



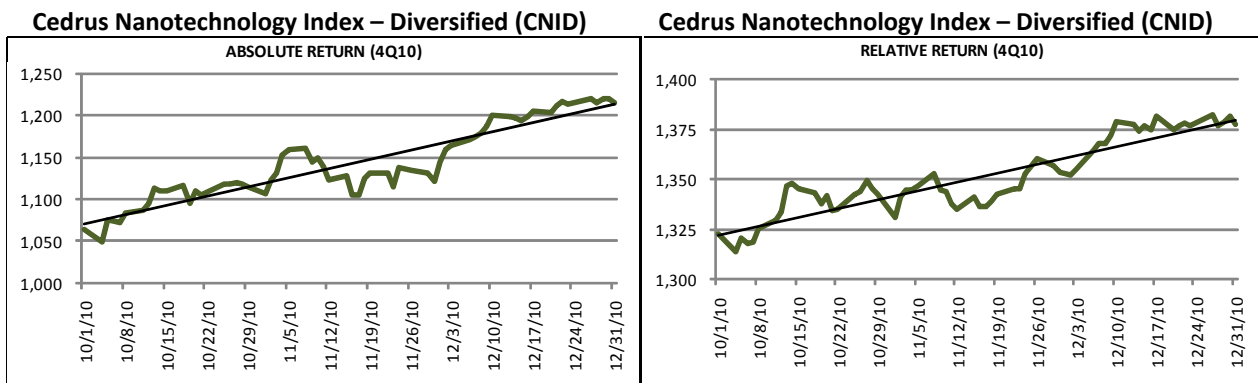
# NANOTECHNOLOGY

## Nanotechnology Index 4Q10 Review

### CNID and CNIP Outperform the S&P 500 for 4Q10 and 2010

#### KEY POINTS:

- **CEDRUS NANOTECHNOLOGY INDICES.** In 4Q10, the S&P 500 index was up 10.2% versus 3Q10. This compared to CNID's and CNIP's gains of 14.5% and 16%, respectively, over the same period. For 2010, the S&P 500 increased 12.8% compared to CNID, which rose 13.1% and CNIP, which increased 16.8%. Within CNID, the difference between the best and worst-performing sub-groups was 16.8%: Nano-Electronics rose 20.3% in the quarter, compared to Nano-Energy, which saw a gain of 3.5%, so even the worst sub-group had a positive return in the fourth quarter.
- **CEDRUS NANOTECHNOLOGY INDEX – PURE (CNIP) WAS THE BEST PERFORMER FOR 4Q10 AND 2010.** CNIP beat both the S&P 500 index and CNID in 4Q10 and 2010. The main differentiator in performance in 2010 between the two nanotechnology indices was attributable to the Nano-Electronics sub-group. For CNID, Nano-Electronics delivered a 19% growth for 2010, compared to CNIP's Nano-Electronic sub-group's impressive 47% increase. The stock that caused the relative underperformance in CNID's Nano-Electronics sub-group in the year was FormFactor (FORM). It fell 52.9% in 2010, making it the worst-performing stock in the sub-group. Whereas for CNIP, its worst performer in Nano-Electronics was Kopin (KOPN), which only lost 0.5% in the year. Looking back over the year for CNIP, it beat CNID in every quarter except 3Q, from as little as 30 basis points (0.3%) in 2Q, when CNID fell 14.3% versus CNIP's decline of 14%, to 1Q's delta of 250 basis points (2.5%).
- **CEDRUS NANOTECHNOLOGY INDEX – DIVERSIFIED (CNID).** CNID's weak link was the Nano-Electronics sub-group's relative underperformance, which delivered a 19% increase for the year, held back by FormFactor (FORM) although FORM was not the worst performer overall, either in 4Q or for the year, within the index. The overall worst performer in 4Q was EnerNOC (ENOC), dropping 23.8% over 3Q while the best performer was FuelCell Energy (FCEL), rising 87.8%. For the year, Polypore International (PPO) returned a whopping 242.3%. At the other end of the scale was Duoyuan Global Water (DGW), which fell by 64.3% during the year due to problems with a related entity, Duoyuan Printing, which fired its auditor and reorganized top management.

