data, or Index Divisors will be corrected upon detection. If such errors are discovered within five days of occurrence, they will be corrected that same day. If discovered after five days,

adjustments will be handled on a case-by-case basis depending on the significance of the error and the feasibility of a correction. Announcements will be made on ISE's publicly available website prior to the change becoming effective.

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 the ISE-CCM Nanotechnology index in particular as well as changes to this document.

Appendix A. ISE-CCM Nanotechnology Index Components

As of January 5, 2006

Symbol	Component Name	No.
ACCL	Accelrys Inc	1
ARWR	Arrowhead Research Corp	2
CBT	Cabot Corp	3
FEIC	FEI Company	4
FLML	Flamel Technologies SA	5
HW	Headwaters Inc	6
KOPN	Kopin Corp	7
MTSC	MTS Systems Corp	8
NANO	Nanometrics Inc	9
NANX	Nanophase Technologies Corp	10
NGEN	Nanogen, Inc	11
PANL	Universal Display Corp	12
SMMX	Symyx Technologies Inc	13
TINY	Harris & Harris Group Inc	14
UTEK	Ultratech Inc	15
VECO	Veeco Instruments Inc	16

Appendix B. Document Change History

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

Issue	Date	Change
0.1	August 18, 2005	First draft
0.2	August 26, 2005	Second draft – added portfolio
1.0	August 30, 2005	First release


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