

**COWAN LRA MODEL - GLOBAL SEMICONDUCTOR SALES FORECAST BASED ON APRIL 2008 SALES;
LATEST 2008 SALES GROWTH FORECAST UP A MODEST 0.3 PERCENTAGE POINTS FROM LAST MONTH**

Date: 6-05-08

NOTE - the Cowan LRA Model has been extended to broaden its coverage of both forecasted parameters (not only sales, but also units and ASPs) and market segments – see last paragraph (and associated forecast results table) for particulars.

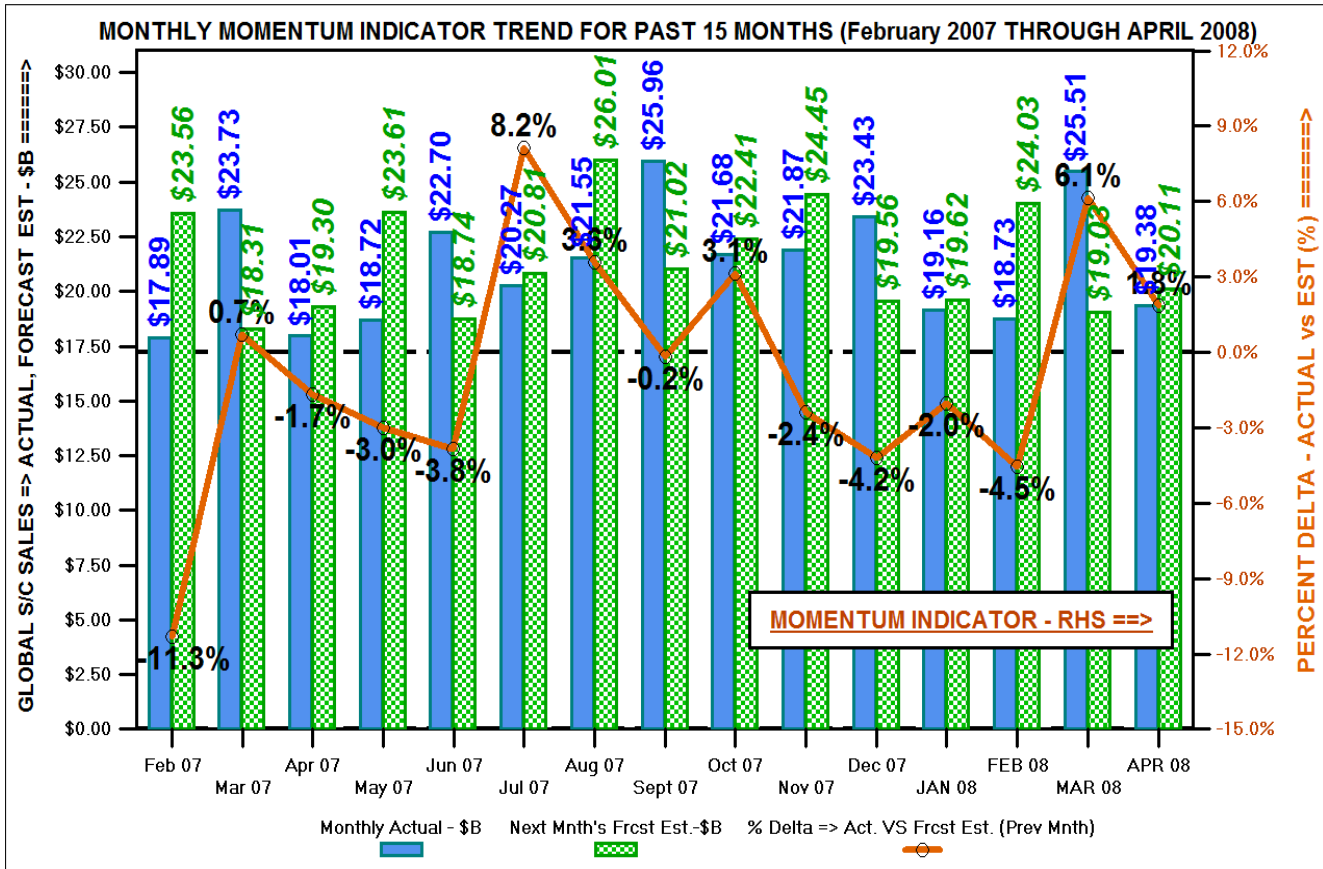
The Cowan LRA Model, which forecasts global semiconductor sales, is a strictly mathematical forecasting capability that leverages statistical analysis of the past 24 years of actual monthly global semiconductor sales numbers gathered and published by the WSTS (www.wsts.org). The model is a dynamic (that is, updated each month), mathematically-pure view of near-term forecasted worldwide semiconductor sales looking forward over the next five quarters. The forecasting model makes use of linear regression analysis performed on the "appropriately transformed" actual monthly sales numbers thereby "rendering" the transformed sales data highly linear and, therefore, very amenable to linear regression statistical analysis techniques. The numerical conversion of the monthly, actual sales numbers -- from 1984 to 2007 -- that is invoked is not a complicated mathematical function but very straight forward. Also the numerical transformation "makes sense physically" and yields extremely high linear regression correlation coefficients of 0.97 and greater. In exercising the Cowan LRA Model every month, a total of six distinct sets of linear regression parameters (of the format $y = mx + b$) are used in order to arrive at the resulting global semiconductor sales forecast predictions for each of the next five quarters (namely, 2Q08, 3Q08, 4Q08, 1Q09 and 2Q09) as well as a sales forecast estimate for 2008 and next month – in this case May 2008.