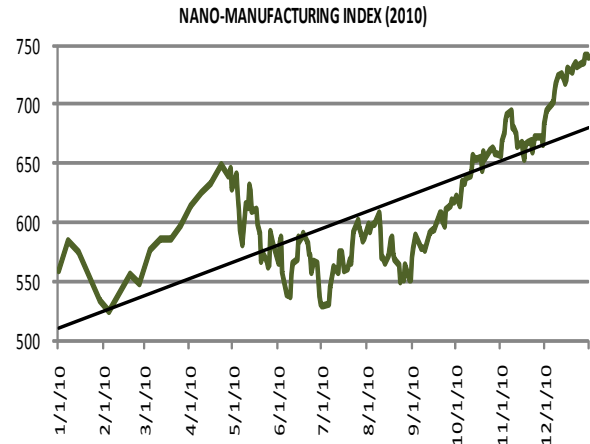




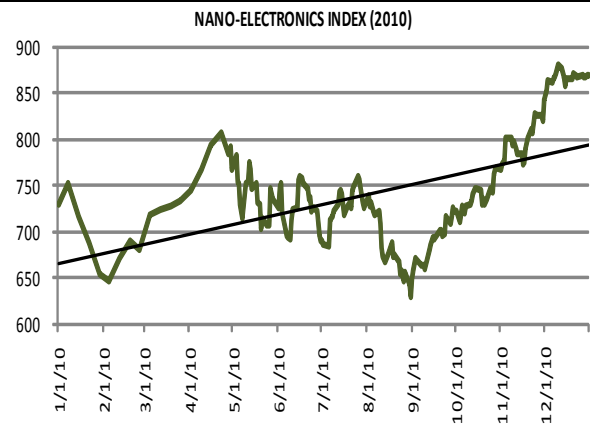
# NANOTECHNOLOGY

## FIVE NANO-MARKETS' PERFORMANCE IN 4Q10 and 2010 FOR CNID

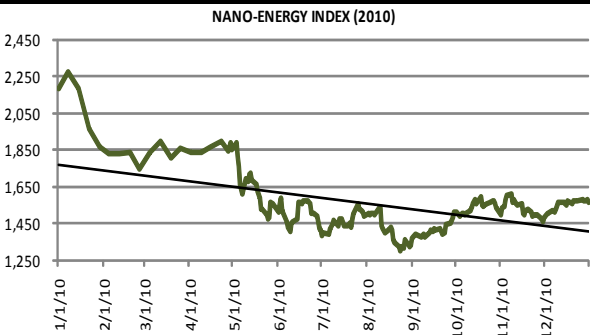
**NANO-MANUFACTURING:** In 4Q10, this sub-group index rose another 20% Q/Q. The best performer was **ENTG**, which appreciated 60% Q/Q due to its above-consensus guidance and analysts' near-term outlook for wafer starts and equipment orders. The worst performer was **CTN-DE**, but it still managed a gain of 12.7% Q/Q, indicating the strength of this sub-group in 4Q10. For 2010, this index jumped 32.4% Y/Y. For both periods, it outperformed the CNID, CNIP and the S&P 500. For the year, **PPO** led the performance of this group with a 242.3% Y/Y surge as the market has been enthusiastic about the prospects of the energy storage market. The worst-performing stock in 2010 was **AMAG**, dropping 52.4% Y/Y as the Food Drug Administration is concerned with the safety of the company's drug, Feraheme (Ferumoxytol).



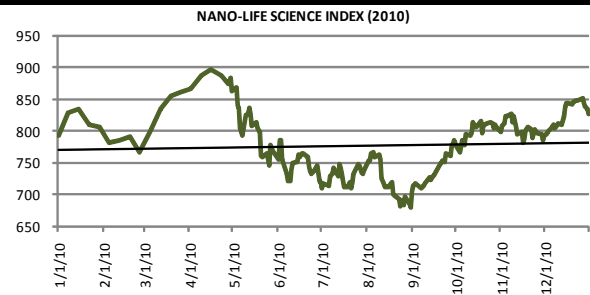
**NANO-ELECTRONICS:** Best-performing sub-group in 4Q10 with a 20.3% Q/Q increase. **SNDK** was the best performer, gaining 36% Q/Q as NAND flash memory demand is boosted by the increasing popularity of tablets and other applications. **FORM** was the worst performer again with only a minimal 3.3% Q/Q gain as the market is still concerned about the company's stability and execution. For 2010, this sub-group index appreciated 19% Y/Y, also outperforming CNID, CNIP and the S&P 500 as in 4Q10. **PANL** was the top performer with a 148% Y/Y increase because of the anticipated increasing adoption of OLED in smartphones as well as its better-than-expected revenue reported for 3Q10. **FORM** was the worst-performing stock for the year as well with a drop of 52.9% Y/Y.



**NANO-ENERGY:** This was the worst-performing group in the fourth quarter and 2010 for both CNID and CNIP. Nonetheless, its fourth quarter performance was positive for both indices. However, its performance for the year was markedly different, returning -28.2% for CNID and -30.9% Y/Y for CNIP. Yet despite its poor annual performance, it had the best-performing stock overall in 4Q: **FCEL**, which was up 87.8% Q/Q. The worst performer in 2010 was **CWP-GB**, which fell 62.5% Y/Y before being acquired by United Technologies Corporation (UTX) on December 15, 2010, which had already owned 49.9% of the company.



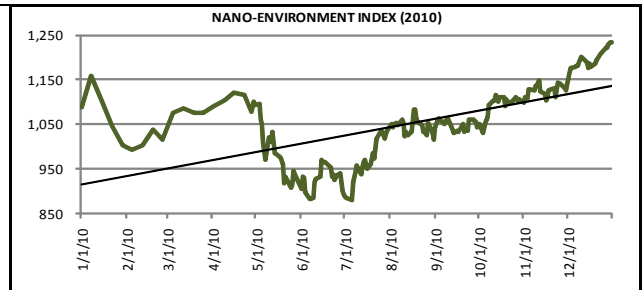
**NANO-LIFE SCIENCE:** It had a disappointing year, returning only 4.2% Y/Y for 2010 while having a standout performer for the year in **ILMN**, which appreciated 106.5% Y/Y. The second quarter performance was this group's worst, -16% Q/Q for CNID and -15.4% Q/Q for CNIP. **SRDX** was the worst stock in this group for 2010, falling 47.6% Y/Y due to continued disappointing performance by the company through the year. Ramius Value and Opportunity Advisors LLC acquired a 12% stake in SRDX in 4Q and nominated 3 board members for election in 2011.





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**NANO-ENVIRONMENT:** The darling of this group in 4Q was **DAR** which rose 55.9% Q/Q, almost taking the top spot for the year, only beaten by **WPRT**, which appreciated 59.9% Y/Y in 2010. **DGW** was the worst performer in 2010, declining 64.3% due to its ties to Duoyuan Printing. While DGW's third quarter results were better than expected, their 4Q guidance was softer than the consensus' view. For 4Q, **ADM** fell 5.8% Q/Q, taking the bottom spot.



### CEDRUS NANOTECHNOLOGY INDEX – DIVERSIFIED

**CEDRUS NANOTECHNOLOGY INDEX – DIVERSIFIED (CNID)** is an equal-weighted index of companies spanning all five nano-markets and is inclusive of both diversified companies that have nanotechnology as only one of many growth drivers, and pure-plays that have nanotechnology as their primary driver of growth.

➤ **LEADERS & LAGGARDS OF CNID IN 4Q10:** In 4Q, the best performing stock overall was FuelCell Energy (FCEL), which registered an 87.8% gain in the quarter. The worst performer was EnerNOC (ENOC), which slipped 23.8% in value. The best and worst performers in each of the sub-group of CNID were as follows:

- Nano-Manufacturing:
  - Best – Entegris (ENTG) +60.0%
  - Worst – Centrotherm PV (CTN-DE) +12.7%
- Nano-Electronics:
  - Best – SanDisk (SNDK) +36.0%
  - Worst – FormFactor (FORM) +3.3%
- Nano-Energy:
  - Best – FuelCell Energy (FCEL) +87.8%
  - Worst – EnerNOC (ENOC) -23.8%
- Nano-Life Science:
  - Best – Illumina (ILMN) +28.7%
  - Worst – Nanosphere (NSPH) -13.3%
- Nano-Environment:
  - Best – Darling International (DAR) +55.9%
  - Worst – Archer Daniels Midland (ADM) -5.8%

➤ **LEADERS & LAGGARDS OF CNID IN 2010:** For the full year 2010, the best-performing stock overall was Polypore International (PPO), jumping 242.3% whereas the worst performer was Duoyuan Global Water (DGW), dropping 64.3%. The best and worst performers in each of the sub-group of CNID in 2010 were as follows:

- Nano-Manufacturing:
  - Best – Polypore International (PPO) +242.3%
  - Worst – AMAG Pharmaceuticals (AMAG) -52.4%
- Nano-Electronics:
  - Best – Universal Display (PANL) +148.0%
  - Worst – FormFactor (FORM) -52.9%