The latest monthly run of the Cowan LRA Model provides global sales forecast estimates that cover the upcoming five quarters, namely, from 2Q08 through 2Q09, inclusively. These updated forecast sales estimates are based on April 2008's actual (non-averaged) global S/C sales of \$19.377 billion recently published (June 2nd, 2008) by the WSTS. These newly generated sales forecast estimates are listed in the table below. Also shown are global sales forecast estimates for next month, that is, May 2008, including both an actual sales estimate and a 3MMA estimate. Moreover, this month's updated sales forecast estimates are compared to the model's corresponding sales forecast estimates from last month. The percent changes in the sequential, back-to-back monthly sales forecast estimates are shown in the right-hand most column of the table including the latest momentum indicator. Corresponding sales growth percentages are also presented including both sequential and year-over-year results.

APRIL 2008 GLOBAL S/C SALES FORECAST ESTIMATES - Latest Month Vs Previous Month			
<u>Time Period</u>	<u>Prev Month's Estimate (\$B)</u>	<u>This Month's Actual / Estimate (\$B)</u>	<u>Pct Change</u>
<i>Apr08 Est.</i>	19.027	N / A	N / A
<i>Apr08 3MMA Est.</i>	21.103	N / A	N / A
<i>Apr08 Actual</i>	N / A	19.377	+1.8% (Momentum Indicator)
<i>Apr08 3MMA Actual</i>	N / A	21.248	N / A
<i>May08 Est.</i>	N / A	20.113	N / A
<i>May08 3MMA Est.</i>	N / A	21.693	N / A
<i>2Q08 Est.</i>	63.663	64.155	0.8%
<i>1H08 Est.</i>	127.098	127.674	0.5%
<i>3Q08 Est.</i>	69.336	69.513	0.3%
<i>3 Qtrs 2008 Estimate</i>	196.435	197.188	0.4%
<i>4Q08 Est.</i>	70.883	71.061	0.3%
<i>2H08 Est.</i>	140.219	140.575	0.3%
2008 Est.	267.318	268.249	0.3%
<i>1Q09 Est.</i>	68.614	67.932	-1.0%
<i>2Q09 Est.</i>	67.858	68.858	1.5%
<i>1H09 Est.</i>	136.473	136.790	0.2%
SEQUENTIAL And YR-O-YR SALES GROWTH RESULTS			
	<u>Qtr - To - Qtr Period</u>	<u>This Month's SSG* (%)</u>	<u>Previous Month's SSG* (%)</u>
	<i>1Q08 Act => 2Q08 Est</i>	1.0%	0.4%
	<i>2Q08 Est => 3Q08 Est</i>	8.4%	8.9%
	<i>3Q08 Est => 4Q08 Est</i>	2.2%	2.2%
	<i>4Q08 Est => 1Q09 Est</i>	-4.4%	-3.2%
	<i>1Q09 Est => 2Q09 Est</i>	1.4%	-1.1%
	* SSG => Sequential Sales Growth		
	<u>Yr - To - Yr Period</u>	<u>This Month's YoY Sales Grwth (%)</u>	<u>Previous Month's YoY SG (%)</u>
	YTD** 2007 => YTD** 2008	4.3%	3.8%
	<i>2Q07 Act => 2Q08 Est</i>	7.1%	6.3%
	<i>1H07 Act => 1H08 Est</i>	5.5%	5.0%
	<i>3Q07 Act => 3Q08 Est</i>	2.5%	2.2%
	<i>3 Qtrs 07 Act => 3 Qtrs 08 Est</i>	4.4%	4.0%
	<i>4Q07 Act => 4Q08 Est</i>	6.3%	6.0%
	<i>2H07 Actual => 2H08 Est</i>	4.4%	4.1%
	2007 Act => 2008 Est	4.9%	4.6%
	<i>1Q08 Est => 1Q09 Est</i>	6.9%	8.2%
	<i>2Q08 Est => 2Q09 Est</i>	7.3%	6.6%
	<i>1H08 Est => 1H09 Est</i>	7.1%	7.4%
	** YTD => Year To Date (Through April / March)		
Source: Cowan LRA Model (for Global S/C Sales), 6-04-08			