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- Nano-Energy:
  - Best – EnerSys (ENS) +46.9%
  - Worst – Clipper Windpower (CWP-GB) -62.5%
- Nano-Life Science:
  - Best – Illumina (ILMN) +106.5%
  - Worst – SurModics (SRDX) -47.6%
- Nano-Environment:
  - Best – Westport Innovations (WPRT) +59.9%
  - Worst – Duoyuan Global Water (DGW) -64.3%

### ➤ 1Q11 OUTLOOK:

- **Nano-Manufacturing:** The ~70% Y/Y spike in capex recently announced by Intel to ~\$9 billion in 2011 and the doubling of its capex in 2011 over 2010 to \$5.4 billion by GlobalFoundries certainly bode well for semiconductor equipment stocks in general this year. In addition, we expect other top foundries to announce higher capex budgets for 2011 than 2010 due to heightened competition among foundries as Samsung has been more aggressive in enhancing its market position in the foundry sector, the need for capacity expansion for advanced technology nodes (mainly 40nm) and R&D spending for the next-generation process technology as well as more semiconductor companies are adopting the fab-lite/fabless models. Though orders at semiconductor equipment vendors may not get a significant lift as quickly as in 1Q11, the boost in capex has enhanced investors' sentiment, driving stock prices upward. We believe this trend to continue during the early part of 1Q11 before enthusiasm abating. With wafer fab equipment spending in both 2008 and 2009 as a percentage of total semiconductor sales for the respective year well below the average (8.9% and 5.3% respectively versus the 10-year average of 11%) and the bottle-neck in lithography equipment supply, we believe no excess capacity to emerge industry-wide in the next 9-12 months even after an estimated 130%+ Y/Y rebound in the wafer fab equipment market in 2010 (still only accounting for about 10% of the expected total semiconductor sales for the year) and this year's possibly modestly higher than normalized spending levels.
- **Nano-Electronics:** This group had a strong run in 4Q10 and early 1Q11. We expect the momentum to slow in the latter part of the quarter as fundamentally 1Q is seasonally weak in terms of overall semiconductor demand although demand arising from the increasingly important Chinese New Year will provide a lift to a certain extent. We believe that LED, especially OLED, could still grow faster than the overall electronics market in 2011 as adoption rate increases. Demand for semiconductors as a whole, and NAND flash memory in particular, will be driven by tablets as more vendors introducing their products for the gold rush and by the continued strength in smartphones due to the introductions of more sophisticated models as well as upgrades from feature phone users.
- **Nano-Energy:** We think expectations in solar have been reset, and we expect these stocks to rise off their year-end lows set in 2010. Feed-in-Tariff reductions recently announced in Germany were less than expected, which is positive news. Germany and Italy together account for about 50% of solar demand, so it is critical that the political climate, Feed-in-Tariff and regulatory structures for solar within these two countries remain favorable. We will monitor wind companies in 2011 for resurgence in spending after a 2-year decline. Note that Clipper Windpower (CWP-GB) ceased trading on December 13, 2010. We have replaced it with another wind company, Gamesa Corporacion Tecnologica SA (GAM-ES) in Spain, starting 1Q11.
- **Nano-Life Science:** We favor life science tool companies in 2011, especially those with exposure to developing countries' markets such as China, which in 2009 was already #3 in healthcare spending after the U.S. and Japan. Gene sequencing companies, such as Illumina (ILMN), are of particular interest to us.



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- **Nano-Environment:** In 2011, we expect a cyclical recovery in chemicals to continue, with strong growth in emerging markets couple with rising commodity prices. We expect the strongest growth in agriculture, spurred by higher crop prices. With the world's population already at 7 billion and growing, there are secular themes that will play out for the next 10 years, such as resource constraints (especially food and water) and climate change, including regulation. How to feed and provide drinking water for these 7 billion people is a challenge being addressed by many companies in this group and should fuel their revenue and profit growth for years to come.