Additionally, graphs are included (see write-up below) that provide additional insight into the latest global semiconductor sales forecast estimates as well as presenting an historical perspective to this month's updated sales forecast estimates.

The latest calculated monthly momentum indicator (displayed in the graph below) decreased quite strongly from last month's momentum of plus 6.1 percent to a plus 1.8 percent. (Note - the monthly momentum indicator is defined as the percent difference between the actual sales number for a given month -- in this case April's just released actual global sales of \$19.377 billion -- relative to the forecasted sales estimate for April -- that is, \$19.027 billion which was calculated and published last month). The momentum indicator can be either positive or negative and is a measure of the percent deviation of the actual monthly sales number from its previous month's prediction which is derived from the model's linear regression analysis of 24 years of past "historical monthly sales experience." A longer term trend line of the monthly momentum indicator (covering the past five plus years) is provided in a second graph -- see below. This month's much weaker, but still positive, momentum is an indication that the sales growth rate trend over the near term will slow down, that is, be less robust than what was implied by last month's approximately 3 times higher momentum indicator.



Next month's global semiconductor sales forecast estimate, namely for May 2008, is projected to be \$20.113 billion. This yields a May 2008 3MMA (three Month Moving Average) sales forecast estimate of \$21.693 billion which is normally reported by the SIA in its monthly GSR (Global Sales Report) press release (URL = http://www.sia-online.org/pre_release.cfm?ID=481) -- scheduled for Wednesday, July 2nd, 2008.

This month's updated year-over-year sales growth forecast estimate for 2008 -- compared to 2007's final global semiconductor sales of \$255.645 billion -- came in at plus 4.9 percent which increased by 0.3 percentage points compared to the model's previously forecasted sales growth from last month, that is, plus 4.6 percent -- see second graph (below) which displays the month-by-month evolution of the model's forecasted sales and sales growth estimates for 2008 covering the past nine months starting with the model's first forecast prediction for 2008, namely with the August 2007 sales estimate (for 2008) which was published back in the beginning of October 2007. As shown in this graphic, the latest calculated 2008 sales forecast estimate came in at \$268.249 billion which rose by 0.35 percent from last month's sales forecast prediction of \$267.318 billion. The corresponding very modest upturn in the sales growth forecast estimate likewise reflects the relatively flat April global semiconductor sales result (as measured by the 3MMA sales). The slowing down of the sales growth forecast compared to March's strong uptick is revealed in the third graph (see below) which portrays both the YTD cum sales (actuals through April and forecast expectations for upcoming quarters compared to 2007) and actual YTD sales growth for 2008 relative to 2007. The change in slope of April's sales growth is quite evident.

It should be highlighted that each month's actual global sales number published by the WSTS is a "lagging indicator" since it is normally released a full month after the actual month closes. The Cowan LRA Model, however, "turns" this lagging monthly sales number into a "leading indicator" by virtue of its forecast horizon which covers the next five quarters. This is the "power" of the model and therefore makes it very dynamic since it is updated each month employing the most recent month's actual global S/C sales number thereby allowing rigorous "tracking" of the near-term future sales forecast outlook of the global semiconductor industry on a real-time basis. The next monthly update of the Cowan LRA Model based upon May 2008's actual sales result should be released on Monday, July 7th, 2008 following the posting (URL = <http://www.wsts.org/public/files/bbhist-22.xls>) of the actual global semiconductor sales number by the WSTS.

The following table summarizes the Yr-O-Yr (2007 => 08) sales growth forecast predictions published over the past months by various market researchers including the latest Cowan LRA Model results. The table incorporates the most recent, previous and prior forecasted sales growth rate expectations for 2008. As the table shows this month's just updated Cowan LRA Model sales growth forecast of 4.9 percent is in pretty good agreement with the most recent updates just published by both the WSTS (4.7 percent) and Gartner (4.6 percent). New updated sales and sales growth forecasts will be announced by additional industry market researchers over the next month including both the SIA (scheduled for June 11, 2008) and IC Insights (should be imminent).

MONTHLY EVOLUTION OF VARIOUS MARKET RESEARCHERS' VIEW OF YR-O-YR GLOBAL S/C SALES												
GROWTH EXPECTATIONS FOR 2007=>2008 (Updated June 4th, 2008)												
LATEST YR-O-YR SALES GROWTH FORECASTS VERSUS PREVIOUS, PRIOR												
Forecast Provider	Latest 2007=>08 Forecast Growth	Date Of Latest Forecast	Previous 2007=>08 Forecast Growth	Previous Forecast Date	Prior 2007=>08 Forecast Growth	Prior Forecast Date	Prior 2007=>08 Forecast Growth	Prior Forecast Date	Prior 2007=>08 Forecast Growth	Prior Forecast Date	Prior 2007=>08 Forecast Growth	Prior Forecast Date
Cowan LRA Model	4.9%	6-03-08	4.6%	5-03-08	2.15%	4-02-08	4.7%	3-03-08	6.8%	2-04-08	8.15%	Jan 2008
Semico Research					9.0%	3-17-08					12.0%	Jan 2008
IC Insights					9.0%	3-20-08					10.0%	Jan 2008
iSuppli			4.0%	4-09-08							7.5%	Dec 2007
Gartner DQ	4.6%	5-28-08					3.4%	3-02-08			6.2%	Jan 2008
WSTS	4.7%	5-27-08									9.1%	Nov 2007
Databeans											8.7%	Jan 2008
SIA											7.7%	Nov 2007
Future Horizons	12%	May 2008			12%	Mar 2008					10.0%	Jan 2008
VLSI Research (ICs)							7.0%	2-25-08			7.5%	Jan 2008
Inside Chips											-8.0%	Dec 2007
IBS											4.0%	Dec 2007
In-Stat					2.4%	3-26-08	2.4%	Feb 2008				
Merrill Lynch											8.0%	Dec 2007
UBS					4.0%	3-26-08						
J. P. Morgan					3.0%	3-31-08						