### Absolute Return and Relative Return of CNID vs. Major Indices Worldwide

	Absolute Return		Relative Return	
	2010	4Q 2010	2010	4Q 2010
<b>Cedrus Nanotech Index – Diversified (CNID)</b>	+13.1%	+14.5%	-	-
<b>S&amp;P 500</b>	+12.8%	+10.2%	+0.3%	+4.3%
<b>NASDAQ Composite</b>	+16.9%	+12.0%	-3.8%	+2.5%
<b>MSCI World</b>	+7.8%	+7.9%	+5.3%	+6.6%
<b>Russell 3000</b>	+14.8%	+11.1%	-1.7%	+3.4%
<b>SOX (Philadelphia Semiconductor)</b>	+14.4%	+17.9%	-1.3%	-3.4%
<b>Hang Seng</b>	+5.3%	+3.0%	+7.8%	+11.5%
<b>Shanghai Composite</b>	-14.3%	+5.7%	+27.4%	+8.8%

Source: FactSet and Cedrus Investments Ltd.

### Absolute Return and Relative Return of CNIP vs. Major Indices Worldwide

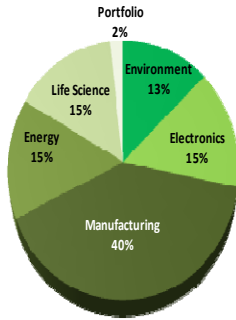
	Absolute Return		Relative Return	
	2010	4Q 2010	2010	4Q 2010
<b>Cedrus Nanotech Index – Pure (CNIP)</b>	+16.8%	+16.0%	-	-
<b>S&amp;P 500</b>	+12.8%	+10.2%	+4.0%	+5.8%
<b>NASDAQ Composite</b>	+16.9%	+12.0%	-0.1%	+4.0%
<b>MSCI World</b>	+7.8%	+7.9%	+9.0%	+8.1%
<b>Russell 3000</b>	+14.8%	+11.1%	+2.0%	+4.9%
<b>SOX (Philadelphia Semiconductor)</b>	+14.4%	+17.9%	+2.4%	-1.9%
<b>Hang Seng</b>	+5.3%	+3.0%	+11.5%	+13.0%
<b>Shanghai Composite</b>	-14.3%	+5.7%	+31.1%	+10.3%

Source: FactSet and Cedrus Investments Ltd.

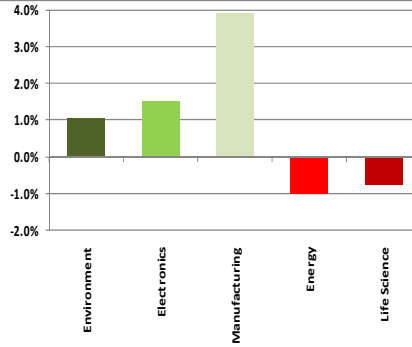


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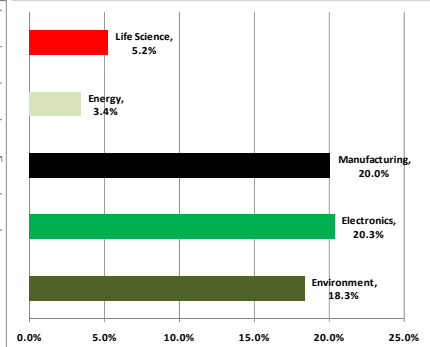
Distribution of Index as of 12/31/10



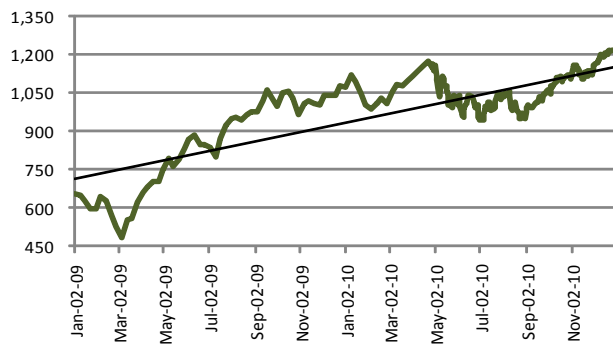
Relative Performance by Segment in 4Q10



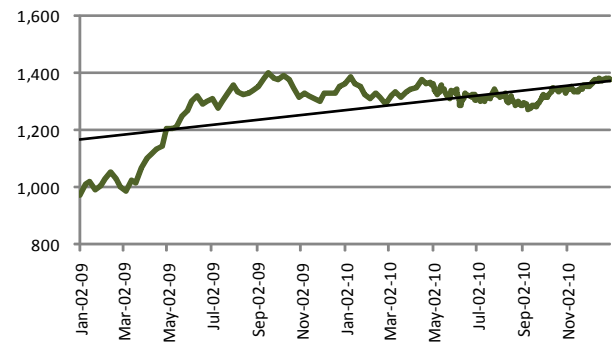
Rank Performance of Nano-Markets in 4Q10