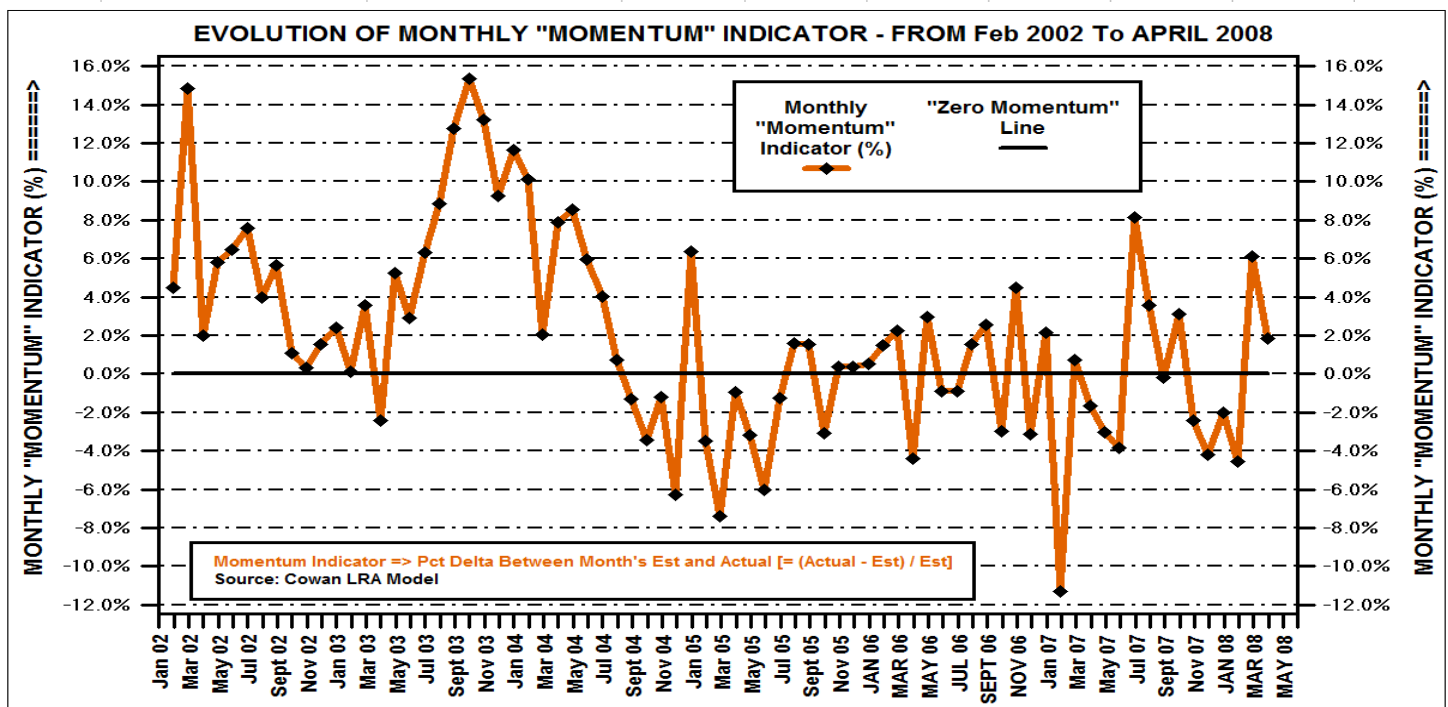
In order to underscore the historical "forecast predictability" track record of the Cowan LRA Model over the past six years, the following table is shown. For a given year (each column) the table displays the by-month evolution of the model's forecasted year-end global semiconductor sales numbers (and year-over-year forecasted sales growth) relative to the actual final sales. The table covers the past six years (namely 2002 through 2007) and measures the corresponding percent delta to the actual year-end global semiconductor sales number as shown in each month's "box." It should be noticed that as the year progresses, each subsequent monthly forecast typically "hones in" on the actual final sales result. This is illustrated in the table which tracks not only each month's forecast but also the percent delta to the year-end actual for each of the past six years covering January through November forecast numbers, respectively. Typically, July through September's forecast numbers are a pretty good proxy for the actual year's final sales with each subsequent month's forecast estimate typically improving the predictability as the tabulated historical forecast estimate data demonstrates as one moves down a given column for a given year. As shown 2008 has been added to the table and each new month's 2008 year-end sales forecast estimate will be presented as the year evolves.

HISTORICAL BY-MONTH EVOLUTION OF COWAN LRA MODEL SALES FORECAST "ACCURACY"									
Date Of 2008 Frst	Month Of Sales Data	Parameter	2002	2003	2004	2005	2006	2007	2008
3-03-08	Jan	Sales Frst (\$B)	124.010	149.855	194.953	244.767	246.122	272.744	267.578
		Yr-O-Yr Sales Grwth Frst (%)	-10.8%	6.5%	17.1%	14.9%	8.2%	10.1%	4.7%
		Pct Delta To Actual Y/E Sales	-11.9%	-10.0%	-8.5%	7.6%	-0.64%	6.69%	TBD
3-31-08	Feb	Sales Frst (\$B)	126.866	150.426	205.020	243.035	247.581	256.624	261.149
		Yr-O-Yr Sales Grwth Frst (%)	-8.7%	6.9%	23.2%	14.1%	8.8%	3.6%	2.2%
		Pct Delta To Act. Y/E Sales	-9.8%	-9.6%	-3.8%	6.8%	-0.05%	0.38%	TBD
5-03-08	Mar	Sales Frst (\$B)	134.201	152.114	206.242	235.366	249.883	257.541	267.318
		Yr-O-Yr Sales Grwth Frst (%)	-3.4%	8.1%	23.9%	10.5%	9.8%	4.0%	4.6%
		Pct Delta To Act. Y/E Sales	-4.6%	-8.6%	-3.2%	3.5%	0.87%	0.74%	TBD
6-04-08	Apr	Sales Frst (\$B)	134.312	150.895	209.281	233.396	246.529	256.022	268.249
		Yr-O-Yr Sales Grwth (%)	-3.3%	7.2%	25.8%	9.6%	8.4%	3.4%	4.9%
		Pct Delta To Act. Y/E Sales	-4.5%	-9.3%	-1.8%	2.6%	-0.48%	0.15%	TBD
	May	Sales Frst (\$B)	135.558	153.006	212.317	231.238	247.497	255.047	
		Yr-O-Yr Sales Grwth (%)	-2.5%	8.7%	27.6%	8.5%	8.8%	3.0%	
		Pct Delta To Act. Y/E Sales	-3.7%	-8.1%	-0.33%	1.7%	-0.09%	-0.23%	
	June	Sales Frst (\$B)	137.053	153.587	214.404	228.283	247.011	253.042	
		Yr-O-Yr Sales Grwth (%)	-1.4%	9.1%	28.8%	7.2%	8.6%	2.15%	
		Pct Delta To Act. Y/E Sales	-2.6%	-7.7%	0.65%	0.35%	-0.28%	-1.02%	
	July	Sales Frst (\$B)	138.310	154.766	215.230	227.403	247.108	255.606	
		Yr-O-Yr Sales Grwth (%)	-0.47%	10.0%	29.3%	6.7%	8.6%	3.19%	
		Pct Delta To Act. Y/E Sales	-1.7%	-7.0%	1.0%	-0.04%	-0.25%	-0.015%	
	Aug	Sales Frst (\$B)	138.921	156.393	215.410	227.717	247.536	256.804	
		Yr-O-Yr Sales Grwth (%)	-0.03%	11.1%	29.4%	6.9%	8.8%	3.67%	
		Pct Delta To Act. Y/E Sales	-1.3%	-6.0%	1.1%	0.10%	-0.07%	0.45%	
	Sept	Sales Frst (\$B)	139.912	160.576	215.041	228.089	248.297	256.671	
		Yr-O-Yr Sales Grwth (%)	0.68%	14.1%	29.2%	7.1%	9.1%	3.61%	
		Pct Delta To Act. Y/E Sales	-0.57%	-3.5%	0.95%	0.27%	0.23%	0.40%	
	Oct	Sales Frst (\$B)	140.037	163.065	214.584	227.313	247.484	257.425	
		Yr-O-Yr Sales Grwth (%)	0.77%	15.9%	28.9%	6.7%	8.8%	3.92%	
		Pct Delta To Act. Y/E Sales	-0.48%	-2.0%	0.73%	-0.08%	-0.09%	0.70%	
	Nov	Sales Frst (\$B)	140.067	165.036	214.288	227.390	248.935	256.665	
		Yr-O-Yr Sales Grwth (%)	0.79%	17.3%	28.8%	6.7%	9.4%	3.61%	
		Pct Delta To Act. Y/E Sales	-0.46%	-0.83%	0.59%	-0.04%	0.49%	0.40%	
Dec		Actual Global S/C Sales (\$B)	140.713	166.426	213.027	227.484	247.716	255.645	TBD
		Yr-O-Yr Sales Grwth (%)	1.3%	18.3%	28.0%	6.8%	8.9%	3.2%	TBD