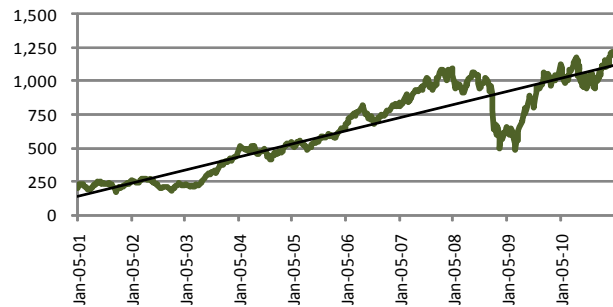
ABSOLUTE RETURN (2 Years)



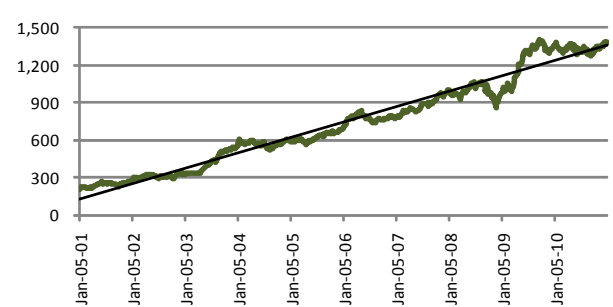
RELATIVE RETURN (2 Years)



ABSOLUTE RETURN (10 Years)



RELATIVE RETURN (10 Years)





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## CEDRUS NANOTECHNOLOGY INDEX – DIVERSIFIED CONSTITUENTS

Nano Electronics	Nano Energy	Nano Life Science	Nano Environment	DIVERSIFIED
ASML*	SOLR*	TMO*	ARJ*	AMAT*
AIXG*	CTN-DE*	LIFE*	CCC*	FEIC*
ASMI*	IOSP*	A*	HWKN*	VECO*
CYMI*	BOOM*	WAT*	FMC*	IVAC*
CCMP*	FSLR	SIAL*	VRNM*	ACCL*
ENTG*	SPWRA	AMAG*	MBLX*	MMM*
INTC	ENER	GILD	PENX*	DOW*
AMD	VWS-DK	GENZ	MON	DD*
TXN	CWP-GB	ELN	POT	APD*
BRCM	ORA	QGEN	ITRK-GB (Intertek)	HXL*
MRVL	ITRI	INCY	ADM	PPO*
TSM	ENOC	ILMN	MOS	FOE*
005930-KR (Samsung)	COMV	NVAX	CECE	SXS-GB*
SNDK	AONE	SRDX	DCI	IIVI*
CREE	ENS	BCRX	WPRT	SLP*
2448-TW (Epistar)	HEV	FLML	FTEK	ALTI*
PANL	FCEL	BAX	NLC	NANX*
KOPN	PLUG	BDX	ERII	TINY
AME	AMSC	VITA	DGW	ARWR
NVEC		NSPH	DAR	
FORM		HBIO		

\*Constituents of the Nano Manufacturing sub-group index

## CEDRUS NANOTECHNOLOGY INDEX – PURE CONSTITUENTS

Nano Electronics	Nano Energy	Nano Life Science	Nano Environment	DIVERSIFIED
ASML*	SOLR*	TMO*	CCC*	AMAT*
AIXG*	IOSP*	LIFE*	HWKN*	FEIC*
CCMP*	BOOM*	A*	FMC*	VECO*
ENTG*	FSLR	AMAG*	VRNM*	IVAC*
INTC	SPWRA	ELN	MBLX*	ACCL*
SNDK	ENER	QGEN	PENX*	PPO*
CREE	ORA	INCY	ITRK-GB (Intertek)	FOE*
PANL	ITRI	ILMN	ADM	IIVI*
KOPN	AONE	NVAX	MOS	SLP*
AME	FCEL	SRDX	CECE	ALTI*
NVEC	PLUG	BCRX	DCI	NANX*
	AMSC	FLML	WPRT	TINY
		BDX	FTEK	ARWR
		VITA	ERII	
		NSPH	DGW	
		HBIO	DAR	

\*Constituents of the Nano Manufacturing sub-group index

Note: ILMN, ITRK-GB and SLP added to both CNID and CNIP during 4Q10 to replace ABII, SYT and SMMX correspondingly











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