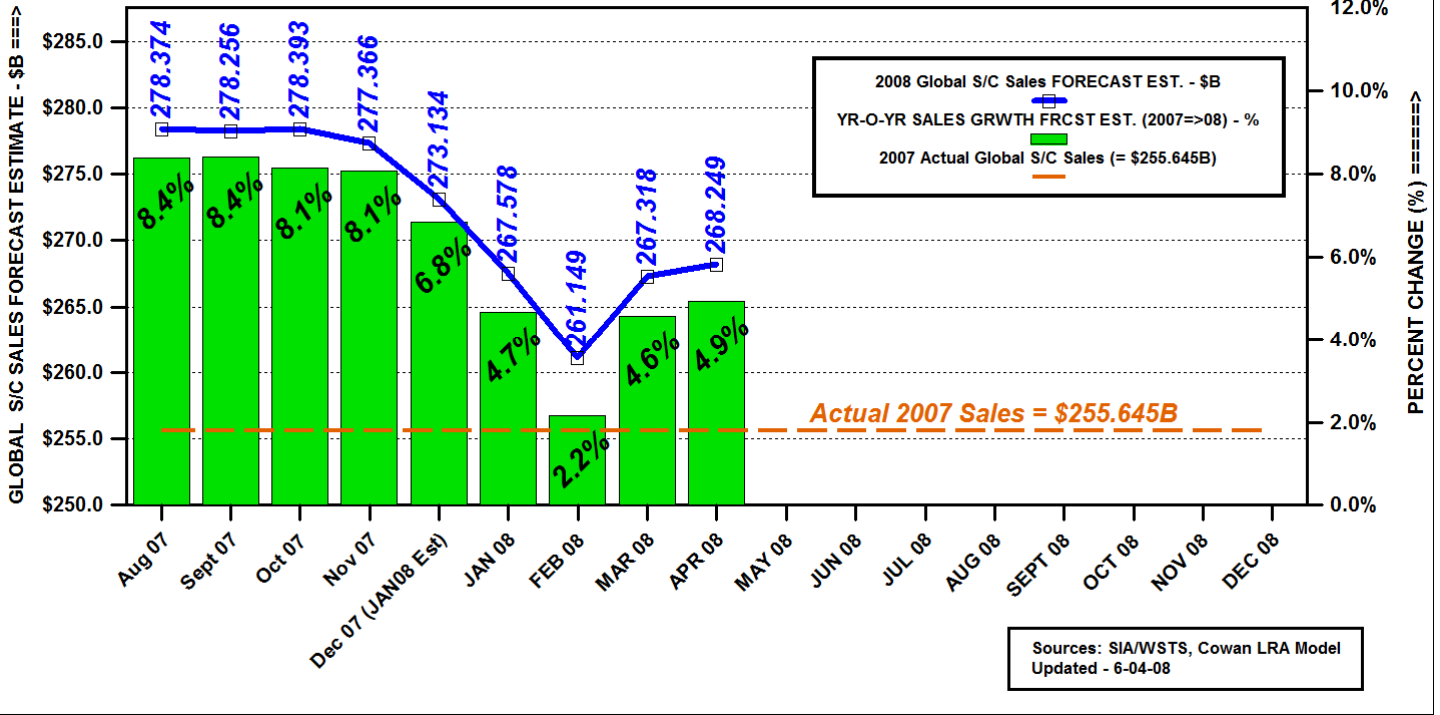
Sources: Cowan LRA Model, WSTS/SIA

Finally the newest feature of the Cowan LRA Model's semiconductor sales forecast update provides additional forecast estimates including global semiconductor units along with associated ASPs (Average Selling Prices) and additional semiconductor market segments including monolithic ICs, MOS memory, ICs w/o Memory, Analog, and OSDs. The table below summarizes the newly added forecast estimates. As the table indicates the latest updated forecast numbers are added each month in order to show the monthly evolution of the predictions as the year progresses. These forecast results for 2008 are derived from newly developed models likewise employing linear regression analysis methods.

BY-MONTH EVOLUTION OF COWAN LRA Model's 2008 Sales, Units, & ASP Forecasts By S/C Mkt Segment							
Market Segment	Forecast Parameter	Jan 2008	Feb 2008	Mar 2008	Apr 2008	May 2008	Jun 2008
Total Semiconductor	2008 Sales Est. (\$B)	267.578	261.149	267.318	268.249		
	Yr-O-Yr Sales Grwth	4.7%	2.15%	4.6%	4.9%		
	2008 Units Est. (B)	640.425	619.047	617.374	612.161		
	Yr-O-Yr Unit Grwth	10.4%	6.7%	6.4%	5.5%		
	2008 ASP Est. (\$)	\$0.418	\$0.422	\$0.433	\$0.438		
	Yr-O-Yr ASP Grwth	-5.2%	-4.3%	-1.7%	-0.5%		
Total Monolithic ICs	2008 Sales Est. (\$B)	224.756	219.401	\$226.483	\$227.037		
	Yr-O-Yr Sales Grwth	3.2%	0.73%	4.0%	4.2%		
	2008 Units Est. (B)	172.080	165.137	163.304	163.654		
	Yr-O-Yr Unit Grwth	13.9%	9.3%	8.1%	8.3%		
	2008 ASP Est. (\$)	\$1.306	\$1.329	\$1.387	\$1.387		
	Yr-O-Yr ASP Grwth	-9.4%	-7.8%	-3.8%	-3.8%		
Total Memory	2008 Sales Est. (\$B)	50.952	50.127	52.957	52.624		
	Yr-O-Yr Sales Grwth	-11.9%	-13.4%	-8.5%	-9.0%		
	2008 Units Est. (B)	30.846	29.382	29.115	29.077		
	Yr-O-Yr Unit Grwth	26.5%	20.5%	19.4%	19.2%		
	2008 ASP Est. (\$)	\$1.652	\$1.706	\$1.819	\$1.810		
	Yr-O-Yr ASP Grwth	-30.4%	-28.1%	-23.3%	-23.7%		
Total ICs w/o Memory	2008 Sales Est. (\$B)	173.804	169.275	173.526	174.413		
	Yr-O-Yr Sales Grwth	8.7%	5.8%	8.5%	9.0%		
	2008 Units Est. (B)	141.234	135.755	134.189	134.577		
	Yr-O-Yr Unit Grwth	11.5%	7.1%	5.9%	6.2%		
	2008 ASP Est. (\$)	\$1.231	\$1.247	\$1.293	\$1.296		
	Yr-O-Yr ASP Grwth	-2.5%	-1.2%	2.4%	2.7%		
Total Analog	2008 Sales Est. (\$B)	39.394	\$37.839	\$37.089	\$37.077		
	Yr-O-Yr Sales Grwth	8.1%	3.8%	1.7%	1.7%		
	2008 Units Est. (B)	81.987	78.269	77.411	77.884		
	Yr-O-Yr Unit Grwth	10.0%	5.0%	3.8%	4.5%		
	2008 ASP Est. (\$)	\$0.480	\$0.483	\$0.479	\$0.476		
	Yr-O-Yr ASP Grwth	-1.7%	-1.1%	-2.0%	-2.6%		
Optoelectronics, Sensors, and Discretes	2008 Sales Est. (\$B)	42.822	41.747	40.835	41.212		
	Yr-O-Yr Sales Grwth	13.2%	10.3%	7.9%	8.9%		
	2008 Units Est. (B)	468.345	453.911	454.070	448.507		
	Yr-O-Yr Unit Grwth	9.1%	5.8%	5.8%	4.5%		
	2008 ASP Est. (\$)	\$0.091	\$0.092	\$0.090	\$0.092		
	Yr-O-Yr ASP Grwth	3.7%	4.3%	2.0%	4.2%		
FRCST DATE		3-04-08	4-01-08	5-03-08	6-06-08		
Sources: WSTS and Cowan LRA Model							



BY-MONTH (Aug07 to Dec08) EVOLUTION OF YR 2008 GLOBAL S/C SALES FORECAST ESTIMATES - COWAN LRA MODEL



BY MONTH CUMULATIVE YTD GLOBAL S/C SALES AND YR-O-YR SALES GROWTH TREND - 2008 VS 2007

